

PRODUCT SPECIFICATIONS FOR 140



ENGINE

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

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

POWER TRAIN

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

HYDRAULIC SYSTEM

Circuit Type Electro-hydraulic load sensing, closed center

Pump Type Variable piston

Pump Output 210 l/min

Maximum System Pressure 24150 kPa

Standby Pressure 3100 kPa

Note Pump output measured at 2,150 rpm.

OPERATING SPECIFICATIONS

Top Speed - Forward 46.6 km/h

Top Speed - Reverse 36.8 km/h

Turning Radius - Outside Front Tires 7.6 m

Steering Range - Left/Right 47.5 degrees

Articulation Angle - Left/Right 20 degrees

Forward - 1st 4 km/h

Forward - 2nd 5.5 km/h

Forward - 3rd 8 km/h

Forward - 4th 11 km/h

Forward - 5th 17.1 km/h

Forward - 6th 23.3 km/h

Forward - 7th 32 km/h

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

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

Circle - Diameter	1530 mm
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Circle - Blade Beam Thickness	40 mm
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Drawbar - Height	152 mm
Drawbar - Width	76.2 mm
Front Frame Structure - Height	305 mm
Front Frame Structure - Width	305 mm
Front Frame Structure - Thickness	16 mm
Front Axle - Height to Center	571 mm
Front Axle - Wheel Lean - Left/Right	18 degrees
Front Axle - Total Oscillation per Side	32 degrees

TANDEMS

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

MOLDBOARD

Blade Width	3.7 m
Moldboard - Width	3.7 m

Moldboard - Height	610 mm
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Moldboard - Thickness	22 mm
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Arc Radius	413 mm
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Throat Clearance	166 mm
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Cutting Edge Width	152 mm
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Cutting Edge Thickness	16 mm
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End Bit - Width	152 mm
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End Bit - Thickness	16 mm
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Blade Pull - Base GVW	10810 kg
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Blade Pull - Maximum GVW	13685 kg
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Down Pressure - Base GVW	7244 kg
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Down Pressure - Maximum GVW	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

Circle Centershift - Right	728 mm
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Circle Centershift - Left	695 mm
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Moldboard Sideshift - Right	660 mm
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Moldboard Sideshift - Left	510 mm
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Maximum Blade Position Angle 90 degrees

Blade Tip Range - Forward 40 degrees

Blade Tip Range - Backward 5 degrees

Maximum Shoulder Reach Outside of Tires - Right 1978 mm

Maximum Shoulder Reach Outside of Tires - Left 1790 mm

Maximum Lift Above Ground 480 mm

Maximum Depth of Cut 715 mm

RIPPER

Ripping Depth - Maximum 428 mm

Ripper Shank Holders 5

Ripper Shank Holder Spacing 533 mm

Penetration Force 9199 kg

Pry-Out Force 11641 kg

Machine Length Increase, Beam Raised 919 mm

SCARIFIER

Front, V-Type, 5 or 11 Tooth - Working Width 1205 mm

Front, V-Type, 5 or 11 Tooth - Scarifying Depth, Maximum 467 mm

Front, V-Type, 5 or 11 Tooth - Scarifier Shank Holders 5, 11

Front, V-Type, 5 or 11 Tooth - Scarifier Shank Holder Spacing 116 mm

Mid, V-Type - Working Width 1184 mm

Mid, V-Type - Scarifying Depth, Maximum	292 mm
Mid, V-Type - Scarifier Shank Holders	11
Mid, V-Type - Scarifier Shank Holder Spacing	116 mm
Rear - Working Width	2300 mm
Rear - Scarifying Depth, Maximum	266 mm
Rear - Scarifier Shank Holders	9
Rear - Scarifier Shank Holder Spacing	267 mm

WEIGHTS

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

Width - Tire Center Lines	2140 mm
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Width - Outside Rear Tires	2511 mm
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Width - Outside Front Tires	2511 mm
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STANDARDS

ROPS/FOPS	ISO 3471:2008, ISO 3449:2005 Level II
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Steering	ISO 5010:2007
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Brakes	ISO 3450:1996
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Sound	ISO 6394:2008, ISO 6395:2008
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Note (1)	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

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

Reverser (2) - engine compartment - 1.5 liter -

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 cm³ (6 in³)
Radiator, cleanout access
Secondary steering
Serviceability, left-hand side
S-O-SSM 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 - 424 kg (956 lb)

Scanner, 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