

PRODUCT SPECIFICATIONS FOR 18



ENGINE

Base Power (1st Gear) - Net	227 kW
Engine Model	Cat® C13
Bore	130 mm
Stroke	157 mm
Speed at Rated Power	2,000 rpm
Standard - Ambient Capability	50 °C
Base Power (1st Gear) - Net - Metric	227 kW
VHP Range - Net	227-266 kW (304-357 hp)
Maximum Torque - ISO 9249 - Tier 2/Stage II/Japan 2001 (Tier 2) Equivalent	1721 N·m
Derating Altitude - Tier 2/Stage II/Japan 2001 (Tier 2) Equivalent	3711 m
Derating Altitude - Tier 3/Stage IIIA/Japan 2006 (Tier 3) Equivalent	3954 m
Maximum Torque - ISO 9249 - Tier 3/Stage IIIA/Japan 2006 (Tier 3) Equivalent	1721 N·m
Standard - Fan Speed - Minimum	550 rpm
Emissions (1)	U.S. EPA Tier 4 Final/EU Stage V/Japan 2014 (Tier 4 Final)
Torque Rise - Tier 4/Stage IV/Japan 2014 (Tier 4 Final)	40%

Maximum Torque - ISO 9249 - Tier 4/Stage IV/Japan 2014 (Tier 4 Final)	1771 N·m
Derating Altitude - Tier 4/Stage IV/Japan 2014 (Tier 4 Final)	3810 m
Torque Rise - Tier 2/Stage II/Japan 2001 (Tier 2) Equivalent	38%
Standard - Fan Speed - Maximum	1,450 rpm
Emissions (2)	Tier 3/Stage IIIA/Japan 2006 (Tier 3) Equivalent Emission Standards
Torque Rise - Tier 3/Stage IIIA/Japan 2006 (Tier 3) Equivalent	38%
VHP Range - Net - Metric	227-266 kW (309-362 hp)
Emissions (3)	Tier 2/Stage II/Japan 2001 (Tier 2) Equivalent Emission Standards
Optimized VHP Range - Net	227-266 kW (304-357 hp)
Displacement	12.5 l
Number of Cylinders	6
POWER TRAIN	
Forward/Reverse Gears	8 Forward/6 Reverse
Transmission	Direct drive, power shift, countershaft
Brakes - Parking	Spring applied, hydraulically released
Brakes - Dynamic Brake Torque per Wheel	36701 N·m
Brakes - Service	Oil-actuated, oil disc

Brakes - Secondary

Oil-actuated, oil-disc

HYDRAULIC SYSTEM

Circuit Type

Electro-hydraulic load sensing, closed center

Pump Type

Variable piston

Maximum System Pressure

24750 kPa

Standby Pressure

5900 kPa

Pump Output*

280 l/min

Note

*Pump output measured at 2,150 rpm.

OPERATING SPECIFICATIONS

Forward - 6th

25.8 km/h

Forward - 2nd

6.1 km/h

Forward - 8th

51.7 km/h

Forward - 5th

19 km/h

Reverse - 3rd

9.7 km/h

Turning Radius - Outside Front Tires

9.3 m

Forward - 4th

12.3 km/h

Top Speed - Reverse

40.8 km/h

Forward - 7th

35.5 km/h

Articulation Angle - Left/Right

20°

Reverse - 1st

3.6 km/h

Forward - 3rd	8.9 km/h
Reverse - 4th	15 km/h
Forward - 1st	4.5 km/h
Top Speed - Forward	51.7 km/h
Reverse - 6th	40.8 km/h
Steering Range - Left/Right	47.5°
Reverse - 2nd	6.6 km/h
Reverse - 5th	28 km/h
Note	Calculated with no slip and 23.5R25 L-3 tires.

SERVICE REFILL

Fuel Capacity	496 l
Cooling System	70 l
Hydraulic System - Tank	70 l
Hydraulic System - Total	146 l
DEF Tank	16 l
Engine Oil	36 l
Transmission - Differential - Final Drives	98.5 l
Tandem Housing - Each	129 l
Front Wheel Spindle Bearing Housing	0.9 l

Circle Drive Housing

10 l

FRAME

Front Frame Structure - Width

356 mm

Front Axle - Height to Center

670 mm

Circle - Diameter

1822 mm

Front Frame Structure - Thickness

14 mm

Front Frame Structure - Height

460 mm

Circle - Blade Beam Thickness

50 mm

Drawbar - Width

76 mm

Front Axle - Wheel Lean

18° Left/17° Right

Front Axle - Total Oscillation per Side

35°

Drawbar - Height

203 mm

TANDEMS

Sidewall Thickness - Outer

22 mm

Sidewall Thickness - Inner

22 mm

Tandem Oscillation - Front Up

15°

Tandem Oscillation - Front Down

25°

Height

648 mm

Width

236 mm

Drive Chain Pitch

63.5 mm

Wheel Axle Spacing

1841 mm

MOLDBOARD

Blade Width

5.5 m

Arc Radius

413 mm

Throat Clearance

126 mm

Down Force - Maximum
GVW

19895 kg

Blade Pull* - Base GVW

21417 kg

Blade Pull* - Maximum
GVW

23985 kg

End Bit - Width

152 mm

Down Force - Base
GVW

15426 kg

Cutting Edge Thickness

35 mm

Thickness

25 mm

Width

5.5 m

Cutting Edge Width

254 mm

End Bit - Thickness

19 mm

Height

787 mm

Note

*Blade pull calculated at 0.9 traction coefficient, which is equal to ideal no-slip conditions, and Gross Machine Weight.

BLADE RANGE

Maximum Blade Position Angle	65°
Maximum Lift Above Ground	400 mm
Maximum Depth of Cut	470 mm
Maximum Shoulder Reach Outside of Tires - Right	2605 mm
Circle Centershift - Right	560 mm
Maximum Shoulder Reach Outside of Tires - Left	2605 mm
Moldboard Sideshift - Right	790 mm
Blade Tip Range - Backward	5°
Moldboard Sideshift - Left	740 mm
Circle Centershift - Left	690 mm
Blade Tip Range - Forward	40°

RIPPER

Shank Holder Spacing - Minimum	445 mm
Ripping Depth - Maximum	452 mm
Shank Holder Spacing - Maximum	500 mm
Ripper Shank Holders	7
Penetration Force	13749 kg
Pry-Out Force	19822 kg
Machine Length Increase, Beam Raised	1610 mm

WEIGHTS

Operating Weight - Typically Equipped

33713 kg

WEIGHTS TIER 4 FINAL/STAGE IV/JAPAN 2014 (TIER 4 FINAL)*

Gross Vehicle Weight - Typically Equipped - Rear Axle 24417 kg

Gross Vehicle Weight - Base** - Total 32794 kg

Gross Vehicle Weight - Maximum Tested - Rear Axle 26650 kg

Gross Vehicle Weight - Maximum Tested - Front Axle 11850 kg

Gross Vehicle Weight - Typically Equipped - Front Axle 9296 kg

Gross Vehicle Weight - Base** - Front Axle 8998 kg

Gross Vehicle Weight - Maximum Tested - Total 38500 kg

Gross Vehicle Weight - Typically Equipped - Total 33713 kg

Gross Vehicle Weight - Base** - Rear Axle 23796 kg

Note (2) **Base operating weight calculated on standard machine configuration with 23.5R25 tires, full fuel tank operator and rops cab.

Note (1) *No Tier 4 Final/Stage IV/Japan 2014 (Tier 4 Final) emission engine: subtract 150 kg (331 lb) from rear axle wt. & total wt.

DIMENSIONS (APPROXIMATE)

Height - Top of Cylinders 3115 mm

Width - Outside Rear Tires	3411 mm
Height - Exhaust Stack	3584 mm
Length - Between Tandem Axles	1841 mm
Length - Front Axle to Mid Tandem	7365 mm
Width - Tire Center Lines	2703 mm
Length - Front Axle to Moldboard	3066 mm
Length - Counterweight to Ripper	12051 mm
Height - Front Axle Center	760 mm
Width - Outside Front Tires	3411 mm
Length - Front Tire to Rear of Machine - Including Tow Hitch	10593 mm
Height - Top of Cab	3746 mm
Ground Clearance - Rear Axle	423 mm

STANDARDS

Sound	ISO 6394: 2008/ISO 6395: 2008/ISO 6396: 2008
ROPS/FOPS	ISO 3471: 2008/ISO 3449: 2005
Brakes	ISO 3450: 2011
Steering	ISO 5010: 2007

VARIABLE POWER TIER 4 FINAL/STAGE IV/JAPAN 2014 (TIER 4 FINAL), TIER 3/STAGE IIIA/JAPAN 2006 (TIER 3) EQUIVALENT OR TIER 2/STAGE II/JAPAN 2001 (TIER 2) EQUIVALENT EMISSION STANDARDS - METRIC

Gear - Forward 1st 227 kW

Gear - Forward 2nd 227 kW

Gear - Reverse 2nd 227 kW

Gear - Forward 4th 239 kW

Gear - Forward 6th 251 kW

Gear - Forward 5th 244 kW

Gear - Forward 8th 266 kW

Gear - Reverse 1st 227 kW

Gear - Forward 3rd 232 kW

Gear - Forward 7th 255 kW

Gear - Reverse 3rd-6th 232 kW

OPTIONAL TIRE ARRANGEMENTS

Wheel Group - 19.5×25 MP (2) Tires: 23.5R25 Bridgestone VKT 1 Star

Wheel Group - 19.5×25 MP (1) Tires: 23.5R25 Bridgestone VKT 2 Star

Wheel Group - 19.5×25 MP (3) Tires: 23.5R25 Bridgestone VJT 1 Star

Wheel Group - 19.5×25 MP (4) Tires: 23.5R25 Michelin XHA 2 Star

Wheel Group - 19.5×25 MP (5) Tires: 23.5R25 Michelin XLDD 2 Star L5

VARIABLE POWER TIER 4 FINAL/STAGE IV/JAPAN 2014 (TIER 4 FINAL), TIER 3/STAGE IIIA/JAPAN 2006 (TIER 3) EQUIVALENT OR TIER 2/STAGE II/JAPAN 2001 (TIER 2) EQUIVALENT EMISSION STANDARDS - NET

Gear - Forward 4th	239 kW
Gear - Reverse 2nd	227 kW
Gear - Forward 1st	227 kW
Gear - Reverse 3rd-6th	232 kW
Gear - Forward 3rd	232 kW
Gear - Forward 5th	244 kW
Gear - Forward 7th	255 kW
Gear - Forward 2nd	227 kW
Gear - Reverse 1st	227 kW
Gear - Forward 6th	251 kW
Gear - Forward 8th	266 kW

18 STANDARD EQUIPMENT

NOTE

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

OPERATOR ENVIRONMENT

Adjustable electric arm rest

Adjustable wrist rest

Air conditioner with heater

Air horn

Articulation, automatic Return-to-Center

Centershift pin indicator

Coat hook

Cup holder

Display, digital speed and gear

Doors, left and right side with wiper

Gauges (analog) inside the cab (includes fuel, articulation, engine coolant temp, engine RPM, and hydraulic oil temp)

Gauges, machine level

Information display touch screen
Joystick gear selection
Joystick hydraulic controls for implements, steering, transmission
Ladders, cab, left and right side
Lights, left and right side lights
Lights, night time cab
Meter, hour, digital
Mirror, inside rearview, wide angle
Power port, 12V
Radio ready, entertainment
ROPS cab, sound suppressed, less than 73 dB(A) ISO 6394 (70% fan speed)
Seat, cloth-covered, comfort air suspension
Storage compartments
Throttle control, electronic

POWER TRAIN

Air cleaner, dual stage dry type radial seal with service indicator through messenger and automatic dust ejector
Air-to-air after cooler (ATAAC)
Auto Diff Lock
Belt, serpentine, automatic tensioner
Brake wear indication
Brakes, oil disc, four-wheel, hydraulic
Consistent power to ground
Critically Low Fluid Level Monitoring System
Differential, lock/unlock
Drain, engine oil, high speed
Electronic over speed protection
Engine ECO Mode: Tier 4 Final/Stage V/Japan 2014 (Tier 4 Final) and Tier 2/Stage II/Japan 2001 (Tier 2) equivalent emission standards
Engine, compression brake
Ether starting aid
Fuel tank, fast fill, ground level
Fuel-water separator
Hydraulic Demand Fan
Muffler, under hood (Tier 2/Stage II/Japan 2001 (Tier 2) equivalent and Tier 3/Stage IIIA/Japan 2006 (Tier 3) equivalent emission standards
OK-to-Start
Optimized VHP
Parking brake – multi disc, sealed, oil-cooled
Priming pump, fuel
Rear axle, modular
Sediment drain, fuel tank
Three variations of the C13 engine. One meets U.S. EPA Tier 4 Final/EU Stage IV/Japan 2014 (Tier 4 Final) emission standards and is required for sale in higher regulated countries. The other options are capable of meeting Tier 2/Stage II/Japan 2001 (Tier 2) equivalent or Tier 3/Stage IIIA/Japan 2006 (Tier 3) equivalent emission standards.
Transmission, 8F/6R, power shift

VIMS no telematics

GUARDS

Front axle cylinder guard

Transmission guard

ELECTRICAL

Alternator, 150 ampere, sealed

Batteries, maintenance free, heavy duty, 1,400 CCA

Breaker panel

Electrical system, 24V

Lights: brake, reversing, roof-mounted roading, stop and tail (LED), work front

Product Link

Starter, electric, heavy duty

SAFETY

Alarm, back up

Ground level engine shutdown

Hammer (emergency exit)

Horn, electric

Lockout, hydraulic implement for roading

Operator not present monitoring system

Paint, glare reducing – top of front frame, rear enclosure and ripper cylinders

Rearview camera

Seat belt indicator

Seat belt, retractable 76 mm (3 in)

Secondary steering

Windows, laminated glass: – Fixed front with intermittent wiper – Door with intermittent wipers (two)

Windows, tempered: – Left and right side wipers – Rear with intermittent wiper

Light, LED, warning strobe

Lights front LED

Lights, front headlights high

Lights, front headlights low

Mounting, for warning light

Service lights

Working lights Halogen

Working lights LED

OTHER STANDARD EQUIPMENT

3-bolt blade bracket

AccuGrade ARO

Accumulators, blade lift

Brake accumulators, dual certified

Cat Grade Control Cross Slope

CD ROM Parts Book

Clutch, circle drive slip

Cutting edges, flat DH-2 steel: – 254 mm × 35 mm (10 in × 1.4 in) – 19 mm (¾ in) mounting bolts
Doors (four), engine compartment, (two left, two right hand) locking
Doors, two service, left and right side
Drawbar – six shoe with replaceable wear strips
End bits, 16 mm (⅝ in) DH-2 steel, 19 mm (¾ in) mounting bolts
Fast fill fuel 567.8 L/min (150 gpm)
Fluid check
Frame, articulated, with safety lock
Hydraulics, load-sensing
Metallic fuel tank, 496 L (131 gal)
Metallic DCM wear strips
Modular cooling package
Moldboard: – 5.5 m × 787 mm × 25 mm (18 ft × 31 in × 1 in) – Hydraulic side shift and tip
Radiator, two cleanout access doors
Rear bumper
Rear tandem access steps and hand bars
S·O·S ports: engine, hydraulic, transmission, coolant
Tandem walkway
Top adjust circle wear strips
Fire suppression ready
Ripper, rear
Push block, counterweight

WORK TOOLS/G.E.T.

5.5 m (18 ft) blade with flat cutting edge 254 mm × 35 mm (10 in × 1⅜ in)

TIRES, RIMS, AND WHEELS

A partial allowance for tires on 597 mm × 609.6 mm (23.5 in × 24 in) multi-piece rims is included in the base machine price and weight

FLUIDS

Extended Life Coolant to –35° C (–31° F)

18 OPTIONAL EQUIPMENT

NOTE

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

OPERATOR ENVIRONMENT

Comfort package
Heated door
Mirrors high visibility
Mirrors, outside heated 24V
Mirrors, outside mounted
Seat heated

Seat heated/ventilated

Windows cleaning platform and ladders left-right hand side

POWER TRAIN

Transmission, autoshift

GUARDS

Debris guard

Rear fenders

Sound suppression, engine enclosure and transmission

SAFETY

Additional monitor for rearview camera

Enhanced access platform

Machine Security System Key

Service access platform

OTHER ATTACHMENTS

Auto-lube, Centro-matic

Auto-lube, ripper enhancement

Control, blade, variable float

Heater, engine coolant, 120V

Heater, engine coolant, 240V

Hydraulic arrangements with additional hydraulic valves Base+1

Hydraulic arrangements with additional hydraulic valves Base+5

Product Link Elite dual

Rim, 495.3 mm × 635 mm (19.5 in × 25 in) MP (spare)

Weather, Cold Plus package

WORK TOOLS/G.E.T.

5.5 m (18 ft) blade with curved cutting edge 203 mm × 25 mm (8 in × 1 in)

Tooth, ripper

FLUIDS

Coolant, -51° C (-60° F)