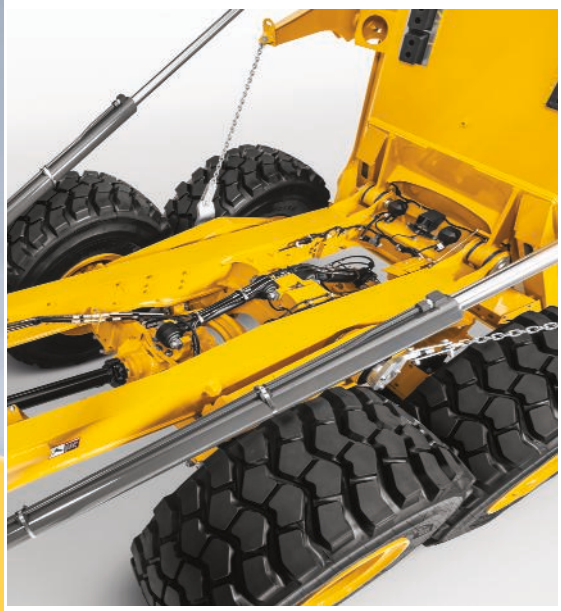
310 P

Articulated Dump Truck

JOHN DEERE

BUILT FOR THE WORK YOU DO

To design our P-Tier Articulated Dump Trucks (ADTs), we spoke with the experts — equipment owners and operators just like you. Through Customer Advocate Groups, you told us exactly what you need in an ADT. We listened and responded with automatic dump control. Quiet, pressurized cab. Adaptive suspension. Onboard diagnostics that help keep operators in the know and on the go. Ground-level serviceability. And intuitive options such as onboard payload weighing, high-mounted LED lights, and tire-pressure monitoring. The new 310 P-Tier ADT is purpose-built with the productivity of your operation in mind.



Raise your expectations
At the press of a button, automatic dump control shifts the transmission to neutral, sets the service brakes, increases engine speed, and initiates dump-body raise, to automatically dump the bin, control other necessary machine functions, and eliminate repetitive cycling motions.

Smooth operator
Sealed and pressurized to keep out dust and noise, John Deere-designed 69-dB ultra-quiet cab helps operators stay alert and comfortable. Standard adaptive suspension system stabilizes the ride, no matter the machine cycle, empty or loaded. Fully adjustable air-ride seat makes smooth sailing out of any terrain.

Weighty matters
Calibrated at the factory, optional onboard weighing system displays payload weight on the in-cab monitor during loading, with real-time load and tonnage data transmitted via JDLink™. Access to accurate payload values removes the guesswork from daily production levels, increasing uptime and efficiency.

Far from the daily grind
A Deere exclusive, all daily checks and periodic service are accessible from ground level, including refills of fuel and diesel exhaust fluid (DEF). Service points and sample ports are color-coded to fast-track preventive maintenance and troubleshooting.

69-DB ULTRA-QUIET DEERE-DESIGNED CAB HELPS OPERATORS FOCUS

Strong for the long haul
High-alloy-steel dump body and chassis deliver exceptional strength and rigidity without adding excess weight. Heavy-duty, purpose-built axles are lubricated for longer life.

See things like never before
Mirror-bow design increases visibility, reduces vibration, and enables walk-through access to the engine compartment. LED light bars on the mirror bows help guide onboard weighing. Front and rear worklights plus optional high-mounted LED lights illuminate the jobsite. Stairway lights are push-button operated from inside the cab and also at ground level.

Purpose-built braking
Designed specifically for P-Tier ADTs, the transmission retarder confidently slows the machine before the service brakes are applied. Outboard wet-disc brakes in all three axles are at the ready when service brakes are needed.

Take a load off
When enabled through the monitor, the operator can limit the percentage the rear chassis is off-level when unloading. If the limit is exceeded, the dump body will not raise and a message will appear on the monitor instructing the operator to reposition the ADT.

Tackle tough terrain
Inter-axle differential lock (IDL) transmits 50 percent of available torque to the forward axle and 50 percent to both rear axles, simplifying operation. Or it can be engaged on-the-fly while slipping, for smoother navigation of tough jobsites.

The safety factor
When the dump body is fully upright, the safety bar locks it to the main-frame and disengages the hydraulics, for secure servicing. Standard rear camera with choice of display enables operator visibility to obstacles in the path of the ADT while backing up. When activated, standard auto horn automatically sounds when the ADT is started, moves forward or in reverse, or changes direction, to comply with Mine Safety and Health Administration regulations.

Precision Construction
This suite of construction technology delivers **Productivity Solutions** to help you get more done, more efficiently. In-base JDLink connectivity provides machine location, utilization data, and alerts to help you maximize productivity and efficiency. To maximize uptime and lower costs, JDLink also enables **John Deere Connected Support™.** Dealers use Expert Alerts based on data from thousands of connected machines to proactively address conditions that may otherwise likely lead to downtime. Your dealer can also monitor machine health and leverage remote diagnostics and programming capability to further diagnose problems and even update machine software without a time-consuming trip to the jobsite.*

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

GET ONBOARD

WITH OWNER AND OPERATOR SETTINGS

When enabled through the monitor, these standard onboard features help optimize operator focus and productivity:

- **Rollover protection** alerts operators to unsafe dump angles and stops the dump cycle.
- **Downhill dump protection** automatically calculates ADT position so the dump body doesn't move over-center when emptying downhill.
- With **auto dump brake** enabled and driveline assist activated, the service brakes latch during unloading.
- With **hill hold,** the service brakes automatically apply when the ADT is stopped on an uphill slope and the operator's foot moves from brake pedal to throttle, preventing backward machine rolls.
- If dumping is stopped before the bin is fully empty, **frame protection** cushions bin travel back to the cradle, preventing aggressive frame seating.
- With **shuttle shifting,** the transmission may be shifted without the ADT coming to a stop, improving cycle times and eliminating operator abuse.
- **Descent control** helps regulate ADT speed when driving down a descent through automatic use of the transmission retarder.
- **Dump-body limits** can restrict maximum dump height when low overhead obstacles are encountered.
- **Transmission warmup** automatically begins at ADT startup, improving ride, shift quality, and daily productivity.
- Maximum **speed limit** can be set to match jobsite conditions or requirements, reducing operating complexity.

310

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310 P-TIER ADT SPECIFICATIONS

While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

Engine	**310 P-TIER**	
Manufacturer and Model	John Deere PowerTech™ PSS 6090	
Non-Road Emission Standards	EPA Final Tier 4/EU Stage IV	
Configuration	Inline 6 series turbocharger with exhaust gas recirculation (EGR) and selective catalytic reduction (SCR)	
Valves per Cylinder	4	
Displacement	9.0 L (549 cu. in.)	
Net Peak Power (ISO 9249)	264 kW (354 hp) at 1,900 rpm	
Net Peak Torque (ISO 9249)	1621 Nm (1,195 lb.-ft.) at 1,500 rpm	
Aspiration	Turbocharged and charge air cooled	
Fuel System	High-pressure common rail, with 10- and 2-micron filtration and water separator	
Cold-Start Aid	Optional ether start aid and block heater (110 and 240 volt, depending on location); factory-option diesel-fired coolant heater	
Cooling		
Engine Cooling	Liquid cooled with single-pass radiator, remote pressurized coolant tank, and charge air cooler	
Powertrain		
Transmission	8-speed forward, 4-speed reverse, countershaft/planetary type with integral retarder and torque-proportioning differential	
Retarder	Integral, gear dependent, hydrodynamic, oil-to-air cooled, variable, fully automatic	
Differential	Torque-proportioning, planetary-type, inter-axle differential lock (IDL) with multi-disc clutch	
Output Torque Split	32% front / 68% rear	
Shift Controls	Fully automatic, electronically modulated PowerShift™, load-speed adaptive with gear-skip and gear-hunting protection	
Operator Interface	Push-button F-N-R, selectable speed- and gear-range limits, selectable retarder aggressiveness, downhill-descent control, and gear-hold	
Speeds	*Forward*	*Reverse*
Gear 1	6 km/h (3.7 mph)	6 km/h (3.7 mph)
Gear 2	8 km/h (5.2 mph)	8 km/h (5.2 mph)
Gear 3	11 km/h (6.8 mph)	11 km/h (6.8 mph)
Gear 4	16 km/h (9.9 mph)	16 km/h (9.9 mph)
Gear 5	23 km/h (14.3 mph)	—
Gear 6	32 km/h (19.9 mph)	—
Gear 7	45 km/h (28.0 mph)	—
Gear 8	55 km/h (34.2 mph)	—
Axles		
Differential	Helical transfer gears, spiral bevel, hydraulically actuated multi-disc cross-axle differential lock (CDL)	
Final Drive	Mid-board-mounted planetary	

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Powertrain *(continued)*	**310 P-TIER**
Brake System	
Service	Dual-circuit, hydraulically actuated, wet multi-disc, outboard mounted
Parking	Spring-applied hydraulically released, driveline-mounted, dry-disc with self-adjusting wear pad
Auxiliary	Fully automatic; transmission mounted, gear dependent; hydrodynamic retarder with selectable levels
Hydraulics	
Type	Pressure-compensated load-sensing (PCLS), variable-displacement axial-piston main pump
Secondary Steering Pump	Ground-driven gear pump with unloader valve
Dump Cylinders	Dual-acting, single-stage with heat-treated, chrome-plated, and polished cylinder rods; hardened steel replaceable bushings and pivot pins
Cycle Time	
Power Down	7 sec.
Raise Time	12 sec.
Electrical	
Voltage	24 volt
Number of Batteries	2 x 12 volt
Battery Capacity	1,400-CCA batteries (2)
Alternator	28 volt / 130 amp standard
Steering System	
Type	2 hydrostatically actuated, double-acting hydraulic cylinders; ground-driven secondary steering pump
Angle	45 deg. side to side
Lock-to-Lock Turns	4.2
Suspension	
Front	Semi-independent leading A-frame geometry with transverse link for lateral restraint and self-leveling oil-filled struts with inclusive nitrogen-charged accumulators
Rear	Load-equalizing, pivoting walking beams with laminated suspension blocks, tri-link geometry, and transverse links for lateral restraint
Dump Body	
Type	High-strength steel
Capacity	
Struck	13.7 m^3 (17.9 cu. yd.)
Heaped at 2:1 ISO 6483 Ratio	17.5 m^3 (22.9 cu. yd.)
With Optional Tailgate	18.3 m^3 (23.9 cu. yd.)
Maximum Dump Angle	70 deg.
Heater	Body ducted to accept optional exhaust heating
Tires/Wheels	
Size and Type	23.5R25 radial earthmovers standard / 750/65R25 optional

310 P-TIER

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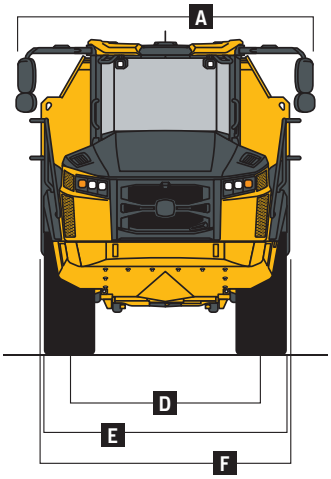
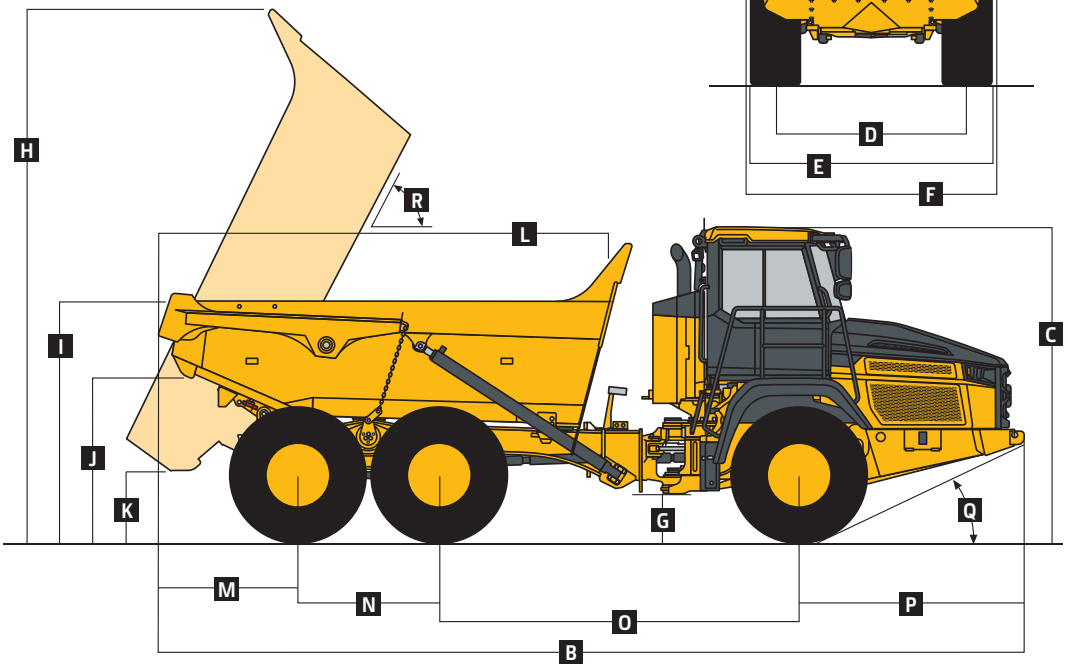
Serviceability	310 P-TIER	
Ground-Level Service		
Fluids and Filters	Ground-level engine, transmission, and axle oil-level check and filter replacement; ground-level fueling and fuel-filter replacement	
Coolers	Swing-out coolers for easy cleaning standard; reversing fans optional	
Fluid Sampling	Fluid-sampling ports standard; quick-service ports optional	
Refill Capacities		
Fuel Tank	496 L (131 gal.)	
Diesel Exhaust Fluid (DEF) Tank	48 L (12.7 gal.)	
Engine Oil With Filter	34 L (9.0 gal.)	
Engine Coolant	52 L (13.7 gal.)	
Transmission Fluid	60 L (15.9 gal.)	
Hydraulic Reservoir	113.5 L (30.0 gal.)	
Axle Fluid	*Standard capacity*	
Front	37 L (9.8 gal.)	
Mid	37 L (9.8 gal.)	
Rear	37 L (9.8 gal.)	
Operating Weights		
With Standard Equipment	*Empty*	*Loaded*
Front	12 555 kg (27,679 lb.)	15 202 kg (33,515 lb.)
Middle	5146 kg (11,345 lb.)	17 885 kg (39,430 lb.)
Rear	5146 kg (11,345 lb.)	17 885 kg (39,430 lb.)
Total	22 847 kg (50,369 lb.)	50 972 kg (112,374 lb.)
Rated Payload	28 125 kg (62,005 lb.)	
Optional Components		
Dump-Body Liner (steel)	864 kg (1,905 lb.)	
Tailgate	640 kg (1,411 lb.)	
750/65R25 Tires	624 kg (1,376 lb.)	
Operating Dimensions		
Turning Circle Radius		
Inside	4.27 m (14 ft. 0 in.)	
Outside	8.02 m (26 ft. 4 in.)	

	Machine Dimensions	310 P-TIER	
A	Width With Mirrors in Operating Position	3.49 m (11 ft. 5 in.)	
B	Length	10.16 m (33 ft. 4 in.)	
C	Height	3.66 m (12 ft. 0 in.)	
	Tire Options	*23.5R25*	*750/65R25*
D	Tread Width	2.28 m (7 ft. 6 in.)	2.28 m (7 ft. 6 in.)
E	Width Over Tires	2.85 m (9 ft. 4 in.)	3.00 m (9 ft. 10 in.)
F	Width Over Fenders	2.87 m (9 ft. 5 in.)	3.05 m (10 ft. 0 in.)
G	Ground Clearance	0.49 m (19.4 in.)	
H	Dump Body Height, Dump Position	6.33 m (20 ft. 9 in.)	
I	Dump Body Side Rail Height	2.93 m (9 ft. 7 in.)	
J	Dump Body Dump Lip Height, Transport Position	3.53 m (11 ft. 7 in.)	
K	Dump Body Ground Clearance, Dump Position	0.66 m (26.1 in.)	
L	Dump Body Length	5.59 m (18 ft. 4 in.)	
M	Rear Axle Centerline to Rear of Dump Body	1.56 m (5 ft. 1 in.)	
N	Mid Axle to Rear Axle Centerline	1.67 m (5 ft. 6 in.)	
O	Front Axle to Mid Axle Centerline	4.26 m (14 ft. 0 in.)	
P	Front Axle Centerline to Front of Machine	2.67 m (8 ft. 9 in.)	
Q	Approach Angle	24 deg.	
R	Maximum Dump Angle	70 deg.	





Shipping Dimensions	310 P-TIER	
Overall Height (suspension lowered 75 mm [3 in.])	3.59 m (11 ft. 9 in.)	
Overall Length	10.16 m (33 ft. 4 in.)	
Tire Options	*23.5R25*	*750/65R25*
Overall Width		
Mirrors Folded In	3.07 m (10 ft. 1 in.)	3.12 m (10 ft. 3 in.)
Tailgate Installed	3.26 m (10 ft. 8 in.)	3.26 m (10 ft. 8 in.)

Additional equipment

Key: ● Standard ▲ Optional or special — See your John Deere dealer for further information.

310 P	Engine
●	Meets EPA Final Tier 4 (FT4)/EU Stage IV emissions
●	John Deere PowerTech™ PSS 6090 — 9.0L (549 cu. in.) inline 6
●	Wet-sleeve cylinder liners
●	Variable-geometry turbocharger (VGT)
●	External cooled exhaust gas recirculation (EGR)
●	Dual-element air cleaner with dust-ejector valve
●	Precleaner
●	High-pressure common-rail fuel injection
●	Fuel/water separator
●	Ground-level fueling and diesel exhaust fluid (DEF) fill
▲	Fast fill
●	Serpentine drive belt with automatic tensioner
▲	Ether start aid (recommended below –1 deg. C [30 deg. F])
▲	Block heater (recommended below –18 deg. C [0 deg. F])

310 P	Engine *(continued)*
▲	Diesel-fired coolant heater (DFCH) (required below –25 deg. C [–13 deg. F])
●	Programmable auto-shutdown
●	Automatic turbo cool-down/shutdown timer
●	Flat-black exhaust stack
▲	Chrome exhaust stack
▲	Severe-duty fuel filter
▲	Severe-duty fuel filter with heater
	Cooling
●	Dual hydraulically driven, side-mounted fans
●	Side-mounted radiator, charge-air cooler, air-conditioner condenser, fuel cooler, transmission cooler, and hydraulic cooler
●	Swing-out coolers
●	Integral engine oil cooler
●	Remote pressurized coolant reservoir
●	John Deere Cool-Gard™ II long-life engine coolant
●	Fan guard
▲	Reversing fans

310 P	Powertrain
●	Lockup torque converter
●	Adaptive shift control
●	Gear-hold switch
●	Integral transmission input retarder
●	Automatic engaging retarder with selectable aggressiveness
●	Countershaft transmission with integral interaxle differential
●	Planetary inter-axle differential lock (IDL) with 32-percent/68-percent nominal output torque split
●	Ground-level transmission-oil-level sight glass
●	Transmission diagnostic ports
●	Remote-mounted spin-on transmission oil filters
●	Hydraulically locking differentials
●	Differential lock floor switch
●	Automatic traction control with manual override
●	Wet-disc brakes on all 3 axles
●	Spring-applied, hydraulically released, dry-disc park brake

Additional equipment *(cont.)*

Key: ● Standard ▲ Optional or special — See your John Deere dealer for further information.

310 P	Powertrain *(continued)*
▲	Axle filtration with remote-mounted filter
●	Axle oil-temperature sensing
	Electrical System
●	24-volt system voltage
●	130-amp alternator
●	Solid-state electrical distribution system
●	Battery disconnect
●	Batteries, 2 x 1,400 CCA
●	Drive lights
●	Stair and service lights
▲	Deluxe halogen work lights, front and rear
▲	Deluxe LED work lights, front and rear
●	LED rear turn signals/brake lights
●	Electric horn
●	Reverse alarm
▲	Beacon/strobe light
▲	24-volt to 12-volt 15-amp converter
▲	24-volt to 12-volt 25-amp converter
	Hydraulic System
●	Closed-center, load-sensing system
●	Axial-piston, variable-displacement main pump
●	Single-stage, dual-acting, dump-body tip cylinders
●	Electrohydraulic dump-body control
	Steering System
●	Ground-driven secondary steering pump
	Operator Station
●	ROPS/FOPS certification
●	Keyless start
●	Tilt cab
●	Programmable dump-body control settings
●	Air conditioner
●	Heater

310 P	Operator Station *(continued)*
●	AM/FM radio/CD player
▲	AM/FM radio/CD player with Bluetooth®
●	Rear window guard
●	Wiper/washer with intermittent control
▲	Rear windshield wiper
●	Tilt and telescoping steering wheel
●	Fully adjustable, air-suspension, heated, high-back cloth and leather seat
▲	Air-suspension, low-back, cloth seat
●	76-mm (3 in.) retractable operator seat belt
●	Foldaway trainer seat with retractable seat belt
●	12-volt power outlet
●	Cup holders
●	Rear camera display with dedicated monitor
▲	Ashtray and 12-volt cigarette lighter
▲	Electric adjustable and heated mirrors
●	Full-width retractable sun visor
▲	Cab precleaner
●	Monitor: Speedometer / Fuel gauge / Transmission oil temperature gauge / Engine coolant temperature gauge / Gear indicator / Tachometer / Battery voltage / Hour meter / Odometer / Fuel consumption / Trip counter / Trip timer / Trip distance / Metric/Imperial units / Service codes/diagnostics / LED indicator lights and audible alarm / Programmable dump-body rollover protection / Onboard weighing display / Multi-language capability / Tire-pressure-monitoring system warning
●	Backlit sealed-switch module functions (2): Keyless start/stop / F-N-R / Hazard light button / Park brake / Descent control / Gear-lock button / Gear up/down button / Park lights and headlights / Work lights / Beacon / Heated mirrors / IDL / Retarder adjustment / Automatic dump-body control settings / Air-conditioner/heater controls
●	Dump-body lever control
	Dump Body
●	Dump-body safety lock when dump body is fully raised
▲	Dump-body liner (steel)
▲	Tailgate
▲	Dump-body heater
▲	Less dump body and cylinders
	Other
●	23.5R25 radial earthmovers
▲	750/65R25
●	Remote grease bank
▲	Quick service for transmission oil, engine oil, engine coolant, and hydraulic oil
●	Articulation lock
●	Electrically actuated hood
▲	Onboard weighing system with external load lights
▲	Tire-pressure-monitoring system with temperature compensation
▲	Fire extinguisher
●	Active hydraulic front suspension
●	Dump assist, load assist, and hill assist
●	JDLink™ wireless communication system (available in specific countries; see your dealer for details)
▲	JDLink dual-mode cellular/satellite wireless communication system (available in specific countries; see your dealer for details)

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan at test conditions specified per ISO 9249. Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with ISO standards. Except where otherwise noted, these specifications are based on a unit with standard equipment, 23.5R25 radial earthmover tires, ROPS cab, full fuel tank, and 79-kg (175 lb.) operator.

MT310PAU (22-12)

JOHN DEERE