



# 789B

## MINING TRUCK

### Caterpillar 3516 Electronic Unit Injection Engine

Gross power at 1750 RPM .....1342 kW/1800 HP  
Flywheel power at 1750 RPM .....1272 kW/1705 HP  
Body Capacity .....105m<sup>3</sup>/137yd<sup>3</sup>  
317 520 kg/700,000 lb Maximum Operating Weight  
154 - 177 Metric Ton/170 - 195 Ton Class

Truck meets steering, supplemental steering, braking and secondary braking system codes up to maximum operating weight.

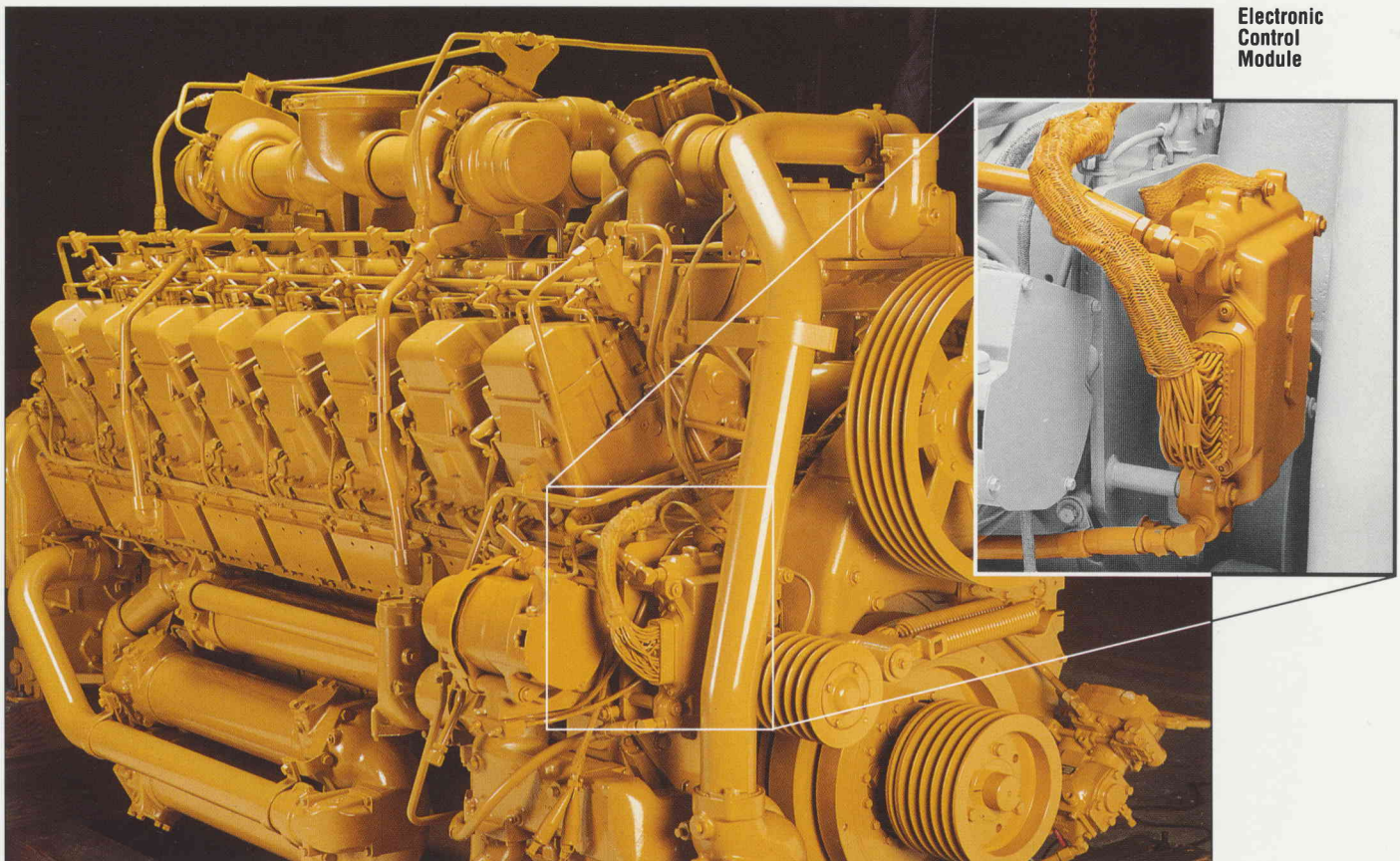
Featured machines may include additional equipment only for special applications. See your authorized Caterpillar dealer for available options.



## Caterpillar® Electronically Controlled 3516 Diesel Engine

The 3516 Electronic Unit Injected (EUI) engine features:

- **Significantly reduced exhaust smoke** through precise electronic control of fueling limits and injection timing.
  - **Improved Reliability** — through reduction of complex mechanical linkages and by electronically protecting the engine. During...
    - Cold Starts
    - Prolonged Idling Periods
    - High Altitude Operation
    - Operation with Plugged Air Filters
  - **Fuel consumption is reduced by up to 5%** by electronically optimizing and maintaining precise fuel settings.
  - **Easier maintenance and repair** through monitoring key functions and logging critical indicators. Electronic diagnostic access is possible with a single tool -- Electronic Control Analyzer Programmer (ECAP).
  - **Engine settings remain constant with electronic control.**
  - **...and most importantly, allows electronic communication** between the engine and other power train components for optimum power train performance.
- In short, electronic unit injection results in greater reliability and lower cost of operation!
- **Robust two-piece pistons** with higher top ring position provide:
    - More durable pistons for improved reusability.
    - Improved combustion efficiency with reduced exhaust smoke.
    - Tighter fit for reduced noise.
  - **Cat engine also features...**
    - High displacement, low RPM rating for long hours of service between overhauls.
    - Four-stroke design with 23% torque rise for high lugging force during acceleration and to hold gear on grade.



Electronic Control Module

# FEATURES

## Engine /Power Train Integration

By **communicating**, they work more intelligently to optimize overall power train performance, reliability, component life. End result: Reduced power train operating cost.

### ■ The Cat data link

**electronically connects** the engine and transmission controls to provide...

- Controlled Throttle Shifting — Engine RPM is regulated during a shift to reduce driveline stress for smoother shifts and longer component life.
- Directional Shift Management — Regulates engine speed during directional shifts to prevent damage caused by high speed directional changes.
- Neutral Coast Inhibitor — Prevents the transmission from operating in neutral at speeds above 4MPH ( 6.5 KPH). This protects the transmission against operating with insufficient lubrication.
- Body Up Shift Inhibitor — Prevents the transmission from shifting above a programmed gear without the body fully lowered.

Combining the electronic engine control with Caterpillar's new electronically programmable transmission control allows these critical **power train components** to **communicate**.

## Improved Diagnostics... Serviceability

The new electronic engine and transmission controls provide greatly enhanced diagnostic capability. The ability to store both active and intermittent indicators will significantly simplify and

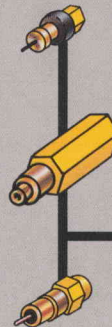
shorten problem diagnosis, and total repair time. Resulting in improved mechanical availability and lower operating cost.

- Access to diagnostic data is made easy through the use of a single service tool ...ECAP.

### Electronic Control Analyzer Programmer



### Sensors



### Electronic Control Module

### CAT DATA LINK

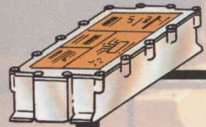
■ **ECAP accesses data stored in the engine and transmission controls** via the Cat data link. Data on engine boost pressure, fuel flow rate, engine speed (and over speed events) as well as transmission shift data can all be retrieved by ECAP.

■ **ECAP is also a powerful diagnostic tool** replacing 13 mechanical tools to perform functions like cylinder cut out, injector solenoid test, timing calibration, etc.

## **Automatic Electronic Traction Aid**

This Caterpillar system greatly improves on grade performance in poor underfoot conditions by electronically monitoring wheel slip. If slip exceeds a set limit, the oil cooled disc brakes engage to slow the spinning wheel, maintaining torque to the wheel with better traction.

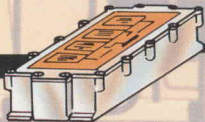
**Electronically Programmable Transmission Control**



**Automatic Electronic Traction Aid**



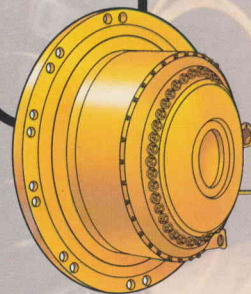
**Automatic Retarder Control**



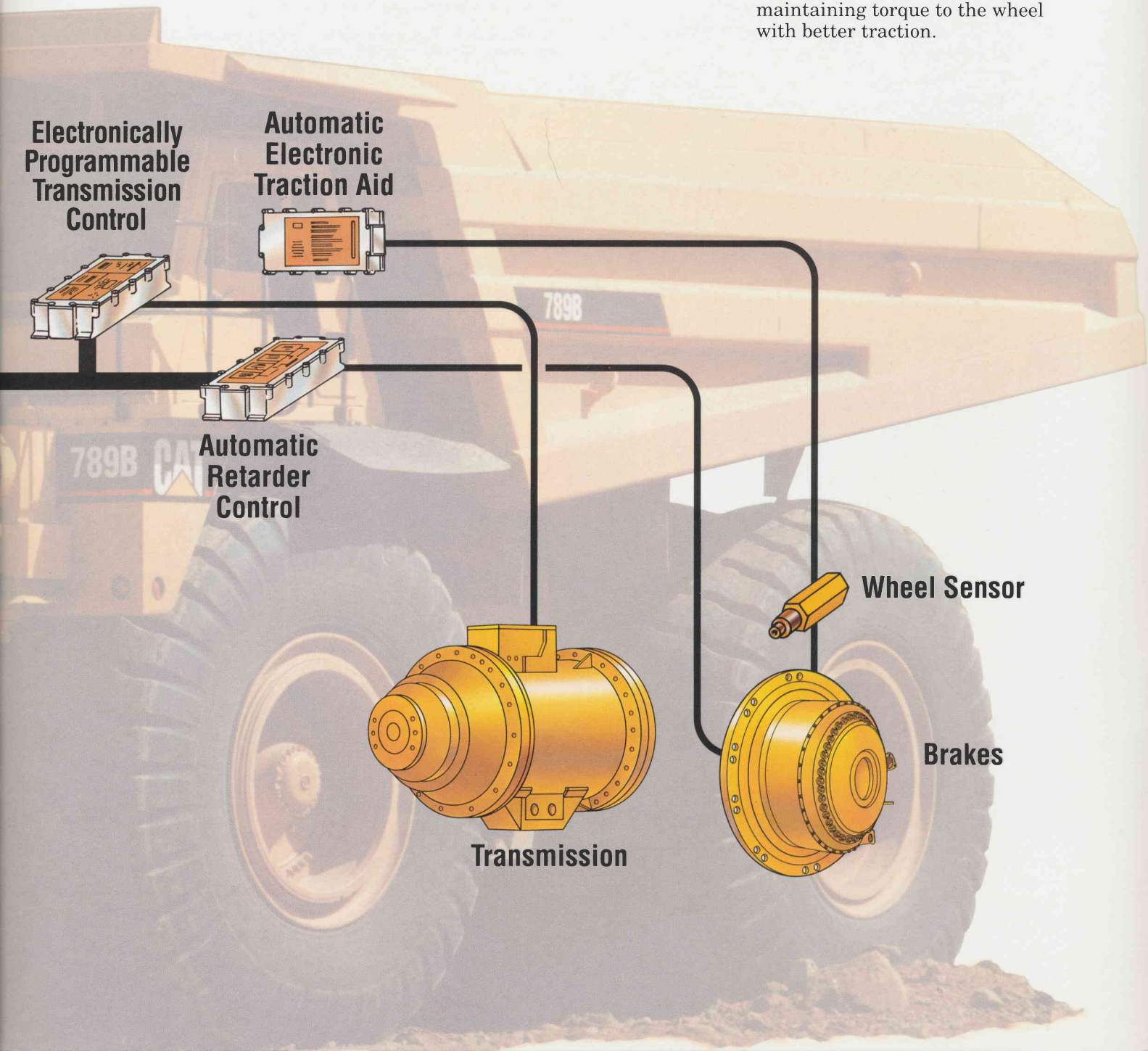
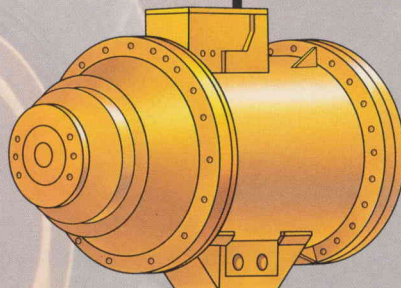
**Wheel Sensor**



**Brakes**



**Transmission**



## Caterpillar Mechanical Power Train

All components in the Caterpillar Mechanical Power Train are designed to work together in a drive line system which provides optimum performance, reliability and cost.

- **Wide application range in each gear** results in matching the transmission with the high torque rise engine to minimize shifting and prolong transmission life.

- Rimpull @ stall 80 380 kg/177,238 lbs - 26% gradeability at Max Operating Weight.

- **Planetary power shift transmission provides...**

- Large diameter clutches combined with robust planetary gears and bearings.
- Individually modulated clutches for fast, smooth shifting. Directional clutches engage last to absorb torque loads.
- Separate transmission oil reservoir prevents cross contamination.

- **Lock-Up Torque Converter...**

- The torque converter is engaged at low speeds (1st gear) to provide high rimpull when pulling away from the shovel or in poor underfoot condition.

- Lock-up clutch engages at around 5 MPH (8KPH) to operate more efficiently in direct drive.

- **Low torque/high speed power train...**With most speed reduction taking place at the double reduction planetary final drives, stress on the transmission is greatly reduced.

- **Second Generation electronic transmission controls provide...**

- electronically controlled shifts for optimum performance
- downshift inhibiting and engine overspeed control
- anti-hunt control to limit gear hunt on grade
- reverse neutralizing preventing reverse movement while dumping.

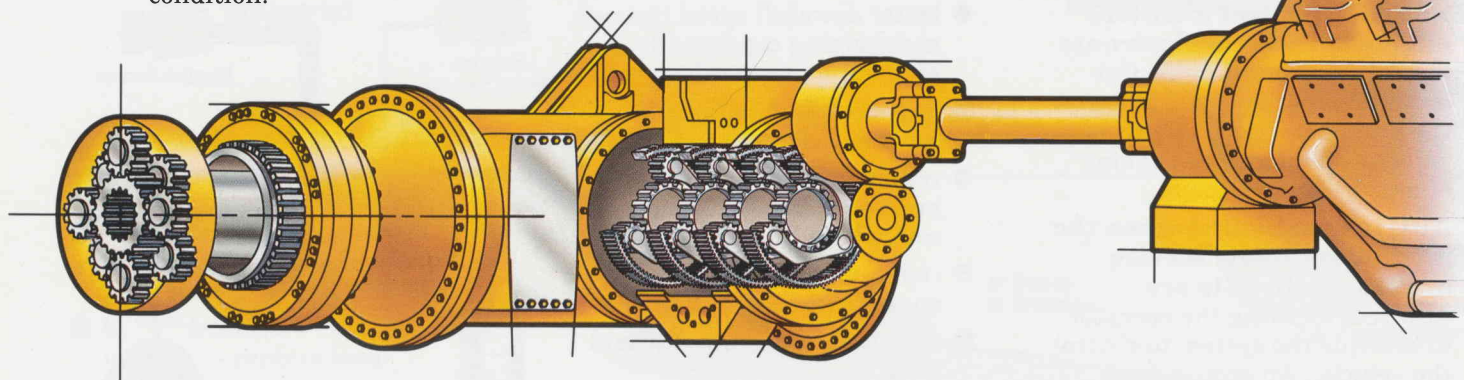
## Caterpillar Mechanical Power Train Efficiency

The Caterpillar Mechanical Power Train provides faster speeds on grade and the flexibility to work steeper grades than possible with electric drive power trains.

- **Between 82 and 85% overall powertrain efficiency is maintained up to effective grades of over 15%** with the 6 speed Caterpillar mechanical transmission.

- **Electric drive power trains generate their peak efficiency at about 5 - 7% effective grade.** Above that, electric drive efficiency drops off fast.

- **Higher power train efficiency** means a more efficient use of engine power to propel the truck. Higher speeds with less fuel burned is the result.



- **The Caterpillar mechanical power train** allows flexibility to design mine plans with steeper grades without reducing hauling efficiency — the result, lower hauling cost/ton.

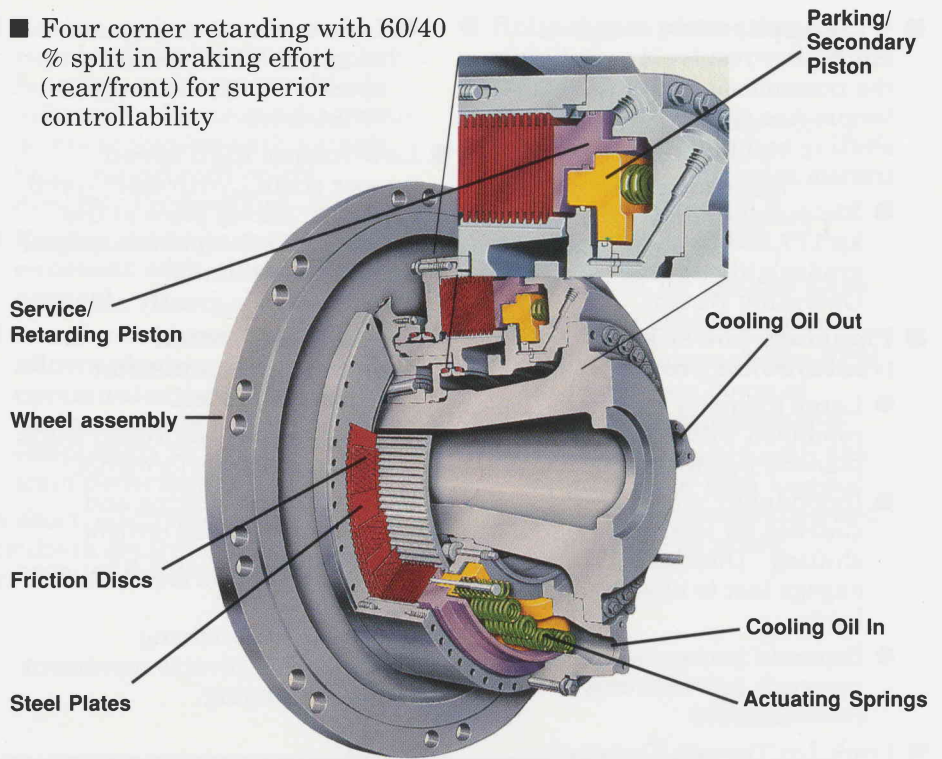
# FEATURES

## Cat® Oil-Cooled Front and Rear Disc Brakes

Cat forced oil-cooled, multiple-disc brakes are continuously cooled for exceptional, non-fade braking and retarding.

- **Large discs and plates** — Designed and built for confident, reliable, adjustment-free operation.
- **Oil film between discs** — prevents direct contact between discs — absorbs braking energy by shearing oil and carries heat away for longer life.
- **Patented, two-piston design** — Cat design combines service, secondary, parking brake and retarding functions.
- **Retarding system power** —
  - Intermittent rating of 3087 kW/ 4140 HP
  - Continuous rating of 1566 kW/ 2100 HP.
- **Zero fuel input during retarding**, — runs the engine against compression, reducing fuel consumption.

- **Four corner retarding with 60/40 % split in braking effort (rear/front) for superior controllability**

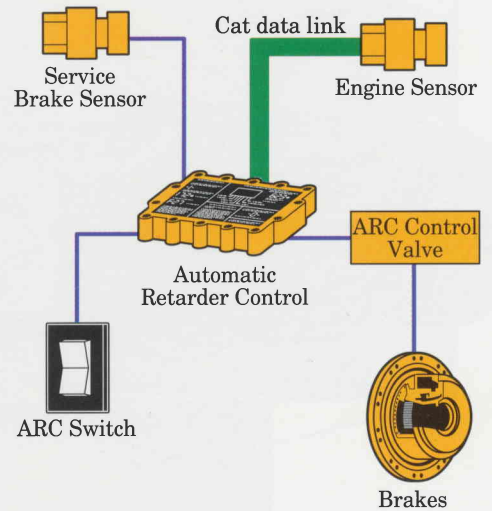


## Automatic Retarder Control (ARC)

The automatic retarder control electronically controls braking on grade to maintain engine RPM at approximately 1950.

- **The ARC control monitors engine speeds via electronic signal** received from the Cat data link. Air pressure is sent to the brakes through a control valve to modulate the braking effort.
- **ARC is deactivated when the manual retarder, service brakes, or throttle are applied**, allowing the operator to override the system to control the vehicle. An auto resume feature reactivates ARC automatically.
- **ARC results in...**
  - ease of operation by reducing the need for manual retarding.

- faster downhill speed through maintaining consistently higher engine speeds.
- improved modulation and control in slippery conditions.
- reduced torque spikes to the brakes for potentially longer component life.
- reduced opportunity for engine overspeed.
- system is self-diagnostic and reliable.

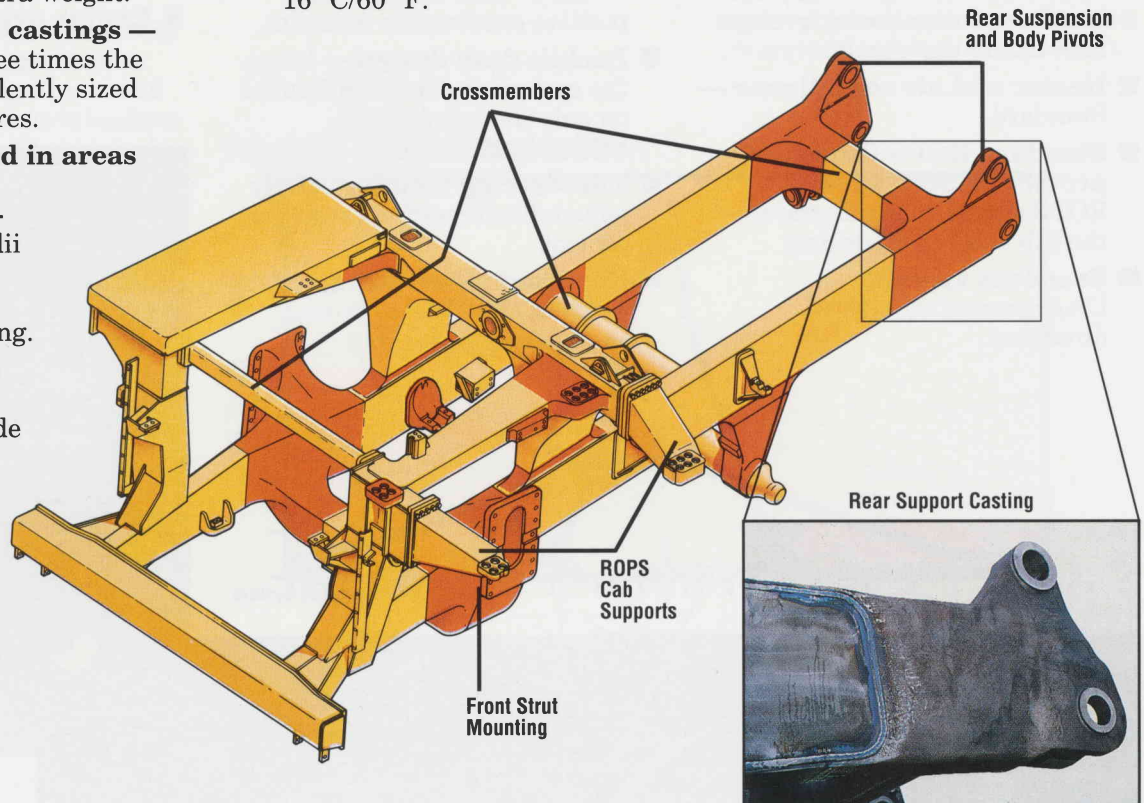


## Rugged Main Frame

The backbone of a Cat truck, the main frame is designed for cost effective extended life.

- **Box-section design and deep penetration, continuous wrap around welds** — resist damage from twisting loads without adding extra weight.
- **Two forgings, 21 castings** — provide two to three times the strength of equivalently sized fabricated structures.
- **Castings are used in areas of high stress concentration** — large diameter radii dissipate stresses that could cause fatigue and cracking.
- **Mild-steel frame sections and castings** — provide flexibility, durability and good resistance to impact loads, even in cold climates.

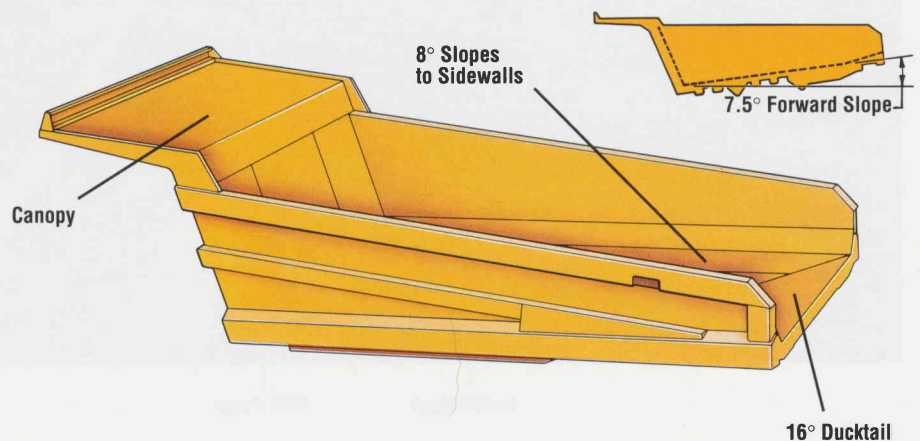
- **Repairable without destroying metallurgy:**
  - Weld without preheating in ambient temperatures over 16° C/60° F.



## Truck Body

Body designed to achieve low center of gravity, good loader match, excellent load retention and clean dumping characteristics.

- **Dual-slope floor construction** — for excellent load retention, low center of gravity.
- **8° "V" bottom** — reduces shock loading — centers load.
- **16° ducktail slope and 7.5° forward body slope** — retain loads on steep grades.
- **Box-beams in floor, sidewalls, top rail, corner and cab canopy areas** — provide added impact resistance.
- **Heated body option**

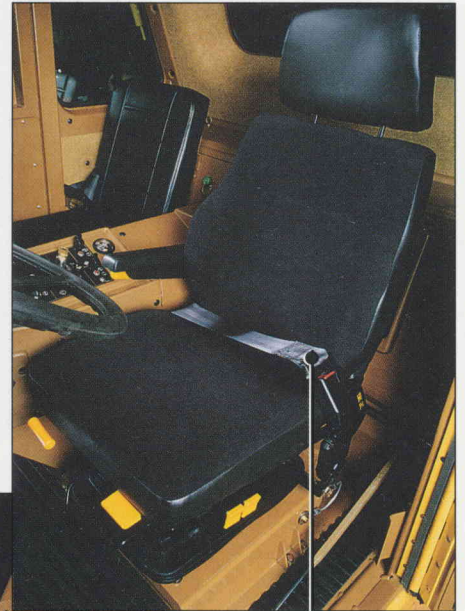


# FEATURES

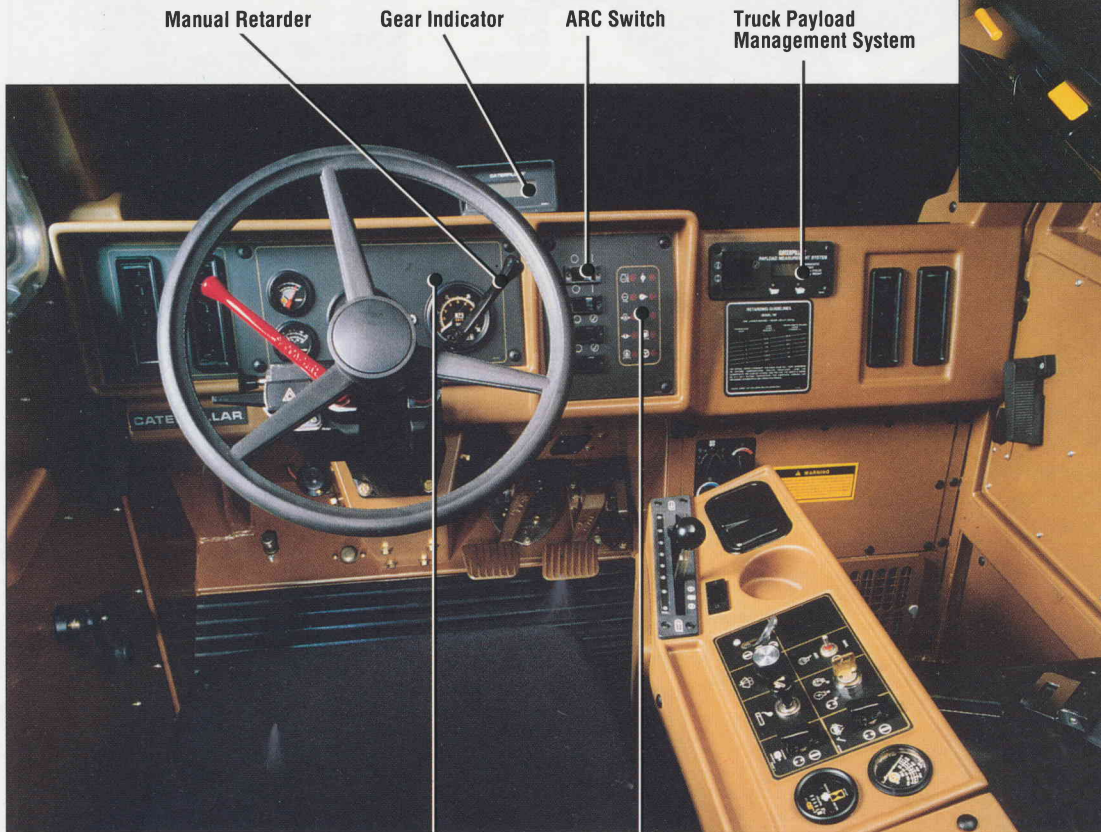
## Operator's Station

Exceptional operator comfort promotes fast, confident machine operation for top productivity.

- **Resiliently mounted platform and sound suppressed pressurized cab** — Isolates the operator from noise and vibration (Less than 80 dBA operator sound level per SAE J1166 work cycle).
- **Heater and air conditioner** — Standard.
- **Standard ROPS (Rollover protective Structure)** — ROPS structure is integral to the cab and cab mounting.
- **Excellent visibility** — Unobstructed view in all directions.
- **Air suspension seat** — Ergonomically designed and fully adjustable for maximum operator comfort. Retractable, 75mm/3" wide seat belt for positive comfortable restraint.
- **Backlit dash design** — keeps the operator's attention focused on only those indicators currently activated.
- **Tilt steering column** — fully adjustable for optimal machine control.
- **Electronic Monitoring System (EMS)** — provides three levels of warning.
- **In cab Air filter restriction indicator**
- **Automatic Retarder Control**
- **EUI action lights**
- **Engine overspeed indicator**



Retractable Seat Belt



Manual Retarder

Gear Indicator

ARC Switch

Truck Payload Management System

Backlit Dash

EMS Panel

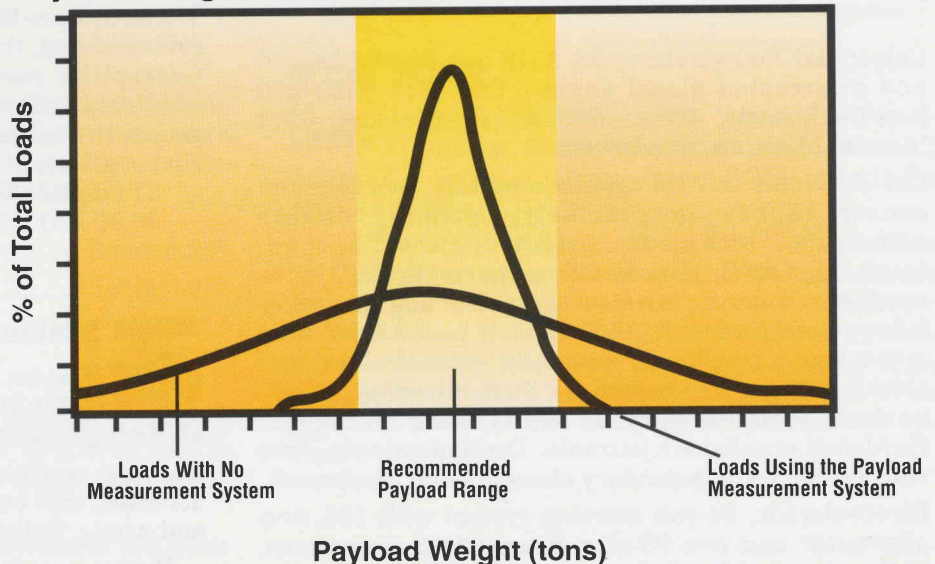


## Truck Payload Management

Accurate, consistent control — enhances truck/loader effectiveness. A management tool for controlling fleet productivity and costs.

- **Cat-developed technology** — utilizes strut pressure sensors and an on-board microprocessor to determine payload weight accurately.
- **Manage your fleet effectively** — maximize truck production while avoiding future costs and downtime related to overloading. Maximize your long-term investment through better load control and cycle data:
  - External lights on both sides of truck signal loading tool operator when proper load is reached.
  - On-board computer stores 1400 cycles for further analysis; payload weight, cycle segment times, cycle segment distances, and actual clock time and date of each cycle. Internal troubleshooting and fault recording for easier maintenance.
- **Accurate under normal loading conditions** — to within  $\pm 5\%$  over a normal operating shift.
- **Cat's Payload Management System gets consistent and accurate payloads** — by minimizing overloading and underloading maximizes long term production and machine life (resulting in lower cost per ton).

### Payload Weight Distribution



## Serviceability

Less time spent on maintenance gives you more time on the job.

- **In-frame service access** — maintenance and most repair tasks can be accomplished without component removal.
- **In-frame service design** — facilitates component removal and replacement, if necessary.
- **Ground-level access** — to fuel and hydraulic tanks, most filters and compartment drains.
- **Automatic lubrication system** — is standard.
- **Easily opened maintenance platform** — provides access to important service areas.
- **Individual, interchangeable engine cylinder heads** — easily removed for visual inspection of internal parts.
- **Access to diagnostic data is made easy** through the Electronic Control Analyzer Programmer (ECAP).
- **ECAP greatly reduces trouble shooting time** and improves information accuracy.



# SPECIFICATIONS



## Caterpillar 3516 Diesel Engine with Electronic Controls

Gross power at 1750 RPM.....1342 kW/**1800 HP**  
 Flywheel power at 1750 RPM .....1272 kW/**1705 HP**  
 (Kilowatt (kW) is the International System of Units equivalent of horsepower.)

*The net power at the flywheel of the machine engine is based on SAE J1349 standard conditions of 25° C/77°F and 100 kPa/29.61" Hg. Power is based on using 35° API /15.6°C/60°F gravity fuel having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29.4°C/85°F and with a density of 838.9 g/L (7.001 lb/U.S. gal). Power rating is adjusted for machine equipped with fan, air cleaner, alternator, water pump, fuel pump, muffler and lubricating oil pump. No derating is required up to 2300 m/7,500 ft. altitude. Above 2300 m/7,500 ft. automatic derate is included in electronic controls.*

Caterpillar four-stroke-cycle, 3516 quad turbocharged and aftercooled diesel engine, 60° V-16 with 170 mm/6.7" bore, 190 mm/7.5" stroke and 69.0 liters/4211 cu. in. displacement.

Cat electronic control system monitors operator and sensor inputs to precisely optimize engine performance, with electronic unit injectors. Two hard-faced inlet and exhaust valves per cylinder, valve rotators and hard alloy-steel seats. Self aligning roller followers on camshaft. A two-piece piston with steel crown (three rings) and thermally isolated aluminum skirt. Pistons are cooled by dual oil-spray. Steel-backed, copper-bonded crankshaft bearings. Hardened crankshaft journals. Dry-type air cleaners with primary and secondary elements and precleaner.

Direct-electric, 24-volt starting system with 105 amp alternator and two 93-amp-hour, low-maintenance, high output, 12-volt batteries. Quick connect for supplemental air supply is standard.



## Transmission

Mechanically driven, Caterpillar six-speed, electronically controlled, automatic power shift transmission. Six speeds forward and one reverse. First gear forward and reverse are torque converter-driven with lock-up in first. Second through sixth gears are direct drive. Single-lever shift control provides automatic shifting in all gears up to the one selected by the control lever. Controlled throttle shift and directional shift management maximize shift smoothness and minimize driveline shift stress. System uses separate hydraulic circuit with cooler

Top speeds with 37.00-R57 tires:

Gear	km/h	MPH
1.....	12.0	7.5
2.....	16.2	10.1
3.....	22.0	13.7
4.....	29.7	18.5
5.....	40.3	25.0
6.....	54.4	33.8
Reverse.....	10.9	6.8



## Final Drives

Double-reduction, planetary final drives with full-floating axles.

Ratios:

Bevel Gear	2.35:1
Planetary	10.83:1
Total Reduction	25.46:1



## Tires

Productive capabilities of the 789B are such that under certain job conditions, T-km/h/**Ton-MPH** limits of the tires could be exceeded and, therefore, affect production.

Caterpillar recommends the user evaluate all job conditions and consult the tire manufacturer to make proper tire selection.

### Tire options:

37.00-R57 (E-4).....	included in standard weight
36.00-R51 (E-4).....	2280 kg/ -5,020 lb



## Brakes

System meets SAE J1473 DEC84 and ISO 3450-1985 up to 317 520 kg/700,000 lb operating weight.

**Service** — Caterpillar forced-oil-cooled, air-over-oil actuated, disc brakes, front and rear. Sealed from dirt and water. Individually serviceable as units.

Braking surface .....196 661 cm<sup>2</sup>/**30,483 in<sup>2</sup>**

**Retarding System** — Hand-operated friction lever provides modulated engagement of front and rear brakes for retarding. Automatic Retarder Control available.

Continuous rating.....	1566 kW/ <b>2,100 HP</b>
Intermittent rating.....	3087 kW/ <b>4,140 HP</b>

**Secondary Braking System** — Spring-engaged, oil-released, oil-cooled disc brakes on both axles.

**Parking Brakes** — Spring-engaged, hydraulically released. Uses disc brakes in service system. Toggle switch activated.



## Steering

Separate hydraulic system with twin, double-acting cylinders. Front suspension cylinders serve as kingpins. Automatically controlled supplemental steering system is standard (meets SAE J1511 OCT90 and ISO 5010-1984 standards at maximum rating).

Turning diameter on front wheel track

(standard tires).....	27.5 m/90'2"
Machine clearance turning circle.....	30.2 m/99'2"
Steering angle (left or right) .....	36°



## Frame

Full box-section with torque tube crossmember, integral front bumper, front box beams for suspension cylinder and ROPS support. Box-section rear crossmember for body and ROPS support with attachment points for maintenance platform and rear engine hood hinge support. Castings are used to provide additional strength in critical stress areas. Mild steel plates (310 MPa/**42,000 psi** minimum yield strength) and castings (241 MPa/**35,000 psi** minimum yield strength) provide flexibility, durability and good resistance to impact loads, even in cold climates.



## Body

Dual-slope main floor with V-bottom. High-tensile, heat-treated steel side, front and bottom plates with 620.5 MPa/6205 bar/90,000 psi yield strength. Exhaust heating is optional.

Canopy plate thickness:

- Front (40%) .....6 mm/**0.25"**
- Rear (60%).....10 mm/**0.39"**



## Body Hoists

Twin, two-stage hydraulic cylinders mounted on outside of main frame, double-acting in second stage. Power raise in both stages and power down in first stage down.

- Pump capacity .....731 liters/min/**193 gpm**
- Relief valve setting .....17 238 kPa/172 bar/**2500 psi**
- Body raise time (1750 engine rpm).....19 sec.
- Body lower time:
- Float .....17.5 sec.
- Power down at high idle .....16 sec.



## Suspension

Independent, self-contained, oil-pneumatic suspension cylinder on each wheel. Variable rebound rate reduces impact and smooths ride. Front suspension cylinders are bolted to upper and lower frame members for maximum support. Rear sway bar attaches to frame and differential housing, minimizes lateral sway, improves machine handling and operator comfort.



## ROPS

Integral ROPS cab is standard. ROPS (Rollover Protective Structure) offered by Caterpillar for this machine meets ROPS criteria SAE J1040 APR88.

When properly installed and maintained, cab offered by Caterpillar when tested with doors and windows closed per work cycle procedures specified in ANSI/SAE J1166 MAY90, results in an operator sound exposure Leq (equivalent sound level) of less than 80 dB(A). This operator weighted sound exposure meets OSHA and MSHA occupational noise exposure criteria.

## Optional Bodies\*

Option	Capacity				Empty Loading Height		Plate Thickness						Weight	
	Struck		2:1 (SAE)		(with 37.00 R 57 tires)		Sidewall		Front		Bottom		kg	lb
	m <sup>3</sup>	yd <sup>3</sup>	m <sup>3</sup>	yd <sup>3</sup>	mm	ft/in	mm	in	mm	in	mm	in		
<b>Standard</b>	73.0	<b>96.0</b>	105.0	<b>137.0</b>	5206	<b>17'1"</b>	10	<b>.39</b>	12	<b>.47</b>	20	<b>.79</b>	24 509	<b>54,164</b>
With Sideboard	94.0	<b>123.0</b>	120.0	<b>157.0</b>	5656	<b>18'7"</b>	10	<b>.39</b>	12	<b>.47</b>	20	<b>.79</b>	25 855	<b>57,010</b>
<b>Heavy Duty</b>	73.0	<b>96.0</b>	105.0	<b>137.0</b>	5206	<b>17'1"</b>	12	<b>.55</b>	16	<b>.63</b>	25	<b>1.0</b>	27 485	<b>60,604</b>
With Sideboard	94.0	<b>123.0</b>	120.0	<b>157.0</b>	5656	<b>18'7"</b>	12	<b>.55</b>	16	<b>.63</b>	25	<b>1.0</b>	28 550	<b>62,953</b>
<b>High Density</b>	52.0	<b>68.0</b>	86.0	<b>113.0</b>	4760	<b>15'7"</b>	10	<b>.39</b>	12	<b>.47</b>	25	<b>1.0</b>	25 465	<b>56,150</b>
With Sideboard	63.0	<b>83.0</b>	96.0	<b>126.0</b>	4978	<b>16'4"</b>	10	<b>.39</b>	12	<b>.47</b>	25	<b>1.0</b>	26 185	<b>57,738</b>

\* Other body configurations available. Consult your Caterpillar dealer for more information.

# SPECIFICATIONS

## Standard Equipment

**NOTE:** Standard and optional equipment may vary. Consult your Caterpillar dealer for specifics.

Air cleaner (2).	Ground level TPMS Dataport	Ladder light and service deck lights.
Air conditioner.	Glass, tinted.	Stop and tail lights.
Air line dryer.	Heater/defroster: 11 070 kCal/43,930 Btu.	Under-hood light.
Alternator, 105-amp.	Horn.	Lubrication system, automatic.
Automatic Electronic Traction Aid.	Insulated and sound suppressed.	Muffler (2)
Batteries, 93-amp-hour, low-maintenance, 12-volt (2).	Light, dome/courtesy.	Oil change system, quick service.
Body mounting group.	Mirrors, right and left.	Payload Management System.
Body safety cable.	Seat, air suspension.	Reservoirs, separate:
Brake release motor for towing.	Seat, passenger.	Brake/converter/hoist.
Brake system:	Seat belts, 75mm/3" wide retractable.	Steering.
Oil-cooled, multiple-disc, front and rear.	Steering, automatic supplemental.	Transmission.
Parking.	Steering wheel, tilt, padded.	Rims, center mounted for 37.00R57 tires
Secondary, emergency.	Storage compartment.	Rock ejectors.
Cab, ROPS:	Sun visor.	Starting aid, ether, automatic.
Ashtray.	Windshield wiper and washer.	Steering, auxiliary quick connect for towing.
Cigarette lighter.	Crankcase protection.	Tie down eyes.
Coat hook.	Driveline operator safety guard.	Tow hooks, front.
Gauges and indicators:	Dumping, auxiliary quick connect for "buddy dumping".	Tow pin, rear.
Air cleaner service indicator light.	Electrical system, 24-volt, 12-volt converter.	Transmission, six-speed, automatic power shift, electronic control and downshift inhibitor, reverse neutralizer during dumping, and neutral start switch, reverse shift inhibitor, controlled throttle shifting, directional shift management, neutral coast inhibitor, body up shift inhibitor
Air pressure gauge.	Engine — Caterpillar 3516 with Electronic Injection and Multi Point oil pressure sensing	Vandalism protection locks.
Alarm, back up.	Fast-fill fuel system, Wiggins.	
Brake oil temperature gauge.	Ground level battery disconnect	
Coolant temperature gauge.	Ground-level engine shutdown.	
Electronic Monitoring System.	Lighting system: (Halogen with replaceable bulbs)	
Electronic engine control alert indicator	Back up light.	
Engine overspeed indicator.	Direction signals and hazard warning.	
Hour meter, electric.	Headlights, Halogen with dimmer.	
Payload Management System display		
Speedometer with odometer.		
Tachometer, electric.		
Transmission gear indicator.		

Functions monitored by EMS:

**Category I** — Alternator. Fuel filter. Parking brake engaged — transmission in neutral (EMS panel light.)

**Category II** — Coolant temperature. Converter/retarder oil temperature. Oil filter/screens (EMS action light and panel light.)

**Category III** — Coolant flow. Engine oil pressure. Brake air pressure. Parking brake engaged — transmission in gear. Steering. Brake master cylinder overstroke. (EMS action light, and horn.)

## Optional Equipment

(with approximate change in operating weight)

	<b>Kg</b>	<b>Lb</b>
Automatic Retarder Control.....	6	13
Bodies with body down indicator	See chart on page 9	
Body extension (ducktail):		
Standard.....	649	1430
Heavy Duty/High Density .....	771	1700
Body heat (exhaust) .....	36	80
Body liner (6205 bar/620 MPa/ 90,000 psi minimum yield strength, 20 mm/.79" floor, 10 mm/.39" front and sides):		
Body options 1, 2, 3, 4.....	9451	20,840
Body options 5, 6.....	8900	19,625
Either body extension (ducktail)....	375	827
Heater, fuel recirculation type, non-electric .....	2	5
Heater, engine coolant and oil 240-volt external power source .....	10	22
Rim, spare for 37.00 - 57 tire .....	1406	3,100
36.00 - 51 tire .....	916	2,020
Shutter group, inside mounted .....	299	660
Starting system,		
Air (TDI Turbine) .....	-5	-10
Tachograph, recording, 24-volt.....	2	5
Variablefan clutch.....	182	400
Tires, set of six: Weights of optional tires vary by type and manufacturer. Contact your Caterpillar dealer or tire supplier for more information.		

## Weights (approximate)

Standard machine:

	<b>Kg</b>	<b>Lb</b>
Total empty weight .....	119 787	264,080
Chassis with hoist and body mounting group .....	95 218	209,916
Body, empty .....	24 509	54,164
Max. operating weight .....	317 520	700,000

## Weight Distribution (standard machine)

<b>Empty</b>		<b>Loaded</b>
46.9%	Front Axle	33.6%
53.1%	Rear Axle	66.4%



## Service Refill Capacities

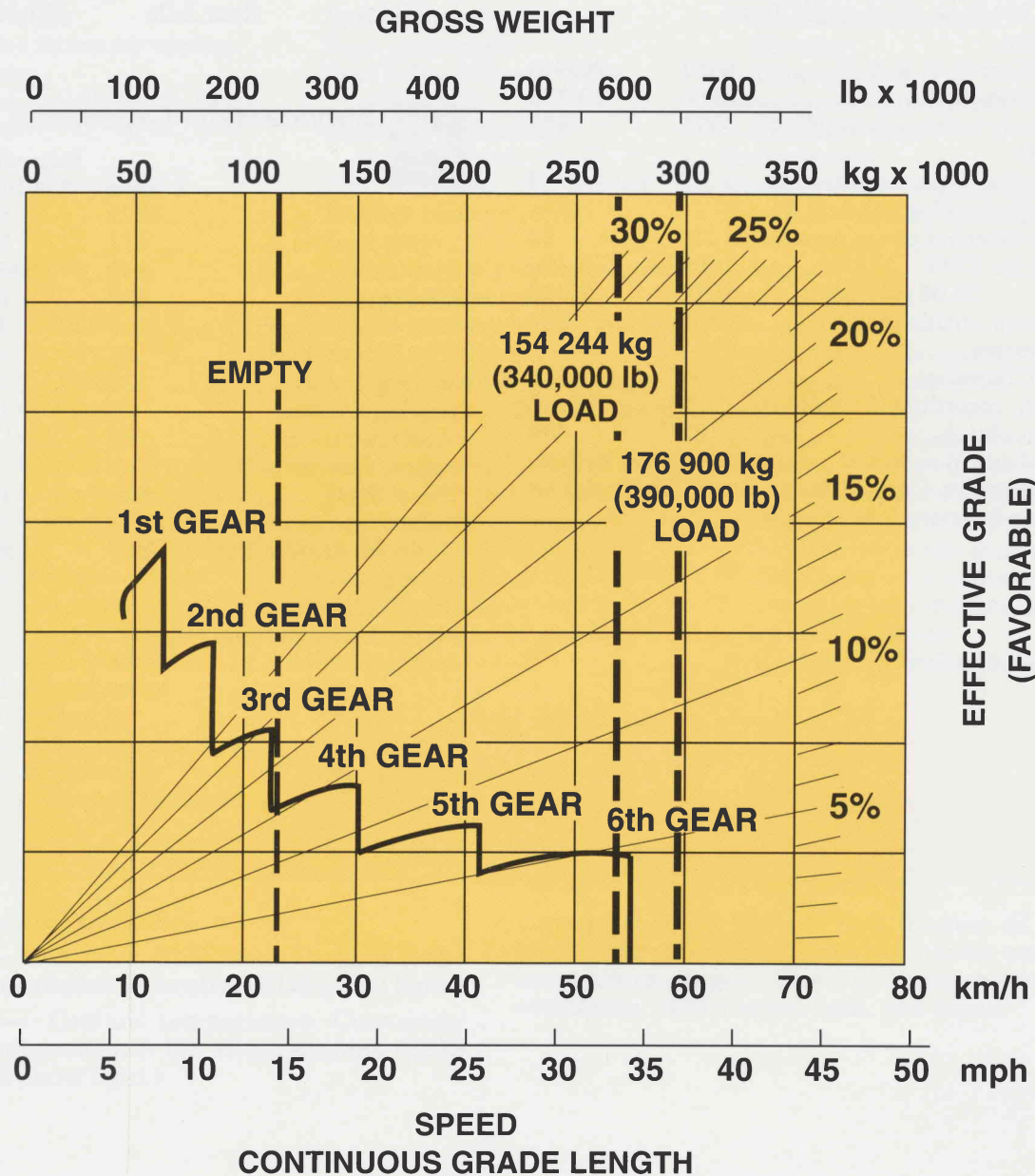
	<b>Liters</b>	<b>Imperial Gallons</b>	<b>U.S. Gallons</b>
Fuel Tank .....	3222	851	709
Cooling System .....	474	125	104
Crankcase .....	199	52.5	44
Differentials .....	583	154	128
Front Wheels, each .....	21	5.5	4.6
Final Drives, each .....	83	22	18
Steering Tank .....	130	34	28
Steering System (includes tank) .....	189	50	42
Brakes, Converter, Hoist Tank.....	531	140	117
Brakes, Converter, Hoist Hydraulic Tank .....	909	240	200
Transmission Hydraulic Tank .....	76	20	17
Transmission System (includes tank) .....	224	59	49

# SPECIFICATIONS

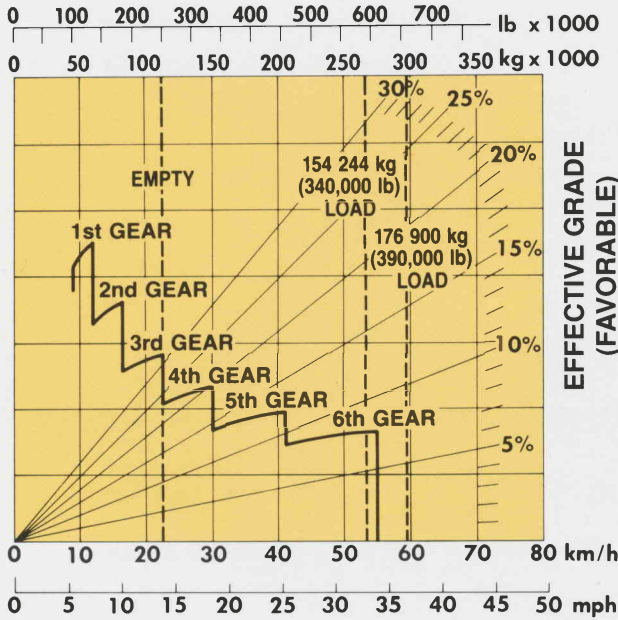
## Retarding Performance

To determine retarding performance: Add length of all downhill segments and, using this total, refer to proper retarding chart. Read from gross weight down to the percent effective grade. (Effective grade equals actual % grade minus 1% for each 10 kg/t/20 lb/ton of rolling resistance.) From this weight-effective grade point, read horizontally to the curve with the highest obtainable gear, then down to maximum descent speed brakes can properly handle without exceeding cooling capacity.

**NOTE:** Select the proper gear to maintain engine RPM at the highest possible level, without overspeeding the engine. If cooling oil overheats, reduce ground speed to allow transmission to shift to the next lower speed range.

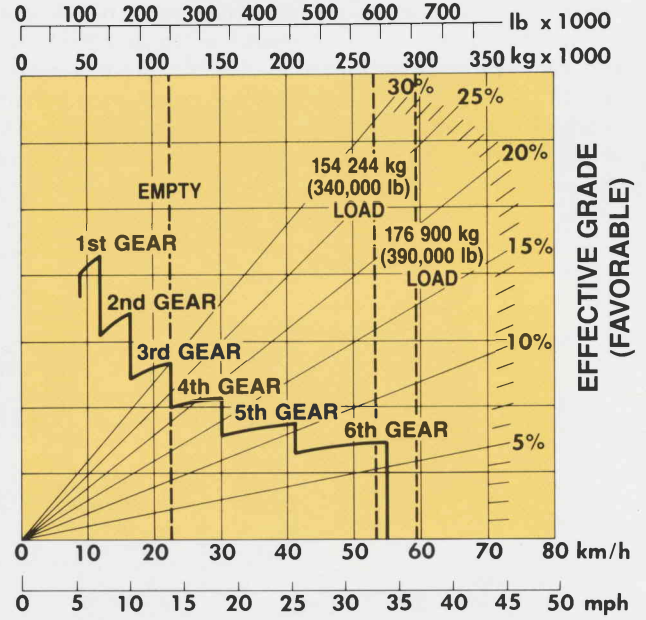


## GROSS WEIGHT



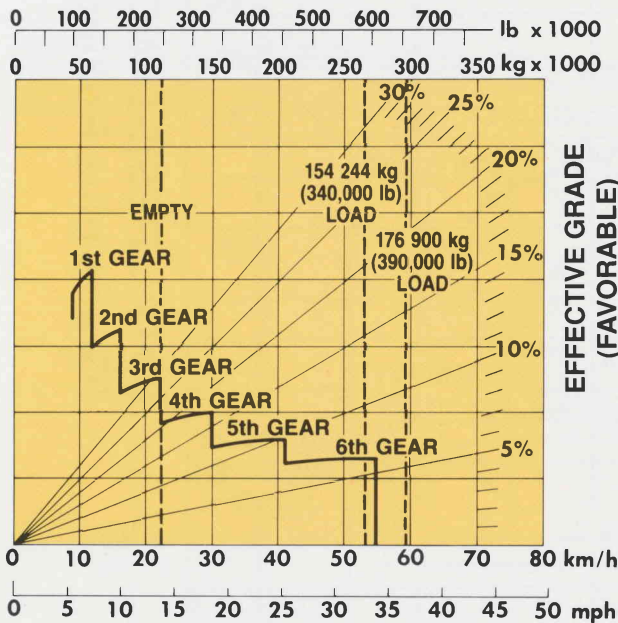
SPEED  
GRADE DISTANCE — 450m (1475 ft)

## GROSS WEIGHT



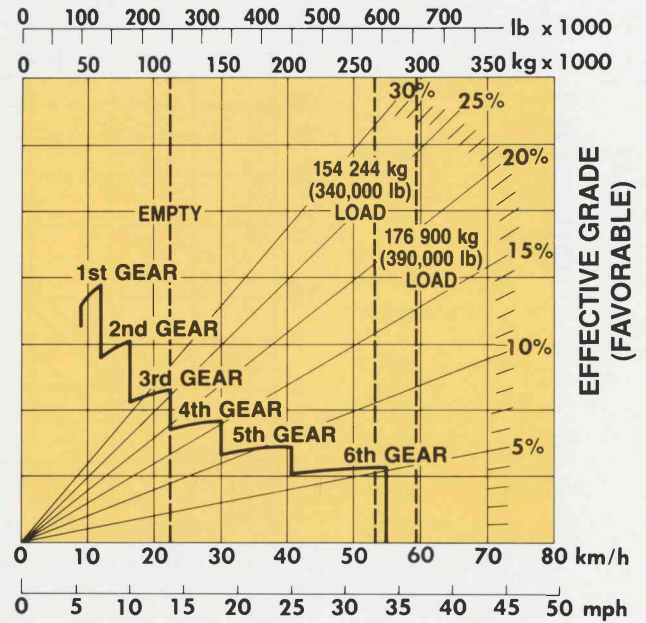
SPEED  
GRADE DISTANCE — 600m (1975 ft)

## GROSS WEIGHT



SPEED  
GRADE DISTANCE — 900m (2950 ft)

## GROSS WEIGHT



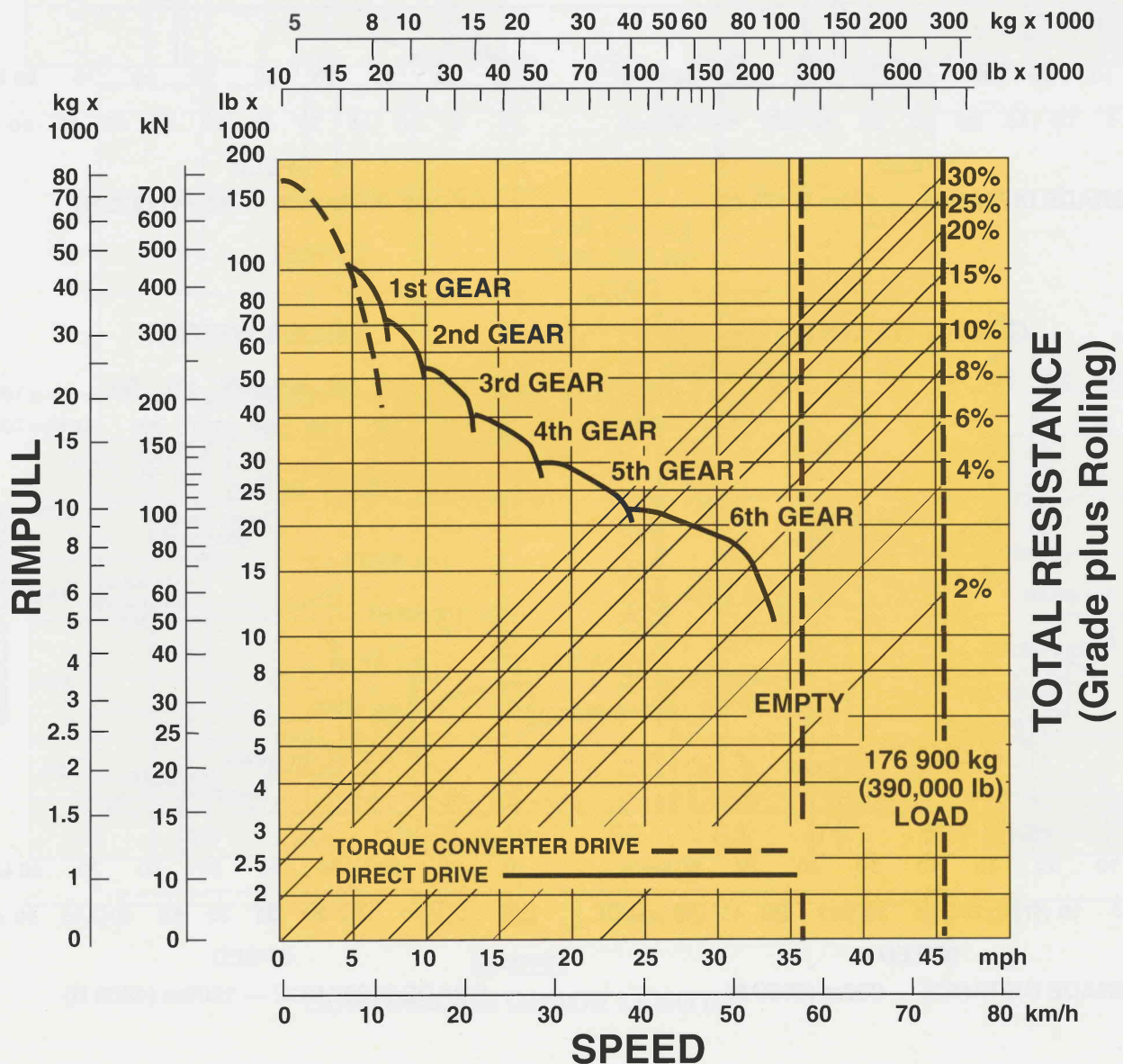
SPEED  
GRADE DISTANCE — 1500m (4900 ft)

# SPECIFICATIONS

## Gradeability/Speed/Rimpull

To determine gradeability performance: Read from gross weight down to the percent of total resistance. (Total resistance equals actual percent grade plus 1% for each 10 kg/t/20 lb/ton of rolling resistance.) From this weight-resistance point, read horizontally to the curve with the highest obtainable gear, then down to maximum speed. Usable rimpull will depend upon traction available and weight on drive wheels.

### 37.00 R57 TIRES GROSS WEIGHT



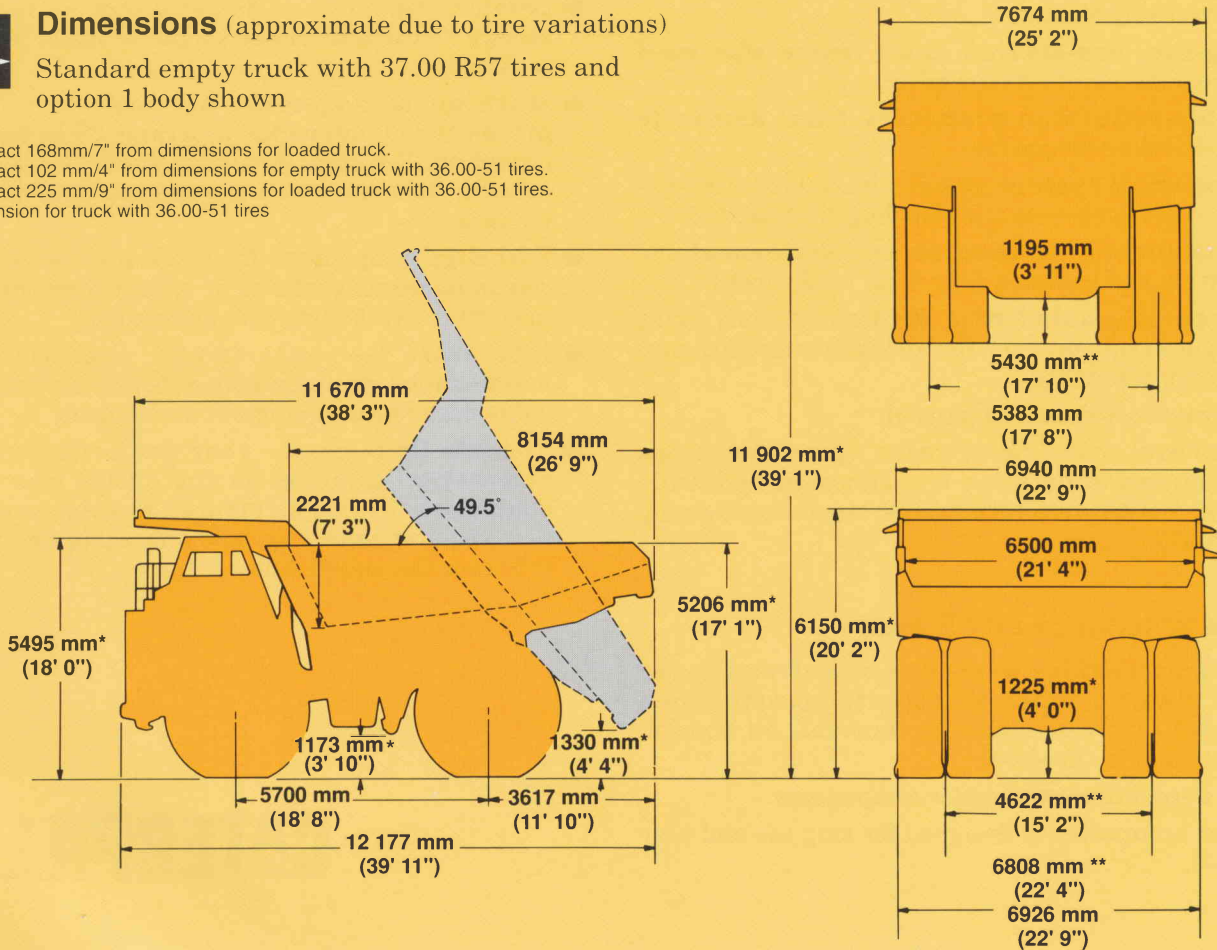




## Dimensions (approximate due to tire variations)

Standard empty truck with 37.00 R57 tires and option 1 body shown

- \* Subtract 168mm/7" from dimensions for loaded truck.
- Subtract 102 mm/4" from dimensions for empty truck with 36.00-51 tires.
- Subtract 225 mm/9" from dimensions for loaded truck with 36.00-51 tires.
- \*\* Dimension for truck with 36.00-51 tires



## The Competitive Edge Performance

- **Dual-slope body** designed to achieve centered loads, low center of gravity, reduced shock loading and excellent load retention.
- **23% engine torque rise** minimizes shifting by providing constant horsepower through each gear's range.
- **Mechanical power train** with direct-drive efficiency.
- **Fast acceleration** and high haul road speeds.
- **Individual clutch modulation** for quick, smooth shifts.
- **High retarding horsepower capacity** for fast grade operation.
- **Oil-cooled disc brakes** — exceptional, non-fade braking and retarding. High retarding horsepower for fast operation on steep grades.

## Reliability/Durability

- **Engine** — large displacement, low RPM for long reliable service.
- **Electronic engine and transmission controls.**
- **Large-capacity, heavy duty, planetary power shift transmission.**
- **Long-life, box-section main frame** with steel castings for excellent durability.
- **Double-reduction planetary final drives** to keep driveline torque low.
- **Suspension system** absorbs body load stresses instead of frame — less stress, longer frame life.
- **Oil-pneumatic suspension** provides comfortable operation and isolation from haul road shocks.
- **Forced-oil-cooled disc brakes** on both axles dissipate heat quickly for superior stopping and retarding capability.
- **Automatic Retarder Control.**
- **Separate oil reservoirs** prevent cross contamination between transmission hydraulic circuit, hoist-converter-brake system and steering hydraulics.

## Easy Maintenance and Repair

- **In-frame service access** — maintenance and most major component repairs accomplished without major component removal, on the job rather than in the shop.
- **Fast replacement** of major components.
- **Major components** designed for long life and easy rebuild.

- **Minimal maintenance** and easy access.
- **Quick, convenient** diagnostic checks.
- **Electronic Control Analyzer Programmer (ECAP)**

## Operator Environment

- Logical, convenient control placement and easy-to-read, non-glare instrument panel — less strain and fatigue for operator.
- Sound-suppressed, all-steel ROPS cab for confident, protected, productive operation.
- Automatic transmission control for maximum efficiency and operating ease.
- Comprehensive Electronic Monitoring System for early problem detection.
- Braking System combines service, retarding, parking and secondary braking functions for greater operator confidence.

## Total Customer Support System

- Parts availability — most Cat parts on dealer's shelf when you need them — computer-controlled, emergency search system backup.
- Service capability — dealer's shop or fast field service — trained service people — latest tools and technology.
- Machine management services — effective preventive maintenance programs (Scheduled Oil Sampling, Technical Analysis), cost-effective repair options, customer meetings, operator and mechanic training.
- Exchange components for quick repairs — choose remanufactured products or rebuilt components for maximum availability and lower costs.
- Literature — easy-to-use operation and maintenance manuals help you get the maximum value out of your equipment investment.
- Flexible financing — your dealer can arrange attractive financing on the entire line of Cat equipment. Terms structured to meet your cash flow requirements. See how affordable and easy it is to own Cat equipment.

**CATERPILLAR**<sup>®</sup>