

# PRODUCT SPECIFICATIONS FOR 140



## ENGINE

<b>Net Power Range (Tier 3)</b>	136 kW
<b>Engine Model</b>	Cat® C7
<b>Emissions</b>	Emissions equivalent to U.S. EPA Tier 3 and EU Stage IIIA.
<b>VHP Plus Range - Net</b>	136-159 kW (183-213 hp)
<b>VHP Plus Range - Net - Metric</b>	136-159 kW (186-216 hp)
<b>Displacement</b>	7.2 l
<b>Bore</b>	110 mm
<b>Stroke</b>	127 mm
<b>Torque Rise - VHP Plus</b>	39%
<b>Maximum Torque - VHP Plus</b>	1052 N·m
<b>Speed at Rated Power</b>	2,000 rpm
<b>Number of Cylinders</b>	6
<b>Derating Altitude</b>	3048 m
<b>Standard - Fan Speed - Maximum</b>	1,450 rpm
<b>Standard - Fan Speed - Minimum</b>	600 rpm

<b>Standard - Ambient Capability</b>	43 °C
<b>High Ambient - Fan Speed - Maximum</b>	1,650 rpm
<b>High Ambient - Fan Speed - Minimum</b>	600 rpm
<b>High - Ambient Capability</b>	50 °C
<b>Note (1)</b>	Maximum torque (VHP Plus) measured at 1,000 rpm.
<b>Note (2)</b>	Net power is tested per ISO 9249, SAE J1349, and EEC 80/1269 Standards in effect at the time of manufacture.
<b>Note (3)</b>	Net power advertised is the power available at rated speed of 2,000 rpm, measured at the flywheel when engine is equipped with fan running at minimum speed, air cleaner, muffler and alternator.
<b>Note (4)</b>	Power as declared per ISO 14396; Rated Speed = 2,000 rpm; VHP Plus = 160 kW (214 hp)
<b>Note (5)</b>	No engine derating required up to 3048 m (10,000 ft).

## POWER TRAIN

<b>Forward/Reverse Gears</b>	8 Forward/6 Reverse
<b>Transmission</b>	Direct drive, power shift, countershaft
<b>Brakes - Service</b>	Multiple oil disc
<b>Brakes - Service - Surface Area</b>	23000 cm <sup>2</sup>
<b>Brakes - Parking</b>	Multiple oil disc
<b>Brakes - Secondary</b>	Dual circuit control system

## HYDRAULIC SYSTEM

<b>Circuit Type</b>	Electro-hydraulic load sensing, closed center
<b>Pump Type</b>	Variable piston
<b>Pump Output</b>	210 l/min
<b>Maximum System Pressure</b>	24150 kPa
<b>Standby Pressure</b>	3100 kPa
<b>Note</b>	Pump output measured at 2,150 rpm.

## OPERATING SPECIFICATIONS

<b>Top Speed - Forward</b>	46.6 km/h
<b>Top Speed - Reverse</b>	36.8 km/h
<b>Turning Radius - Outside Front Tires</b>	7.6 m
<b>Steering Range - Left/Right</b>	47.5 degrees
<b>Articulation Angle - Left/Right</b>	20 degrees
<b>Forward - 1st</b>	4 km/h
<b>Forward - 2nd</b>	5.5 km/h
<b>Forward - 3rd</b>	8 km/h
<b>Forward - 4th</b>	11 km/h
<b>Forward - 5th</b>	17.1 km/h
<b>Forward - 6th</b>	23.3 km/h
<b>Forward - 7th</b>	32 km/h

<b>Forward - 8th</b>	46.6 km/h
<b>Reverse - 1st</b>	3.2 km/h
<b>Reverse - 2nd</b>	6 km/h
<b>Reverse - 3rd</b>	8.7 km/h
<b>Reverse - 4th</b>	13.5 km/h
<b>Reverse - 5th</b>	25.3 km/h
<b>Reverse - 6th</b>	36.8 km/h
<b>Note</b>	Speeds when equipped with 14.0R24 tires.

## SERVICE REFILL

<b>Fuel Capacity</b>	416 l
<b>Cooling System</b>	40 l
<b>Hydraulic System - Tank</b>	64 l
<b>Engine Oil</b>	25 l
<b>Transmission - Differential - Final Drives</b>	64 l
<b>Tandem Housing - Each</b>	64 l
<b>Front Wheel Spindle Bearing Housing</b>	0.5 l
<b>Circle Drive Housing</b>	7 l

## FRAME

<b>Circle - Diameter</b>	1530 mm
<b>Circle - Blade Beam Thickness</b>	40 mm

<b>Drawbar - Height</b>	152 mm
<b>Drawbar - Width</b>	76.2 mm
<b>Front Frame Structure - Height</b>	305 mm
<b>Front Frame Structure - Width</b>	305 mm
<b>Front Frame Structure - Thickness</b>	16 mm
<b>Front Axle - Height to Center</b>	571 mm
<b>Front Axle - Wheel Lean - Left/Right</b>	18 degrees
<b>Front Axle - Total Oscillation per Side</b>	32 degrees

## TANDEMS

<b>Height</b>	506 mm
<b>Width</b>	201 mm
<b>Sidewall Thickness - Inner</b>	16 mm
<b>Sidewall Thickness - Outer</b>	18 mm
<b>Drive Chain Pitch</b>	50.8 mm
<b>Wheel Axle Spacing</b>	1523 mm
<b>Tandem Oscillation - Front Up</b>	15 degrees
<b>Tandem Oscillation - Front Down</b>	25 degrees

## MOLDBOARD

<b>Blade Width</b>	3.7 m
<b>Moldboard - Width</b>	3.7 m

<b>Moldboard - Height</b>	610 mm
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<b>Moldboard - Thickness</b>	22 mm
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<b>Arc Radius</b>	413 mm
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<b>Throat Clearance</b>	166 mm
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<b>Cutting Edge Width</b>	152 mm
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<b>Cutting Edge Thickness</b>	16 mm
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<b>End Bit - Width</b>	152 mm
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<b>End Bit - Thickness</b>	16 mm
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<b>Blade Pull - Base GVW</b>	10810 kg
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<b>Blade Pull - Maximum GVW</b>	13685 kg
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<b>Down Pressure - Base GVW</b>	7244 kg
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<b>Down Pressure - Maximum GVW</b>	11739 kg
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**Note** Blade pull calculated at 0.9 traction coefficient, which is equal to no-slip conditions, and Gross Vehicle Weight (GVW).

## BLADE RANGE

<b>Circle Centershift - Right</b>	728 mm
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<b>Circle Centershift - Left</b>	695 mm
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<b>Moldboard Sideshift - Right</b>	660 mm
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<b>Moldboard Sideshift - Left</b>	510 mm
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<b>Maximum Blade Position Angle</b>	90 degrees
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<b>Blade Tip Range - Forward</b>	40 degrees
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<b>Blade Tip Range - Backward</b>	5 degrees
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<b>Maximum Shoulder Reach Outside of Tires - Right</b>	1978 mm
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<b>Maximum Shoulder Reach Outside of Tires - Left</b>	1790 mm
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<b>Maximum Lift Above Ground</b>	480 mm
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<b>Maximum Depth of Cut</b>	715 mm
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## **RIPPER**

<b>Ripping Depth - Maximum</b>	428 mm
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<b>Ripper Shank Holders</b>	5
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<b>Ripper Shank Holder Spacing</b>	533 mm
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<b>Penetration Force</b>	9199 kg
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<b>Pry-Out Force</b>	11641 kg
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<b>Machine Length Increase, Beam Raised</b>	919 mm
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## **SCARIFIER**

<b>Front, V-Type, 5 or 11 Tooth - Working Width</b>	1205 mm
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<b>Front, V-Type, 5 or 11 Tooth - Scarifying Depth, Maximum</b>	467 mm
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<b>Front, V-Type, 5 or 11 Tooth - Scarifier Shank Holders</b>	5, 11
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<b>Front, V-Type, 5 or 11 Tooth - Scarifier Shank Holder Spacing</b>	116 mm
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<b>Mid, V-Type - Working Width</b>	1184 mm
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<b>Mid, V-Type - Scarifying Depth, Maximum</b>	292 mm
<b>Mid, V-Type - Scarifier Shank Holders</b>	11
<b>Mid, V-Type - Scarifier Shank Holder Spacing</b>	116 mm
<b>Rear - Working Width</b>	2300 mm
<b>Rear - Scarifying Depth, Maximum</b>	266 mm
<b>Rear - Scarifier Shank Holders</b>	9
<b>Rear - Scarifier Shank Holder Spacing</b>	267 mm

## WEIGHTS

<b>Operating Weight - Typically Equipped</b>	18400 kg
<b>Gross Vehicle Weight - Base - Total</b>	16231 kg
<b>Gross Vehicle Weight - Base - Front Axle</b>	4220 kg
<b>Gross Vehicle Weight - Base - Rear Axle</b>	12011 kg
<b>Gross Vehicle Weight - Maximum - Total</b>	22045 kg
<b>Gross Vehicle Weight - Maximum - Front Axle</b>	6839 kg
<b>Gross Vehicle Weight - Maximum - Rear Axle</b>	15206 kg
<b>Gross Vehicle Weight - Typically Equipped</b>	18400 kg



**Gross Vehicle Weight -  
Typically Equipped - Total** 18400 kg

**Gross Vehicle Weight -  
Typically Equipped - Front  
Axle** 5090 kg

**Gross Vehicle Weight -  
Typically Equipped - Rear Axle** 13310 kg

**Note** Base operating weight calculated on standard machine configuration with 14.00R24 tires on a single piece rim, full fuel tank, coolant, lubricants, and operator.

## DIMENSIONS

**Height - Top of Cab** 3308 mm

**Height - Top of Cab Product Link** 3378 mm

**Height - Front Axle Center** 596 mm

**Length - Between Tandem Axles** 1523 mm

**Length - Front Axle to Moldboard** 2552 mm

**Length - Front Axle to Mid Tandem** 6123 mm

**Length - Front Tire to Rear of Machine** 8754 mm

**Length - Push Plate to Ripper** 10136 mm

**Length - Push Plate to Ripper Retracted** 9818 mm

**Ground Clearance - Rear Axle** 339 mm

**Height - Top of Cylinders** 3040 mm

**Height - Exhaust Stack** 3076 mm

<b>Width - Tire Center Lines</b>	2140 mm
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<b>Width - Outside Rear Tires</b>	2511 mm
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<b>Width - Outside Front Tires</b>	2511 mm
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## STANDARDS

<b>ROPS/FOPS</b>	ISO 3471:2008, ISO 3449:2005 Level II
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<b>Steering</b>	ISO 5010:2007
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<b>Brakes</b>	ISO 3450:1996
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<b>Sound</b>	ISO 6394:2008, ISO 6395:2008
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<b>Note (1)</b>	The static sound operator pressure level measured according to ISO 6394:2008 for a cab offered by Caterpillar, when properly installed, maintained and tested with doors and windows closed and hydraulic fan at maximum speed is 74 dB(A).
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## NET POWER - VHP PLUS

<b>Gear - Forward 1st</b>	136 kW
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<b>Gear - Forward 2nd</b>	140 kW
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<b>Gear - Forward 3rd</b>	144 kW
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<b>Gear - Forward 4th</b>	148 kW
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<b>Gear - Forward 5th</b>	151 kW
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<b>Gear - Forward 6th</b>	151 kW
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<b>Gear - Forward 7th</b>	155 kW
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<b>Gear - Forward 8th</b>	159 kW
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<b>Gear - Reverse 1st</b>	136 kW
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**Gear - Reverse 2nd**

140 kW

**Gear - Reverse 3rd**

144 kW

## 140 STANDARD EQUIPMENT

### NOTE

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

### POWER TRAIN

Air cleaner, dual stage, dry type, diesel, with automatic engine derate and automatic dust ejector, service indicator through Cat Messenger

Air-to-air after cooler (ATAAC)

Belt, serpentine, automatic tensioner

Brakes, oil disc, four-wheel, hydraulic

Demand fan, hydraulic

Differential Lock/Unlock, Automatic

Drain, engine oil, ecology

Electronic over speed protection

Engine Cat C7 diesel with automatic engine derate and idle control. Note: Emissions equivalent to Tier 3 and Stage IIIA.

Engine Idle Shutdown (EIS)

Fuel tank, 416 L (110 gal), ground level access and sediment drain

Fuel-water separator

Muffler, underhood

Parking brake - multi-disc, sealed, oil-cooled

Priming pump, fuel

Rear axle, modular

Sediment drain, fuel tank

Tandem drive

Transmission, 8F/6R, power shift, direct drive

Variable Horsepower Plus (VHP Plus)

### ELECTRICAL

Alarm, back up

Alternator, 80 ampere, sealed

Batteries, maintenance free, heavy duty, 1,125 CCA

Breaker panel, ground accessible

Cab harness and electrical hydraulic valves

Electrical system, 24V

Grade Control Ready - Cab harness, software, electrical hydraulic valves, bosses and brackets

Lights, roof-mounted roading, reversing, LED stop and tail

Product Link Ready

Starter, electric

## **OPERATOR ENVIRONMENT**

Accelerator  
Air conditioning with heater  
Arm and wrist rest, electronically adjustable  
Articulation, automatic Return-to-Center  
Cat Messenger operator information system  
Centershift pin indicator  
Coat hook  
Cup holder  
Display, digital speed and gear  
Doors, left and right side with wiper  
Gauge, machine level  
Gauge cluster (analog) - fuel, articulation, engine coolant temp, engine RPM, hydraulic oil temp  
Hour meter, digital  
Joystick hydraulic controls right/left blade lift with float position, circle drive, blade sideshift and tip, centershift, front wheel lean, articulation and steering  
Joystick, adjustable armrests  
Joystick gear selection  
Joystick hydraulic power steering  
Ladders, cab, left and right side  
Lights, night time cab  
Mirror, inside rearview, wide angle  
Power port, 12V  
Radio Ready, Entertainment  
ROPS cab, sound suppressed  
Seat, cloth-covered, comfort suspension  
Seat belt, retractable 76 mm (3 in)  
Storage area for cooler/lunchbox  
Throttle control, electronic  
Windows, laminated glass: - fixed front with intermittent wiper - side and rear (3)

## **FLUIDS**

Antifreeze  
Extended Life Coolant to -35° C (-30° F)

## **TIRES, RIMS AND WHEELS**

Partial allowance for tires on 254 × 607 mm (10 × 24 in) multi-piece rims is included in the base machine price and weight

## **OTHER STANDARD EQUIPMENT**

Anti-glare paint  
Bumper, rear, integrated with hitch  
CD ROM Parts Book  
Clutch, circle drive slip  
Cutting edges: - 152 × 16 mm (6 × 5/8 in) - curved DH-2 steel - 19 mm (3/4 in) mounting bolts

Doors (3), engine compartment, locking  
Drawbar - 6 shoes, replaceable wear strips  
Electrical hydraulic valves, hydraulic lines for base 8 functions  
Endbits: - 16 mm (5/8 in) DH-2 steel - 19 mm (3/4 in) mounting bolts  
Fluid check, ground level  
Frame, articulated, with safety lock  
Ground level engine shutdown  
Ground level fueling  
Hammer (emergency exit)  
Horn, electric  
Hydraulic lines for base functions  
Lockout, hydraulic implement (for roading and servicing)  
Moldboard - 3658 × 610 × 22 mm (12 ft × 24 in × 7/8 in)  
Mounting, cab roof accessories  
Pump, hydraulic, high capacity, 98 cm<sup>3</sup> (6 in<sup>3</sup>)  
Radiator, cleanout access  
Secondary steering  
Serviceability, left-hand side  
S·O·S<sup>SM</sup> ports: engine, hydraulic, transmission, coolant, fuel  
Tandem walkway/guards  
Tool box  
Tow hitch

## **140 OPTIONAL EQUIPMENT**

### **NOTE**

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

### **ELECTRICAL**

Alternator, 150 ampere - 2 kg (5 lb)  
Batteries: extreme duty, 1,400 CCA - 14 kg (30 lb)  
Converter, communication (CB) - 5 kg (11 lb)  
Lights: Headlights, high - 5 kg (11 lb)  
Lights: Headlights, low - 5 kg (11 lb)  
Lights: Working lights, basic - 9 kg (20 lb)  
Lights: Working lights, plus, LED - 10 kg (22 lb)  
Lights: Warning: beacon or strobe - 2 kg (5 lb)  
Lights: Mounting for warning light - 5 kg (11 lb)

### **GUARDS**

Articulation guard - 13 kg (30 lb)  
Axle hose guard - 7 kg (15 lb)  
Fenders, front - 56 kg (123 lb)  
Fenders, rear - 156 kg (344 lb)  
Sound guard (bottom) - 110 kg (243 lb)  
Transmission guard - 141 kg (311 lb)

## **OPERATOR ENVIRONMENT**

Deluxe CD radio with MP3 and Bluetooth technology

Fan, defroster, rear window - 2 kg (4 lb)

Mirrors, outside: heated 24V - 15 kg (33 lb)

Mirrors, outside: mounted - 15 kg (33 lb)

Precleaner, HVAC - 5 kg (10 lb)

Radio ready, AM/FM - 9 kg (20 lb)

Seat, air suspension, cloth - 2 kg (5 lb)

Shade, sun - 2 kg (5 lb)

Wiper/washer, rear - 2 kg (4 lb)

## **POWER TRAIN**

Precleaner, snow/debris - 2 kg (4.4 lb)

Transmission, autoshift - 2 kg (5 lb)

## **OTHER ATTACHMENTS**

AccuGrade ARO - 39 kg (85 lb)

Accumulators, blade lift - 77 kg (170 lb)

Camera, rearview - 9 kg (20 lb)

Cat Grade Control Cross Slope - 75 kg (165 lb)

Cat Product Link 321 (Satellite) - 13 kg (29 lb)

Cat Product Link 522 (Cellular) - 13 kg (29 lb)

Compressor/tank, air - 27 kg (50 lb)

Heater, engine coolant: 120V - 1 kg (3 lb)

Heater, engine coolant: 240V - 1 kg (3 lb)

Hydraulic arrangements with one or more additional hydraulic valves are available for ripper, dozer, snow wings, front lift group, mid-mount scarifier

Security system - 5 kg (11 lb)

Snow wing mounting, frame ready - 111 kg (245 lb)

Sound suppression - 15 kg (33 lb)

Starting aid, ether - 0.5 kg (1 lb)

## **WORK TOOLS/GROUND ENGAGING TOOLS**

Blade extension, left hand, 610 mm (2 ft) - 113 kg (249 lb)

Endbits, overlay - 24 kg (52 lb)

Front lift group, mounting - 5 kg (11 lb)

Front lift group - 680 kg (1,500 lb)

Mid-Mount Scarifier, Package - 942 kg (2,077 lb)

Mid-Mount Scarifier, Mounting - 57 kg (125 lb)

Moldboard: 4267 × 610 × 22 mm (14 ft × 24 in × 7/8 in)- 100 kg (220 lb)

Moldboard: 4267 × 686 × 25 mm (14 ft × 27 in × 1 in) - 257 kg (567 lb)

Push plate - 885 kg (1,950 lb)

Ripper, mounting - 32 kg (70 lb)

Ripper, rear - 962 kg (2,120 lb)

Ripper tooth - 28 kg (61 lb)

Scarifier, front - 434 kg (956 lb)

## **MACHINE ARRANGEMENTS**

Snow Arrangement

## **OPTIONAL TIRE ARRANGEMENTS**

Rim Size - 9 × 24; Wheel Group - Single-Piece; Tires - 13.00-24

Rim Size - 9 × 24; Wheel Group - Single-Piece; Tires - 14.00R24

Rim Size - 13 × 25; Wheel Group - Single-Piece; Tires - 17.5R25

Rim Size - 10 × 24; Wheel Group - Multi-Piece; Tires - 14.00-24

Rim Size - 10 × 24; Wheel Group - Multi-Piece; Tires - 14.00R24

Rim Size - 10 × 24; Wheel Group - Multi-Piece; Tires - 17.5R25