

501 HD

Track Harvester



Engine

| | | |
|-------------------------|-------------------------|--------|
| Engine Model | Cat® C6.6 ACERT™ Tier 3 | |
| Gross Power @ 1,800 rpm | 122 kW | 163 hp |

Reach

| | | |
|---------------------------------|--------|-------------|
| Fixed Linkage Boom Reach to Pin | 6.05 m | 19 ft 10 in |
| Telescopic Boom Reach to Pin | 7.93 m | 26 ft 0 in |

Weights

| | | |
|---------------------------------------|-----------|-----------|
| Operating Weight (without attachment) | 18 000 kg | 40,000 lb |
|---------------------------------------|-----------|-----------|

501HD Features

Power Train

The Cat® C6.6 engine with ACERT™ Technology and an efficient cooling system provides exceptional power and fuel efficiency.

Hydraulics

The axial piston hydraulic pump delivers quiet efficiency, controllability and durability. The valve system incorporates fuel efficient load sensing pressure compensated technology.

Operator Station

Purpose built forestry cab with excellent visibility to the work area. Superb air flow for heating and cooling functions, refined instrumentation, and storage areas ensure a comfortable, uncluttered working environment.

Undercarriage

Forestry duty undercarriage provides high quality and durability along with optimal machine balance for extended reaches.

Boom and Stick

Optional boom sets provide versatility to mount various harvesting heads.



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Cat® track harvesters are equipped with dependable Cat engines, load sensing hydraulics and factory installed attachments. The forward-mounted cab and rear engine placement give the operator excellent visibility over the entire harvest area. The unique front entry cab allows for easy entry and exit and the cab tilts for servicing. The telescoping boom's V-shaped bottom extends the life of the wear pads and minimizes side-to-side movement as the boom telescopes in and out.



Power Train

Exceptional Power and Fuel Efficiency

Cat C6.6 Engine

The Cat C6.6 engine with ACERT™ Technology gives exceptional power and fuel efficiency, while meeting Tier 3, Stage IIIA emission requirements. This engine includes electronic governing, cold mode start strategy, automatic altitude compensation, electronic diagnostics and fault monitoring.

Exceptional Cooling Capability

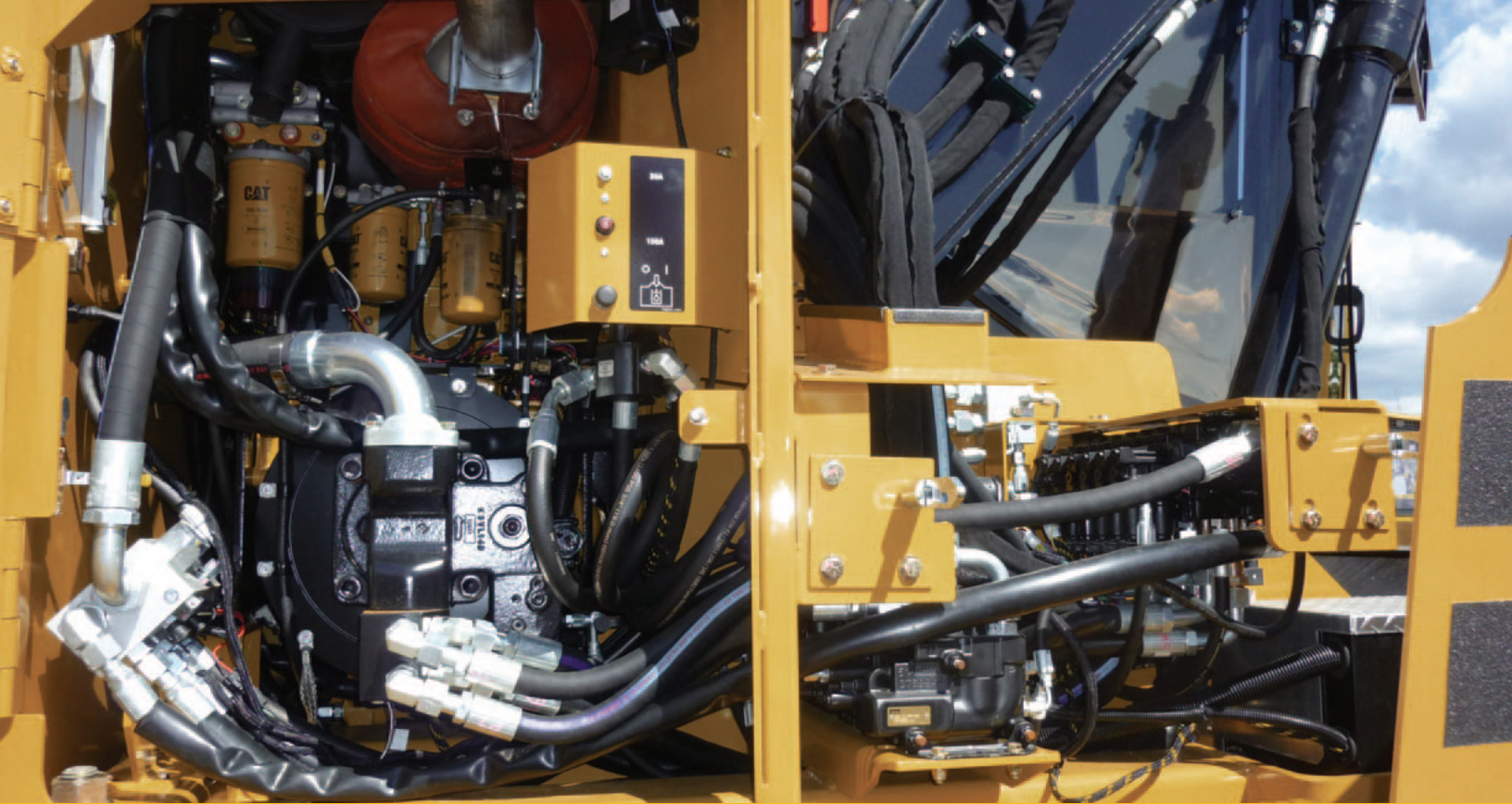
A side by side antifreeze, hydraulic, and charge air cooling package allows efficient heat rejection. The cooling package is located away from the harvesting front where less debris and dust exposure minimizes cleaning requirements.

Cold Climate Capability

A thermal bypass in the hydraulic cooler line allows for quicker cold weather warm up of components by diverting oil back to the tank until the temperature of the oil requires cooling. An optional cold weather starting aid heats engine antifreeze and circulates it through the engine, hydraulic tank, and cab for easier start ups.

Large Fuel Carrying Capacity

The 378 L (100 gal) fuel capacity allows extended operating shifts and includes a lockable compartment lid for security.



Hydraulics

Continuous, Reliable and Responsive Control

Hydraulic Pump is Powerful, Responsive, Quiet

Designed for continuous, efficient and reliable operation, the harvester's axial piston hydraulic pump meets stringent requirements for noise, efficiency, controllability and durability.

Valves are Load Sensing, Pressure Compensated

The valve system has proven reliability in forestry applications with its fuel efficient load sensing pressure compensated technology. Each section is designed specifically for the flow and pressure of the function, therefore optimizing machine functionality and fuel efficiency. Ramped and proportional carrier functions save mechanical wear and tear on structures. Hydraulic valve configurations are available for operating either fixed or dangle style harvesting heads.

Automated control system

The IQAN computer based control system provides precise control of machine functions through fully proportional hydraulic valves.

Electric Hydraulic Oil Fill Pump

The hydraulic oil site gauge provides easy visibility to know when hydraulic oil needs to be added. An easy accessible service hose allows hydraulic oil to be pumped through the hydraulic filtering system and into the tank. This reduces maintenance time and helps to maintain oil cleanliness requirements.

Operator Station

Comfort and Convenience to Keep People Productive

Safe Front Entry System

The unique front entry cab allows for easy and safe access onto the track frame. Foot pedals are attached to the door to swing out of the way and are deactivated when the door is open. The reverse slope front window keeps snow and debris from falling onto the window. Accumulated moisture can be removed with the front window wiper/washer.

Unobstructed Visibility

The engineered cab forward and rear engine design gives exceptional operator visibility, including to the boom side of the cab, so that potential trees to be harvested can be seen without swinging the cab for required visibility.

IQAN-MD3 control system

The carrier control system provides full function graphics display for easy monitoring of machine parameters. Operators can enter individual response preferences to customize the joystick controls.

Heated Air Suspension Seat

The heated air suspension seat features lumbar support and neck rests that provide optimum comfort. Armrests are adjustable in all directions and angles for full arm support, a reinforced seat structure designed for track machines absorbs added shock loads and optional four-way seat isolator provides additional vibration dampening.

Channeled Air Flow System

A 40,000 BTU air conditioning and heater system includes channeled air flow to louvered vents for full coverage of the operator and defrosting/defogging of windows. An automatic control system maintains consistent temperature for a constant comfort level.

Molded Consoles and Headliner

The molded consoles and headliner incorporated storage compartments and trays eliminate cab clutter. Two 12-volt power points provide flexibility in mounting additional electric and electronic equipment.



Structures and Undercarriage

Built to Work in Rugged Environments



Strong X Body Design

The full length of the track frames are tied to the car body for strength and durability when maneuvering amongst stumps and rocks. The high walker design provides excellent ground clearance.

Easy to Clean

The rounded upper surfaces of the track frames shed dirt and debris for easier cleaning and reduced wear.

Integral Track Guards/Guides

Full length track guards provide complete chain support on uneven ground for reduced wear.

Final Drives

High torque final drives provide the carrier with a 1.1 to 1 tractive effort to weight ratio for easy mobility in the woods while maintaining good speed to efficiently navigate from tree to tree.

Rollers

The 2 top rollers and 8 bottom rollers are identical for parts commonality.

Engine Mounted Behind Boom

The rear mounted engine provides effective counter balance for lift capabilities at full reach.

Tanks Mounted in Counterweight

Fuel and hydraulic tanks are incorporated into the rear counterweight for increased balance on a low tail swing carrier.

Wide Boom Mounting Base

The base of the boom has been widened to provide the strength required for side loads when pulling trees out of the standing forest.

Heavy Duty Guarding

The engine and hydraulic compartments are well protected from falling debris and have sloped surfaces for easy cleaning.

Boom and Stick

Made for High Stress and Long Service Life



Fixed Linkage Boom

The fixed linkage boom provides 7.1 m (23.3 ft) reach to the tree with a PF-48 fixed head.

Telescopic Boom

The telescopic boom for dangle heads provides 8.2 m (27 ft) reach to the tree. The 5 sided “V” bottom stick design provides increased strength for higher lift capacity and extended wear pad life for long serviceability.

Steel Tube Lines

Steel tube hydraulic lines provide extended life and dissipate heat. Cover plates on the stick booms protect pipes from damage.



Versatility

Work Tool Options
to Meet Your Needs

Attachments

From thinning to final cut harvesting, a selection of harvesting heads are available, including fixed and dangle styles.





Owning and Operating Costs

Proven Best Investment

ACERT Technology, Fuel Economy

Based on ongoing testing, the fuel economy of Cat engines with ACERT Technology is 3 to 5 percent better than current competing technologies. This fuel economy is directly related to the complete combustion of fuel due to the integration between the electronic control that monitors conditions, the air management system that controls air volume and the fuel injection system that delivers the amount of fuel as needed.

Designed for Forest Applications

The undercarriages are specifically designed for harvesting applications, providing the strength and durability that allows for a long service life.

Engine and hydraulic canopies are durable to withstand working in the woods, and their sloped designs allow for easy shedding of debris for simplified cleaning.

Automatic Idle Down

The harvester control system includes an automatic engine idle down feature to reduce fuel consumption during periods of inactivity.

Serviceability

Easy to Maintain. Easy to Service.

Rear Mounted Fuel and Hydraulic Tanks

The fuel and hydraulic tanks are located within the counterweight, allowing the entire side of the machine to be opened to access the complete hydraulic system from pump to valves.

Forward Tilting Cab

The forward tilting cab allows easy access for under cab components and provides a platform for engine service.

Easy Fluid Changes

An electric refill pump to add oil into the hydraulic tank maintains system cleanliness by passing all oil through the filtering system.

Boom Grease Lines

Booms have grease lines extending from all pivot points down to the base of the main boom for on ground service.

Hinged Covers

The covers over the engine and hydraulic components open for easy access, and feature sloping surfaces for easy cleaning.

Debris Shedding Track Frames

The upper surfaces of the track frames are sloped for easier cleaning of dirt and debris.



Customer Support

Ready to Help. Anytime. Anywhere.



Caterpillar is known the world over for the quality of customer support from its dealer network – the industry’s best. No matter where you are, the expertise of a Cat dealer is always nearby. Your local Cat dealer is your forestry consultant who can recommend the machines, work tools and services to maximize your operation and provide the support to keep you at top productivity.

- 24-hour parts availability, where and when you need them, to minimize expensive downtime.
- Customer Support Agreements to lower your operating costs.
- State-of-the-art diagnostic programs, such as S·O·SSM oil analysis, inspection services and trend reporting to help avoid unscheduled repairs.
- Financing programs for buying, renting or leasing Cat equipment.
- Cat insurance to cover equipment losses from theft, collision, flood, upset or overturn, fire, vandalism and more.
- Product Link to manage your equipment fleet through remote monitoring.

For more information on Cat products, dealer services and industry solutions, visit us at www.cat.com.

Sustainability

Reducing Environmental Impacts

Structures

Major structures and components are built to be rebuilt, reducing waste and replacement costs.

ACERT™ Technology

ACERT™ Technology reduces engine emissions at point of combustion with less moving parts for lower operating costs.

Power Train

| | | |
|-------------------------|------------------|---------------------|
| Engine Model | Cat® C6.6 ACERT™ | |
| Gross Power @ 1,800 rpm | 122 kW | 163 hp |
| Rated Power @ 2,200 rpm | 116.5 kW | 156 hp |
| Torque – max | 683 N·m | 504 lbf-ft |
| Displacement | 6.6 L | 403 in ³ |

Operating Weights

| | | |
|---|-----------|-----------|
| Operating Weight without Head | 18 000 kg | 40,000 lb |
| Operating Weight with Attachment (est.) | 20 411 kg | 45,000 lb |
| Ground Pressure (standard pads) | 49 kPa | 7.11 psi |

Operating Specifications

| | | |
|-------------------------|------------|---------------|
| Travel Speed – Low | 1.8 km/h | 1.1 mph |
| Travel Speed – High | 3 km/h | 1.9 mph |
| Maximum Tractive Effort | 193 kN | 43,400 lb-f |
| Swing Torque | 41 200 N·m | 30,388 lbf-ft |
| Swing Speed | 7 rpm | 7 rpm |

Boom System

| | | |
|--|---------|----------|
| Fixed Linkage Reach – max | 6.04 m | 19.8 ft |
| Fixed Linkage Lift Capacity, Gross – max reach | 3856 kg | 8,500 lb |
| Telescopic Boom Reach – max | 7.93 m | 26 ft |
| Telescopic Boom Lift Capacity, Gross – max reach | 2300 kg | 5,071 lb |
| Reach with PF-48 Fixed Head on Fixed Linkage | 7.1 m | 23.3 ft |
| Reach with Dangle Head on Telescopic Boom | 8.23 m | 27 ft |

Service Refill Capacities

| | | |
|------------------|--------|----------|
| Fuel Tank | 378 L | 100 gal |
| Cooling System | 23.6 L | 6.25 gal |
| Engine Oil | 15 L | 4 gal |
| Hydraulic System | 227 L | 60 gal |
| Swing Drive | 3.78 L | 1 gal |
| Hydraulic Tank | 228 L | 60 gal |

Hydraulic System

| | | |
|-----------------------------------|---------------------|----------------------|
| Pump Size – Carrier and Implement | 140 cm ³ | 8.54 in ³ |
| Hydraulic Oil Flow @ 2,200 rpm | 307 L/min | 81 gal/min |
| Hydraulic System Pressure | 344 bar | 5,000 psi |

Undercarriage

| | | |
|-----------------------|------------------|--------|
| Size/Pitch (D-5 size) | 190 mm | 7.5 in |
| Track Gauge | 2235 mm | 88 in |
| Track Length | 3960 mm | 156 in |
| Ground Clearance | 660 mm | 26 in |
| Final Drives | 709BC | |
| Number of Rollers | 2 upper, 8 lower | |

Standards

| | |
|---------------|--------------------------------------|
| FOPS/OPS/ROPS | Cab meets FOPS/OPS/ROPS requirements |
|---------------|--------------------------------------|

Shipping Dimensions*

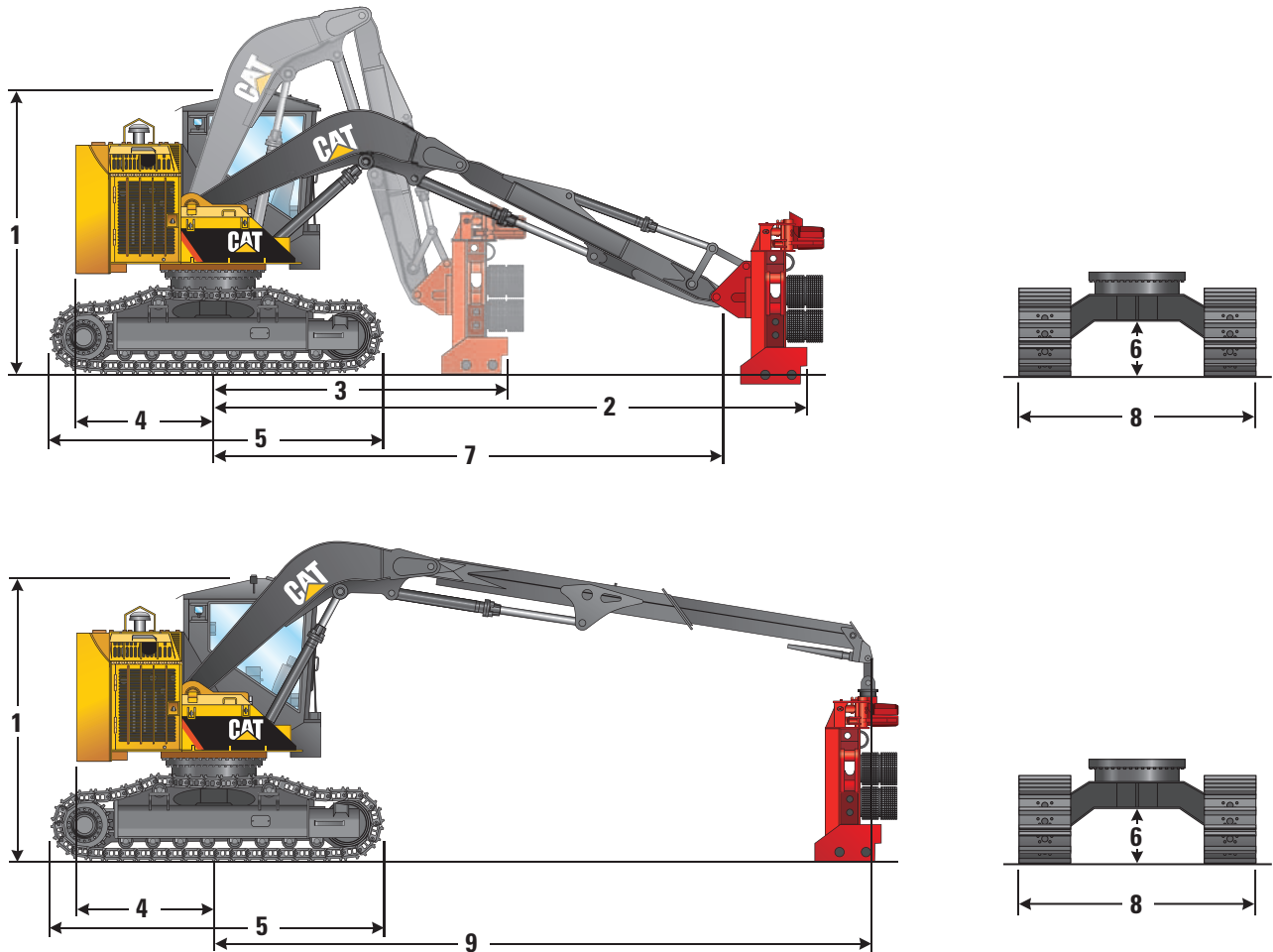
| | | |
|--------|---------|--------|
| Width | 2840 mm | 112 in |
| Height | 3454 mm | 136 in |

* with 610 mm (24 in) double grouser shoes

501HD Specifications

Dimensions

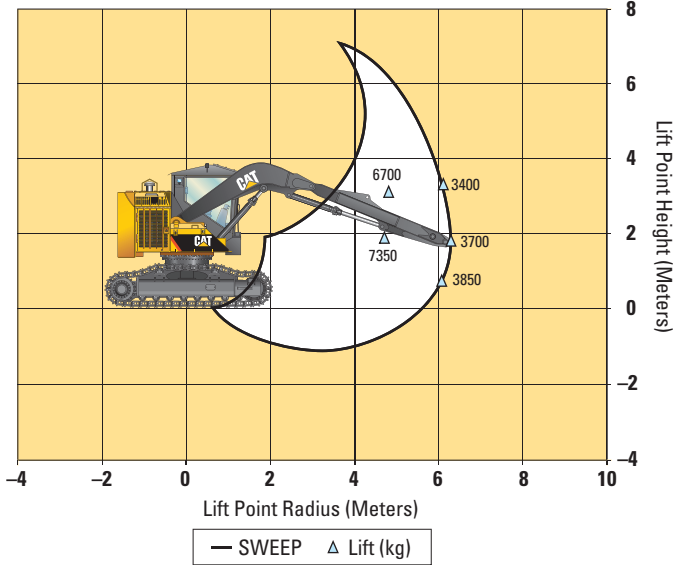
All dimensions are approximate.



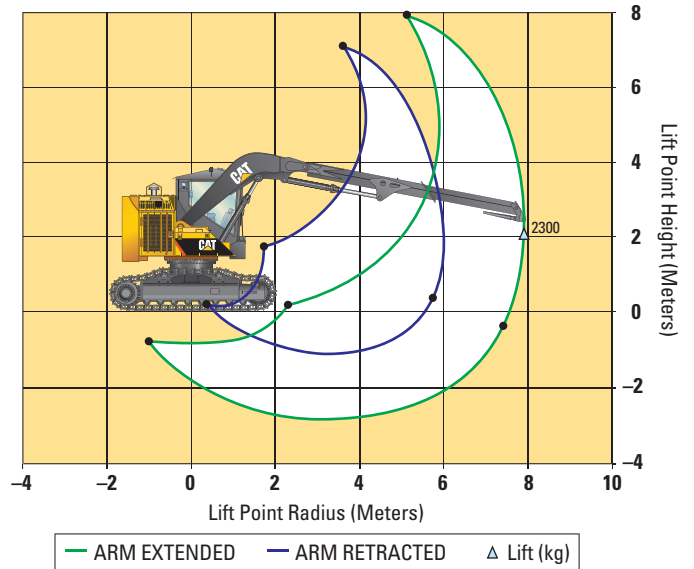
| | | |
|--|---------|-------------|
| 1 Height with Standard Pads | 3429 mm | 11 ft 3 in |
| 2 Maximum Reach with Prentice PF-48 Processor | 7087 mm | 23 ft 3 in |
| 3 Minimum Reach with Prentice PF-48 Processor | 3658 mm | 12 ft 0 in |
| 4 Swing Center to Rear of Counterweight | 1645 mm | 64.75 in |
| 5 Undercarriage Length | 3962 mm | 13 ft 0 in |
| 6 Ground Clearance | 660 mm | 26 in |
| 7 Reach to Stick Boom Pin with Standard Boom | 6045 mm | 19 ft 10 in |
| 8 Width – with 610 mm (24 in) Pads | 2845 mm | 9 ft 4 in |
| 9 Reach to Stick Boom Pin with Telescopic Boom Extended | 7930 mm | 26 ft 0 in |

Working Ranges

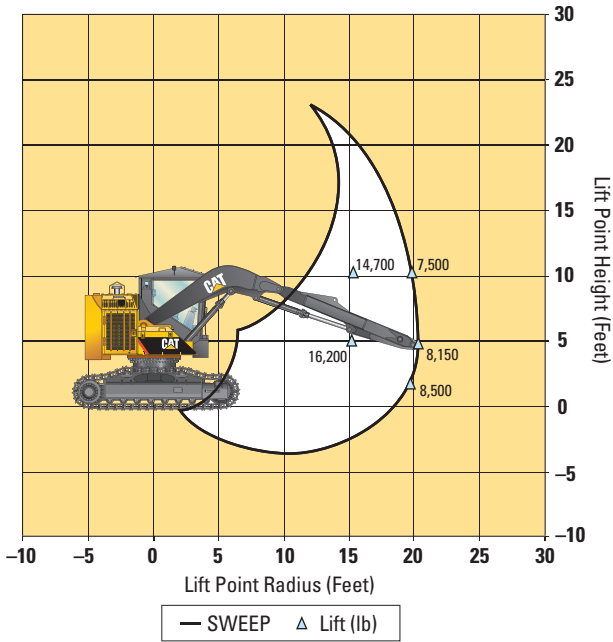
501HD Fixed Head Boom Sweep



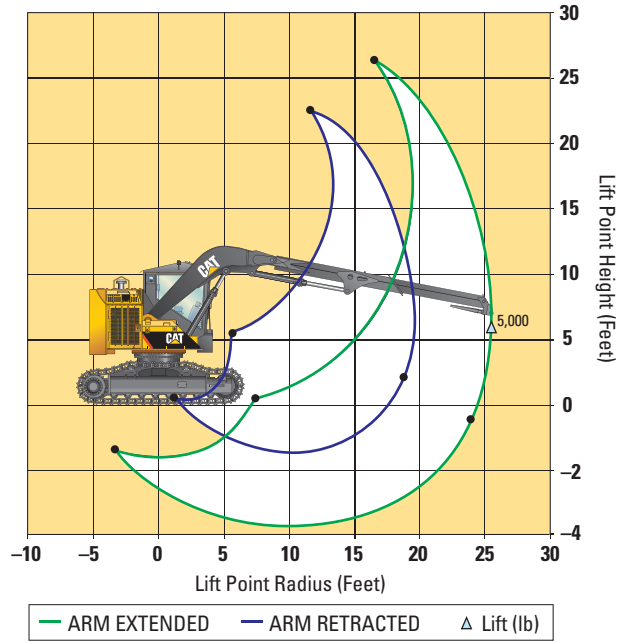
501HD Telescopic Boom Sweep



501HD Fixed Head Boom Sweep



501HD Telescopic Boom Sweep



501HD Standard Equipment

Standard equipment may vary. Consult your Cat dealer for details.

ELECTRICAL

- 12V system
- Master disconnect
- Circuit breaker protection
- 150 Amp alternator
- Two 12V maintenance free batteries
- Full lighting package – 12 cab mounted halogen light fixtures
- IQAN programmable control system
- MD3 full color graphics display screen

OPERATOR ENVIRONMENT

- Pressurized OPS-FOPS-ROPS cab
- Dual joystick control
- Reverse slope windshield
- Skylight
- Seat belt
- Isolation mountings
- Tinted 12.7 mm (1/2 in) polycarbonate windows
- Heated air suspension seat
- 40,000 BTU AC/Heater system with auto temp control
- Window defroster vents
- Two 12V power points
- Dome light

- Radio ready –includes speakers and AM/FM antennae

- Cup holder
- Front entry door
- Travel alarm
- Electric cab tilt
- Fire extinguisher mounting pad
- 3 escape routes

POWER TRAIN

- Cat C6.6 ACERT™ engine meets Tier 3 emissions requirements
- Infinitely variable travel speed
- 49° C (120° F) ambient temperature cooling package
- Removable debris screen
- Swing out A/C condenser
- 378 L (100 gal) fuel tank
- Fuel water separator

HYDRAULICS

- 140 cc (8.54 in³) variable displacement pump
- Closed circuit load sensing valves
- 228 L (60 gal) hydraulic tank
- Electric hydraulic oil fill pump

UNDERCARRIAGE

- Fully guarded forestry duty high walker undercarriage
- 8 lower rollers, 2 upper rollers
- Rock guard – shoe supports
- 610 mm (24 in) DG grouser pads with mud and snow relief
- Relief sprockets
- 2 speed track motors
- Automatic track brakes
- Interchangeable upper and lower rollers
- Heavy duty “D” tow rings

BOOMS AND STICKS

- Fixed boom arrangement with 3 bar linkage
- Telescopic boom arrangement with “V” bottom design

ANTIFREEZE

- 50% concentration extended life coolant

501HD Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

TRACK SYSTEMS

- 610 mm (24 in) SG grouser pads with mud and snow relief
- 760 mm (30 in) DG grouser pads with mud and snow relief

OTHER EQUIPMENT

- AM/FM/CD/Satellite Radio receiver
- Sun shades
- Five above door HID work lights
- Four way seat isolator
- Cold weather engine coolant and hydraulic tank warm up system
- Harvesting heads

501HD Track Harvester

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