

533/543

Wheel Feller Bunchers



Engine	533		543	
Engine Model	Cat® 3126 DITA diesel		Cat 3126 DITA diesel	
Gross Power	152 kW	204 hp	168 kW	225 hp
Weights				
Est. Operating Weight	12 941 kg	28,535 lb	13 907 kg	30,660 lb
• Operating weight includes tires (533: 28L, 543: 30.5), full fuel tank, without feller head.				
Dimensions				
Wheelbase	2820 mm	111 in	2820 mm	111 in
Width - Overall	2937 mm	115.6 in	3216 mm	126.6 in

533/543 Wheel Feller Bunchers

Power Train

- ✓ The field-proven Cat 3126 DITA diesel engine and the Hydraulic Speed Control transmission provide higher horsepower to the ground to maximize performance and productivity, and minimize fuel consumption. **pg. 4**

Hydraulics

- ✓ The state-of-the-art closed-center, variable displacement, pressure compensating hydraulic system provides power for braking, steering, and feller head functions. **pg. 5**

Frame

- ✓ All-new engineering of rugged components and systems for the 533 and 543 Wheel Feller Bunchers sets the industry standard for reliability and durability. **pg. 6**

Customer Support

Your Cat dealer offers a range of services that help you operate longer with lower costs. **pg. 10**

Caterpillar® underscores its commitment to the logging industry with the introduction of the 533 and 543 Wheeled Feller Bunchers. Rugged design provides long hours of reliable operation, with easy maintenance and low operating costs.



Work Tools

- ✓ Caterpillar offers a choice of saws or shears to maximize productivity regardless of stem size or type. **pg. 7**

Operator Station

- ✓ The operator environment uses an ergonomic design that creates a comfortable work area with easy-to-use machine controls to reduce fatigue and increase efficiency and productivity. **pg. 8**

Serviceability

- ✓ Ground level access makes regular maintenance easy and fast. **pg. 9**



✓ *New Feature*

Power Train

The 533 and 543 Wheel Feller Bunchers combine the Cat 3126 DITA engine and Hydraulic Speed Control for relentless pulling power.



3126 DITA Engine. The Cat 3126 delivers reliable power with low emissions, excellent fuel economy, and traditional Caterpillar durability.

Reversed Orientation. Engine orientation is reversed for improved balance and stability, particularly on slopes. It also allows easier servicing of engine and hydraulic components.

Turbocharger. Enhances performance and engine efficiency, especially at high altitudes, by increasing air supply to the cylinders for excellent combustion.

Aftercooler. Jacket water aftercooler reduces smoke and emissions by providing cooler, more efficient combustion. This extends the life of the piston rings and cylinder bores.

Engine Design. Precise engineering and four-stroke cycle provide power, reliability, serviceability and fuel economy.

Direct-Injection Fuel System. Individual unit fuel injectors deliver efficient, accurate fuel metering, reduced emissions, reliable power, high torque rise and responsive performance.

Fuel Pre-filter. Two high-efficiency fuel filters in series with a water separator element ensure excellent fuel cleanliness for extended injector and fuel system life.

Reliable Components. You expect Caterpillar to incorporate the best design features:

- alternator proven reliable in years of field duty
- underhood muffler and air cleaner reduce site-line obstructions and are protected from the elements
- spark arrestor muffler virtually eliminates the escape of hot airborne particles to protect the environment

Proven Axles. Caterpillar designed and manufactured axles are also used on B-Series Wheel Skidders. Heavy duty axle (optional on the 533, standard on the 543) allows high flotation and dual-tire use.

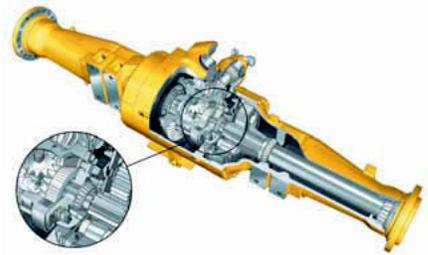
Single-Speed Transmission.

The Hydraulic Speed Control eliminates the need to shift between gears. The operator simply selects the working range that precisely matches the terrain and application. Infinitely variable speeds reduce wheel spin and environmental impact.

Transfer Case. The single speed transfer case improves reliability over two speed designs, and maximizes operator control by offering a greater range of working speeds.

Brake Components. Brake components are housed inside the front axle, protecting them from dirt, dust and wet ground conditions. Inboard brakes allow for splash lubrication and cooling, are virtually maintenance free, and provide reliable brake performance in the most demanding logging applications.

Drive Shaft. The large, rugged drive shaft has proven its durability in other Cat forest machines.



Final Drives. Heavy-duty inboard final drives are protected from the harsh logging environment, and use splash oil lubrication and cooling. This configuration makes wheel and tire removal and installation easier.

Hydraulics

State-of-the-art hydraulic system contributes to machine efficiency and operational ease and productivity.

Load Sensing Hydraulics. A load sensing variable displacement pump and pressure compensating system continually monitor hydraulic power requirements, and provide hydraulic power based on demand.

Steering. Smooth, efficient steering. Load sensing steering maximizes machine performance by directing power through the steering system only when needed.

Differential Locks. Hydraulically engaged independent front and rear differential locks increase maneuverability by improving traction in poor ground conditions. They reduce tire slip during turns and reduce tire wear. On-the-go engagement/disengagement allows operator to maintain production without stopping. A momentary button on the right joystick engages the front axle differential locks, useful in wet underfoot conditions.

Pump Drive. The hydraulic pump drive has been proven reliable in thousands of hours of use in Cat track-type loaders.

Saw Hydraulics. Use a dedicated variable pump and variable motor to assure optimum cutting power and recovery. When disabled, the saw pump provides kidney loop filtration and cooling for the main hydraulic reservoir.

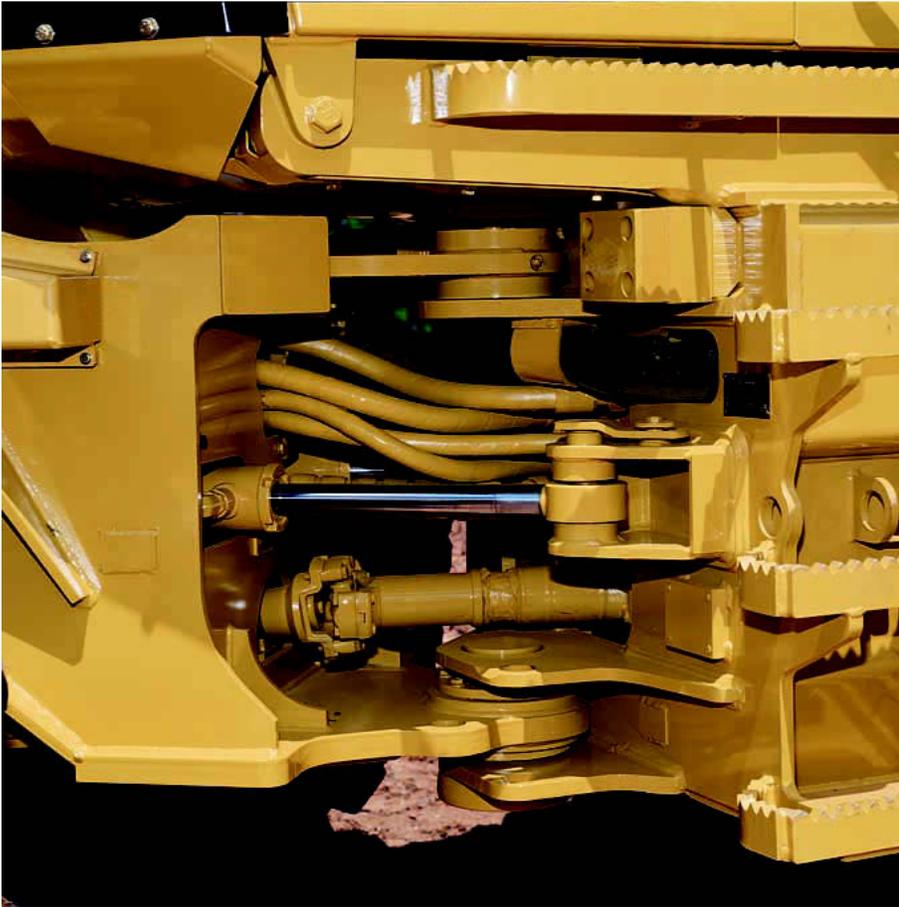


Filtration. Hydraulic fluids are filtered at the case drain, at the main return and at the charge pump to assure contaminant-free operation and minimum down time.

Hand Fill Pump. Hand pump forces hydraulic fill oil through a filter, for easy fills and a clean hydraulic system.

Frame

The 533/543 mainframe, hitch and lift arms are designed and built to surpass the expectations of the logging industry.



Rugged pins, clean hose routing

Hull-Shaped Rear Frame. Bottom and side plating integrated into a hull-shaped structure for greater strength. A high percentage of robotic welding ensures consistent, high quality welds.

Water Tank. Incorporated into the rear bumper, the water tank supplies pressurized water to a spray nozzle in the cab.

Hitch. The 533/543 center section durability has been proven in the field on other Cat forest machines. The bottom hitch has large double-tapered roller bearings for high capacity and durability.

Front Frame. Tough front frame provides the platform to support the lift arms and feller head.

Lift Arms. Wide spacing between lift arms reduces stresses in the front frame, especially when handling large diameter trees.

Ground Clearance. Maximized ground clearance improves maneuverability and avoids damage. Full belly guards protect all undercarriage components. Hinged guards make servicing easy, and fasteners are recessed for protection from debris.

OPS/FOPS/ROPS. Operator Protection Structure, Falling Object Protection and Roll-Over Protection guards offers operator and machine protection.

Welded Tanks. Fuel and hydraulic tanks are securely welded to the frame to increase frame stiffness.

Work Tools

Caterpillar offers a choice of saws or shears for maximum flexibility.

High Speed Saws. Customers can select either the HF221 or the HF222 felling heads. Both are powerful tools that have proven themselves in a variety of harvesting applications:

- high pressure hydraulics for fast saw recovery and tree control
- proven components include saw motor, driveshaft and bearings, and saw disc and tooth groups
- large 24-inch cut capacity
- independent arm cylinders, spaced wide for optimum leverage
- common cylinders for arm functions on all HF heads
- quick arm speed for high production
- dual- or single-post option gives customer preference for operational visibility
- tall towers for better tree control
- front, side and bottom discharge openings
- removable bottom skids

Versatility. Cat High Speed Saws offer the flexibility to work in a variety of size and species of trees. Ideal for harvest cuts, large tree felling and plantation harvesting.

HF Head Structure. HF frames are fabricated of high-tensile steel for minimum weight and maximum rigidity, and constructed from heavy duty box sections for durability.

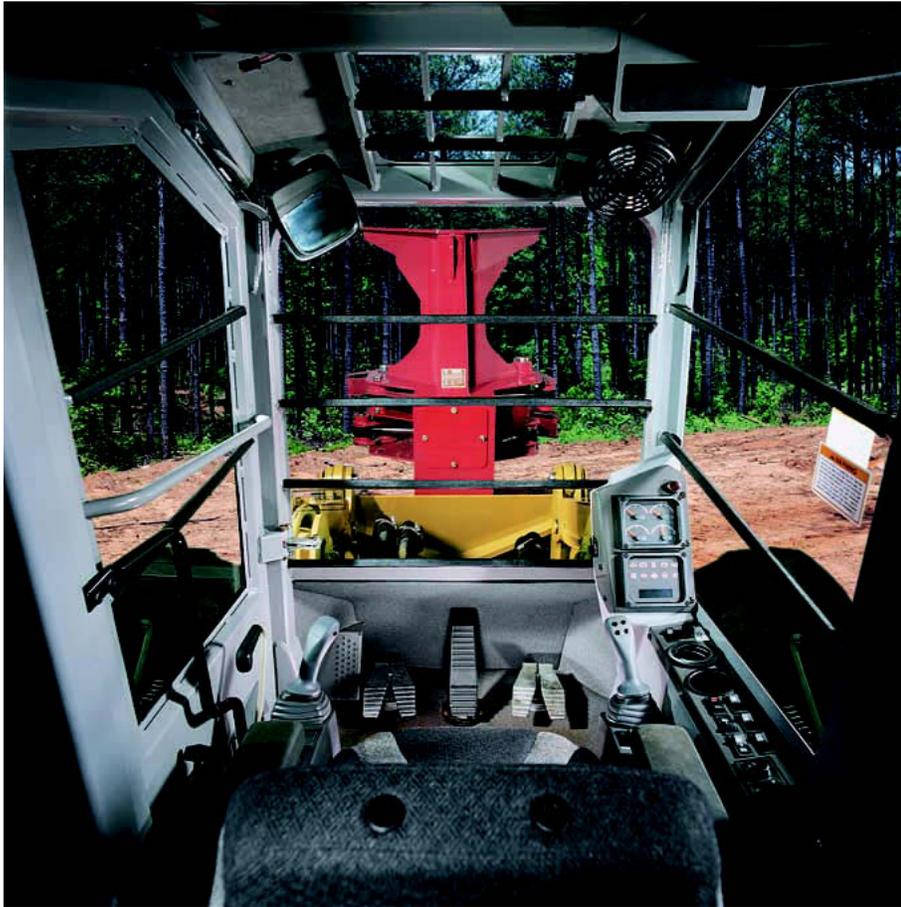


Shear Head. The HS20 offers a low-cost solution for pulpwood felling by combining powerful, stable tree control with fast harvesting capabilities.

Design Benefits. The HS head uses a slim design to maximize operator view of the work area, while protecting hydraulic cylinders, lines and fittings. The compact head also simplifies maneuvering between rows and cutting in plantation settings.

Operator Station

The 533/543 cab combines comfort and simplicity to maximize efficiency and productivity.



Comfortable, Efficient Work Station.

Years of cab design innovations sets the industry standard.

Operator Seat. Mechanical suspension seat is fully adjustable for optimum operator comfort. The optional air suspension seat, also fully adjustable, delivers a smooth ride.

Sealed Cab. Sealed and pressurized for efficient heating and cooling, and for keeping out dust, fumes and insects.

Climate Control. Includes standard air-conditioner, heater and defroster. Ventilation system allows the operator to adjust air flow direction and speed, and mix zones for maximum comfort.

Large Windows. Excellent side and forward view. Reverse sloping windshield reduces glare and sheds debris. Sliding glass side windows protected by full metal screens provide fresh air. Ejector slots minimize debris buildup behind the screens.

Steps/Handrails. Wide, durable steps and robust handrails make cab access easier.

Mounting. The modular OPS/FOPS/ROPS cab is resiliently mounted to the frame to reduce vibration.

Sound Insulation. Ample sound insulation reduces sound levels and boosts operator comfort.

Water System. Spray nozzle located to the left of the seat uses pressurized water from the bumper water tank.

Machine Controls. The comfortable operator environment uses ergonomically designed and placed machine controls. A pilot shut-off lever disable pilot functions when exiting the cab.

Steering Control. A single low-effort joystick mounted on the arm rest controls all steering, reducing operator fatigue and assuring precise cuts every time. Floor pedals provide direction control.

Optional Radio. Includes 12V AM/FM/WX radio, plus CD player.

Serviceability

The most serviceable machines from the most committed dealers.

Built-in Servicing Ease. Intelligent engineering simplifies regular maintenance procedures. Easy access to daily service points encourages maintenance, extends machine service life and lowers overall operating costs. And less service time means more working time and greater productivity.

Ground Level Access. Most filters and lube points are accessible from the ground. Remote lubrication points simplifies attention to hard-to-reach joints. Reversed engine orientation allows easier servicing of engine and hydraulic components.

Centrifugal Pre-Cleaner. Removes large debris before it reaches the internal air cleaner to provide significant engine protection.

S•O•SSM and Coolant Sampling Valves. Provide a fast, convenient means of obtaining uncontaminated fluid samples, which improves analysis reliability.

Radial Seal Air Filters. Hand access makes them easy to change, reducing air filter maintenance times.

Bolt-on Guards. Protect critical components, but are easily removed for fast service access. Removable floor and side plates allow access to components under the cab.

Spin-on Oil Filters. Reduce changing time on fuel and oil systems, and help assure clean, tight seals.

Pressure Taps. Conveniently located for easy access to hydraulic system pressure measurements.



Ground level access simplifies maintenance.

Tank Pressure Relief Valve. Located in the service compartment for easy access, the valve makes changing hydraulic hoses easier, faster and cleaner.

Ecology Drains. Located on the axle, the hydraulic tank and the pump drive make regular maintenance easier, and protect the environment from accidental oil spills.

Electrical System. 24-volt electrical system delivers increased electrical power for engine cranking, lights, and engine diagnostics. Wiring circuits are color coded, numbered and protected by circuit breakers.

Radiator Inlet Screens. Prevent radiator plugging, and are easy to remove and clean.

Customer Support

Cat dealer services help you operate longer with lower costs.



Cat 533 Wheel Feller Buncher with HS20 head

Product Support. You will find nearly all parts at our dealer parts counter. Cat dealers use a world-wide computer network to find in-stock parts to minimize machine down time. Save money with genuine Cat Reman parts. You receive the same warranty and reliability as new products at cost savings of 40 to 70 percent.

Machine Selection. Make detailed comparisons of the machines under consideration before purchase. Cat dealers can estimate component life, preventive maintenance cost, and the true cost of lost production.

Purchase. Look past initial price. Consider the financing options available as well as day-to-day operating costs. Look at dealer services that can be included in the cost of the machine to yield lower equipment owning and operating costs over the long run.

Customer Support Agreements.

Cat dealers offer a variety of product support agreements, and work with customers to develop a plan that best meets specific needs. These plans can cover the entire machine, including attachments, to help protect the customer's investment.

Operation. Improving operating techniques can boost your profits. Your Cat dealer has training videotapes, literature and other ideas to help you increase productivity.

Maintenance Services. Choose from your dealer's range of maintenance services when you purchase your machine. Repair option programs guarantee the cost of repairs up front. Diagnostic programs such as S•O•SSM and Coolant Sampling provide technical analysis to help you avoid unscheduled repairs.

Replacement. Repair, rebuild or replace? Your Cat dealer can help you evaluate the cost involved so you can make the right choice.

Engine

Engine Model	Cat 3126 DITA diesel	
Gross Power - 533	152 kW	204 hp
Gross Power - 543	168 kW	225 hp
Net Power - 533	142 kW	190 hp
Net Power - 543	157 kW	211 hp
Number of Cylinders	6	
Governed Speed at Rated Power	2200 RPM	
Displacement	7.24 L	441.8 in ³
Bore	110 mm	4.33 in
Stroke	127 mm	5 in
Derating Altitude	2286 m	7,500 ft
Air Cleaner	Two-stage dry centrifugal precleaner	
Alternator	75 amps	
Fan Speed	1784 RPM	
Electrical System	24 volts	
Battery - Quantity	2	
Battery - Volts	12 volts	
Battery - Capacity	950 CCA	
Starting System	24V direct electric	

Power Train

Transmission	Hydraulic variable speed	
Transmission - Type	Hydrostatic closed loop	
Steering	Hydraulic control	

Hydraulic System

Circuit Type	Closed center, pressure compensating, load sensing	
Pump Type	Variable displacement slipper, axial piston	
Pump Output	174 L/min	45.9 gal/min
Relief Valve Setting	28 000 kPa	4,060 psi
Steering Cylinder - Bore	76.2 mm	3 in
Steering Cylinder - Rod Diameter	44.45 mm	1.75 in
Steering Relief Valve Settings	23 000 kPa	3,335 psi
Lift/Tilt Cylinder - Bore	101.6 mm	4 in
Lift/Tilt Cylinder - Rod Diameter	63.5 mm	2.5 in

- Hydraulic Pump output measured at 2400 RPM.

Saw - HF221

Cutting Capacity	610 mm	24 in
Accumulation Area	0.52 m ²	5.6 ft ²
Accumulation Capacity - 6" trees	10	
Speed	1175 RPM	
Throat Opening	1118 mm	44 in
Height	2997 mm	118 in
Width	1808 mm	71.2 in
Depth	1861 mm	73.3 in
Disk Diameter	1549 mm	61 in
Number of Teeth	18	
Kerf	58.7 mm	2.3 in
HF Accumulator/Grab Arm Cylinders		
- Bore	76.2 mm	3 in
- Rod Diameter	50.8 mm	2 in

Saw - HF222

Cutting Capacity	610 mm	24 in
Accumulation Area	0.52 m ²	5.6 ft ²
Accumulation Capacity - 6" trees	10	
Speed	1175 RPM	
Throat Opening	1118 mm	44 in
Height	2997 mm	118 in
Width	1808 mm	71.2 in
Depth	1861 mm	73.3 in
Disk diameter	1549 mm	61 in
Number of teeth	18	
Kerf	58.7 mm	2.3 in
HF Accumulator/Grab Arm Cylinders		
- Bore	76.2 mm	3 in
- Rod Diameter	50.8 mm	2 in

Shear - HS20

Shear/Grab Arms - Open	1.3 Seconds	
Shear/Grab Arms - Close	1.8 Seconds	
Collector - Open	0.5 Seconds	
Collector - Close	0.5 Seconds	
Cut Capacity - Max	508 mm	20 in
Accumulation Area	0.56 m ²	6 ft ²
Accumulation Capacity - 6" trees	13	
Height	2438 mm	96 in
Width	1651 mm	65 in
Depth	1575 mm	62 in
HS Grab Arm Cylinders		
- Bore	101.6 mm	4 in
- Rod Diameter	63.5 mm	2.5 in
HS Shear Cylinders - Bore	165.1 mm	6.5 in
HS Shear Cylinders - Rod Diameter	101.6 mm	4 in

Operating Specifications

Turning Radius (Outside Front Tires) - 28L tires	9.85 m	388 in
Turning Radius (Outside Front Tires) - 30.5 tires	12 m	472 in
Top Speed - Forward	13.7 kph	8.5 mph
Top Speed - Reverse	13.7 kph	8.5 mph
Articulation Angle - Left/Right, 28L tires	45°	
Articulation Angle - Left/Right, 30.5 tires	36°	
Lift Capacity - Ground	55 kN	12,297 lb
Brakes - Service	Single disc, wet, front only	
Brakes - Parking	Self-contained, dry mult. disc	

- Top speed measured with 30.5 tires.
- Brakes meet standards set by OSHA SAE J1178 DEC94 and ISO 11169-1993.

Service Refill Capacities

Fuel Tank	300 L	79.2 gal
Filtration - case drain	25 microns	
Filtration - main return	16 microns	
Filtration - charge pump	5 microns	
Cooling System	45 L	11.9 gal
Differential/Final Drives - Front	52 L	13.7 gal
Differential/Final Drives - Rear	52 L	13.7 gal
Engine Oil	31 L	8.2 gal
Hydraulic System - Tank	245 L	64.7 gal
Hydraulic System - Total	300 L	79.2 gal

Standards

- Enclosed cab meets operator protective structure criteria for forestry equipment: OPS (SAE J1084, ISO 8084), FOPS (SAE J231, ISO 3449 and ISO 8083), and ROPS (SAE J1040, ISO 3441 and ISO 8082).
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in noisy environment.
- Seat belt meets SAE J386 JUN85.

Weights

Est. Operating Weight - 533, 28L tires	12 941 kg	28,535 lb
Est. Operating Weight - 543, 30.5 tires	13 907 kg	30,660 lb
HF221	2600 kg	5,732 lb
HF222	2782 kg	6,133 lb
HS20 - w/mount	2562 kg	5,650 lb

- Operating weight includes tires indicated, full fuel tank, without feller head.

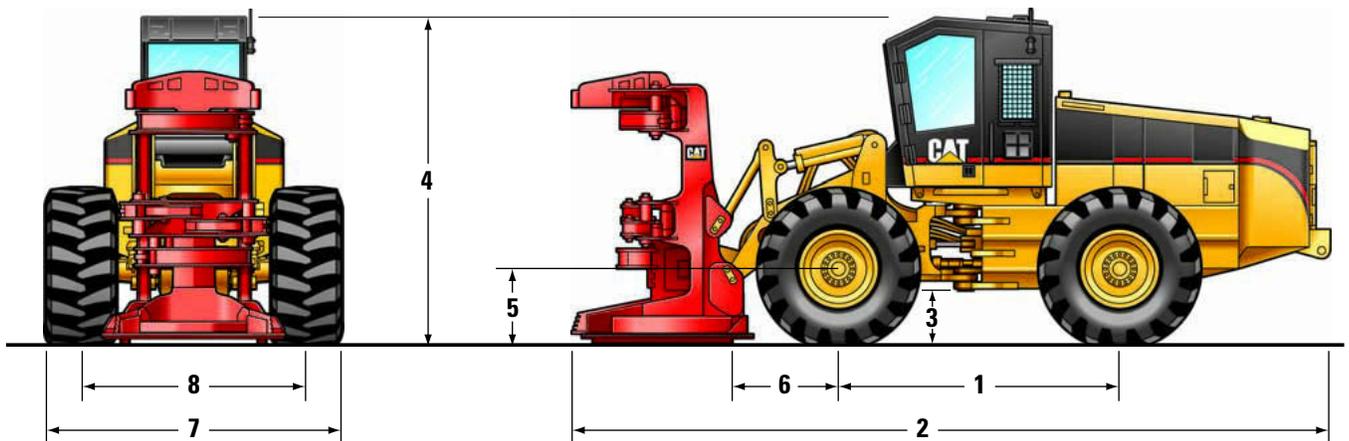
Dimensions

Wheelbase	2820 mm	111 in
Width - Overall, 28L tires	2937 mm	115.6 in
Width - Overall, 30.5 tires	3216 mm	126.6 in
Ground Clearance	510 mm	19.9 in
Height - Overall	3303 mm	129 in
Length - Overall, HF221	7593 mm	299 in
Length - Overall, HF222	7613 mm	300 in
Length - Overall, HS20	7312 mm	288 in
Front Axle to Pin	1270 mm	49.5 in
Tread Width	2223 mm	87.5 in
Axle Height	755 mm	29.7 in

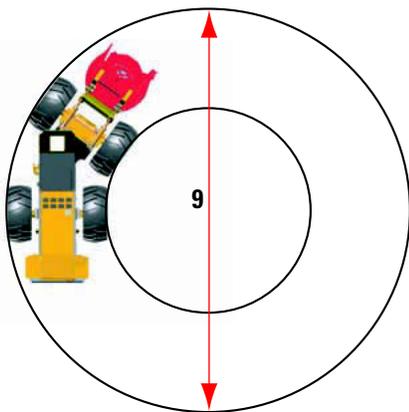
- Ground clearance, axle height and tread width measured with 28L tires. Add 76.2 mm (3 in) to machine height for 30.5 tires.

Dimensions

All dimensions are approximate.

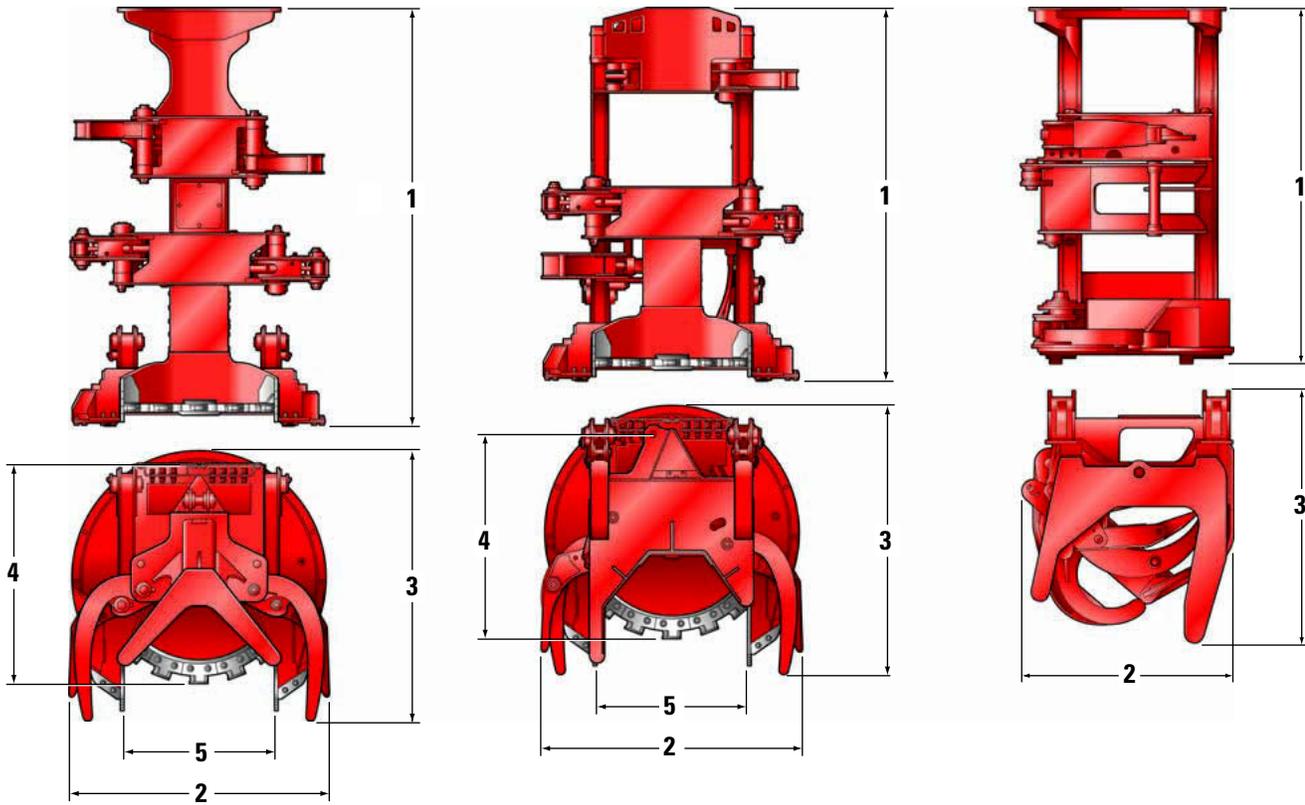


1	Wheelbase	2820 mm	111 in
2	Length – overall, HF221	7593 mm	299 in
	Length – overall, HF222	7613 mm	300 in
	Length – overall, HS20	7312 mm	288 in
3	Ground Clearance	510 mm	20.1 in
4	Height – overall	3303 mm	130 in
5	Axle Height	755 mm	29.7 in
6	Front Axle to Pin	1270 mm	50 in
7	Width – overall, 28L tires	2937 mm	115.6 in
	Width – overall, 30.5 tires	3216 mm	126.6 in
8	Tread Width	2223 mm	87.5 in
9	Turning Diameter (outside front tires) – 28L tires	9.85 m	388 in
	Turning Diameter (outside front tires) – 30.5 tires	12 m	472 in



Dimensions

All dimensions are approximate.



HF221

HF222

HS20

	HF221		HF222		HS20	
1 Height	2997 mm	118 in	2650 mm	104 in	2438 mm	96 in
2 Width	1808 mm	71.2 in	1808 mm	71.2 in	1651 mm	65 in
3 Depth	1861 mm	73.3 in	1861 mm	73.3 in	1575 mm	62 in
4 Disk Diameter	1549 mm	61 in	1549 mm	61 in	—	—
5 Throat Opening	1118 mm	44 in	1118 mm	44 in	—	—

Standard Equipment

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

ELECTRICAL

- 24-volt system
- 2) 12-volt maintenance-free batteries
- 75 amp alternator
- alarm, back-up
- warning horn

GUARDS

- engine enclosures
- engine fan guard
- radiator guard
- integral underguards
- cylinder guards

OPERATOR ENVIRONMENT

- OPS/FOPS/ROPS cab
- reverse slope windshield
- suspension seat with seat belt
- joystick control
- gauge package
- heater/AC climate control
- 24V-to-12V converter
- cup holder
- 12V power outlet

POWER TRAIN

- Cat 3126 DITA engine
- combination pre-cleaner/air cleaner
- fuel priming pump
- radiator
- independent differential locks
- inboard planetary final drives
- enclosed parking brake
- wet disc service brakes
- heavy duty drive shafts
- standard axle - 533
- heavy duty axle - 543

HYDRAULICS

- variable displacement piston pump
- charge pump
- hand fill pump

OTHER STANDARD EQUIPMENT

- vandalism protection
- pressurized water tank
- variable speed control
- antifreeze, includes 50% concentration with freeze protection to -36°C (-33°F) and anti-boil protection to 106°C (223°F)

TIRES, RIMS & WHEELS

- must be specified on machine order

Optional Equipment

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

	kg	lb
POWER TRAIN		
Axle, heavy duty - 533 only	2200	4850
OTHER ATTACHMENTS		
Lights, Halogen - 2 front, 2 rear	32	70
Receptacle, jump start	2	4
Radio, 12V, AM/FM/WX CD	1	2
Reversing fan	40.8	90

533/543 Wheel Feller Bunchers

For more complete information on Cat products, dealer services,
and industry solutions, visit us on the web at www.CAT.com

© 2002 Caterpillar
Printed in U.S.A.

AEHQ5508 (7-02)

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

CATERPILLAR[®]