

450 P

Dozer



JOHN DEERE



THE FOUNDATION OF THE WORK YOU DO

You've been in the construction industry for a long time. So you know that your work is about more than just moving material. The success of your operation depends on your dozer and the productivity and retention of able operators. Input from customers like you has helped us design and manufacture dozers for almost 75 years, and our 450 P-Tier is built on the bedrock of some of your best ideas. This dynamo includes proven standard features plus innovative options like flexible grade-control solutions that can be easily and economically upgraded — all to enhance the operating experience and help you manage ownership costs.

Set things up

Because no two operators have the same work skill or technique, adjustable hydraulic and transmission settings can be customized to individual user preferences, for responsive control, smooth stability, and precise grading performance.

It's all about the operator

Next-generation cab is 14-percent larger than the previous model, to elevate operator comfort. Redesigned controls that minimize hand and arm movements, advanced touch-screen displays with configurable settings, and optional premium heated/ventilated seat and automatic temperature control (ATC) system help get operators up to speed and in the productive zone.

Visibility matters

A lower hood line and 14-percent more glass area expand visibility to the blade and jobsite ahead. Optional rearview camera boosts awareness of the activity behind the machine. LED light package brings things into focus in darker environments.

Put progress on display

Standard on electrohydraulic configurations, eight-inch touch-screen primary display reveals machine health and configurable settings plus rearview camera and Slope Control (if equipped). Additional 10-inch touch-screen display for navigating the grade-control interface is added when the machine is outfitted with dual-laser receivers.



GRADE-MANAGEMENT OPTIONS
STREAMLINE
GRADING TASKS &
LEARNING CURVES





DOZER

FEATURES

GRADE- MANAGEMENT SOLUTIONS

Our suite of factory-integrated grade-management technologies including standard EZ Grade, optional Slope Control, SmartGrade™ Ready Including 2D Grade Control, SmartGrade with Topcon, and SmartGrade with Leica simplify difficult grading tasks. These intuitive offerings are easy for operators of any experience level to master. All technology solutions are fully supported by the John Deere dealer network and can be efficiently upgraded as your operation evolves:

- **EZ Grade** aids operators in manually grading smooth finish passes by making small blade corrections automatically.
- **Slope Control** assists in grading and maintaining flat, smooth, and sloping surfaces. Operators can view and set blade slope while the system automatically controls the blade to the desired slope percentage.
- **Slope Control With Dual Laser** enables operators to automatically control the blade to a specific slope and elevation using a rotating laser.
- Fully integrated **SmartGrade** features next-generation components and integration, enabling the highest levels of productivity and grading performance. SmartGrade is now available in your choice of Topcon or Leica packages.
- **Electrohydraulic (EH) controls** make it easy to add the grade-control system of your choice.

Time is money

The 450 P-Tier doesn't require diesel exhaust fluid (DEF), which removes a time-consuming step from routine maintenance, reduces the complexity of the aftertreatment system, and saves on overall operating costs.

Keep moving

With the largest engine in its class, the 450 P-Tier delivers reduced fuel consumption of up to 17 percent in backfilling operations compared to the previous model.

Take your turn

Counter-rotation boosts productivity by enabling operators to overcome heavy corner loads and quickly reposition the blade on the go.

Working on wear life

John Deere undercarriage options help balance component wear and extend maintenance intervals:

- **Standard Heavy-Duty** uses sealed and lubricated track chain with hardened steel pins and bushings to seal abrasives out.
- **Extended Life** uses SC-2™ coating designed to double bushing life compared to standard bushings and maximize the wear life of other undercarriage parts.
- **Maximum Life** provides the benefits of Extended Life along with additional wear material on the upper and lower rollers, chain links, idlers, and seals.

Fuel saver

Standard Eco mode automatically adjusts engine speed and power-train settings based on load, to maximize fuel usage by up to 20 percent compared to standard operating mode, without loss of performance.

Get a full measure

Integrated welded-on spill sheet on the large 124-inch-wide blade increases capacity and helps reduce damage caused by material spillage behind the blade.



**450 P-TIER 4.5L ENGINE
NEEDS NO DEF REFILLS
TO EASE ROUTINE MAINTENANCE**



450 P-TIER DOZER



Connected machines

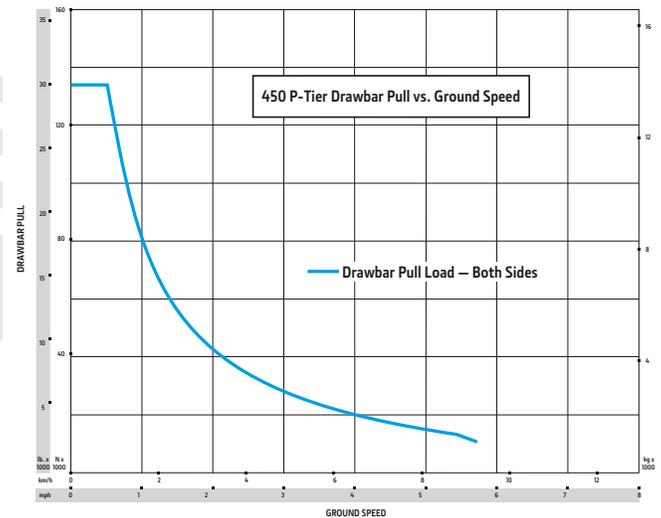
John Deere construction equipment comes with in-base connectivity — free from subscriptions or annual renewals. Analyze critical machine data, track utilization, review diagnostic alerts, and more from **the John Deere Operations Center™**. The Operations Center also enables **John Deere Connected Support™**, which uses data from thousands of connected machines to proactively address issues before they arise. With your approval, your dealer can also remotely monitor machine health, diagnose problems, and even update machine software without a trip to the jobsite.*

*Availability varies by region and product. Options not available in every country.



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Engine		450 P-TIER / 450 P-TIER LGP
Manufacturer and Model	John Deere PowerTech™ EWX 4045	John Deere PowerTech™ PWX 4045
Non-Road Emission Standard	EPA Final Tier 4/EU Stage V	EPA Tier 3/EU Stage IIIA
Displacement	4.5L (276 cu. in.)	4.5L (276 cu. in.)
SAE Net Rated Power	53 kW (71 hp) at 2,000 rpm	58 kW (78 hp) at 2,000 rpm
Net Peak Torque	299 Nm (221 ft.-lb.) at 1,500 rpm	334 Nm (247 ft.-lb.) at 1,200 rpm
Aspiration	Turbocharged	Turbocharged
Air Cleaner	Dual-stage dry tube with tangential unloader	Dual-stage dry tube with tangential unloader
Cooling		
Type	Blower-type, direct-drive cooling fan	
Engine Coolant Rating	-37 deg. C. (-34 deg. F)	
Engine Radiator	8.47 fins per in.	
Powertrain		
Transmission	Automatic, dual-path, hydrostatic (HST) drive; load-sensing feature automatically adjusts speed and power to match changing load conditions; each individually controlled track is powered by a variable-displacement piston pump and variable-displacement motor combination; ground-speed selection buttons and direction-control switch on single-lever steering control; reverse speed ratio is fully operator customizable; decelerator pedal provides infinite speed control from full speed to complete stop	
System Relief Pressure	38 000 kPa (5,511 psi)	
Travel Speeds		
Forward and Reverse	8.0 km/h (5.0 mph)	
Maximum (optional)	9.7 km/h (6.0 mph)	
Steering	Single-lever steering, speed, direction control, and counter-rotation; full power turns and infinitely variable track speeds provide unlimited maneuverability and optimum control; HST steering eliminates steering clutches and brakes	
Final Drives	Triple-reduction final drives mounted independently of track frames and dozer push frames for isolation from shock loads	
Total Ratio	48.4 to 1	
Drawbar Pull		
Maximum	131 kN (29,490 lb.)	
At 1.9 km/h (1.2 mph)	69 kN (15,560 lb.)	
At 3.2 km/h (2.0 mph)	42 kN (9,340 lb.)	
Brakes		
Service	HST (dynamic) braking stops the machine when the direction-control switch is moved to neutral or the decelerator is depressed to the detent	
Parking	Engages wet, multiple-disc brakes whenever the engine stops, the decelerator is depressed to the end of travel, or motion is detected while the transmission control is in neutral; machine cannot be driven with brake applied, minimizing wearout; spring applied, hydraulic release	
Hydraulics		
Type	Open-center hydraulic system with fixed-displacement gear pump	
Pump Displacement	29.79 cc	
System Relief Pressure	20 684 kPa (3,000 psi)	
Maximum Flow at Unloaded High Idle	60.1 L/m (16 gpm)	
Control	3-function direct-acting T-bar grip with proportional roller angle function	
Electrical		
Voltage	24 volts	
Capacity		
Battery	950 CCA	
Reserve	190 min.	
Alternator Rating		
Cab	100 amp	
Canopy	100 amp	
Lights	Cab mounted (4) standard / Cab-mounted LED (8) optional	



450 P-TIER DOZER SPECIFICATIONS

450

P

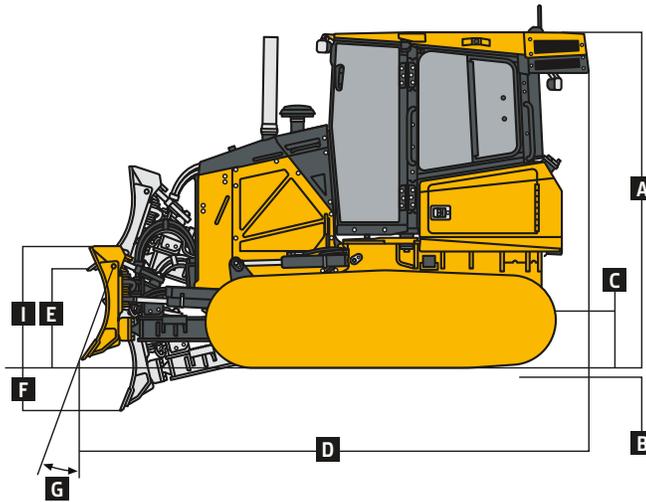
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Undercarriage	450 P-TIER	450 P-TIER LGP
Tracks	John Deere undercarriage features large deep-heat-treated components; pins and bushings are sealed for life; rollers and idlers are permanently sealed and lubricated	
Track Gauge	1448 mm (57 in.)	1651 mm (65 in.)
Grouser Width	406 mm (16 in.)	610 mm (24 in.)
Chain	Sealed and lubricated	Sealed and lubricated
Shoes, Each Side	40 standard and Extended Life / 37 Maximum Life	40 standard and Extended Life / 37 Maximum Life
Track Rollers, Each Side	6	6
Track Length on Ground	2184 mm (86 in.)	2184 mm (86 in.)
Ground Contact Area	19 752 cm ² (3,062 sq. in.)	29 677 cm ² (4,600 sq. in.)
Ground Pressure	43.9 kPa (6.4 psi)	31.3 kPa (4.5 psi)
Track Pitch	160 mm (6.3 in.) standard / 171 mm (6.7 in.) Maximum Life	160 mm (6.3 in.) standard / 171 mm (6.7 in.) Maximum Life
Operator Station	450 P-TIER / 450 P-TIER LGP	
ROPS (ISO 3471 – 2008) and FOPS (ISO 3449 – 2005)		
Serviceability		
Refill Capacities		
Fuel Tank With Lockable Cap	202 L (53.45 gal.)	
Cooling System With Recovery Tank	16.9 L (4.5 gal.)	
Engine Oil With Filter	14.7 L (15.5 qt.)	
Hydraulic/HST Oil (common reservoir) With Filters	70.5 L (18.6 gal.)	
Final Drive (each)	8.5 L (2.3 gal.)	
Operating Weights	450 P-TIER	450 P-TIER LGP
<i>Base Weight (with standard equipment, rollover protective structure [ROPS], full fuel tank, and 79-kg [175 lb.] operator)</i>	8081 kg (17,816 lb.)	8634 kg (19,035 lb.)
Optional Components		
Cab With Pressurizer and Heater/ Air Conditioner	361 kg (796 lb.)	361 kg (796 lb.)
Front and Door Screens	88 kg (193 lb.)	88 kg (193 lb.)
Rear Screen	50 kg (110 lb.)	50 kg (110 lb.)
Side Screens	60 kg (132 lb.)	60 kg (132 lb.)
Limb Risers	227 kg (502 lb.)	227 kg (502 lb.)
Condenser Guard	53 kg (117 lb.)	53 kg (117 lb.)
ROPS Canopy		
Heater	62 kg (136 lb.)	62 kg (136 lb.)
Front and Door Screens	74 kg (163 lb.)	74 kg (163 lb.)
Rear Screen	28 kg (61 lb.)	28 kg (61 lb.)
Side Screens	37 kg (82 lb.)	37 kg (82 lb.)
Limb Risers	227 kg (502 lb.)	227 kg (502 lb.)
Counterweight		
Front	109 kg (240 lb.)	109 kg (240 lb.)
Rear	150 kg (330 lb.)	150 kg (330 lb.)
Retrieval Hitch	23 kg (50 lb.)	23 kg (50 lb.)
Drawbar, Extended Rigid	33 kg (72 lb.)	33 kg (72 lb.)
Winch	652 kg (1,437 lb.)	652 kg (1,437 lb.)
Fairlead, 4 Roller	85 kg (187 lb.)	85 kg (187 lb.)
Center Chain Guides	26 kg (57 lb.)	26 kg (57 lb.)
Maximum Life Undercarriage	75 kg (165 lb.)	75 kg (165 lb.)
Track Shoes		
406 mm (16 in.)		
Heavy Duty	In base	–328 kg (–723 lb.)
Extended Life	–75 kg (–165 lb.)	–403 kg (–888 lb.)
Maximum Life	86 kg (190 lb.)	–242 kg (–534 lb.)
610 mm (24 in.)		
Heavy Duty	–	In base
Extended Life	–	–103 kg (–227 lb.)
Maximum Life	–	81 kg (179 lb.)
710 mm (28 in.)		
Extended Life	–	–
Maximum Life	–	–

450 P-TIER

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Machine Dimensions	450 P-TIER / 450 P-TIER LGP
A Overall Height to Roof (includes antenna base and grouser height)	2899 mm (9 ft. 6 in.)
Overall Height With Limb Risers (includes grouser height)	2928 mm (9 ft. 7 in.)
B Tread Depth With Single-Bar Grouser	49 mm (1.9 in.)
C Ground Clearance in Dirt	345 mm (13.6 in.)
D Overall Length	4022 mm (13 ft. 2 in.)
Overall Length With Standard Drawbar	4022 mm (13 ft. 2 in.)
Overall Length With Extended Drawbar	4196 mm (13 ft. 9 in.)
Overall Length With Winch and Fairlead Rollers	4746 mm (15 ft. 7 in.)
E Blade Lift Height	781 mm (30.7 in.)
F Blade Digging Depth	530 mm (20.8 in.)
G Blade Cutting-Edge Angle, Adjustable	52 to 60 deg.



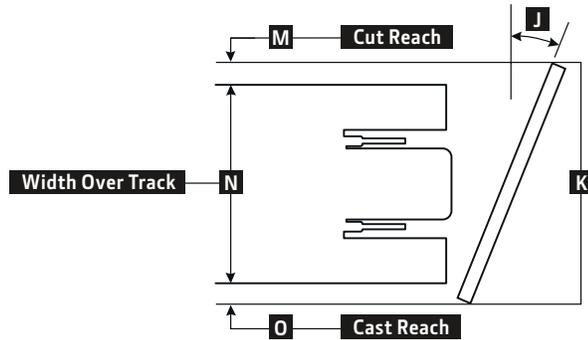
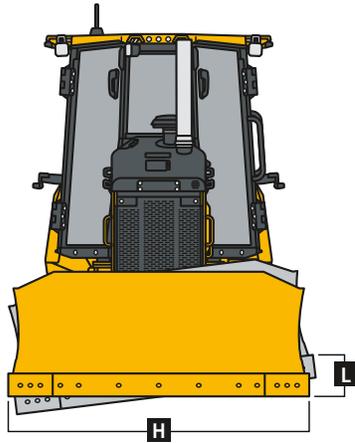
450 P-TIER / 450 P-TIER LGP

Machine Dimensions (continued)	450 P-TIER	450 P-TIER LGP
Straight Blade		
H Blade Width	2464 mm (97 in.) (8 ft. 1 in.)	2921 mm (115 in.) (9 ft. 7 in.)
I Blade Height	955 mm (3 ft. 2 in.)	955 mm (3 ft. 2 in.)
SAE Capacity	1.6 m ³ (2.1 cu. yd.)	2.0 m ³ (2.6 cu. yd.)
Weight	494 kg (1,090 lb.)	633 kg (1,411 lb.)
C-Frame Assembly Weight (without blade)	399 kg (879 lb.)	399 kg (879 lb.)
J Blade Angle	22.9 deg.	22.9 deg.
K Overall Width With Blade Angled	2268 mm (7 ft. 5 in.)	2689 mm (8 ft. 10 in.)
L Blade Tilt	331 mm (13.0 in.)	393 mm (15.5 in.)
M Cut Reach	73 mm (2.9 in.)	66 mm (2.6 in.)
N Width Over Track	1854 mm (6 ft. 1 in.)	2261 mm (7 ft. 5 in.)
O Cast Reach	341 mm (13.4 in.)	362 mm (14.3 in.)
Straight Blade (option)		
H Blade Width	2921 mm (115 in.) (9 ft. 7 in.)	3150 mm (124 in.) (10 ft. 4 in.)
I Blade Height	955 mm (3 ft. 2 in.)	1067 mm (3 ft. 6 in.)
SAE Capacity	2.0 m ³ (2.6 cu. yd.)	2.3 m ³ (3.1 cu. yd.)
Weight	628 kg (1,385 lb.)	649 kg (1,431 lb.)
C-Frame Assembly Weight (without blade)	399 kg (879 lb.)	399 kg (879 lb.)
J Blade Angle	22.9 deg.	22.9 deg.
K Overall Width With Blade Angled	2689 mm (8 ft. 10 in.)	2899 mm (9 ft. 6 in.)
L Blade Tilt	393 mm (15.5 in.)	423 mm (16.7 in.)
M Cut Reach	269 mm (10.6 in.)	175 mm (6.9 in.)
N Width Over Track	1854 mm (6 ft. 1 in.)	2261 mm (7 ft. 5 in.)
O Cast Reach	566 mm (22.3 in.)	463 mm (18.2 in.)

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Machine Dimensions (continued)

450 P-TIER / 450 P-TIER LGP



Rear Ripper

450 P-TIER / 450 P-TIER LGP

Multi-shank parallelogram ripper with 5 pockets and 3 shanks

Weight 981 kg (2,163 lb.)

P Maximum Penetration

508 mm (20 in.)

Q Maximum Clearance Under Tip

508 mm (20 in.)

R Overall Length, Lowered Position

1450 mm (57 in.) (4 ft. 9 in.)

R^l Overall Length, Raised Position

1015 mm (40 in.) (3 ft. 4 in.)

S Overall Beam Width

1830 mm (6 ft. 0 in.)

T Slope Angle (full raise)

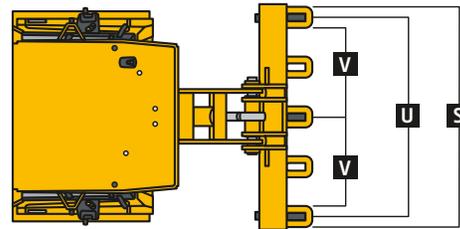
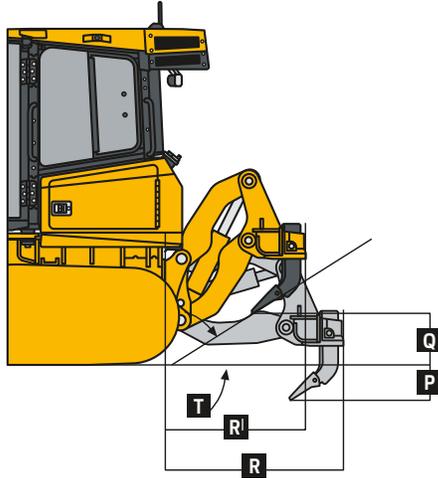
40 deg.

U Ripping Width

1670 mm (5 ft. 6 in.)

V Distance Between Shanks

806 mm (32 in.)



Additional equipment

Key: ● Standard ▲ Optional or special

See your John Deere dealer for further information.

450 P Engine

- Turbocharged
- Electronic control with automatic engine protection
- Eco mode
- Dual safety element dry-type air cleaner, evacuator valve
- Exhaust filter, under hood, with vertical stack
- Engine glow-plug starting system
- Automatic turbo cool-down timer
- Programmable auto-idle and auto shutdown
- Wet-sleeve cylinder liners
- Remote-mounted fuel filters with automatic electronic priming
- ▲ Engine coolant heater, 110 volts
- ▲ Rotary ejector engine air pre-cleaner
- ▲ Severe-duty fuel filter and water separator with heating element
- 100-amp alternator, cab and canopy

Cooling

- Direct-drive cooling fan, blower type
- Engine cooling rated -37 deg. C (-34 deg. F)
- Enclosed safety fan guard (conforms to SAE J1308 and ISO3457)
- Perforated engine side shields
- Heavy-duty, trash-resistant radiator and high-ambient cooling package
- ▲ Heavy-duty perforated grille

450 P Powertrain

- Dual-path hydrostatic (HST) transmission
- Reverse-speed ratios (100%, 115%, and 130% presets)
- Remote diagnostic test ports
- Operator-selectable decelerator function (hydrostats and engine or hydrostats only)
- Wet, multi-disc parking brake
- Full power turns with infinitely variable track speed
- Single-lever steering with counter-rotate function
- HST (dynamic) service brakes
- Automatic cold-weather transmission warmup system
- Automatic transmission derating for exceeded system temperatures
- 2,000-hour vertical spin-on transmission filter

Hydraulic System

- Open-center fixed-displacement hydraulic gear pump
- 3-spool manual control valve
- ▲ 3-spool electrohydraulic (EH) control valve
- ▲ 4-spool manual-control valve
- ▲ 4-spool EH control valve with single auxiliary
- 2,000-hour vertical spin-on hydraulic filter
- ▲ Drive-through hydraulic pump for use with winch
- ▲ Electrohydraulics with EZGrade

450 P Precision Construction Solutions

- ▲ 2D Grade Control
- ▲ SmartGrade™ Ready Including 2D Grade Control
- ▲ SmartGrade with Topcon
- ▲ SmartGrade with Leica

Overall Vehicle

- Front tow loop, bolt-on
- Reinforced engine and mid-frame bottom guards
- Integral transmission guard
- Vandal protection: Engine access door / Side tank access doors / Fuel tank / Instrument panel / Transmission reservoir / Hydraulic reservoir
- ▲ Fluid-sample valves
- ▲ Quick-service ports
- ▲ Forestry limb risers (sweeps)

Attachments

- ▲ Counterweight, front, 109 kg (240 lb.)
- ▲ Retrieval hitch with pin
- ▲ Extended rigid drawbar with pin for pull-type implements
- ▲ Drawbar, extended for winch (with or without fairlead)
- ▲ Rear ripper, parallelogram, 3 shank, 5 pocket
- ▲ Winch, John Deere 4000, power in/free spool out OR power out
- ▲ Winch, John Deere 4000, low speed, power in/free spool out OR power out
- ▲ 4-roller fairlead for winch
- ▲ Root-rake blade attachment

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Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan at test conditions specified per ISO9249. No derating is required up to 3050-m (10,000 ft.) altitude. Specifications and design subject to change without notice.

Wherever applicable, specifications are in accordance with SAE standards. Except where otherwise noted, these specifications are based on a unit with standard equipment, rollover protective structure (ROPS), full fuel tank, and 79-kg (175 lb.) operator.

Additional equipment *(continued)*

Key: ● Standard ▲ Optional or special

See your John Deere dealer for further information.

450 P Undercarriage

- ▲ Front idler guards
- Rear chain guides
- Track adjuster relief valves
- Maximum Life undercarriage system with SC-2™ bushings
- ▲ Extended Life undercarriage with SC-2 bushings
- ▲ Heavy-duty sealed and lubricated undercarriage
- ▲ Full-length rock guards
- Double-flange rollers

STD LGP 450 P-Tier Shoes

- ▲ 406-mm (16 in.) moderate service
- 610-mm (24 in.) moderate service

Operator's Station / Electrical

- | Canopy | Cab | Operator's Station / Electrical |
|--------|-----|--|
| ● | ● | Retractable seat belts, 76 mm (3 in.) (conform to SAE J386) |
| ● | ● | Accessories: Convex wide-angle interior rearview mirror / Thigh cushions (2) / Cup holders (2) |
| ● | ● | Power port (cab includes power ports [2]) |
| ● | ● | Dash-mounted storage compartment |
| | ● | Air conditioner and heater, 24,000 Btu |
| | ● | Dome light |
| | ● | Wipers, intermittent with washers: front window and left and right doors |
| | ▲ | Rear wiper and washer |

Operator's Station / Electrical (continued)

- | Canopy | Cab | Operator's Station / Electrical (continued) |
|--------|-----|---|
| ▲ | ▲ | Rearview camera |
| ▲ | ▲ | Cab step (bolt on) |
| ▲ | ▲ | Beacon light (roof mounted) |
| ▲ | ▲ | Full screens |
| ▲ | ▲ | Side screens |
| ▲ | ▲ | Rear window screen |
| ▲ | ● | Under-seat heater |
| ● | ● | Lockable master electrical disconnect switch |
| ● | | Multifunction/multi-language LCD monitor: Analog display (fuel level, coolant temperature, and engine oil pressure) / Digital display (engine rpm, charge pressure, hours, diesel particulate filter (DPF)-soot level, and transmission direction/speed range) |
| ▲ | ● | Multifunction/multi-language 8-inch touch-screen LCD monitor: Digital display (fuel level, coolant temperature, engine oil pressure, engine rpm, charge pressure, hours, DPF-soot level, transmission direction/speed range, clock engine hours, and slope control (if equipped)) |
| ● | ● | Built-in diagnostics: Diagnostic-code details / Sensor values / Calibrations / Individual circuit tester |
| ● | ● | Keyless start with multiple security modes |

Operator's Station / Electrical (continued)

- | Canopy | Cab | Operator's Station / Electrical (continued) |
|----------------------|-----|---|
| ● | ● | Battery, dual, 24 volts |
| | ▲ | External-mounted attachment mirror |
| ● | ● | JDLink™ wireless communication system (available in specific countries; see your dealer for details) |
| Trim Packages | | |
| | ● | Level 1: Black exhaust stack, halogen lights (cab front [4] and cab rear [2]), AM/FM/Weather Band (WB) radio with USB and auxiliary port, standard seat (fabric with heavy-duty air suspension), and manual HVAC temperature adjustment |
| | ▲ | Level 2: Chrome exhaust stack, LED lights (cab front [4], cab rear [4]), AM/FM/WB radio with Bluetooth®, remote-mounted USB, auxiliary port, and microphone, premium heated/ventilated seat (leather bolstered with heavy-duty air suspension), and automatic temperature controlled (ATC) HVAC system |
| ● | | Level 1: Black exhaust stack and halogen lights (cab front [4] and cab rear [2]) |
| ▲ | | Level 2: Chrome exhaust stack and LED lights (cab front [4], cab rear [4]) |

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MD450PAU (24-07)



JOHN DEERE