

# CB-534C

Double Drum  
Vibratory Asphalt  
Compactor



#### Cat® 3054T Turbo-charged Diesel Engine

Gross power	78 kW	105 hp
Operating weight	9195 kg	20,270 lb
Drum width	1700 mm	67 in



## The Tools To Meet Various Density Requirements



**The CB-534C has all the tools needed to tailor compactive effort with density requirements,** allowing your operator to meet specifications in the fewest passes. Some density specifications require you to meet 94 percent one day and 99 percent the next. The CB-534C is capable of meeting those fluctuating specifications because of its three vibratory amplitudes. High amplitude works best on thick lifts or harsh mixes. Medium amplitude is well suited to 50 mm (2") to 100 mm (4") lifts. Low amplitude works well on thin lifts and tender materials.

The CB-534C also can be equipped with an optional high frequency vibratory system. High frequency can improve compaction on thin lifts with soft aggregates. In these applications, high frequency can help increase productivity because it allows the compactor to work at a faster speed.

The CB-534C can be used in all phases of compaction, reducing the need for a variety of rollers. The CB-534C is capable of working as a breakdown and intermediate roller because of its high compactive forces. When operated in the

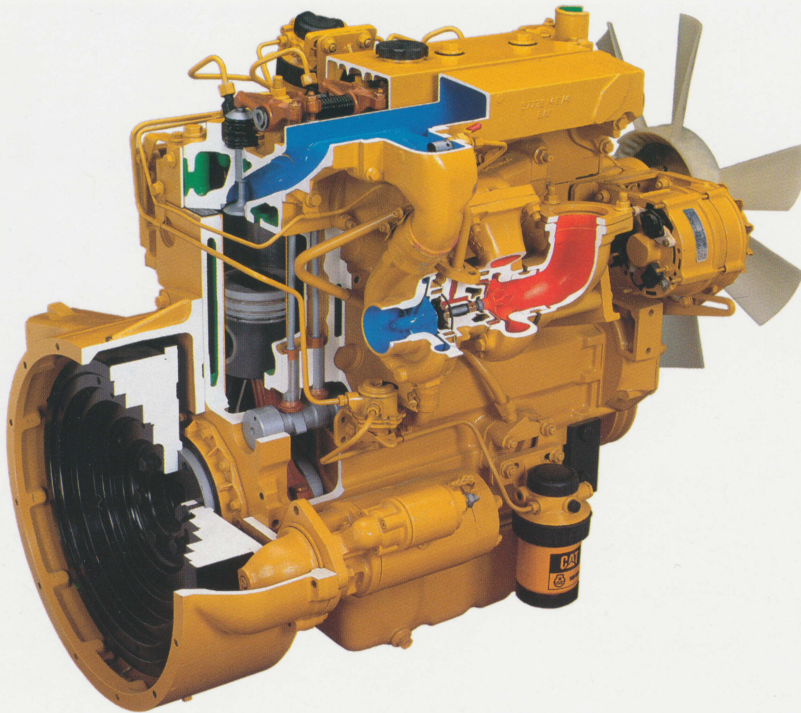
static mode, the CB-534C is a perfect fit as a finish roller because of its high static pounds per linear inch (PLI). Its machined steel drums provide a smooth finish in this application.

The CB-534C is supported by an extensive dealer network and parts distribution system as well as by Caterpillar dealer representatives that are highly trained and motivated. Caterpillar offers a comprehensive line of asphalt pavers, cold planers, compactors, reclaimers and stabilizers.



## Caterpillar® 3054T Diesel Engine

*Reliable and durable diesel engine for years of low maintenance operation.*



**Precise balance and optimum running speed** for smooth operation and long engine life.

**High torque rise** for maintaining power under increased loads.

**Adjustment-free direct injection fuel system** keeps fuel consumption low.

**Turbo-charged for optimum performance** even at high altitudes with no derating required up to 2134 meters (7,000 feet).

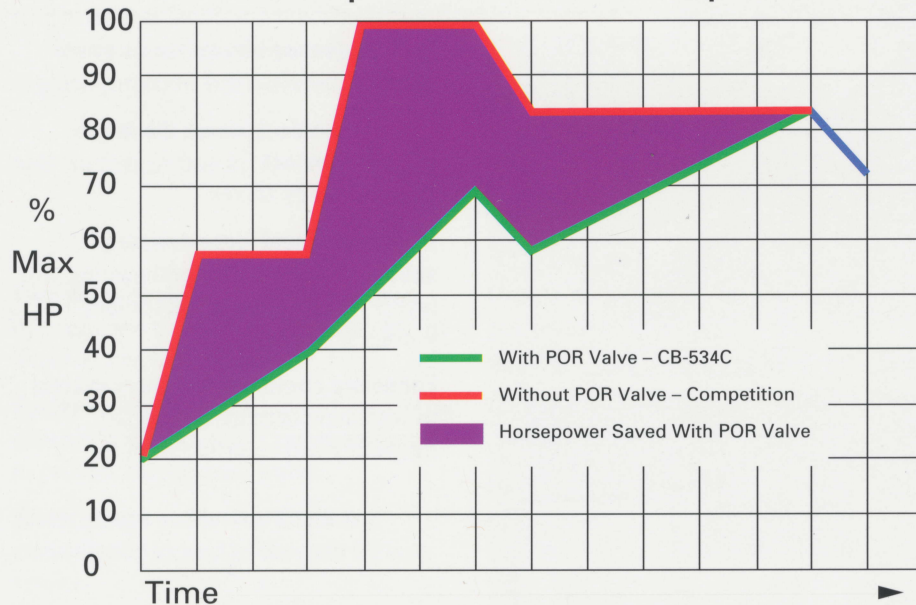
**Low maximum engine rpm** provides fuel efficiency.

**Meets EPA/CARB emissions engine regulations.**

## Pressure Override (POR) Hydraulic System

*Fuel efficiency and plenty of horsepower to meet all performance needs.*

### Horsepower Draw Comparison



**Propel and Vibratory Circuits** use horsepower efficiently, but not at the sacrifice of performance.

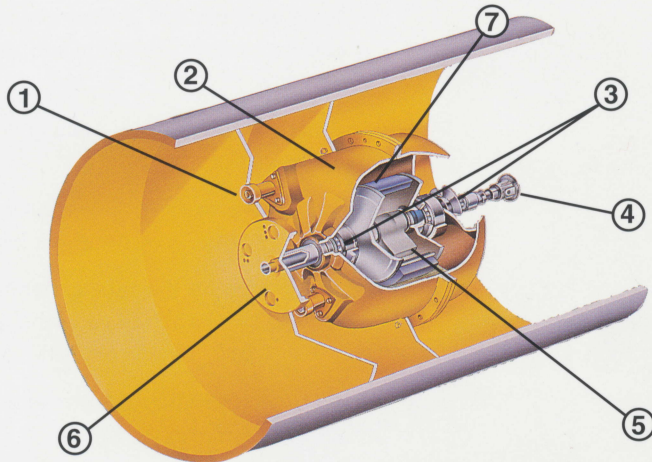
**POR valve** balances horsepower demands.

**Provides plenty of power and a responsive vibratory system** when starting and stopping the machine on each pass.



## Vibratory System

*Precision system delivers optimum compactive force.*



- |                                   |                             |
|-----------------------------------|-----------------------------|
| 1 Oil Level Sight Gauge           | 5 3-position Counterweight  |
| 2 Pod-style Weight Housing        | 6 Amplitude Selection Wheel |
| 3 Eccentric Weight Shaft Bearings | 7 Fixed Eccentric Weight    |
| 4 Weight Drive Shaft to Motor     |                             |

**Three amplitude selections** for working more efficiently in a wider range of applications.

**Positive weight locking system** ensures position of variable amplitude setting.

**Automatic matching of eccentric weight and drum rotation direction** improves mat quality.

**Automatic vibration start-up and shut-off** helps produce smooth, flawless mats. Manual control possible for joint compaction.

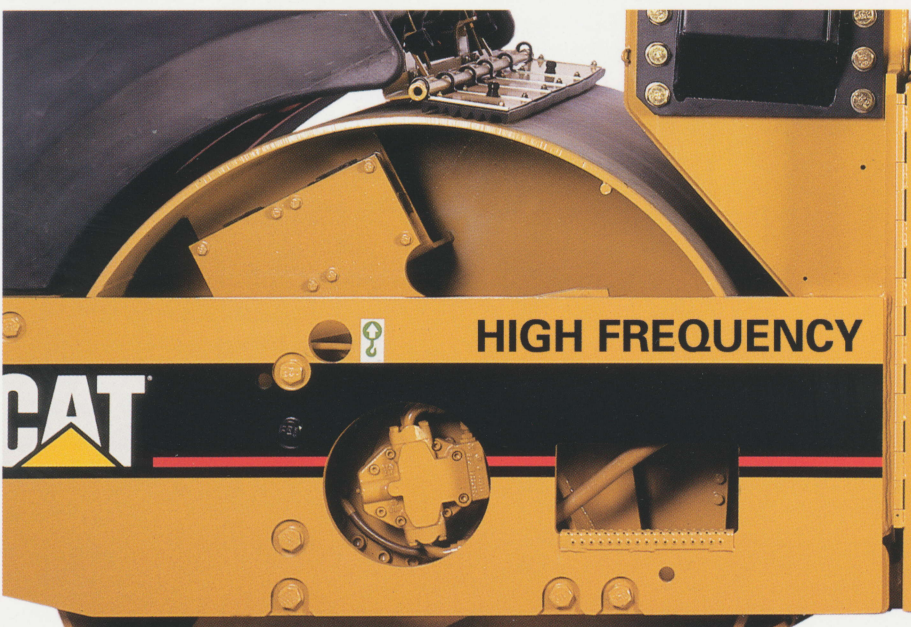
**Pod-style weight housings** are assembled and sealed at the factory to ensure cleanliness, extended bearing life and easy field exchange/service.

**Moving parts are separated from lubricating oil** helping to keep oil clean and ensuring long bearing life.

**High Frequency Option** increases frequency to 53 Hz (3,200 vpm).

## High Frequency Vibratory System Option

*Designed for special conditions requiring a less energetic vibratory system.*



**High frequency allows faster travel speed** at the specified impact spacing.

**Low amplitude delivers the most effective impact** for soft aggregate, thin lifts and sandy mixes.

**High centrifugal force delivers substantial energy** for compacting stiff layers, high aggregate mixes and porous asphalt mixes.

**Enhanced cooling of vibratory system** to withstand demands of higher frequency and centrifugal force.

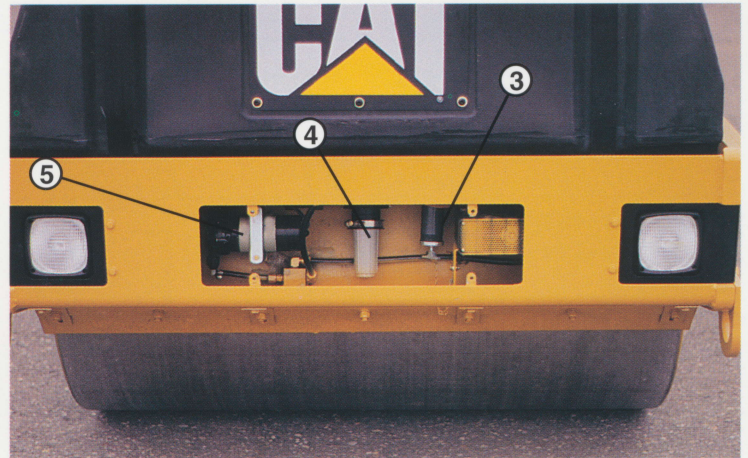


## Water Spray System

*Corrosion-proof system and long-life components for reliable operation.*



- 1 Water-level Gauge
- 2 Spray Nozzle with Filter
- 3 Water Tank Drain
- 4 Filter
- 5 Water Pump



**Two pump system** but only one pump operates at a time, doubling pump life in terms of machine hours.

**System control switch** located on control console is used to select pump and tank to provide pressurized water.

**Water pumps and in-line filters are conveniently** located in bumpers for easy service.

**Long-life water pumps** are self priming and pressure regulating to provide optimum spray and flow.

**Complete back-up system** controlled from the operator's station.

**Constant or intermittent spray capabilities** for long operation between fill-ups.

**Triple water filtration** reduces machine downtime caused by system clogs.

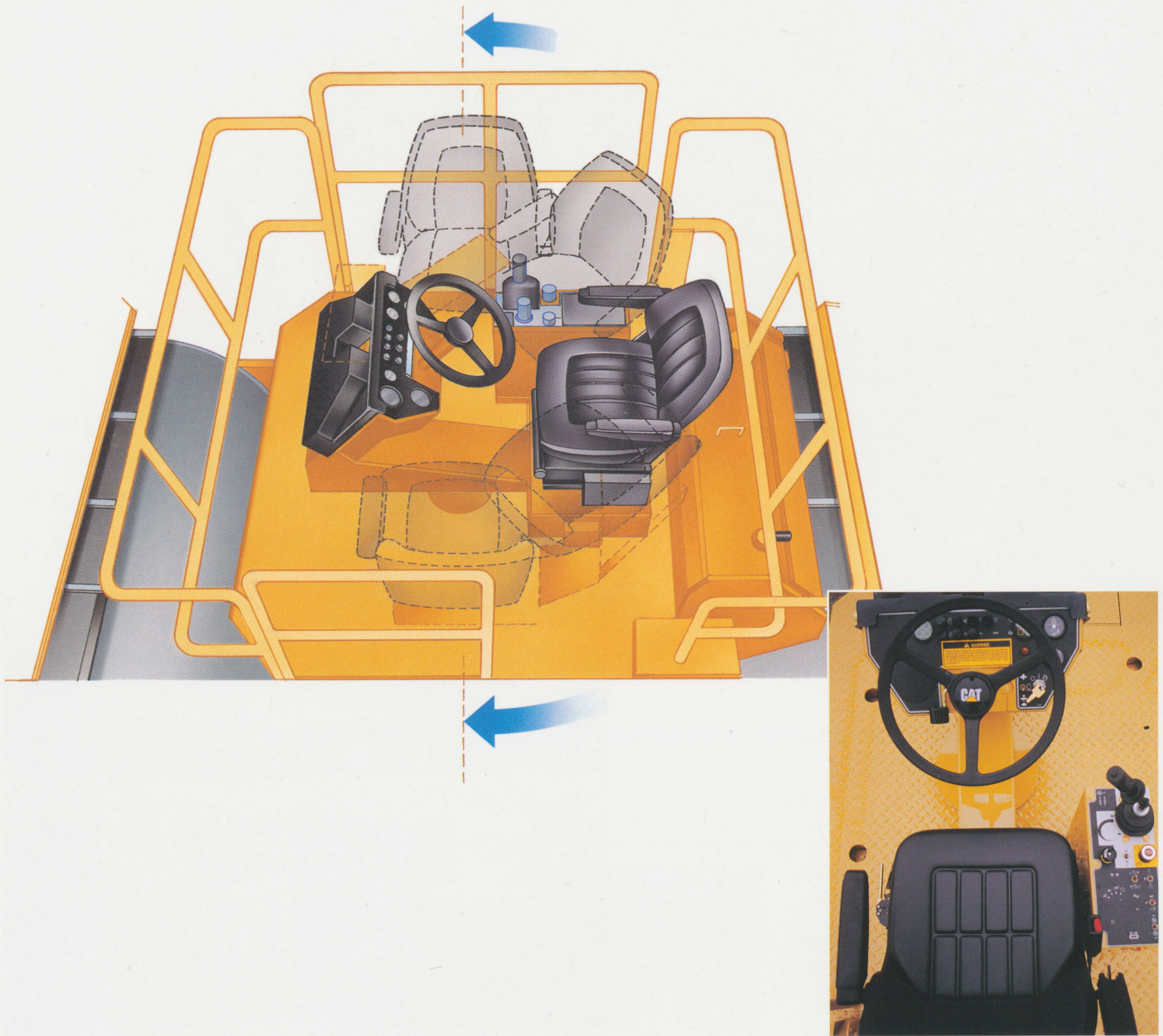
**Two high-capacity polyethylene tanks** provide extended operation between fill-ups.

**Large water tank drains** allow complete system to be drained in less than five minutes.



## Maximum Visibility Position Control Console

*Excellent visibility means more precise control and greater production.*



**Operator comfort is maximized** with large operator's station and convenient location of controls.

**Control console rotates** to five operating positions, maximizing operator visibility.

**Gauges and controls move with console**

keeping them in same relative position to the operator.

**Unobstructed visibility** of drum surfaces and edges.

**Isolated operator's station** with four rubber mounts help eliminate vibration before it reaches the operator, controls and instrumentation.



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## Streamlined Water Tanks

*Excellent operator visibility increases production.*

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**Visibility to objects** 1 m (3.3') high and 1 m (3.3') in front of the machine or behind the machine.

**Provides excellent sight lines** to ground personnel working near machine.

**Tapered edges** provide excellent visibility to the front, rear and sides of machine.

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## 60/40 Articulation

*Easier, more positive maneuvering near curbs and objects.*

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**Off-center articulation** with 60% of the machine length behind the pivot and 40% forward.

**Operator can concentrate on only one drum** when entering or leaving a curve.

**Helps prevent damage to existing structures** when moving away from curbs and other objects.

**Helps build operator's confidence** and improves productivity.



## Serviceability

*Reduced maintenance requirements mean increased work time.*



**Large, swing-open service doors** on both sides of the machine provide easy access to routine maintenance points.

**Pivot-up operator's platform** provides access to engine valve covers.

**Ground level servicing** simplifies maintenance.

**Oil bath lubrication of eccentric weight bearings** reduces routine maintenance.

**Spray nozzles are easily removed** without the need of tools.

**Remote mounted fittings** simplify draining hydraulic and fuel tanks.

**Quick-connect hydraulic test ports** simplify system diagnosis.

**Remote mounted quick start post** for easy jump starts.



## Optional Equipment

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

### High Frequency Vibratory System

changes the frequency from 42 Hz (2,520 vpm) to 53 Hz (3,200 vpm). This option is designed for special conditions requiring a less energetic vibratory system.

Recommended applications include Marshall mix designs or overlays with a high sand content, Superpave mix designs with a high aggregate content, Stone Matrix Asphalt (SMA) and open-graded asphalt mix designs, thin layers and mixes with a high percentage of soft aggregate (limestone).

**Dual Amplitude Vibratory System** is available as a Custom Shop Modification. Amplitude changes are made with a switch on the control console. Custom Shop Modifications typically require longer lead times.

**Vibratory Tachometer** displays vibratory system frequency. It is installed on the instrument panel in front of the operator.

**ROPS/FOPS Canopy** provides operator protection in the event of machine roll-over or from falling objects. It is the two-post type which bolts directly to the machine frame.

**Automatic Speed Control (ASC)** helps ensure consistent speeds are maintained throughout a job. The system is controlled with a rotary dial to the right of the propel lever. Setting the dial at a predetermined point will limit top speed. The operator can then push the propel lever all the way forward or all the way back, and the machine will automatically accelerate to the predetermined speed and maintain it.

**Water Distribution Mats** help keep drum surfaces wet in extremely dry, hot or windy conditions. The mats are constructed of flexible rubber and hold and disperse water on the drum surfaces. They keep the drums clean by providing a secondary cleaning action to remove asphalt particles not removed by the drum scrapers. The mats can be retracted from the drums when not in use.

**Coco Mats** retain water as it is distributed by the water spray system. The coco mats allow water to seep out of them. This provides a continuous distribution of water and keeps the water spray system from having to work continuously.

**Working Lights** illuminate the work area under dim and dark conditions. It consists of four variable adjustment flood lights positioned two forward and two rearward.

**Ground Speed Indicator** measures rolling speed. The analog dial is calibrated in kilometers per hour or feet per minute.

**Vertical Exhaust** vent is moved from ground level to above operator's console. This eliminates fumes from blowing near ground personnel or near the mat.

**Split Drums** consist of two independent halves that are joined at the center by an internal bearing with a clutch mechanism. Split drums minimize mat tearing that sometimes occurs during tight turns.

## Value Analysis

### Application Flexibility

- Three amplitude vibratory system increases application flexibility.
- Independent selection of drum vibration.
- Excellent visibility to drum edges and drum surfaces.

### Productive Operation

- Wide drum coverage.
- Excellent maneuverability.
- Close side clearance and high curb clearance reduce hand work.
- High capacity water system.

### Operator Aids

- Maximum Visibility Position (MVP) control console offers excellent visibility from several different operating positions.
- Choice of automatic or manual vibration control.
- Priority-demand hydraulic power-assist steering.

### Reliability

- Rugged, dependable Caterpillar diesel engine.
- Propel and vibratory motors are isolated from vibration for longer life.
- Ultra-fine filtration of hydraulic systems.
- Corrosion-proof drum spray system with triple-water filtration.
- Dual water pumps with back-up capability controlled from operator's station.

### Serviceability

- Pivot-up operator's station and swing open doors provide ample access to diesel engine.
- Hydraulic components are located for easy access and service.
- Grouped hydraulic test ports simplify monitoring pressures.
- Spray system nozzles and filters are easily removed and cleaned.

## Total Customer Support System

**Parts availability**—most parts on dealer's shelf when you need them. Computer-controlled, emergency search system backup.

**Parts stock lists**—dealer helps you plan on-site parts stock to minimize your parts investment while maximizing machine availability.

**Service capability**—dealer's shop or fast field service by trained technicians using latest tools and technology.

**Machine management services**—effective preventive maintenance programs, cost-effective repair options, customer meetings, operator and mechanic training.



## Engine

Four-stroke cycle, four cylinder Caterpillar® 3054T turbo-charged diesel engine. Meets EPA and CARB emissions engine regulations.

### Ratings at 2,200 RPM

	kW	hp
Gross power	78	105
Net power	75	100

Ratings of Caterpillar machine engines are based on standard air conditions of 25°C (77°F) and 99 kPa (29.32") Hg dry barometer. Power is based on using 35° API gravity fuel having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 30°C (86°F) [ref. a fuel density of 838.9 g/L (7.001 lb/U.S. gal)]. Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.

The following ratings apply at 2200 RPM when tested under the specified standard conditions for the specified standard:

Net Power	kW	hp
ISO 9249	75	100
SAE J1349 (JAN90)	74	99
EEC80/1269	75	100

### Dimensions

Bore	100 mm	3.937"
Stroke	127 mm	5"
Displacement	4 L	243 cu in

Dual-element, dry-type air cleaner with visual restriction indicator.

24-volt electrical starting system with 55 amp alternator and two 12-volt maintenance-free Cat batteries.

Engine throttle is two-position electric control.

## Service Refill Capacities

	Liters	Gallons
Fuel Tank	208	55
Cooling system	28	7.4
Engine oil (w/filter)	7,6	2
Vibratory bearing lubrication	11	2.9
Hydraulic tank*	60	15
Water (Spray) tank	2 x 475	2 x 125

\* Figures show fill tank to "full" level. Actual tank capacity is higher. Hydraulic/Charge oil filtered by 10 micron charge oil filter. A filter condition indicator is located on the filter head.

## Transmission

Variable displacement piston pump supplies pressure flow to a two-speed hydraulic motor driving the rear drum and a single-speed hydraulic motor driving the front drum through planetary gearboxes. A single propel lever located on the control console provides smooth hydrostatic control of the machine's infinitely variable speeds in both forward and reverse.

### Speeds (forward and reverse):

Low	0 - 7,2 kmph	0 - 4.5 mph
High	0 - 11,3 kmph	0 - 7 mph

## Steering

Priority-demand hydraulic power-assist steering system provides smooth, firm machine handling. The automotive-type steering wheel and column are integral with the operator's swivel platform and allow steering from multiple positions.

### Minimum turning radius:

Inside drum edge	4165 mm	13' 8"
Outside drum edge	5865 mm	19' 3"
Steering Angle (each direction)		35°
Hydraulic system—two 76 mm (3") bore, double-acting cylinders powered by a gear pump.		
Output @ 2,200 rpm	22,7 liter/min(6 gpm)	

## Brakes

### Service brake features

■ Closed-loop hydrostatic drive system provides dynamic braking during machine operation.

### Secondary and parking brake features

■ Spring-applied/hydraulically released on front and rear drums. Actuated by switch on console or automatically when pressure is lost in brake circuit or when engine is shut off.

Brake systems meet SAE recommended practice J1472 and EN500.

## Frame

Fabricated from heavy gauge steel plate and rolled sections. The frame is joined at the articulation pivot. 60 percent of the machine is rear of the articulation pivot and 40 percent is in front of the pivot. The two sections are joined by two hardened steel pins that are supported by heavy-duty roller bearings. A vertical pin provides a ±35° steering angle and a horizontal pin provides frame/yoke oscillation of ±10°

## Water Spray System

Entire water spray system is corrosion-proof and includes two full-frame, low-profile polyethylene water tanks – one above each drum. Water level gauges are located on each tank within easy sight of the operator.

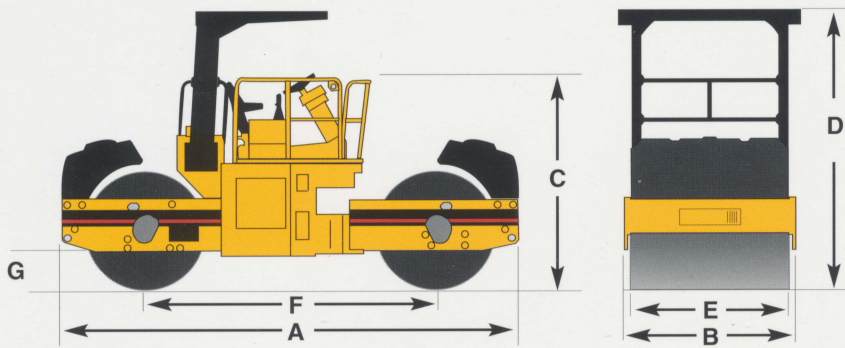
The system consists of two diaphragm pumps driven by electric motors. Only one pump operates at time, supplying pressurized water to both sets of drum spray bars. Pump operation is controlled from operator's station. System provides complete back-up capability controlled from operator's station.

Spray can be continuous for maximum wetting action or intermittent for maximum duration between fill-ups. Seven easy-to-clean spray nozzles are easily removed for replacement or cleaning without the need for tools.

Water capacity 2 x 475 L 2 x 125 gal



## Dimensions



Length (A)	4940 mm	16' 2"
Width (B)	1870 mm	6' 2"
Height at steering wheel (C)	2410 mm	7' 11"
Height with ROPS (D)	2997 mm	9' 10"
Drum width (E)	1700 mm	67"
Wheelbase (F)	3150 mm	10' 4"
Curb Clearance (G)	416 mm	16"
Side Clearance	85 mm	3.5"

## Vibratory System

Drum width	1700 mm	67"
Drum diameter	1300 mm	51"
Drum shell thickness, nominal	18 mm	.71"
Vibration selection	Independent per drum	
Eccentric weight drive	Hydraulic direct, auto reversing	
Bearing lubrication	Oil bath	
Hydraulic filtration	10-micron, absolute	
Weight distribution front/rear	48%	52%
Frequency with Standard Machine	42 Hz	2,520 vpm
Frequency with High Frequency Option	53 Hz	3,200 vpm

### Nominal Amplitude with Standard Machine

High	1,05 mm	0.041"
Medium	0,80 mm	0.031"
Low	0,36 mm	0.014"

### Nominal Amplitude with High Frequency Option

High	0,63 mm	0.025"
Medium	0,47 mm	0.018"
Low	0,21 mm	0.008"

### Centrifugal Force Per Drum with Standard Machine

High Amplitude	118,1 kN	26,550 lb
Medium Amplitude	87,4 kN	19,643 lb
Low Amplitude	39,4 kN	8,865 lb

### Centrifugal Force Per Drum with High Frequency Option

High Amplitude	117,5 kN	26,400 lb
Medium Amplitude	87,3 kN	19,620 lb
Low Amplitude	38,1 kN	8,560 lb

## Weights (approximate)

Operating weight includes lubricants, coolant, 80 kg/175 lb operator, full fuel tank, full hydraulic system and half-full water tanks.

### Standard Machine

Operating weight	9195 kg	20,270 lb
at front drum	4415 kg	9,730 lb
at rear drum	4780 kg	10,540 lb
Shipping weight	8495 kg	18,730 lb
Average linear load/PLI	27 kg/cm	151 lb/in

### With ROPS

Operating weight	9705 kg	21,400 lb
at front drum	4660 kg	10,280 lb
at rear drum	5045 kg	11,120 lb
Shipping weight	9010 kg	19,870 lb
Average linear load/PLI	28,5 kg/cm	160 lb/in

### With High Frequency Vibratory System Option

Operating weight	9255 kg	21,410 lb
at front drum	4440 kg	9,790 lb
at rear drum	4815 kg	10,620 lb
Shipping weight	8560 kg	18,870 lb
Average linear load/PLI	27,2 kg/cm	152 lb/in

### With High Frequency Vibratory System Option and ROPS

Operating weight	9765 kg	21,530 lb
at front drum	4685 kg	10,330 lb
at rear drum	5080 kg	11,200 lb
Shipping weight	9075 kg	20,010 lb
Average linear load/PLI	28,7 kg/cm	161 lb/in

## Instrumentation

The control console includes: steering wheel, hopper raise/lower switch; left and right feeder auto/off/man switch; horn button; propel forward/reverse control lever; pave/travel speed range selection switches; maximum speed control; engine ignition switch; parking brake switch; feeder gate control switches; screed vibrator switch on/off;

screed lift switch up/down; screed extender switches in/out; foot brake pedal; engine throttle fast/slow; auger raise/lower switch; screed counterbalance system; and hydraulic limited slip lock on/off switch. Gauges are analog for easy reading and quick interpretation.

Instrumentation also is located on the control console, including system alarm and warning light for high hydraulic oil temperature, low hydraulic oil level, low engine oil pressure, and high water temperature; battery charging light; engine temperature gauge; fuel level gauge; oil pressure gauge; hydraulic oil temperature gauge, hourmeter and engine tachometer.



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(Replaces QEHO9579)

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