

# 250D-II / 300D-II

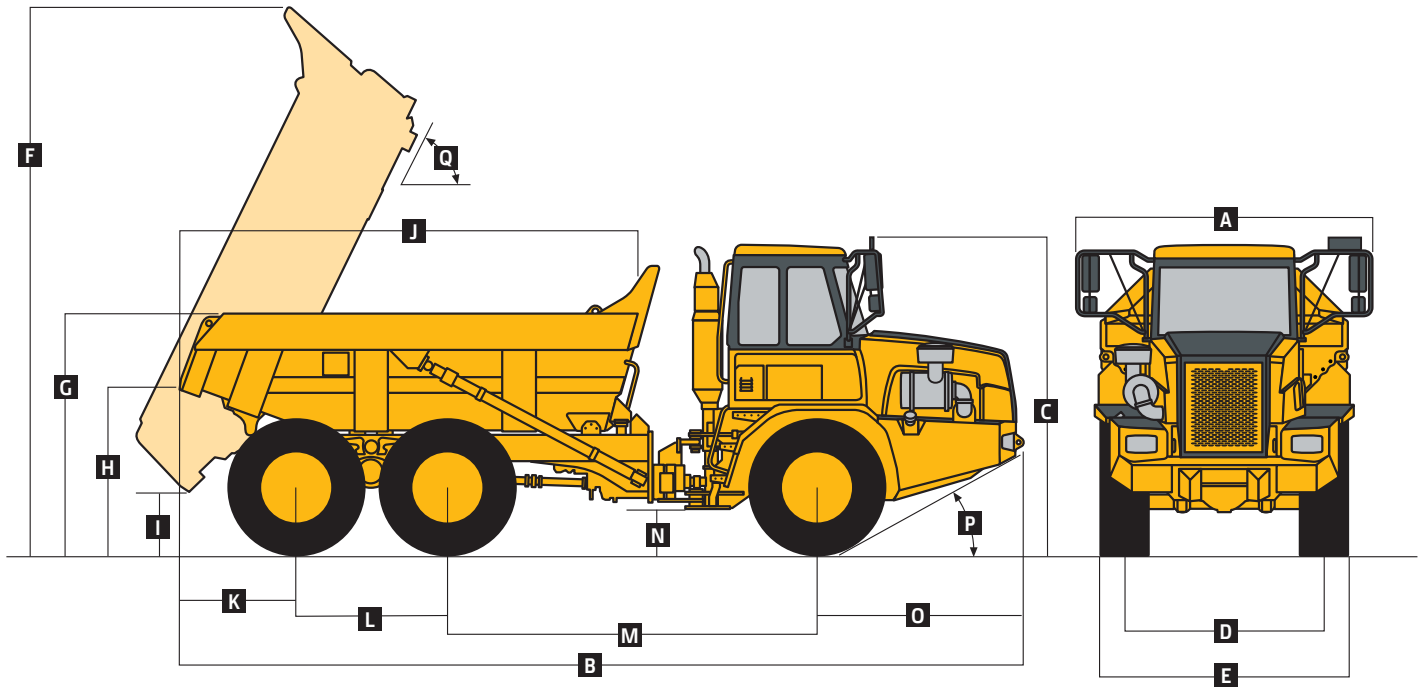


Engine	250D-II	300D-II		
Manufacturer and Model	John Deere PowerTech™ Plus 6090			
Non-Road Emission Standards	Certified to EPA Tier 3 emissions			
Configuration	6 cylinder inline			
Valves per Cylinder	4			
Displacement	549 cu. in. (9.0 L)			
Net Peak Power (ISO 9249)	265 hp (198 kW) at 2,000 rpm		285 hp (212 kW) at 2,200 rpm	
Net Peak Torque at 1,200–1,400 rpm (ISO 9249)	789 lb.-ft. (1070 Nm)			
Aspiration	Turbocharged and charge air cooled			
Fuel System	High-pressure common rail, 10- and 2-micron filtration, with water separator			
Cold-Start Aid	Ether			
Cooling	250D-II / 300D-II			
Fan Drive	Temperature-sensing viscous, direct drive			
Engine Cooling	Liquid cooled with single-pass radiator, remote pressurized coolant tank, and charge air cooler			
Powertrain	250D-II		300D-II	
<b>Transmission</b>	ZF 6HP592C Ecomat 2+ fully automatic engine-mounted planetary, with lockup torque converter, integral input retarder, and adaptive shift control			
Controls	Push-button FNR and gear select, gear-hold button, and selectable retarder aggressiveness			
Speeds	<i>Forward</i>	<i>Reverse</i>	<i>Forward</i>	<i>Reverse</i>
Gear 1	4 mph (7 km/h)	5 mph (8 km/h)	4 mph (7 km/h)	5 mph (8 km/h)
Gear 2	7 mph (11 km/h)	—	7 mph (11 km/h)	—
Gear 3	12 mph (19 km/h)	—	12 mph (19 km/h)	—
Gear 4	17 mph (27 km/h)	—	17 mph (27 km/h)	—
Gear 5	24 mph (38 km/h)	—	24 mph (38 km/h)	—
Gear 6	31 mph (50 km/h)	—	31 mph (50 km/h)	—
Axles	Spiral bevel			
Input	Spiral bevel			
Differential	Limited slip			
Final Drive	Outboard planetary			
Transfer Case	Single-speed inline helical with output differential			
Output Differential	Planetary, torque proportioning, pneumatically lockable			
Nominal Output Torque Split	33% front / 67% rear			
Brake System	Dual-circuit hydraulically actuated dry-disc calipers on all axles with bolt-on mudguards			
Service Brake	Dual-circuit hydraulically actuated dry-disc calipers on all axles with bolt-on mudguards			
Park and Secondary Brake	Spring-applied, air-released, driveline-mounted, dry disc			
Auxiliary Brake	Automatic hydraulic transmission retarder			
Total Retarding Capacity (not including service brakes)	574 hp (428 kW)			
Hydraulics	Closed center, load sensing			
Type	Closed center, load sensing			
Main Pump	Axial piston, variable displacement			
Pump Flow	48.6 gpm (184 L/m)			
Pressure	3,625 psi (24 993 kPa)		3,900 psi (26 890 kPa)	
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 at Full Engine Speed			
Power Down at Full Engine Speed	6.0 sec.			
Raise Time	11.9 sec.			



<b>Electrical</b>	<b>250D-II / 300D-II</b>			
Voltage	24 volt			
Number of Batteries	2			
Battery Capacity	950 CCA			
Alternator	28 volt / 80 amp			
<b>Steering System</b>				
Type	2 hydrostatically actuated, double-acting hydraulic cylinders; ground-driven secondary steering pump			
Angle	45 deg. side to side			
Lock-to-Lock Turns	4.1			
<b>Pneumatic System</b>				
Type	Engine-mounted compressor, air drier with heater, and integral unloader valve			
System Pressure	117 psi (810 kPa)			
<b>Suspension</b>				
Front	Maintenance-free, rubber-mounted leading arm links and transverse link, supported by nitrogen/oil-filled struts			
Rear	Load-equalizing, pivoting walking beams with laminated rubber suspension blocks; each axle coupled to chassis by 4 interchangeable rubber-bushed links			
<b>Body</b>	<b>250D-II</b>		<b>300D-II</b>	
Type	Heavy-duty rib reinforced			
<b>Capacity</b>				
Struck	13.7 cu. yd. (10.5 m <sup>3</sup> )		16.5 cu. yd. (12.6 m <sup>3</sup> )	
Heaped at 2:1 SAE Ratio	18.0 cu. yd. (13.8 m <sup>3</sup> )		21.7 cu. yd. (16.6 m <sup>3</sup> )	
With Optional Tailgate	19.0 cu. yd. (14.5 m <sup>3</sup> )		23.2 cu. yd. (17.7 m <sup>3</sup> )	
Heaped at 1:1 SAE Ratio	22.1 cu. yd. (16.9 m <sup>3</sup> )		26.6 cu. yd. (20.3 m <sup>3</sup> )	
Maximum Dump Angle	70 deg.			
Heater	Body ducted for exhaust heating			
<b>Tires/Wheels</b>				
Type and Size	Radial earthmovers 23.5R25		Radial earthmovers 23.5R25	Radial earthmovers 750/65R25
Maximum Ground Pressure (loaded, middle axle)	19.9 psi (137 kPa)		23.3 psi (161 kPa)	19.7 psi (136 kPa)
<b>Serviceability</b>	<b>250D-II / 300D-II</b>			
<b>Refill Capacities</b>				
Fuel Tank	90.0 gal. (340.0 L)			
Engine Oil with Filter	6.7 gal. (25.5 L)			
Engine Coolant	8.7 gal. (32.9 L)			
Transmission Fluid (refill)	5.8 gal. (21.8 L)			
Transfer Case Oil	5.0 qt. (4.7 L)			
Hydraulic Reservoir	20.8 gal. (79.0 L)			
Axle Oil (per axle)	5.8 gal. (22.0 L)			
Final Drive	4.2 qt. (4.0 L)			
<b>Operating Weights</b>	<b>250D-II</b>		<b>300D-II</b>	
With Standard Equipment	<i>Empty</i>	<i>Loaded</i>	<i>Empty</i>	<i>Loaded</i>
Front	22,360 lb. (10 151 kg)	29,010 lb. (13 171 kg)	22,950 lb. (10 432 kg)	30,980 lb. (14 082 kg)
Middle	9,000 lb. (4086 kg)	31,390 lb. (14 251 kg)	10,030 lb. (4559 kg)	36,270 lb. (16 486 kg)
Rear	8,980 lb. (4077 kg)	31,090 lb. (14 115 kg)	10,010 lb. (4550 kg)	35,930 lb. (16 332 kg)
Total	40,340 lb. (18 314 kg)	91,490 lb. (41 536 kg)	42,990 lb. (19 541 kg)	103,180 lb. (46 900 kg)
Rated Payload	51,150 lb. (23 222 kg)		60,190 lb. (27 326 kg)	
<b>Optional Components</b>				
Dump Body Liner (steel)	2,160 lb. (981 kg)		2,160 lb. (981 kg)	
Tailgate	2,556 lb. (1 160 kg)		2,647 lb. (1 202 kg)	

Operating Dimensions	250D-II	300D-II
Turning Circle Radius		
Inside	13 ft. 8 in. (4.17 m)	13 ft. 6 in. (4.11 m)
Outside	26 ft. 0 in. (7.92 m)	26 ft. 2 in. (7.98 m)
<b>Machine Dimensions</b>		
<b>A</b> Width with Mirrors in Operating Position	11 ft. 0 in. (3.35 m)	11 ft. 0 in. (3.35 m)
<b>B</b> Length	31 ft. 2 in. (9.50 m)	31 ft. 5 in. (9.58 m)
<b>C</b> Height	11 ft. 9 in. (3.58 m)	11 ft. 9 in. (3.58 m)
<b>D</b> Tread Width	7 ft. 3 in. (2.21 m)	7 ft. 9 in. (2.36 m)
	Radial earthmovers 23.5R25	Radial earthmovers 23.5R25      Radial earthmovers 750/65R25
<b>E</b> Width Over Tires	9 ft. 3 in. (2.82 m)	9 ft. 8 in. (2.95 m)      9 ft. 10 in. (3.00 m)
<b>F</b> Dump Body Height, Dump Position	20 ft. 1 in. (6.12 m)	20 ft. 4 in. (6.20 m)
<b>G</b> Dump Body Side Rail Height	8 ft. 8 in. (2.64 m)	9 ft. 0 in. (2.74 m)
<b>H</b> Dump Body Dump Lip Height (transport position)	6 ft. 4 in. (1.93 m)	6 ft. 7 in. (2.01 m)
<b>I</b> Dump Body Ground Clearance, Dump Position	23 in. (580 mm)	20 in. (510 mm)
<b>J</b> Dump Body Length	16 ft. 10 in. (5.13 m)	17 ft. 1 in. (5.21 m)
<b>K</b> Rear Axle Clearance to Rear of Dump Body	4 ft. 4 in. (1.32 m)	4 ft. 7 in. (1.40 m)
<b>L</b> Mid Axle to Rear Axle Centerline	5 ft. 6 in. (1.68 m)	5 ft. 6 in. (1.68 m)
<b>M</b> Front Axle to Mid Axle Centerline	13 ft. 8 in. (4.17 m)	13 ft. 8 in. (4.17 m)
<b>N</b> Ground Clearance	17 in. (0.43 m)	17 in. (0.43 m)
<b>O</b> Front Axle Clearance to Front of Machine	7 ft. 8 in. (2.34 m)	7 ft. 8 in. (2.34 m)
<b>P</b> Approach Angle	30 deg.	30 deg.
<b>Q</b> Maximum Dump Angle	70 deg.	70 deg.



Shipping Dimensions	250D-II	300D-II	
Overall Height	11 ft. 9 in. (3.58 m)	11 ft. 9 in. (3.58 m)	
Overall Length	31 ft. 2 in. (9.50 m)	31 ft. 5 in. (9.58 m)	
Overall Width			
Mirrors Folded In	9 ft. 3 in. (2.82 m)	9 ft. 8 in. (2.95 m)	
Dump Body	9 ft. 0 in. (2.76 m)	9 ft. 10 in. (3.00 m)	
Tailgate Installed	10 ft. 7 in. (3.23 m)	11 ft. 5 in. (3.48 m)	
	Radial earthmovers 23.5R25	Radial earthmovers 23.5R25	Radial earthmovers 750/65R25
Width Over Tires	9 ft. 3 in. (2.82 m)	9 ft. 8 in. (2.95 m)	9 ft. 10 in. (3.00 m)
Tailgate Width	10 ft. 7 in. (3.23 m)	11 ft. 5 in. (3.48 m)	

**Gradeability**

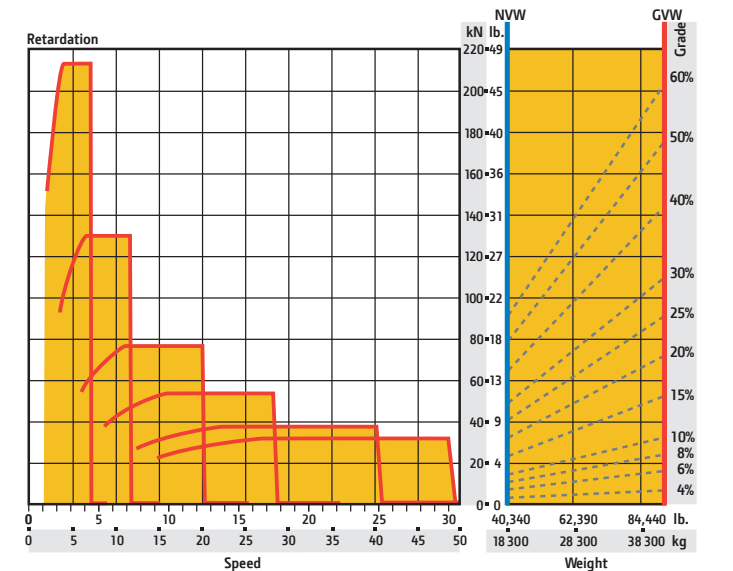
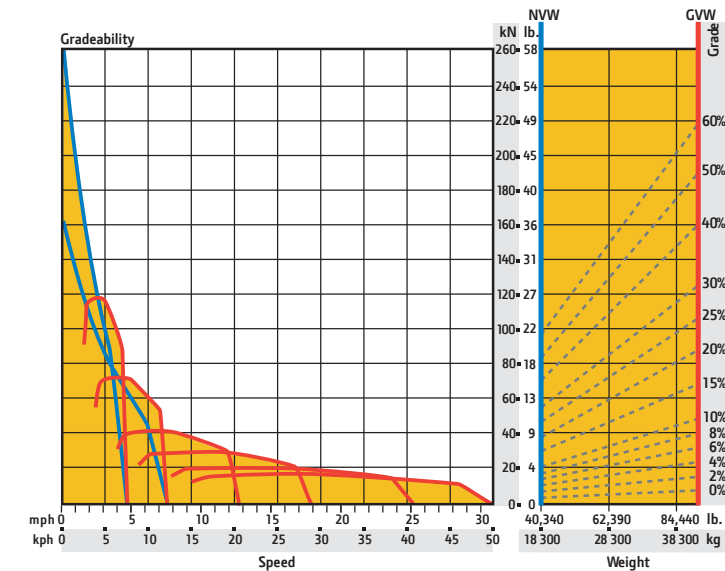
- Determine tractive resistance by finding intersection of vehicle weight line and grade line. NOTE: 2% typical rolling resistance is already assumed in chart.
- From this intersection, move straight left across charts until line intersects rimpull curve.
- Read down from this point to determine maximum speed attained at that tractive resistance.

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**Retardation**

- Determine retardation force required by finding intersection of vehicle weight line and grade line. NOTE: 2% typical rolling resistance is already assumed in chart.
- From this intersection, move straight left across charts until line intersects retardation performance line.
- Read down from this point to determine maximum speed.

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**300D-II**

**300D-II**

