

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).

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.

Moldboard

Blade Width	3.7 m
Moldboard - Width	3.7 m
Moldboard - Height	610 mm
Moldboard - Thickness	22 mm
Arc Radius	413 mm
Throat Clearance	166 mm

Cutting Edge Width	152 mm
Cutting Edge Thickness	16 mm
End Bit - Width	152 mm
End Bit - Thickness	16 mm
Blade Pull - Base GVW	10810 kg
Blade Pull - Maximum GVW	13685 kg
Down Pressure - Base GVW	7244 kg
Down Pressure - Maximum GVW	11739 kg
Note	Blade pull calculated at 0.9 traction coefficient, which is equal to no-slip conditions, and Gross Vehicle Weight (GVW).

Net Power - VHP Plus

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

Gear - Reverse 1st	136 kW
Gear - Reverse 2nd	140 kW
Gear - Reverse 3rd	144 kW

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 cm²
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
Reverse - 1st	3.2 km/h
Reverse - 2nd	6 km/h
Reverse - 3rd	8.7 km/h
Reverse - 4th	13.5 km/h
Reverse - 5th	25.3 km/h
Reverse - 6th	36.8 km/h
Note	Speeds when equipped with 14.0R24 tires.

Service Refill

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

Frame

Circle - Diameter	1530 mm
Circle - Blade Beam Thickness	40 mm
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

Air Conditioning System

Air Conditioning	The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. See the label or instruction manual for identification of the gas.
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Blade Range

Circle Centershift - Right	728 mm
Circle Centershift - Left	695 mm
Moldboard Sideshift - Right	660 mm
Moldboard Sideshift - Left	510 mm
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

Standards

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

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
Width - Outside Rear Tires	2511 mm
Width - Outside Front Tires	2511 mm

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 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

Grade 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