CB-434C

Double Drum Vibratory Asphalt Compactor



Cat® 3054NA Diesel Engine		
Gross power	52 kW	70 hp
Operating weight	6485 kg	14,300 lb
Drum width	1422 mm	56 in

Courtesy of Machine.Market

The Tools To Meet Various Density Requirements



The CB-434C 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-434C 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-434C can be used in all phases of compaction, reducing the need for a variety of rollers. The CB-434C is capable of working as a breakdown and intermediate roller because of its high compactive forces. When operated in the static mode, the CB-434C 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.

Courtesy of Machine.Market

Caterpillar® 3054NA 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.

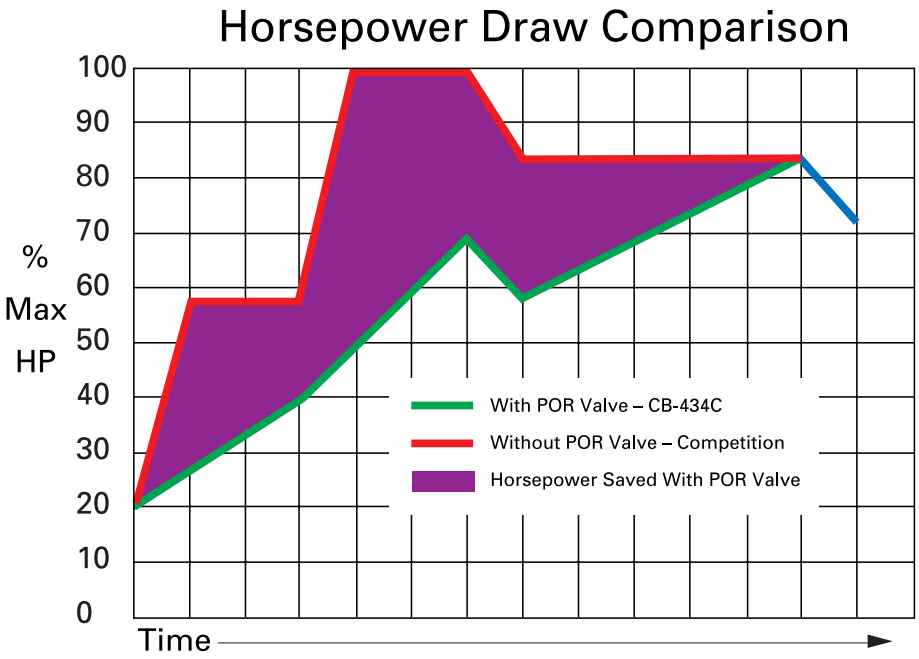
Adjustment-free direct injection fuel system keeps fuel consumption low.

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.



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

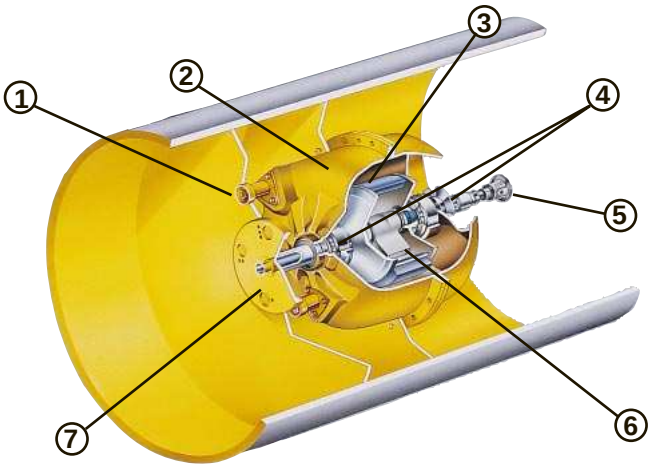
POR valve balances horsepower demands.

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

Courtesy of Machine.Market

Vibratory System

Precision system delivers optimum compactive force.



1 Oil Level Sight Gauge

2 Eccentric Weight Housing

3 Fixed Eccentric Weight

4 Eccentric Weight Shaft Bearings

5 Weight Drive Shaft to Motor

6 3-position Counterweight

7 Amplitude Selection Wheel

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

Positive weight locking system ensures position of variable amplitude setting.

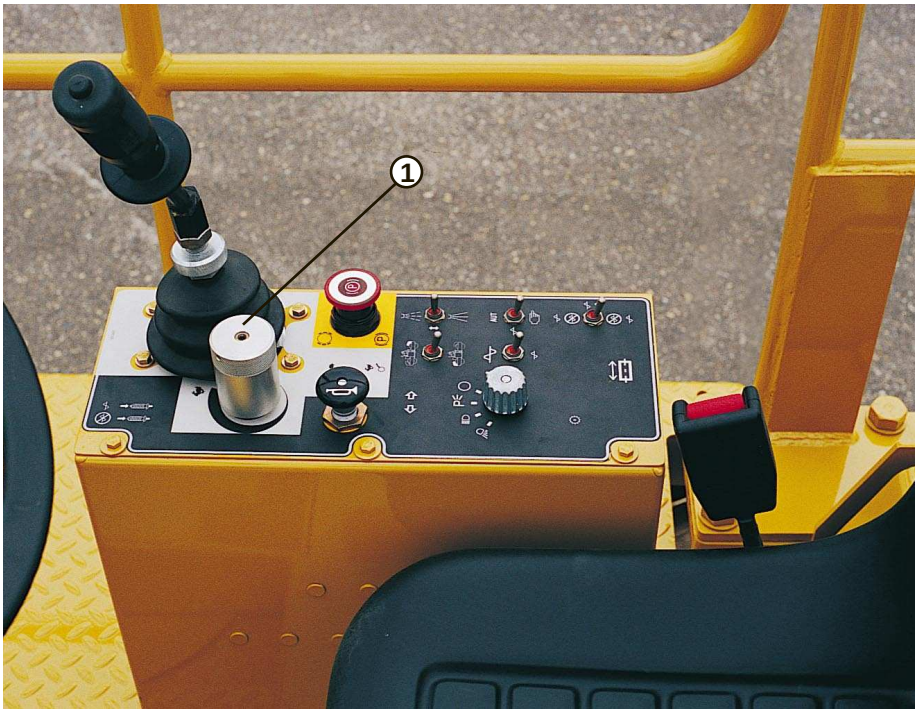
Automatic matching of eccentric weight and drum rotation direction improves mat quality.

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

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

Automatic Speed Control

Allows consistent speeds to be maintained throughout a job.



Hydraulically controlled system ensures smooth, consistent speed is used on each pass.

Setting the dial limits the top speed of the machine and maintains it.

Operator easily can match travel speed with vibrations per minute, helping to meet density requirements in the fewest passes.

Cruise control-like system eases operator control of propel speed in forward and reverse.

1 Automatic Speed Control Dial

Courtesy of Machine.Market

Water Spray System

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



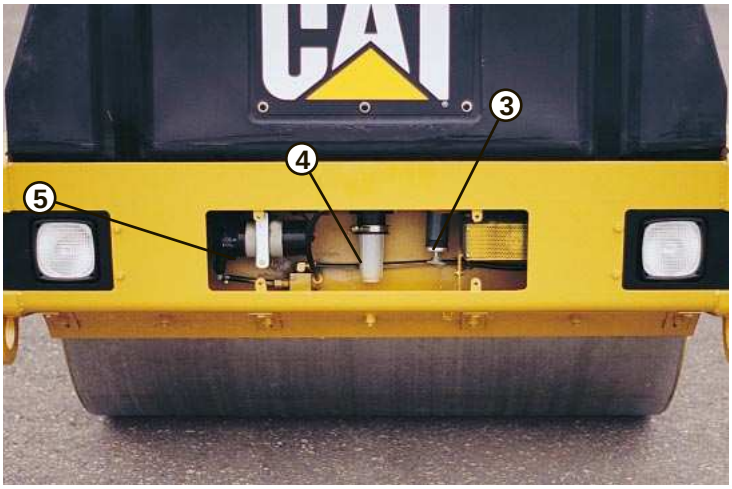
1 Water-level Gauge

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.

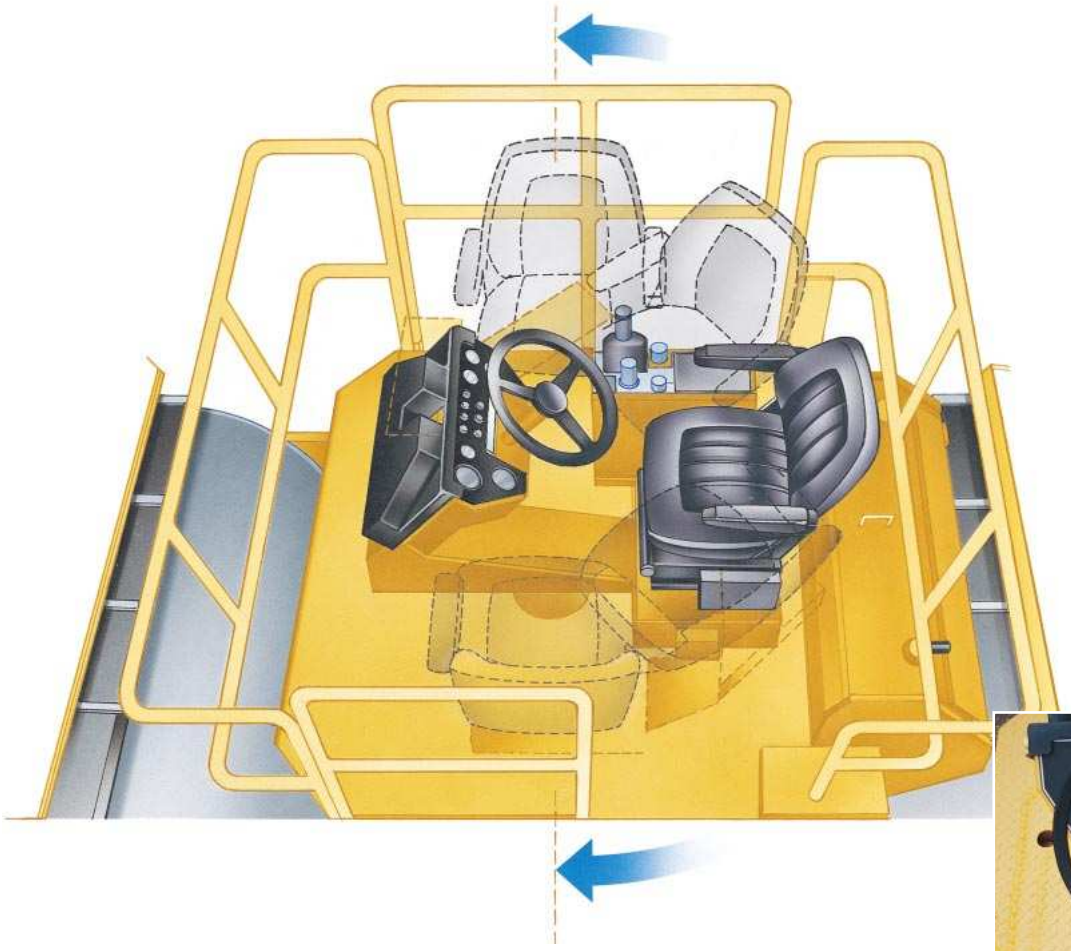
Two high-capacity polyethylene tanks provide extended operation between fill-ups.

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

Courtesy of Machine.Market

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.

Courtesy of Machine.Market

Streamlined Water Tanks

Excellent operator visibility increases production.



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.

60/40 Articulation

Easier, more positive maneuvering near curbs and objects.



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.

Courtesy of Machine.Market

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.

Courtesy of Machine.Market

Optional Equipment

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

Automatic Speed Control (ASC) helps ensure consistent speeds are maintained throughout a job. A rotary dial to the right of the forward-reverse propel lever actuates a variable relief in the hydraulic system. Setting the dial at a predetermined point will limit top speed of the machine. 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.

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.

Water Distribution Mats help keep drum surfaces wet in extremely dry, hot or windy conditions. The mats are constructed of flexible rubber and are designed to hold and disperse water on the drum surfaces. They also keep the drums clean by providing a secondary cleaning action to remove minor 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.

Suspension Seat provides comfortable operation. It includes pivoting armrest and allows adjustment for height, weight and distance from control console.

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

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

Vertical Exhaust moves outlet from ground level to above and away from operator. This eliminates fumes from blowing near ground personnel or near the mat.

Spark Arrestor Muffler helps to eliminate sparks that may be emitted by exhaust system.

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.

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.
- 60/40 articulation simplifies maneuvering.
- 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 without the use of tools.

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.

Courtesy of Machine.Market

Engine

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

Ratings at 2,200 RPM	kW	hp
Gross power	52	70

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 2,200 RPM when tested under the specified standard conditions for the specified standard:

Net Power	kW	hp
EEC 80/1269	49	66
ISO 9249	49	66
SAEJ1349 JUN95	49	66

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	U.S. Gallons
Fuel Tank	114	30
Cooling system	21	5.5
Engine oil (w/filter)	7,6	2
Vibratory bearing lubrication	11	2.9
Hydraulic tank*	49,2	13
Water (Spray) tank	2 x 333	2 x 88

* *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

A single variable displacement pump supplies oil flow to the two fixed-displacement, radial-piston motors driving the drums. 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.

Speed (forward and reverse):

Work and travel	0-11,6 km/hr	7.2 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	3404 mm	11' 2"
Outside drum edge	4832 mm	15' 10.25"

Steering Angle (each direction) 35°

Hydraulic system—two 76 mm (3") bore, double-acting cylinders powered by a gear pump.

Output @ 2200 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% of the machine is rear of the articulation pivot and 40% 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°

Drum Spray System

Entire drum 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.

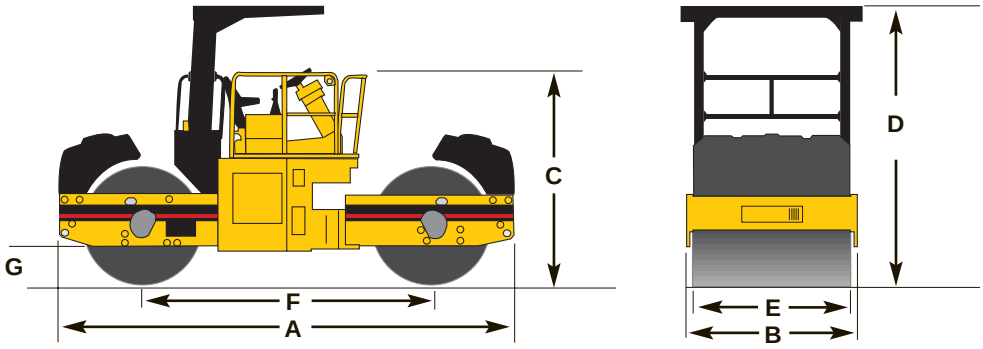
The system consists of two diaphragm pumps driven by electric motors. Only one pump operates at time, supplying pressurized water to both sets of drum spray bars. Pump operation is controlled from operator's station. System provides complete back-up capability controlled from operator's station.

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

Water capacity	2 x 333 liters	2 x 88 gal

Courtesy of Machine.Market

Dimensions



Length **(A)**	4191 mm	13' 9"
Width **(B)**	1613 mm	5' 4"
Height at steering wheel **(C)**	2261 mm	7' 5"
Height at top of ROPS **(D)**	2997 mm	9' 10"
Drum width **(E)**	1422 mm	56"
Wheelbase **(F)**	2616 mm	8' 7"
Curb Clearance (vertical) **(G)**	381 mm	15"
Side Clearance	95 mm	3.75"
Minimum turning radius:		
Inside drum edge	3404 mm	11' 2"
Outside drum edge	4832 mm	15' 10.25"

Vibratory System

Drum width	1422 mm	56"
Drum diameter	1100 mm	43.5"
Drum shell thickness, nominal	16 mm	0.625"
Weight at front drum	3113 kg	6,864 lb
Weight at rear drum	3372 kg	7,436 lb
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	48 Hz	2900 vpm
Nominal Amplitude		
High Range	0,69 mm	0.027"
Mid Range	0,55 mm	0.022"
Low Range	0,34 mm	0.013"
Centrifugal Force Per Drum		
High Amplitude	74,7 kN	16,800 lb
Mid Range	59,1 kN	13,282 lb
Low Amplitude	37,4 kN	8,400 lb

Weights (approximate)

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

Operating weight with ROPS	6705 kg	14,780 lb
Shipping weight with ROPS	6170 kg	13,600 lb
Average linear load/PLI w/ROPS	23,6 kg/cm	132 lb/in
Operating weight without ROPS	6485 kg	14,300 lb
Shipping weight without ROPS	5950 kg	13,120 lb
Average linear load/PLI wo/ROPS	22,8 kg/cm	128 lb/in

Instrumentation

The instrument panel is located in front of the operator and contains the start switch, two-position electric throttle, hour meter, alternator indicator light, electrical system fuses, fuel gauge, and four-segment warning light cluster. An audible alarm sounds and the four-segment warning light cluster illuminates if abnormal conditions occur in hydraulic oil temperature, engine oil pressure, engine coolant temperature or charge pressure. A four-segment operational light cluster is also positioned on the instrument panel. It illuminates if the vibratory system, drum spray system, turn signals (option) or lights (option) are engaged.

Machine controls are located at the operator's right on the control console. These include propel lever, drum spray switch, vibration switch, vibration mode selector, horn and secondary/parking brake switch.

Courtesy of Machine.Market

CB-434C Double Drum Vibratory Asphalt Compactor

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