

CB-434D

Vibratory Asphalt
Compactor



Cat® 3054C Diesel Engine

Gross Power	62 kW/83 hp
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Drum Width	1500 mm
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Operating Weight (with ROPS cab)	7570 kg
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Productivity and Reliability in a Durable Package

The CB-434D Asphalt Compactor offers compaction performance, application versatility and operator comfort to maximize productivity while providing exceptional product quality.

Vibratory System

- ✓ Pod-style eccentric weights with more amplitude selections ensure peak compaction performance and minimal service. High dynamic force helps achieve density in the fewest number of passes. The standard dual amplitude system provides excellent versatility for the contractor with a flip of the switch from the operator's console. **pg. 5**

Engine

- ✓ Cat 3054C diesel engine delivers 62 kW (83 hp) and is built for performance and reliability without sacrificing fuel economy. The cooling system delivers fresh air from above the engine for clean and efficient operation. **pg. 4**

Water Spray System

- ✓ The large capacity 800 liter water tank provides increased working time and a single point to fill and drain. Caterpillar's exclusive dual pump spray system provides the operator an efficient, easy access drum watering system. The tank contains triple water filtration and infinitely variable spray settings are additional benefits of the system.
- ✓ An optional overnight freeze protection kit is also available. **pg. 9**

Application Versatility

The CB-434D asphalt compactor is designed to work in a number of different compaction applications. It is at home on both commercial and mainline paving applications.

Performance and reliability you can depend on.

Based upon the industry-proven reputation of the Caterpillar® Asphalt Soil Compactors, the CB-434D establishes new innovative standards for productivity and reliability in the asphalt compaction industry.

Durable Cat powertrain, field-proven hydraulic systems and vibratory systems, and the world's largest and most dedicated dealer support system ensures that the CB-434D Asphalt Compactor will provide maximum productivity.

✓ *New feature*



Visibility

- ✓ The one-piece hood design and vertical folded drum supports provide excellent operator visibility to important areas of the machine including drum edges, drum surfaces, and overall visibility around the machine. Angled supports provide high clearance and visibility for work against barriers and walls. **pg. 8**

Operator's Station

- ✓ The new CB-434D asphalt compactor features excellent operator comfort and visibility. A tilting steering column, propel lever wrist rest, and conveniently located and grouped control switches and gauges enhance operator productivity. Heavy-duty isolation mounts provide a smooth ride. Machines with the ROPS/FOPS platform include quick release handrails that can be individually adjusted to accommodate multiple operator positions. For FOPS protection to be effective, the operator must be seated under the canopy. **pg. 6**

50/50 Articulation

- ✓ The CB-434D features 50/50 articulation for evenly balanced weight front to rear. This configuration simplifies operation because both drums track in the same path even while turning. An optional offset hitch further improves control and machine maneuverability. **pg. 8**

Serviceability

- ✓ The newly designed one-piece fiberglass hood opens upward and rearward to allow access to the engine and daily maintenance points. Daily check points are accessible from ground level. Ground level service is also provided on the water spray system with pumps, filters, and drain valves grouped together and centrally located. Rear mounted cooling system with fresh air intake reduces the need for cleaning. The engine oil change interval has been increased from 250 hours to 500 hours. Vibratory bearing lube service interval of 3 year/3000 hour keeps maintenance to a minimum and maximizes production. The articulation hitch area features sealed-for-life bearings that reduce the need for maintenance. **pg. 10**

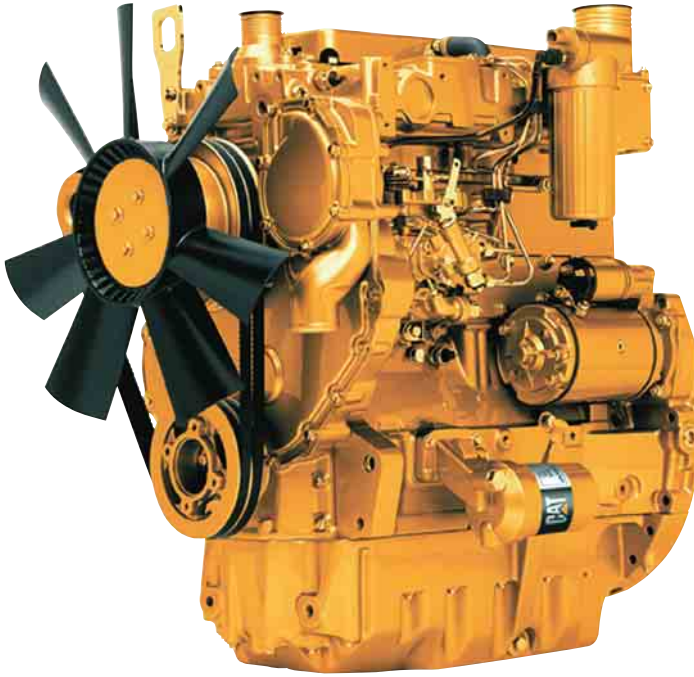


Comfort and serviceability you deserve.

The operator's station provides a comfortable and user friendly environment that promotes productive operation. Simplified service access and extended service intervals minimize maintenance time and increase machine production.

Caterpillar 3054C Diesel Engine

High-tech four cylinder engine provides outstanding performance and reliability.



Direct-injection. Direct-injection of fuel for maximum efficiency.

Oil pump. Low-mounted oil pump for quick start-up lubrication.

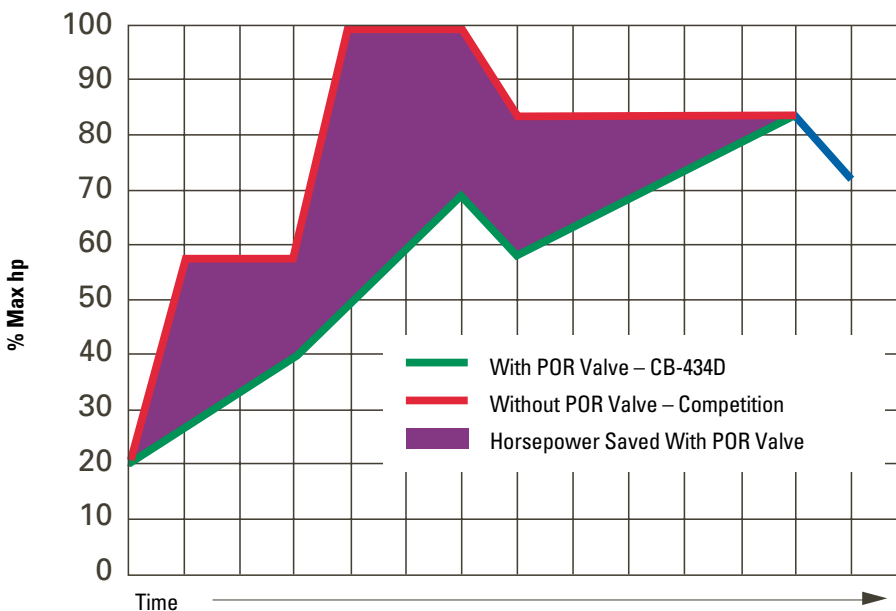
Fuel efficiency. The 3054C engine produces a gross power of 62 kW (83 hp) at 2200 rpm providing excellent fuel efficiency.

Emission requirements. This engine meets EU directive 97/68/EC Stage II emission requirements.

Pressure Override (POR) Hydraulic System

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

Horsepower Draw Comparison



Propel and Vibratory Circuits.

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

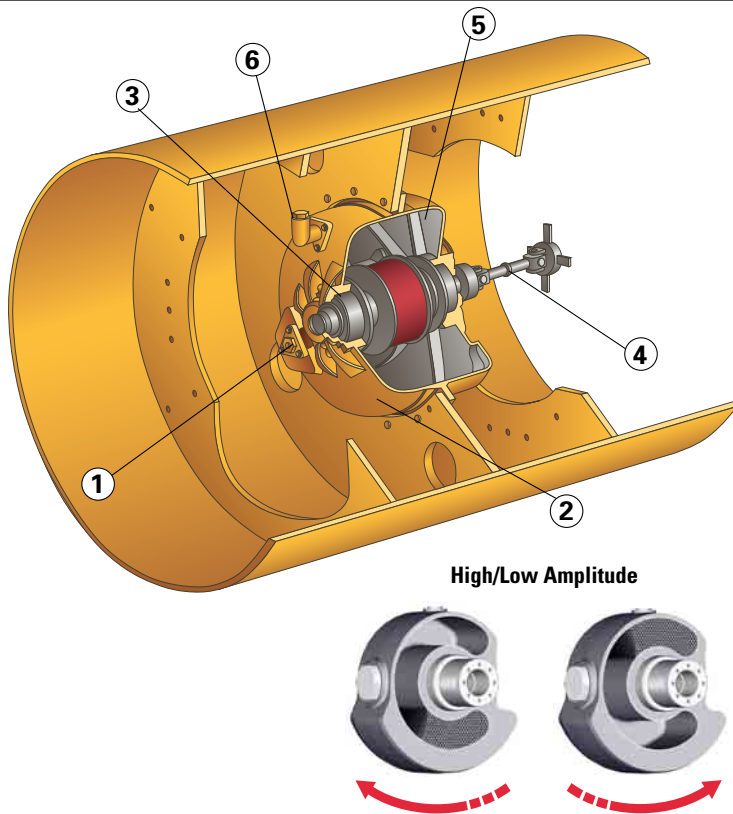
POR valve. It balances horsepower demands.

Responsive vibratory system.

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

Standard Two-Amplitude Vibratory System

Reliable two-amplitude selection and innovative design ensure precise performance.



Vibratory frequency. Two amplitudes and two frequencies (53 Hz and 70 Hz) provide customers with high amplitude and high frequency in one machine.

Amplitude selections. Positive amplitude selection is accomplished when the steel shot is repositioned inside the hollow eccentric weight. Direction of weight shaft rotation determines the amplitude level.

Vibration start-up and shut-off. Automatic vibration start-up and shut-off helps produce smooth, flawless mats and also has a manual control for start-and-stop work.

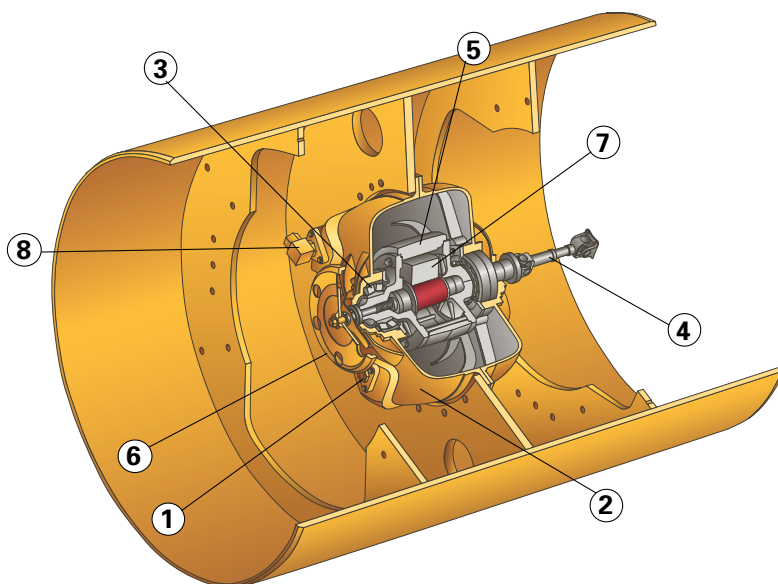
Clean oil and long bearing life. Moving parts are separated from lubricating oil helping to keep oil clean and ensuring long bearing life. Bearing oil has a 3 year/3000 hour service interval.

Isolation mounts. Improved Isolation mounts allow more force to be transmitted to the ground and less vibration to the operator.

- 1 Oil Level Sight Gauge
- 2 Eccentric Weight Housing
- 3 Eccentric Weight Shaft Bearings
- 4 Weight Drive Shaft to Motor
- 5 Fixed Eccentric Weight
- 6 Oil Drain

Optional Five-Amplitude Vibratory System

The pod-style vibratory system delivers optimum compactive force while offering serviceability advantages.



- 1 Oil Level Sight Gauge
- 2 Eccentric Weight Housing
- 3 Eccentric Weight Shaft Bearings
- 4 Weight Drive Shaft to Motor
- 5 Fixed Eccentric Weight
- 6 Amplitude Selection Wheel
- 7 5-Position Counterweight
- 8 Oil Drain

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

Vibratory frequency. Vibratory frequency of 53 Hz for high compaction results.

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

Eccentric weight and drum rotation. Automatic matching of eccentric weight and drum rotation direction are good for mat quality.

Vibration start-up and shut-off. Automatic vibration start-up and shut-off helps produce smooth, flawless mats and also has a manual control for start-and-stop work.

Clean oil and long bearing life. Moving parts are separated from lubricating oil helping to keep oil clean and ensuring long bearing life. Bearing oil has a 3 year/3000 hour service interval.

Operator's Station

Ergonomically designed for maximum operator productivity while offering excellent visibility and unmatched comfort.



Seat. The comfortable and durable seat has adjustable fore/aft position, suspension stiffness and flip-up arm rests with a 76 mm wide retractable seat belt.

Operator's station. The isolated operator's station with four heavy-duty rubber mounts limits machine vibration transmitted to the operator's station.

Floor mat. Rubber floor mat provides sure footing and helps further isolate the operator from machine vibration and noise.



Operational gauges. Steering console and instrumentation gauges are infinitely adjustable within the tilt range to the desired position of the operator. Entire console tilts for simple entrance and exit.

Instrument panel. Machine gauges are located on the adjustable front steering column for easy reference during machine operation. The instrument panel contains the fuel gauge, vibrations per minute (VPM) meter (optional) and a nine-light LED fault indication panel.

Indication panel. Fault indication panel is a three-level warning system to alert the operator to abnormal machine conditions with a visual warning and action alarm.



Propel handle. The multifunction ergonomic propel handle simplifies operation with the following controls: propel speed, vibe on/off, water spray on/off, horn and drum offset (optional).

Control panel. The control panel with grouped switches puts all controls within easy operator reach.

Gauges and controls. Gauges and controls move with console keeping them in same relative position to the operator.

Handrails. Quick-release handrails may be adjusted to suit the operator.

ROPS Cab

Optional cab can increase machine utilization in extreme environment conditions and the ergonomic design emphasizes comfort, visibility and easy operation.



Cab. The cab is a spacious and comfortable work environment with more interior room, better ergonomics and a dramatic reduction in interior sound levels.

Windshield. Full-length glass windshield provides exceptional visibility to the drums.

Wipers. Windshield wipers on front and rear windows allow clear vision in adverse conditions.

Working lights. Front and rear working lights are included.

Climate control. The climate control with standard heater and defroster for maximum operator comfort. Optional air conditioning helps keep the cab cool and comfortable.

Automatic Speed Control

Allows consistent speeds to be maintained throughout a job.



1 Automatic Speed Control Dial

ASC control. Standard ASC control greatly simplifies operation by allowing the operator to preset machine speed or impact spacing.

Travel speed. Operator easily can match travel speed with vibrations per minute, ensuring consistent and repeatable rolling patterns with effective compaction results.

Operator control of propel speed. Cruise control-like system eases operator control of propel speed in forward and reverse. This allows the operator to push the propel lever to the forward and reverse stops while repeating the desired speed or impact spacing.

Visibility

Excellent operator visibility increases production.



Visibility to objects. The visibility to objects 1 m high and 1 m in front of the machine or behind the machine.

Bumper design. Raised bumper design allows maximum visibility and movement in forward and reverse.

Sloped hood. The sloped hood provides excellent visibility to the rear and sides of machine.

Angled vertical folded supports. The vertical folded supports provide clear view of drum edge and pavement well ahead of the drum. Angled supports have high clearance for work against barriers and walls.

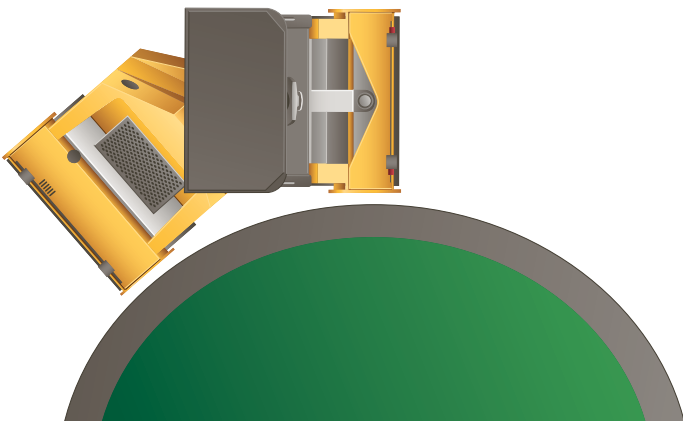
Water spray. Backlit water spray nozzles and drum surface visibility are provided.

Working lights. Working lights are standard equipment.

HID lights. HID lights (optional) enhance night time visibility.

50/50 Articulation

Easier, more positive maneuvering near curbs and objects.



Centered articulation. The centered articulation with 50% of the machine length behind the pivot and 50% forward delivers evenly balanced weight front to rear. Drums track in the same path even in turns.

Concentrate one drum. Operator can concentrate on only one drum when entering or leaving a curve resulting in the identical response forward and reverse along any curve.

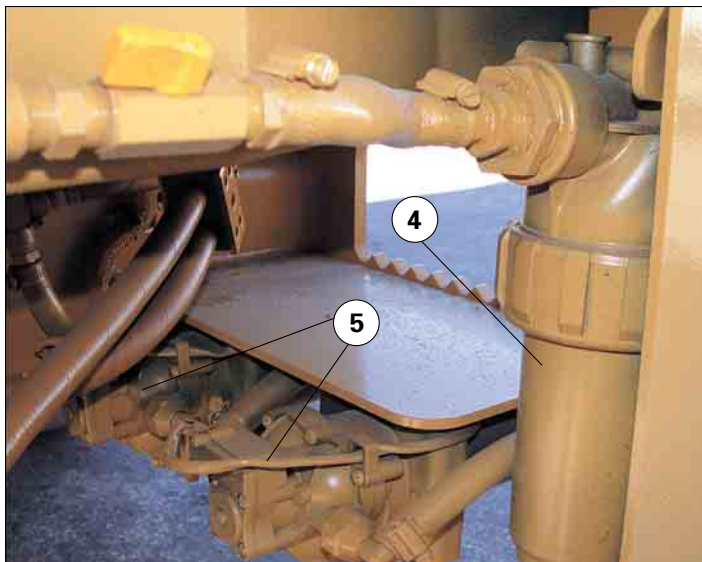
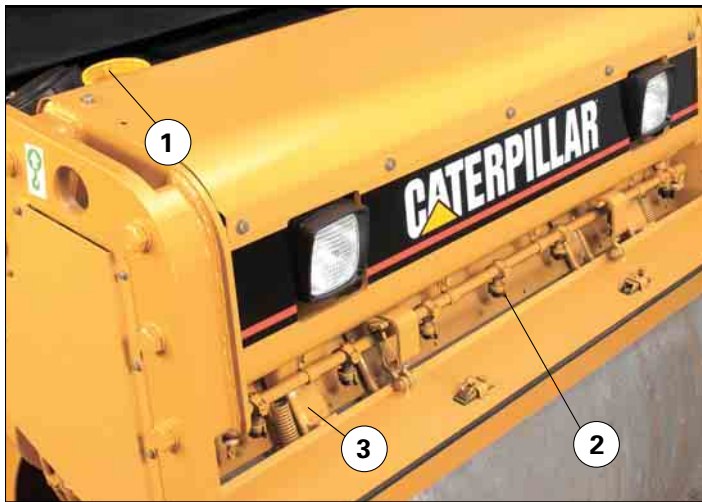
Prevent damage. Helps prevent damage to existing structures when moving away from curbs and other objects.

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

Offset hitch. The offset hitch (optional) offsets rear drum up to ± 170 mm for exceptional control at curbs, barriers and joints.

Water Spray System

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



- 1 Single Water Fill Port
- 2 Spray Nozzle with Filter
- 3 Water Distribution Mat
- 4 Water Filter
- 5 Water Pumps

Back-up water spray pump. Complete back-up system controlled from the operator's station.

Spray capabilities. Constant or intermittent spray capabilities for longer operation between fill-ups. The intermittent spray is infinitely variable allowing fine-tuning for any condition.

Water nozzles. High flow water nozzles deliver more water to the drum for unusually dry conditions.

Ground level service. Water distribution mats and cocoa mats feature ground level service and are available as options.

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

Spray bar cover. Quick-release spray bar cover protects spray from wind (shown open).

Spray control. On/off spray control is provided on the propel lever to simplify operation.

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

Pump control setting. Auto pump control setting selects water from one pump while traveling forward and water from the other pump while traveling rearward. The pumps will turn off when the propel lever is in neutral. The system maintains even pump usage for uniform life. Manual override control is provided.

Water pumps and in-line filters. Water pumps and in-line filters are conveniently grouped and located in the hitch area for easy service.

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

Polyethylene tank. One single high-capacity polyethylene tank is enclosed within the machine frame, and provides extended operation, a single fill point and drain port.

Antifreeze. Overnight Freeze Kit (optional) includes an in-line antifreeze bottle that allows the operator to pump antifreeze into the system (not available with cab).

Reliability and Serviceability

The CB-434D Asphalt Compactor continues to provide exceptional reliability and serviceability that you've come to expect from Caterpillar.



Hood arrangement. Vertical-lift hood arrangement allows routine service when parked close to other machines and structures.

Ground level servicing. The ground level servicing simplifies routine maintenance with hydraulic components designed for easy access.

Machine maintenance. Sealed-for-life hitch simplifies overall machine maintenance.

Oil bath lubrication. Oil bath lubrication of eccentric weight bearings reduces routine maintenance to 3 year/3000 hour intervals.

Spray nozzles and filters. Water spray nozzles and filters are easily removed by hand without the need of special tools.

Easy access. Water system pumps, filters and tank drain are centrally located at ground level for easy access.

Product Link. Machine is Product Link ready. The Caterpillar Product Link System (CPLS) ensures maximum uptime and minimum repair costs by simplifying tracking of equipment fleets. Provides automatic machine location and hour updates. Can be obtained through your local Caterpillar dealer.

Self-adjusting scrapers. Self-adjusting scrapers are designed for even wear without the need for maintenance. To reduce scraper wear, the scrapers are located for easy ground level access to replace the blades. Scrapers flip up while roading the machine.

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

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

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

Side panels. Removable side panels on the engine compartment allows easy access to hydraulic components.

Engine

Four-stroke cycle, four cylinder Caterpillar 3054C diesel engine meets EU directive 97/68/EC Stage II emission requirements.

Ratings at 2200 rpm	kW	hp
Gross power	62	83
Net Power		
EEC 80/1269	59	78
ISO 9249	59	78

Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator. No derating required up to 2500 m altitude.

Dimensions

Bore	105 mm
Stroke	127 mm
Displacement	4.4 liters

- Dual-element, dry-type air cleaner with visual restriction indicator.
- 12-volt electrical starting system with 80 amp alternator and one 12-volt, 950 cold cranking amp maintenance-free Cat battery.
- Engine throttle is two-position electric control.

Transmission

Variable displacement piston pump supplies pressure flow to single speed hydraulic motors driving the front and rear drums 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	0-11.6 km/h
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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	3500 mm
Outside	5000 mm

Steering angle

(each direction)	$\pm 40^\circ$
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Hydraulic system

One 76 mm bore, double-acting cylinders powered by a gear-type pump. Output at 2200 rpm 51 l/min

Brakes

Service brake features

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

Secondary and parking brake features*

Spring-applied/hydraulically released brake 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. A manual release pump is included.

* All machines sold within European Union are equipped with a brake release pump which allows the manual release of the secondary brake system for towing the machine.

Braking system meets EN 500.

Frame

Fabricated from heavy gauge steel plate and rolled sections. The frame is joined at the articulation pivot. 50% of the machine is rear of the articulation pivot and 50% 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 $\pm 40^\circ$ steering angle and the frame/yoke provides $\pm 5^\circ$ oscillation for a smooth ride, uniform drum loading and no maintenance interval.

Sound

Operator Sound. The operator sound level measured according to the procedures specified in ISO6394 is 69 dB(A), for cab offered by Caterpillar, when properly installed and maintained and tested with the doors and windows closed.

Exterior Sound. The labeled spectator sound power level measured according to the test procedures and conditions specified in 2000/14/EC is 111 dB(A).

Instrumentation

The instrument panel is located in front of the operator and contains the speedometer, vibe tachometer, vibration mode selector, light switches, hour meter, alternator indicator light, fuel gauge, water tank gauge and warning lights. An audible alarm sounds and warning light illuminates if abnormal conditions occur in engine oil pressure, engine coolant temperature or charge pressure. Operational lights are also positioned on the instrument panel. They illuminate if the vibratory system, drum spray system, neutral or parking brake are engaged.

Machine controls are also located to the operator's right on the control console. These controls include the start switch with cold-start aid, electric throttle, propel lever, speed selector switch, automatic speed control (ASC) dial, drum spray switch, vibration switch, horn and secondary/parking brake switch. Electrical system fuses and relays are located on the side of the control console.

Drum Spray System

Entire drum spray system is corrosion-proof and includes a large water tank with a single fill port and drain valve.

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 set on continuous for maximum wetting action or intermittent for maximum duration between fill-ups. The "Auto" selection pulls water from one pump traveling forward and from the other pump while traveling backward. Nine spray nozzles per drum are easily removed for replacement or cleaning without the need for tools.

Water capacity	800 Liters
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Vibratory System

Drum width	1500 mm	
Drum diameter	1100 mm	
Drum shell thickness	17 mm	
Weight at front drum (ROPS cab)	3785 kg	
Weight at rear drum (ROPS cab)	3785 kg	
Eccentric weight drive		
Hydraulic direct, auto reversing		
Weight distribution front/rear	50/50%	
Nominal amplitude/Frequency	mm/Hz	
Amplitudes	Two	Five
High	0.69/53	0.68/53
Medium-high	–	0.58/53
Medium	–	0.47/53
Medium-low	–	0.36/53
Low	0.25/70	0.25/53
Centrifugal force per drum	kN	
Amplitudes	Two	Five
High	77	78
Medium-high	–	66
Medium	–	54
Medium-low	–	42
Low	48	29

Operating and Shipping Weights

Weights shown are approximate and include lubricants, coolant, 80 kg operator, full fuel tank, full hydraulic system and half-full water tanks.

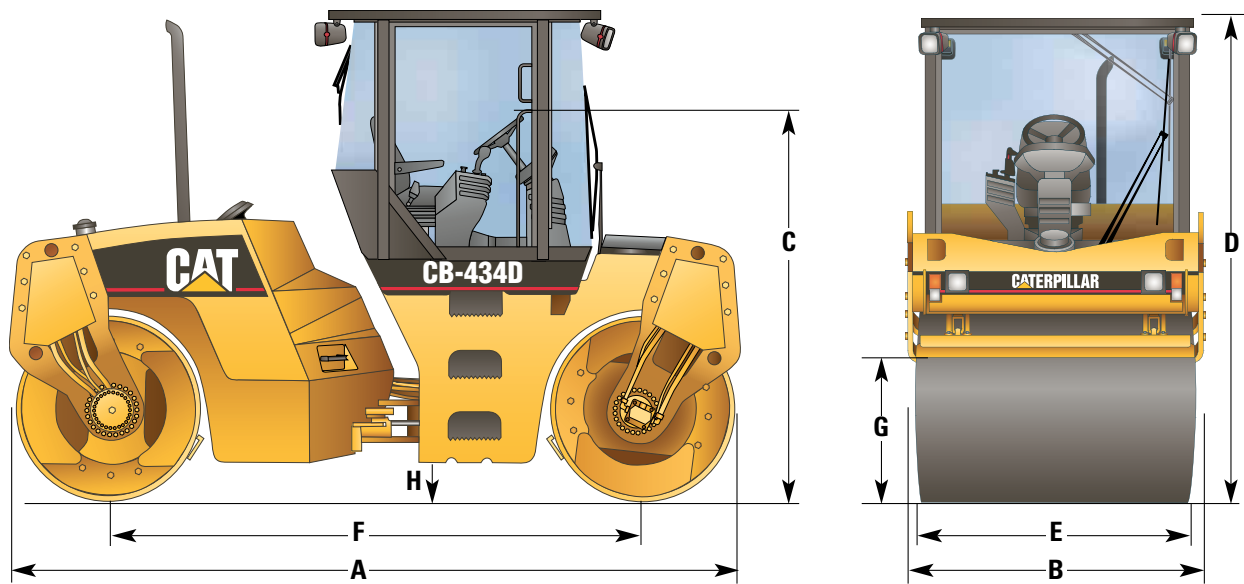
Operating weight	
with ROPS cab	7570 kg
with ROPS	7400 kg
without ROPS	7050 kg
Shipping weight	
with ROPS cab	7010 kg
with ROPS	6840 kg
without ROPS	6490 kg
Average static linear load (at drum)	
with ROPS cab	25.2 kg/cm
with ROPS	24.7 kg/cm
without ROPS	23.5 kg/cm

Service Refill Capacities

	Liters
Fuel tank	132
Cooling system	18
Engine oil with filter	9
Vibratory bearing lubrication	20
Hydraulic tank	50
Filtration system	10 micron absolute
Water (spray) tank	800

Dimensions

All dimensions are approximate.



	mm		mm
A Length	4200	F Wheelbase	3100
B Width	1670	G Curb Clearance (vertical)	720
C Height at steering wheel	2265	H Ground Clearance	255
D Height at top of ROPS	3010	Minimum turning radius:	
Height at top of ROPS cab	3055	Inside drum edge	3500
E Drum width	1500	Outside drum edge	5000

Total Customer Support System

Service capability. Most dedicated dealer support system to ensure fast service whether at the dealer's shop or in the field by trained technicians using the latest tools and technology.

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.

Literature support. Easy-to-use parts books, operation and maintenance manuals and service manuals to help you get maximum value from your Caterpillar equipment.

Remanufactured parts. Pumps and motors, pod-style weight housings, engines, fuel system and charging system components available from dealer at a fraction of new part cost.

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

Flexible financing. Your dealer can arrange attractive financing on the entire line of Caterpillar equipment. Terms structured to meet cash flow requirements. See how easy it is to own, lease or rent Cat equipment.

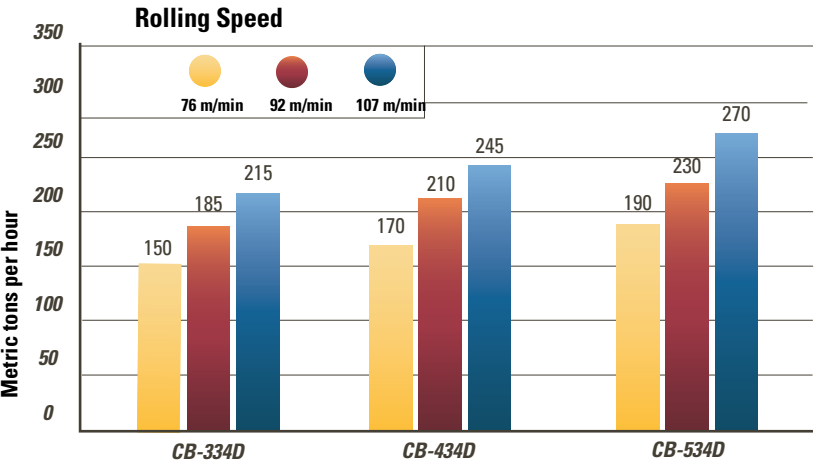
Estimated Production CB-434D

Paving Width (mm)	Base Layer 100 mm (tph)	Surface Layer 50 mm (tph)
2400	280	140
3000	250	125
3700	290	145
4300	320	160
4900	290	145
5500	330	165
6100	300	150

Based on typical duty cycles with:
4 passes per roller width, 76 m/min roller speed
and 60 second passes in metric tons per hours (tph).

Productivity Comparisons

50 mm compacted thickness.
4 passes per roller width (2 passes = 1 cycle).



- CB-334D**
Typical for paving widths of 2500 mm and 3000 mm.
- CB-434D**
Typical for paving widths of 2700 mm and 4200 mm.
- CB-534D**
Typical for paving widths of 3000 mm and 5000 mm.
Results may vary for different applications.

Machine Selection

Application	Layer Thickness mm	CB-334D	CB-434D	CB-534D
Soil, Aggregate	100-150	☐	▲	▲
	150-200	☐	☐	▲
Asphalt Base	50-120	☐	▲	●
	120-200	☐	☐	▲
Asphalt Surface	<50	●	●	●
	150-200	▲	▲	●
Detail Rolling, parking Lots Minor Roads, Intersections Major Roads, Highways	20-100	●	▲	☐
	20-120	▲	●	▲
	20-200	☐	▲	●
Optimal Paving Width	2 Side-by-Side Passes	800 mm	900 mm	1000
	3 Side-by-Side Passes	1200 mm	1400 mm	1600

☐ Good ▲ Better ● Best

Optional Equipment

Optional equipment may vary. Consult your Caterpillar dealer for specifics.

Roll Over Protective Structure/Falling Object Protective Structure (ROPS/FOPS) canopy is a two-post structure that bolts directly onto flanges welded to the operator platform with optional night lights. The structure meets ISO 3449-1992 and ISO 3471-1994.

ROPS/FOPS Cab includes a rotating cloth suspension seat, two access doors, safety glass windows, electric wipers front and rear, heater/defroster, optional night lights, interior dome light, coat hook. Cab can be ordered with or without air conditioning. Cab is fully EROPS rated and meets ISO 3449-1992 and ISO 3471-1994.

Sun Visor for the front windshield can be installed on machines equipped with a ROPS/FOPS cab.

Rear View Mirrors are available for internal use on machines equipped with a ROPS/FOPS cab or external use on machines equipped with a ROPS/FOPS canopy.

Cocoa Mats retain water as it is distributed by the water spray system. The cocoa 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.

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.

Rotating Amber Beacon Light alerts ground personal to heavy equipment. The option can be installed on either ROPS or non-ROPS machines.

Water Spray System Freeze Protection Kit includes an in-line antifreeze bottle that allows the operator to pump antifreeze into the system. Antifreeze is circulated through the pumps, lines, filters and nozzles for overnight protection (not available with cab).

High Intensity Discharge Lights include four, 35-watt high intensity discharge xenon gas lights. Two face forward, and two face rearward. The lights are fully functional at both high and low idle. The option can be installed on either ROPS or non-ROPS machines.

Drum Covers shield internal drum components from contaminants. The shields cap both ends of the drums to form a physical barrier.

Offset hitch (optional) offsets rear drum up to ± 170 mm for exceptional control at curbs, barriers and joints.

Rear-facing Mirrors are mounted forward of the operating station and allow rear visibility.

Five Amplitude Vibratory System. Five amplitude selections for working more efficiently in a wider range of applications.

CB-434D Vibratory Asphalt Compactor

HEHG1025 (01/2004) hr

Materials and specifications are subject to change without notice.
Featured machines in photos may include additional equipment.
See your Caterpillar dealer for available options.

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