

# PRODUCT SPECIFICATIONS FOR 16



## ENGINE

<b>Base Power (1st Gear) - Net</b>	216 kW
<b>Engine Model</b>	Cat® C13
<b>Bore</b>	130 mm
<b>Stroke</b>	157 mm
<b>Speed at Rated Power</b>	2,000 rpm
<b>Derating Altitude - Tier 2/Stage II/Japan 2001 (Tier 2) Equivalent</b>	3711 m
<b>Maximum Torque - ISO 9249 - Tier 3/Stage IIIA/Japan 2006 (Tier 3) Equivalent</b>	1721 N·m
<b>Maximum Torque - ISO 9249 - Tier 4/Stage IV/Japan 2014 (Tier 4)</b>	1771 N·m
<b>Maximum Torque - ISO 9249 - Tier 2/Stage II/Japan 2001 (Tier 2) Equivalent</b>	1721 N·m
<b>Emissions (2)</b>	Tier 3/Stage IIIA/Japan 2006 (Tier 3) Equivalent Emission Standards “ depending on emission standards of specific country
<b>Torque Rise - Tier 4/Stage IV/Japan 2014 (Tier 4)</b>	43%
<b>Torque Rise - Tier 2/Stage II/Japan 2001 (Tier 2) Equivalent</b>	39%
<b>Standard - Ambient Capability</b>	50 °C
<b>Derating Altitude - Tier 3/Stage IIIA/Japan 2006 (Tier 3) Equivalent</b>	3954 m

<b>VHP Range - Net - Metric</b>	216-259 kW (294-353 hp)
<b>Base Power (1st Gear) - Net - Metric</b>	216 kW
<b>Standard - Fan Speed - Minimum</b>	550 rpm
<b>Standard - Fan Speed - Maximum</b>	1,450 rpm
<b>Emissions (3)</b>	Tier 2/Stage II/Japan 2001 (Tier 2) Equivalent Emission Standards " depending on emission standards of specific country
<b>Torque Rise - Tier 3/Stage IIIA/Japan 2006 (Tier 3) Equivalent</b>	39%
<b>Emissions (1)</b>	U.S. EPA Tier 4 Final/EU Stage V/Japan 2014 (Tier 4 Final)
<b>VHP Range - Net</b>	216-259 kW (290-348 hp)
<b>Derating Altitude - Tier 4/Stage IV/Japan 2014 (Tier 4)</b>	3810 m
<b>Optimized VHP Range - Net</b>	216-259 kW (290-348 hp)
<b>Displacement</b>	12.5 l
<b>Number of Cylinders</b>	6

## POWER TRAIN

<b>Forward/Reverse Gears</b>	8 Forward/6 Reverse
<b>Transmission</b>	Direct drive, power shift, countershaft
<b>Brakes - Dynamic Brake Torque per Wheel</b>	36701 N·m
<b>Brakes - Secondary</b>	Oil-actuated, oil-disc
<b>Brakes - Service</b>	Oil-actuated, oil disc

**Brakes - Parking**

Spring applied, hydraulically released

## 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

**Steering Range - Left/Right**

47.5°

**Forward - 6th**

25.8 km/h

**Forward - 4th**

12.3 km/h

**Forward - 5th**

19 km/h

**Turning Radius - Outside Front Tires**

9.3 m

**Forward - 7th**

35.5 km/h

**Top Speed - Forward**

51.7 km/h

**Forward - 3rd**

8.9 km/h

**Reverse - 6th**

40.8 km/h

**Reverse - 5th**

28 km/h

**Reverse - 2nd**

6.6 km/h

<b>Reverse - 3rd</b>	9.7 km/h
<b>Forward - 8th</b>	51.7 km/h
<b>Reverse - 1st</b>	3.6 km/h
<b>Forward - 1st</b>	4.5 km/h
<b>Top Speed - Reverse</b>	40.8 km/h
<b>Forward - 2nd</b>	6.1 km/h
<b>Reverse - 4th</b>	15 km/h
<b>Articulation Angle - Left/Right</b>	20°
<b>Note</b>	Calculated with no slip and 23.5 R25 L-3 tires.

## SERVICE REFILL

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

Circle Drive Housing	10 l
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## FRAME

Front Frame Structure - Height	460 mm
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Front Frame Structure - Width	356 mm
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Drawbar - Width	76 mm
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Drawbar - Height	203 mm
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Front Axle - Total Oscillation per Side	35°
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Circle - Diameter	1822 mm
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Circle - Blade Beam Thickness	50 mm
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Front Frame Structure - Thickness	14 mm
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Front Axle - Wheel Lean	18° Left/17° Right
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Front Axle - Height to Center	670 mm
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## TANDEMS

Tandem Oscillation - Front Up	15°
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Sidewall Thickness - Outer	22 mm
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Sidewall Thickness - Inner	22 mm
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Tandem Oscillation - Front Down	25°
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Height	648 mm
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Width	236 mm
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Drive Chain Pitch	63.5 mm
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Wheel Axle Spacing

1841 mm

## MOLDBOARD

Blade Width

4.9 m

Arc Radius

413 mm

Throat Clearance

126 mm

Thickness

25 mm

End Bit - Width

152 mm

Blade Pull\* - Base GVW

18615 kg

Cutting Edge Width

203 mm

Cutting Edge Thickness

25 mm

Down Force - Maximum  
GVW

19895 kg

Height

787 mm

Width

4.9 m

Down Force - Base  
GVW

13945 kg

Blade Pull\* - Maximum  
GVW

23985 kg

End Bit - Thickness

19 mm

Note

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

## BLADE RANGE

<b>Maximum Blade Position Angle</b>	65°
<b>Maximum Lift Above Ground</b>	400 mm
<b>Maximum Depth of Cut</b>	470 mm
<b>Maximum Shoulder Reach Outside of Tires - Right</b>	2311 mm
<b>Moldboard Sideshift - Left</b>	740 mm
<b>Circle Centershift - Right</b>	560 mm
<b>Circle Centershift - Left</b>	690 mm
<b>Moldboard Sideshift - Right</b>	790 mm
<b>Maximum Shoulder Reach Outside of Tires - Left</b>	2311 mm
<b>Blade Tip Range - Forward</b>	40°
<b>Blade Tip Range - Backward</b>	5°

## RIPPER

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

## WEIGHTS

Operating Weight - Typically Equipped

32411 kg

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

Gross Vehicle Weight - Maximum Tested - Total 38500 kg

Gross Vehicle Weight - Base\*\* - Total 28816 kg

Gross Vehicle Weight - Typically Equipped - Rear Axle 23678 kg

Gross Vehicle Weight - Typically Equipped - Total 32411 kg

Gross Vehicle Weight - Maximum Tested - Front Axle 11850 kg

Gross Vehicle Weight - Typically Equipped - Front Axle 8733 kg

Gross Vehicle Weight - Maximum Tested - Rear Axle 26650 kg

Gross Vehicle Weight - Base\*\* - Front Axle 8134 kg

Gross Vehicle Weight - Base\*\* - Rear Axle 20682 kg

**Note (1)** \*For machines not equipped with Tier 4 Final emission engine, subtract 150 kg (331 lb) from rear axle weight and total weight.

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

## DIMENSIONS (APPROXIMATE)

Ground Clearance - Rear Axle 396 mm



<b>Length - Counterweight to Ripper</b>	12051 mm
<b>Length - Front Axle to Moldboard</b>	3066 mm
<b>Length - Front Axle to Mid Tandem</b>	7365 mm
<b>Height - Top of Cylinders</b>	3088 mm
<b>Width - Tire Center Lines</b>	2703 mm
<b>Width - Outside Rear Tires</b>	3411 mm
<b>Length - Between Tandem Axles</b>	1841 mm
<b>Height - Top of Cab</b>	3719 mm
<b>Width - Outside Front Tires</b>	3411 mm
<b>Height - Front Axle Center</b>	733 mm
<b>Length - Front Tire to Rear of Machine - Including Tow Hitch</b>	10593 mm
<b>Height - Exhaust Stack</b>	3557 mm

## STANDARDS

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

**Note (1)**

The dynamic spectator sound power level is 109 dB(A) for Stage IV certified configurations and 109 dB(A) for Tier 2/Stage II/Japan 2001 (Tier 2) and Tier 3/Stage IIIA/Japan 2006 (Tier 3) equivalent emission standard machines when measured according to the dynamic test procedures that are specified in ISO 6395:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed. The machine was equipped with a sound suppression system.

**Note (2)**

The dynamic operator sound pressure level is 71 dB(A) for Stage IV certified configurations and 72 dB(A) for Tier 2/Stage II/Japan 2001 (Tier 2) and Tier 3/Stage IIIA/Japan 2006 (Tier 3) equivalent emission standard machines when measured according to the dynamic test procedures that are specified in ISO 6396:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed, with the cab doors and the cab windows closed. The cab was properly installed and maintained. The machine was equipped with a sound suppression system.

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

<b>Gear - Reverse 3rd-6th</b>	222 kW
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<b>Gear - Forward 8th</b>	259 kW
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<b>Gear - Forward 3rd</b>	222 kW
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<b>Gear - Forward 6th</b>	239 kW
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<b>Gear - Forward 5th</b>	232 kW
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<b>Gear - Reverse 1st</b>	216 kW
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<b>Gear - Reverse 2nd</b>	216 kW
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<b>Gear - Forward 4th</b>	227 kW
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<b>Gear - Forward 7th</b>	244 kW
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<b>Gear - Forward 1st</b>	216 kW
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<b>Gear - Forward 2nd</b>	216 kW
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# VARIABLE POWER TIER 4 FINAL/STAGE IV/JAPAN 2014 (TIER 4 FINAL), TIER 3/STAGE IIIA/JAPAN 2006 (TIER 3) OR TIER 2/STAGE II/JAPAN 2001 (TIER 2) - METRIC

Gear - Forward 4th	227 kW
Gear - Reverse 1st	216 kW
Gear - Forward 3rd	222 kW
Gear - Reverse 3rd-6th	222 kW
Gear - Reverse 2nd	216 kW
Gear - Forward 7th	244 kW
Gear - Forward 6th	239 kW
Gear - Forward 8th	259 kW
Gear - Forward 1st	216 kW
Gear - Forward 5th	232 kW
Gear - Forward 2nd	216 kW

## OPTIONAL TIRE ARRANGEMENTS

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

## 16 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  
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 IV/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) and Tier 3/Stage IIIA/Japan 2006 (Tier 3)  
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 V/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) or Tier 3/Stage IIIA/Japan 2006 (Tier 3) equivalent emission standards and are available for lesser or non-regulated countries, depending on the emission standards of the specific country.  
Transmission, 8F/6R, power shift  
VIMS no telematics

## **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 (2)  
Windows, tempered: – Left and right side wipers – Rear with intermittent wiper

## **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, curved DH-2 steel: – 203 mm × 25 mm (8 in × 1 in) – 19 mm (3/4 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 (5/8 in) DH-2 steel, 19 mm (3/4 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: – 4880 mm × 787 mm × 25 mm (16 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  
Tow hitch (not available with ripper)

## **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)

## **WORK TOOLS/G.E.T.**

4.9 m (16 ft) blade with curved cutting edge 203 mm × 25 mm (8 in × 1 in)

## **16 OPTIONAL EQUIPMENT**

### **NOTE**

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

## **OPERATOR ENVIRONMENT**

Air horn  
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  
Front axle cylinder guard  
Rear fenders  
Sound suppression, engine enclosure and transmission  
Transmission guard

## **ELECTRICAL**

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

## **SAFETY**

Additional monitor for rearview camera  
Enhanced access platform  
Fire suppression ready  
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.**

4.9 m (16 ft) blade with flat cutting edge 254 mm × 35 mm (10 in × 1 3/8 in)

Push block, counterweight

Ripper, rear

Tooth, ripper

## **FLUIDS**

Coolant, -51° C (-60° F)