

185 - 235 NET HORSEPOWER



D

GRADERS

670D | 770D | 870D



TANDEM
DRIVE

670D
185 net hp
32,010-lb. SAE operating weight
37,790-lb. typically equipped
28,220-lb. blade pull



Improve your grades.

The D-Series Tandem-Drive Graders are producing superior grades in a wide variety of applications — and earning high marks from experienced operators throughout North America. Designed with extensive input from owners and veteran operators, and further refined

through their ongoing scrutiny, the 670D, 770D, and 870D are simply the best. Packed with best-in-class productivity-boosting advantages like their patented EBS transmissions, the D-Series will help you achieve better grades, too. To learn more, read on.

770D

215 net hp
32,670-lb. SAE operating weight
39,180-lb. typically equipped
28,990-lb. blade pull

870D

235 net hp
34,750-lb. SAE operating weight
40,630-lb. typically equipped
29,320-lb. blade pull



With the addition of the 235-net-hp, 40,630-pound 870D, you now have a choice of three John Deere tandem-drive graders.

Fuel-efficient Tier 2-certified PowerTech™ Deere engines deliver impressive torque rise and peak torque for best-in-class, low-rpm pull-through power.

Innovative Event-Based Shifting (EBS) transmission senses the load while automatically adjusting clutch-pack engagement, for the smoothest shifting transmission in any grader. There's nothing else like it.

Moldboard shape, throat clearance, and draft-frame geometry enhancements improve material flow across the blade.

Spacious cabs with floor-to-ceiling tinted glass provide daylong comfort and unsurpassed visibility.

Familiar low-effort levers command a Pressure-Compensated Load-Sensing (PCLS) hydraulic system for precise, predictable response and fine-grading control when blue topping.

Fewer lock-to-lock turns reduce arm motion while providing just the right amount of steering response and control.

With five true working speeds below 9.3 mph, and a top speed of 25 mph, it's easy to match ground speed to the work.

EBS provides extremely smooth direction changes without engaging the inching pedal.

Pressure-compensating load-sensing hydraulics deliver consistent feel, response, and low-effort control — everything an operator needs for making fine adjustments when blue topping.

Pushbutton-activated cruise control helps reduce operator fatigue. Simply tap the brake or depress the throttle to return to manual operation.

Differential lock can be engaged on-the-go and under full load for extra traction at any speed.



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1. Backlit pushbuttons give convenient fingertip control of the saddle lock, lights, window washers and wipers, and window and mirror defrosters.

2. Familiar low-effort industry-standard controls deliver predictable, consistent response.

3. Although EBS makes it virtually unnecessary, the inching pedal gives additional low-effort control.



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A yellow John Deere D-Series Grader is shown from a low-angle perspective, moving along a dirt road. The operator is visible in the cab. The background features a desert landscape with mountains under a clear sky. The text "More productivity is at your command." is overlaid in large white font with a black outline.

More productivity is at your command.

The D-Series Graders put maximum productivity easily within reach. Best-in-class lever efforts are combined with Pressure-Compensated Load-Sensing (PCLS) hydraulics to ensure a consistently predictable and precise response. Short-throw levers deliver familiar low-effort control of

the blade, circle, wheel lean, articulation, and front and rear tools. And you won't find a smoother grader, either. Deere's exclusive EBS transmission delivers smooth-as-silk gear changes and transitions from forward to reverse, for exceptional control and grading precision without extra effort.



Seeing is believing.

It's easy to see what a Deere grader can do. With 40 percent more glass than before, your operators will benefit from the D-Series' virtually unobstructed

all-round visibility. And to help keep the view clear, an enhanced, more efficient HVAC system moves 64 percent more air — eliminating the need for noisy bus fans.



Floor-to-ceiling tinted glass yields a commanding view of the blade heel and toe, back of the cutting edge, and front tires.

Bonded windows allow a greater expanse of glass. Even the door latches were designed to maximize visibility.

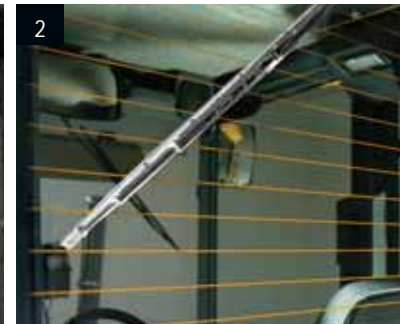
Additional halogen work lights and a high-amp alternator provide better illumination of the entire work area. Highly reliable, energy-efficient LED brake and turn-signal bulbs are standard equipment.

LCD monitor is optimally positioned where it can be easily observed while focusing on the work ahead.



All-around visibility is clearly superior. Floor-to-ceiling side glass, expansive rear glass, and large adjustable mirrors help the operator stay aware of surrounding obstacles.

1. Adjustable front and rear shades, tinted glass, and extended roofline reduce sun glare.
2. Front and rear intermittent wipers and rear window defogger are standard. Heated mirrors are available.



Enhanced HVAC system employs 13 directional vents for superior cooling that helps keep the cab comfortable.

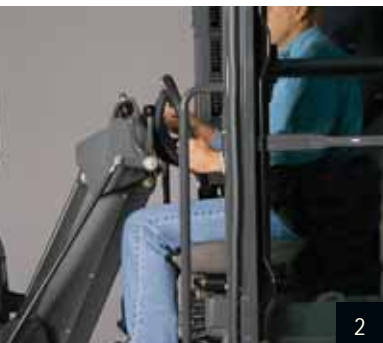
Tightly sealed, isolation-mounted ROPS cab provides best-in-class quietness to help reduce operator fatigue. Enables you to hear the radio or CD player, too.

With numerous overhead compartments, plus a place for a beverage, cooler, and cell phone, there's no shortage of storage space.

Optional deluxe air-suspension armchair adjusts multiple ways for daylong comfort and support.



1. Self-cleaning, slip-resistant steps, ergonomically placed grab bars, and wide entryways ease cab entrance and exit.



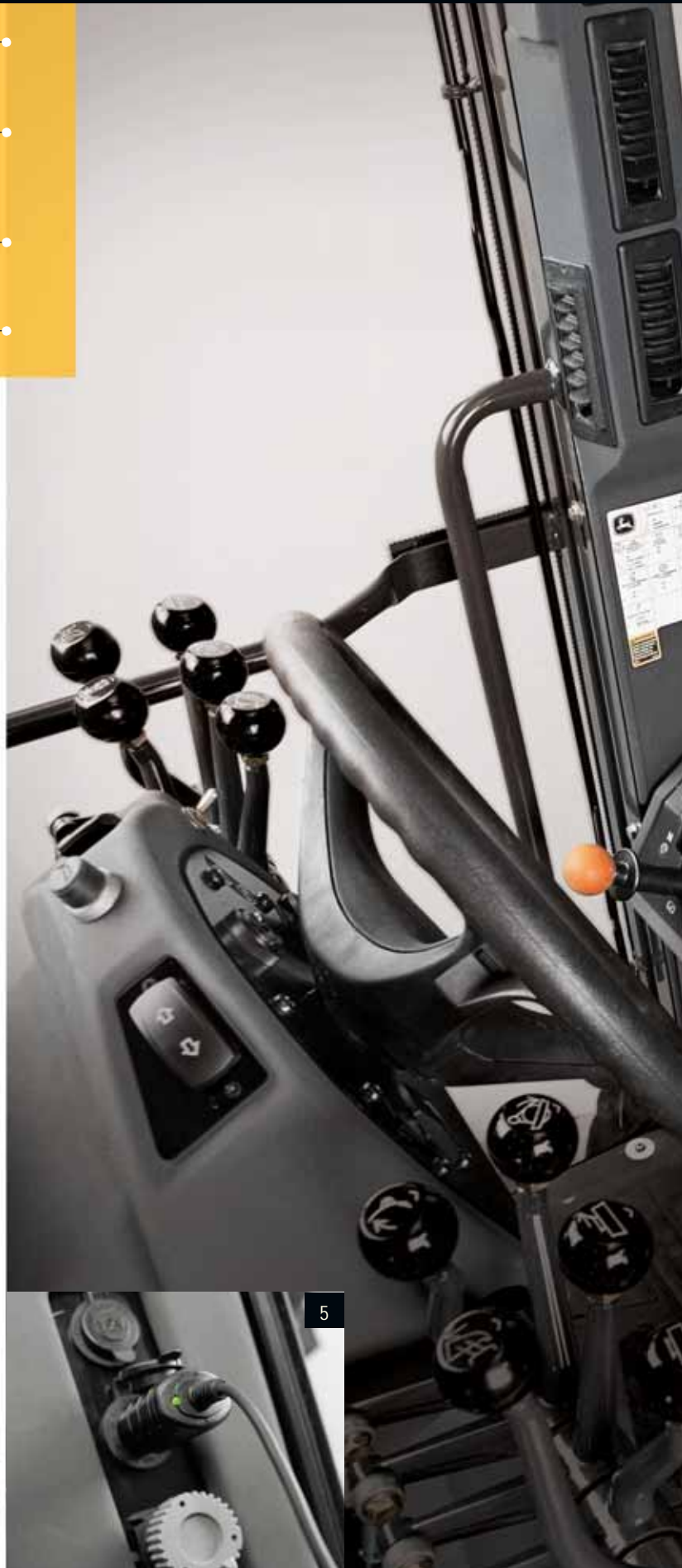
2. Fully adjustable console lets an operator position the control levers and steering wheel where they're most comfortable. Moves out of the way for more walk-through room.



3. Advanced multi-language monitor with LCD display, analog gauges, and LED indicators provides vital operating info at a glance.

4. Available swing-out front windows and sliding side glass enhance ventilation inside and enable easier communication outside.

5. Standard 15-amp converter and two outlets provide plenty of power for cell phones and other electronic devices. A 30-amp converter is also available.






More comfort means more productivity — by a wide margin.

Whoever said, “No pain, no gain,” has obviously never been aboard a D-Series Grader. The completely rethought ROPS cab won’t cramp an operator’s style. With 26 percent

more room than before, generous storage, and a more efficient HVAC system, comfort and convenience have been noticeably enhanced. For more gain without the pain.



Nothing runs like a Deere, because nothing is built like one.

Downtime is lost time. That's why each D-Series Grader boasts traditional John Deere durability and reliability features. Such as a high-strength mainframe, heavy-duty wet-sleeve diesel engine, and inboard-mounted self-adjusting wet-disc brakes. Add to those

state-of-the-art advances such as a solid-state electrical-distribution center, sealed touch pad, and multifunction diagnostic monitor, and you've got a grader that's got what it takes to keep on keeping on. When you know how they're built, you'll run a Deere.



Sealed transmission electrical connectors prevent moisture and contaminants from entering terminals.

Self-adjusting wet-disc brakes are mounted inboard, where they run cool, clean, and unexposed to corrosive materials. Unlike air systems, they require virtually no maintenance.

Deere-built PowerShift™ transmission employs durable heavy-duty clutches and bearings, for reliable performance, shift after shift.

Separate transmission, hydraulic, and axle filtration and cooling systems prevent cross-contamination for longer component life.

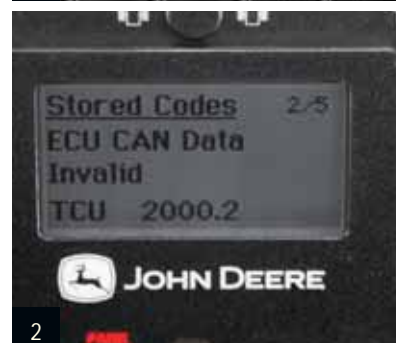
Blade is pre-stressed using a patented process for exceptional strength and durability.

Electrical-distribution center employs extremely reliable circuit-board technology and solid-state switches, reducing the number of wires and connectors from 72 to 5.

1. Multifunction touch pad is sealed from dirt and moisture, and proven to endure over two million cycles.
2. Enhanced monitor stores codes and gives diagnostic readings of most sensors and switches for quicker and easier troubleshooting.
3. Seven-fin-per-inch radiator and eight-fin-per-inch coolers are mounted side-by-side for efficient cooling and simplified cleanout.
4. High-strength circle and draft frame are built to withstand high-impact loads. Optional blade-impact system protects structural components from damage caused by run-ins with obstructions.



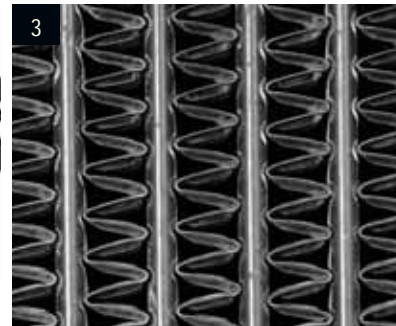
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Long wheelbase provides additional balance and stability, for more accurate grading and a smoother ride, without sacrificing the D-Series' tight turning radius.

Ball-and-socket draft-frame pivot is positioned where it enables easy on-the-go blade and circle adjustments for more confidence and control when blue topping.

Substantial power and weight translate into better traction for pushing big loads. Minimizes wheel spin, too, for more precise grade work.

Moldboard curvature and generous circle torque move more material for increased productivity.

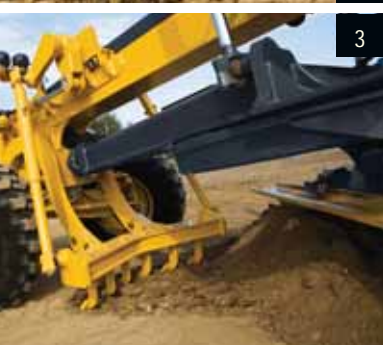


1. Circle motor's forward position keeps pinion teeth in constant mesh with the circle, minimizing backlash and wear.



2. With the optional IGC package, your grader arrives from the factory with the integrated connectivity needed to easily add an electronic grade control system of your choice.

3. Acquiring a new grader? You don't have to give up your mid-mount scarifier. Heavy-duty V-shape design of this new option provides superior ground penetration.



4. Exclusive ball-and-socket draft-frame pivot and seven-position saddle provide superior blade reach outside the tires.





A cut above the rest.

Want a machine that makes grade work simpler, more precise, and less costly? Get a D-Series. Improved working tools deliver more productivity in a wide range of applications. Moldboard curvature and generous throat clearance help move more material,

more easily. And a refined blade/tilt frame geometry significantly enhances fine-grading ability. Demo a D-Series today and find out for yourself why these Deere graders set the standard for productivity, uptime, and low daily operating costs.

Large service doors swing open wide, and daily service points are conveniently grouped on the same side for quick and convenient ground-level access.

Remote diagnostic and fluid sample ports enable technicians to do preventative maintenance and troubleshoot problems more quickly.

Easily accessible vertical engine, transmission, and hydraulic filters, plus environmentally friendly drains, simplify fluid changes.

You won't find any air tanks to bleed on a John Deere grader. Inboard wet-disc brakes are virtually maintenance free.

Sight gauges are conveniently located and easy to read, so you can check fluid levels at a glance.



Maintenance made easier.

Even the best machines need a little attention once in a while. And that's how we designed the D-Series — to be hassle-free and require even less of your time and money to maintain. Large service doors open wide for easy access to same-side service points and

help make quick work of the daily routine. Service intervals have been extended, plus numerous other timesaving features such as easy-to-replace wear inserts, quick-change filters, and designed-in diagnostics all help minimize downtime and expense.

1. Lockable compartments swing open for convenient ground-level access to maintenance-free batteries.

4. Five-hundred-hour engine oil and filter intervals further reduce the downtime scheduled for routine maintenance. Vertical filters allow quick, no-spill changes.

2. Easily replaceable super-tough nylon or bronze draft frame and circle wear inserts minimize component wear and never need greasing.

5. Unlike other graders that require far more effort and expertise, D-Series' circle wear inserts require only two hours and a $\frac{9}{16}$ -inch wrench to replace.

3. Greasing is less messy, with centralized lube banks providing easy access to difficult-to-reach zerks.

6. Moldboard employs a self-cleaning sideshift rail with easily replaced bronze wear inserts that eliminate component wear and greasing.



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Specifications



Engine	670D
Type	John Deere PowerTech™ 6068H; certified to EPA Tier 2 emissions
Rated Speed	2,000 rpm
Engine Power	
Gears 1–3	145 net hp (108 kW)
Gears 4–5	165 net hp (123 kW)
Gears 6–8	185 net hp (138 kW)
Aspiration	turbocharged with air-to-air aftercooler
Number of Cylinders	6
Displacement	414 cu. in. (6.8 L)
Net Torque @ 1,000 rpm	
Gears 1–3	554 lb.-ft. (751 Nm) @ 46% net torque rise
Gears 4–5	611 lb.-ft. (828 Nm) @ 41% net torque rise
Gears 6–8	625 lb.-ft. (847 Nm) @ 64% net torque rise
Lubrication	pressure system with full-flow filter and cooler
Air Cleaner with Restriction Indicator	dual element, dry, with tangential unloader
Electrical System	24 volt with 100-amp alternator
Batteries (two 12 volt)	1,400 cold-cranking amps, 440-min. reserve capacity

Steering and Articulation

All-hydraulic power frame articulation for maneuverability and productivity; crab steering reduces side drift, positions tandems on firm ground, and increases side slope stability

Articulation (both left and right)	22 degrees
Turning Radius (front steer plus articulation)	23 ft. 0 in. (7.01 m)
Front Wheel Lean	20 degrees

Tires and Rims

Tire Size	Front	Rear
13.00-24 on 9-in. (229 mm) Rim		
Wheel Tread (on ground)	83 in. (2.11 m)	82 in. (2.08 m)
Overall Width (top of tires)	98 in. (2.49 m)	97 in. (2.46 m)
Ground Clearance (front axle)	24 in. (610 mm)	
14.00-24 on 10-in. (254 mm) Rim		
Wheel Tread (on ground)	83 in. (2.11 m)	82 in. (2.08 m)
Overall Width (top of tires)	99 in. (2.51 m)	98 in. (2.49 m)
Ground Clearance (front axle)	25.1 in. (638 mm)	
17.5-25 on 14-in. (356 mm) Rim		
Wheel Tread (on ground)	86 in. (2.18 m)	85 in. (2.16 m)
Overall Width (top of tires)	105 in. (2.67 m)	104 in. (2.64 m)
Ground Clearance (front axle)	25.1 in. (638 mm)	

Productivity

Blade Pull @ Maximum Weight and 0.9 Coefficient of Traction	28,220 lb. (12 800 kg)
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Operating Weights

SAE Operating Weights With Standard Equipment	
Front	8,500 lb. (3855 kg)
Rear	23,510 lb. (10 663 kg)
Total	32,010 lb. (14 519 kg)
Typical Operating Weights with Front Push Block and Ripper	
Front	9,730 lb. (4413 kg)
Rear	28,060 lb. (12 728 kg)
Total	37,790 lb. (17 141 kg)
Maximum Operating Weight (total)	46,800 lb. (21 228 kg)

Transmission

670D

Type	direct-drive John Deere PowerShift Plus™, modulated shift on-the-go, Event-Based Shifting (EBS), inching pedal
Travel Speeds (with no tire slip)	Forward and reverse @ 2,000 rpm with 14.00-24 tires
Shift Lever Position 1	2.2 mph (3.4 km/h)
Shift Lever Position 2	3.0 mph (4.9 km/h)
Shift Lever Position 3	4.3 mph (6.8 km/h)
Shift Lever Position 4	6.0 mph (9.6 km/h)
Shift Lever Position 5	9.0 mph (14.4 km/h)
Shift Lever Position 6	12.7 mph (20.3 km/h)
Shift Lever Position 7	17.7 mph (28.4 km/h)
Shift Lever Position 8	25.0 mph (40.0 km/h)

Final Drives

Spiral bevel differential, inboard-mounted planetary sealed in cooled, filtered oil; operator-controlled differential lock/unlock; 2-in. (51 mm) pitch tandem drive chains

Front Axle

Heavy-duty, welded box construction	
Oscillation (total)	32 degrees
Wheel Lean (each direction)	20 degrees

Brakes

Foot-controlled, hydraulically operated, multiple wet-disc brakes sealed in cooled, filtered oil; self adjusting, maintenance free; includes spring-applied, hydraulically released parking brake; both independent braking systems effective on all four tandem wheels

Hydraulic System

Type	closed center, pressure compensated load sensing (PCLS), variable-displacement piston pump, O-ring face seal fittings
Hydraulic Pump	5.5 cu. in. (90 cm ³)
Rated Flow @ 2,000 rpm	54.7 gpm (207 L/min.)
Maximum System Pressure	2,750 psi

Blade Function

All-hydraulic, industry preferred hand-lever placement of blade-function controls; includes float position; easy conversion from two-hand to one-hand blade-lift control; seven blade-lift arm positions

Blade Range	
Lift Above Ground	18.5 in. (470 mm)
Blade Side Shift, Right or Left	26.9 in. (680 mm)
Shoulder Reach Outside Wheels (Frame)	
Straight	
Right	82 in. (2.08 m)
Left	82.5 in. (2.10 m)
Pitch at Ground Line	42 degrees forward / 5 degrees back

Circle

Type	welded construction, heat treated for strength, machined for flatness, equipped with replaceable wear inserts
Circle Diameter	60 in. (1.52 m)
Rotation	360 degrees
Drive	hydraulic motor and worm gear with positive lock
Side Shift	
Right	28.5 in. (724 mm)
Left	31 in. (787 mm)

ROPS

Low-profile cab, full-height cab, and canopy ROPS (Rollover Protective Structure) meet criteria within SAE J1040MAY 1994, ISO 3471-1997, SAE J397MAY1994, and ISO 3164

Mainframe

Type	welded box construction
Width, Minimum	12.07 in. (306.5 mm)
Height, Minimum	10.63 in. (270 mm)
Thickness	
Sides	0.63 in. (16 mm)
Top and Bottom	1 in. (25 mm)
Weight per ft., Minimum	116.5 lb./ft. (173.7 kg/m)
Minimum Vertical Section Modulus	113.5 cu. in. (1860 cm ³)
Average Vertical Section Modulus at Saddle	157 cu. in. (2572 cm ³)

Draft Frame

Welded box construction machined for flatness with double ball-and-socket pivot connection, equipped with replaceable wear inserts

Moldboard

670D

Type	high-strength, pre-stressed, wear-resistant, high-carbon steel, equipped with replaceable side-shift wear inserts
Length	12 ft. 0 in. (3.66 m)
Height	24 in. (610 mm)
Thickness	0.88 in. (22 mm)

Cutting Edge

Type	Dura-Max® through-hardened steel edge
Thickness and Width	0.62 x 6 in. (16 x 152 mm)

Scarifiers

	<i>front</i>	<i>mid-mount</i>
Type	V-type manual two-pitch position with hydraulic float	V-type manual three-pitch position with hydraulic float
Width of Cut	48 in. (1.20 m)	46.6 in. (1.18 m)
Number of Teeth	5 standard, can hold up to 9	11
Shank Spacing	5.75 in. (146 mm)	4.6 in. (117 mm)
Lift Above Ground	21.8 in. (554 mm)	13 in. (330 mm)
Maximum Penetration	13.3 in. (338 mm)	11.5 in. (292 mm)
Shank Size	1 x 3 in. (25 x 76 mm)	1 x 3 in. (25 x 76 mm)

Rear Ripper / Scarifier

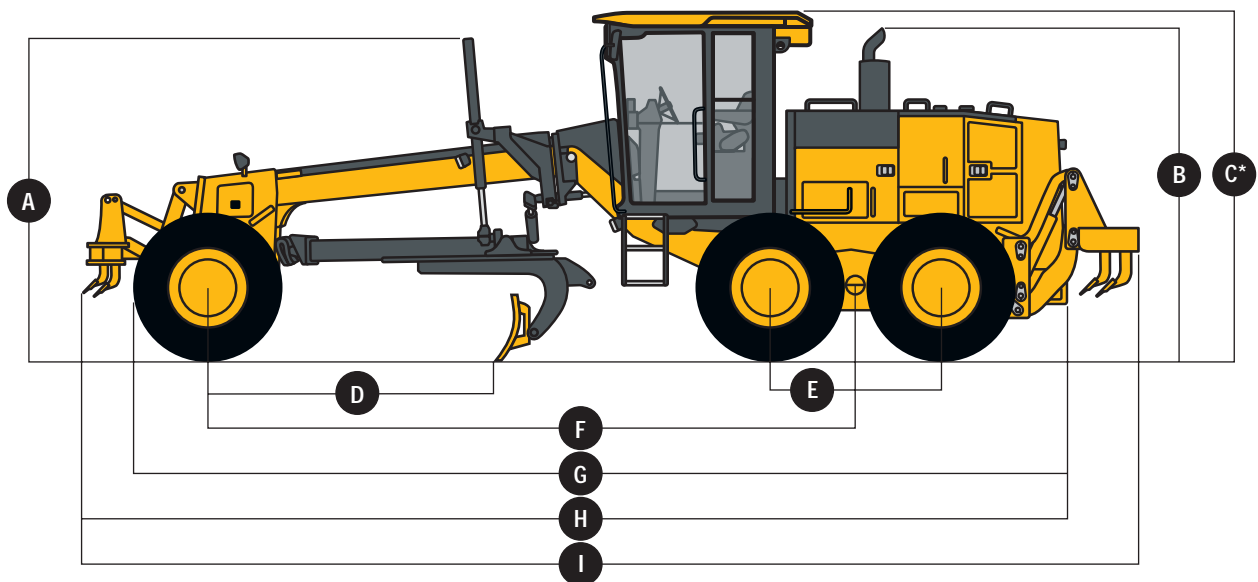
	<i>rear ripper</i>	<i>scarifier</i>
Type	parallelogram linkage with manual valve control and hydraulic float, tool bar for five ripper and nine scarifier shanks	
Width of Cut	87 in. (2.21 m)	87 in. (2.21 m)
Number of Shanks	3 standard, can hold up to 5	can hold up to 9
Lift Above Ground	21.4 in. (544 mm)	26.8 in. (681 mm)
Maximum Penetration	18 in. (457 mm)	12.7 in. (323 mm)
Shank Size	2.25 x 5.5 in. (57 x 140 mm)	1 x 3 in. (25 x 76 mm)

Capacities (U.S.)

Fuel Tank	106 gal. (401.2 L)	Differential Housing	9.5 gal. (36 L)
Cooling System	12 gal. (45.4 L)	Tandem Housings (each)	20 gal. (75.7 L)
Engine Lubrication, Including Filter	6.25 gal. (23.7 L)	Circle Gearbox	1.5 gal. (5.7 L)
Transmission	6 gal. (22.7 L)	Hydraulic Reservoir	14 gal. (53 L)

Dimensions

A Height to Top of Blade-Lift Cylinders.....	116 in. (2.95 m)	F Wheelbase.....	20 ft. 1 in. (6.12 m)
B Height to Top of Exhaust.....	122 in. (3.10 m)	G Overall Length	346.7 in. (8804 mm)
C Height to Top of Cab*	10 ft. 5 in. (3.18 m)	H Overall Length with Scarifier	375.4 in. (9534 mm)
D Blade Base.....	101.1 in. (2568 mm)	I Overall Length with Scarifier and Ripper	405.7 in. (10 304 mm)
E Tandem Axle Spacing	60.8 in. (1.54 m)		*Add 8.9 in. (225 mm) for full-height cab.



**Optional or Special Equipment
With Approximate Weights**

670D

Add these weights to SAE standard equipment operating weight to obtain total operating weight.

Coolant Heater	8 lb. (4 kg)
Rotary Ejector Pre cleaner	17 lb. (8 kg)
Lighting Packages with LED Colored Lights	
Grading (10 halogen lights): Transportation Lights Plus Mid-Frame (2), Under Cab (2), and Backup Reverse Lights (2)	8 lb. (4 kg)
Deluxe Grading (16 halogen lights): Grading Lights Plus Front Roof Inner (2), Front Roof Outer (2), and Rear Roof Lights (2)	17 lb. (8 kg)
Deluxe Grading Lights with Additional Right-Side Cab Roof Lights (2) (18 halogen lights): Deluxe Grading Lights Plus Rear Right-Side Roof Lights (2)	20 lb. (9 kg)
High-Front Light Bar for Snowplowing	44 lb. (20 kg)
24- to 12-Volt 30-Amp Converter	3 lb. (1 kg)
Auxiliary Hydraulic Control Valve Section and Controls (optional valves are available for attachments such as rear ripper, front-mounted scarifier, and snow equipment; see dealer price list for details)	
	15 lb. (7 kg)
Hydraulics for Front-Mounted Equipment	19 lb. (9 kg)
Moldboards with Through-Hardened Dura-Max® Cutting Edge	
12 ft. x 24 in. x 7/8 in. with 8-in. x 3/4-in. cutting edge	100 lb. (45 kg)
12 ft. x 27 in. x 1 in. with 8-in. x 3/4-in. cutting edge	277 lb. (126 kg)
13 ft. x 27 in. x 1 in. with 8-in. x 3/4-in. cutting edge	396 lb. (180 kg)
14 ft. x 24 in. x 7/8 in. with 6-in. x 5/8-in. cutting edge	231 lb. (105 kg)
14 ft. x 24 in. x 7/8 in. with 8-in. x 3/4-in. cutting edge	346 lb. (157 kg)
Extensions, 2 ft. (610 mm), Right or Left (less cutting edge)	
For Use with 24-in. Moldboards	218 lb. (99 kg)
For Use with 27-in. Moldboards	228 lb. (103 kg)
Overlay End Bits, Reversible (one pair)	
For 6-in. (152 mm) Cutting Edge	42 lb. (19 kg)
For 8-in. (203 mm) Cutting Edge	50 lb. (23 kg)
Extended Wear Moldboard Side-Shift Wear Inserts	8 lb. (4 kg)
Extended Wear Circle Wear Inserts	43 lb. (20 kg)
Bottom Guard, Heavy Duty with Side Guards	391 lb. (177 kg)
Front Weight	550 lb. (249 kg)
Push Block	
Front (standard)	1,500 lb. (682 kg)
Front (heavy)	2,000 lb. (909 kg)
Rear Hitch	50 lb. (23 kg)
Ripper/Scarifier, Rear Mounted with Hitch and Ripper Shanks (3)	3,000 lb. (1361 kg)
Scarifier, Front Mounted with Teeth (5)	1,874 lb. (850 kg)
Scarifier, Mid-Mount with Teeth (11)	2,662 lb. (1208 kg)
Tires	
13.00-24, 12 PR G2	- 84 lb. (- 38 kg)
14.00-24, 12 PR G2	0 lb. (0 kg)
17.5-25, 12 PR G2	264 lb. (120 kg)
14.00-R24, Radial, G2 General Purpose	474 lb. (215 kg)
14.00-R24, Radial, G2 Snow	654 lb. (297 kg)
17.5-R25, Radial, G2 General Purpose	594 lb. (269 kg)
17.5-R25, Radial, G2 Snow	642 lb. (291 kg)
17.5-R25, Radial, G3 General Purpose	726 lb. (329 kg)
Multi-Piece Rims	
10 in. x 24 in.	297 lb. (135 kg)
14 in. x 25 in.	265 lb. (120 kg)
Low Cab with Opening Front and Side Windows (air conditioning, heater ducts, and 3-in. seat belt)	
	35 lb. (16 kg)
Tall Cab with Fixed Front and Side Windows (air conditioning, heater ducts, and 3-in. seat belt)	
	126 lb. (57 kg)
Tall Cab with Opening Front and Side Windows (air conditioning, heater ducts, and 3-in. seat belt)	
	132 lb. (60 kg)
Canopy, Low Profile with ROPS (3-in. seat belt)	- 356 lb. (- 161 kg)
Deluxe Cloth Seat with Air Suspension and Adjustable Armrests and Headrest	28 lb. (13 kg)
Wipers/Washers, Lower-Front Windows	9 lb. (4 kg)

Specifications

Engine 770D

Type	John Deere PowerTech™ 6081H; certified to EPA Tier 2 emissions
Rated Speed	2,000 rpm
Engine Power	
Gears 1–2	165 net hp (123 kW)
Gear 3	170 net hp (127 kW)
Gears 4–5	185 net hp (138 kW)
Gears 6–8	215 net hp (160 kW)
Aspiration	turbocharged with waste-gate boost pressure regulation and air-to-air aftercooler
Number of Cylinders	6
Displacement	494 cu. in. (8.1 L)
Net Torque @ 1,000 rpm	
Gears 1–2	691 lb.-ft. (937 Nm) @ 75% net torque rise
Gear 3	738 lb.-ft. (1001 Nm) @ 65% net torque rise
Gears 4–5	778 lb.-ft. (1055 Nm) @ 65% net torque rise
Gears 6–8	902 lb.-ft. (1223 Nm) @ 62% net torque rise
Lubrication	pressure system with full-flow filter and cooler
Air Cleaner with Restriction Indicator	dual element, dry, with tangential unloader
Electrical System	24 volt with 100-amp alternator
Batteries (two 12 volt)	1,400 cold-cranking amps, 440-min. reserve capacity

Steering and Articulation

All-hydraulic power frame articulation for maneuverability and productivity; crab steering reduces side drift, positions tandems on firm ground, and increases side slope stability	
Articulation (both left and right)	22 degrees
Turning Radius (front steer plus articulation)	23 ft. 0 in. (7.01 m)
Front Wheel Lean	20 degrees

Tires and Rims

Tire Size	Front	Rear
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Wheel Tread (on ground)	83 in. (2.11 m)	82 in. (2.08 m)
Overall Width (top of tires)	99 in. (2.51 m)	98 in. (2.49 m)
Ground Clearance (front axle)	25.1 in. (638 mm)	
17.5-25 on 14-in. (356 mm) Rim		
Wheel Tread (on ground)	86 in. (2.18 m)	85 in. (2.16 m)
Overall Width (top of tires)	105 in. (2.67 m)	104 in. (2.64 m)
Ground Clearance (front axle)	25.1 in. (638 mm)	

Productivity

Blade Pull @ Maximum Weight and 0.9 Coefficient of Traction	28,990 lb. (13 149 kg)
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Operating Weights

SAE Operating Weights With Standard Equipment	
Front	8,510 lb. (3860 kg)
Rear	24,160 lb. (10 959 kg)
Total	32,670 lb. (14 819 kg)
Typical Operating Weights with Front Push Block and Ripper	
Front	10,050 lb. (4559 kg)
Rear	29,130 lb. (13 213 kg)
Total	39,180 lb. (17 772 kg)
Maximum Operating Weight (snow equipment)	
Rear	32,160 lb. (14 587 kg)
Total	48,000 lb. (21 772 kg)

Transmission **770D**

Type	direct-drive John Deere PowerShift Plus™, modulated shift on-the-go, Event-Based Shifting (EBS), inching pedal
Travel Speeds (with no tire slip)	Forward and reverse @ 2,000 rpm with 14.00-R24 tires
Shift Lever Position 1	2.3 mph (3.6 km/h)
Shift Lever Position 2	3.2 mph (5.1 km/h)
Shift Lever Position 3	4.4 mph (7.1 km/h)
Shift Lever Position 4	6.3 mph (10.0 km/h)
Shift Lever Position 5	9.4 mph (15.0 km/h)
Shift Lever Position 6	13.2 mph (21.1 km/h)
Shift Lever Position 7	18.5 mph (29.5 km/h)
Shift Lever Position 8	26.0 mph (41.6 km/h)

Final Drives

Spiral bevel differential, inboard-mounted planetary sealed in cooled, filtered oil; operator-controlled differential lock/unlock; 2-in. (51 mm) pitch tandem drive chains

Front Axle

Heavy-duty, welded box construction	
Oscillation (total)	32 degrees
Wheel Lean (each direction)	20 degrees

Brakes

Foot-controlled, hydraulically operated, multiple wet-disc brakes sealed in cooled, filtered oil; self adjusting, maintenance free; includes spring-applied, hydraulically released parking brake; both independent braking systems effective on all four tandem wheels

Hydraulic System

Type	closed center, pressure compensated load sensing (PCLS), variable-displacement piston pump, O-ring face seal fittings
Hydraulic Pump	5.5 cu. in. (90 cm ³)
Rated Flow @ 2,000 rpm	54.7 gpm (207 L/min.)
Maximum System Pressure	2,750 psi

Blade Function

All-hydraulic, industry preferred hand-lever placement of blade-function controls; includes float position; easy conversion from two-hand to one-hand blade-lift control; seven blade-lift arm positions

Blade Range	
Lift Above Ground	18.5 in. (470 mm)
Blade Side Shift, Right or Left	26.9 in. (680 mm)
Shoulder Reach Outside Wheels (Frame)	
Straight	
Right	82 in. (2.08 m)
Left	82.5 in. (2.10 m)
Pitch at Ground Line	42 degrees forward / 5 degrees back

Circle

Type	welded construction, heat treated for strength, machined for flatness, equipped with replaceable wear inserts
Circle Diameter	60 in. (1.52 m)
Rotation	360 degrees
Drive	hydraulic motor and worm gear with positive lock
Side Shift	
Right	28.5 in. (724 mm)
Left	31 in. (787 mm)

ROPS

Low-profile cab, full-height cab, and canopy ROPS (Rollover Protective Structure) meet criteria within SAE J1040MAY 1994, ISO 3471-1997, SAE J397MAY1994, and ISO 3164

Mainframe

Type	welded box construction
Width, Minimum	12.07 in. (306.5 mm)
Height, Minimum	10.63 in. (270 mm)
Thickness	
Sides	0.63 in. (16 mm)
Top and Bottom	1 in. (25 mm)
Weight per ft., Minimum	116.5 lb./ft. (173.7 kg/m)
Minimum Vertical Section Modulus	113.5 cu. in. (1860 cm ³)
Average Vertical Section Modulus at Saddle	157 cu. in. (2572 cm ³)

Draft Frame

Welded box construction machined for flatness with double ball-and-socket pivot connection, equipped with replaceable wear inserts

Moldboard

770D

Type	high-strength, pre-stressed, wear-resistant, high-carbon steel, equipped with replaceable side-shift wear inserts
Length	12 ft. 0 in. (3.66 m)
Height	24 in. (610 mm)
Thickness	0.88 in. (22 mm)

Cutting Edge

Type	Dura-Max® through-hardened steel edge
Thickness and Width	0.62 x 6 in. (16 x 152 mm)

Scarifiers

	<i>front</i>	<i>mid-mount</i>
Type	V-type manual two-pitch position with hydraulic float	V-type manual three-pitch position with hydraulic float
Width of Cut	48 in. (1.20 m)	46.6 in. (1.18 m)
Number of Teeth	5 standard, can hold up to 9	11
Shank Spacing	5.75 in. (146 mm)	4.6 in. (117 mm)
Lift Above Ground	21.8 in. (554 mm)	13 in. (330 mm)
Maximum Penetration	13.3 in. (338 mm)	11.5 in. (292 mm)
Shank Size	1 x 3 in. (25 x 76 mm)	1 x 3 in. (25 x 76 mm)

Rear Ripper / Scarifier

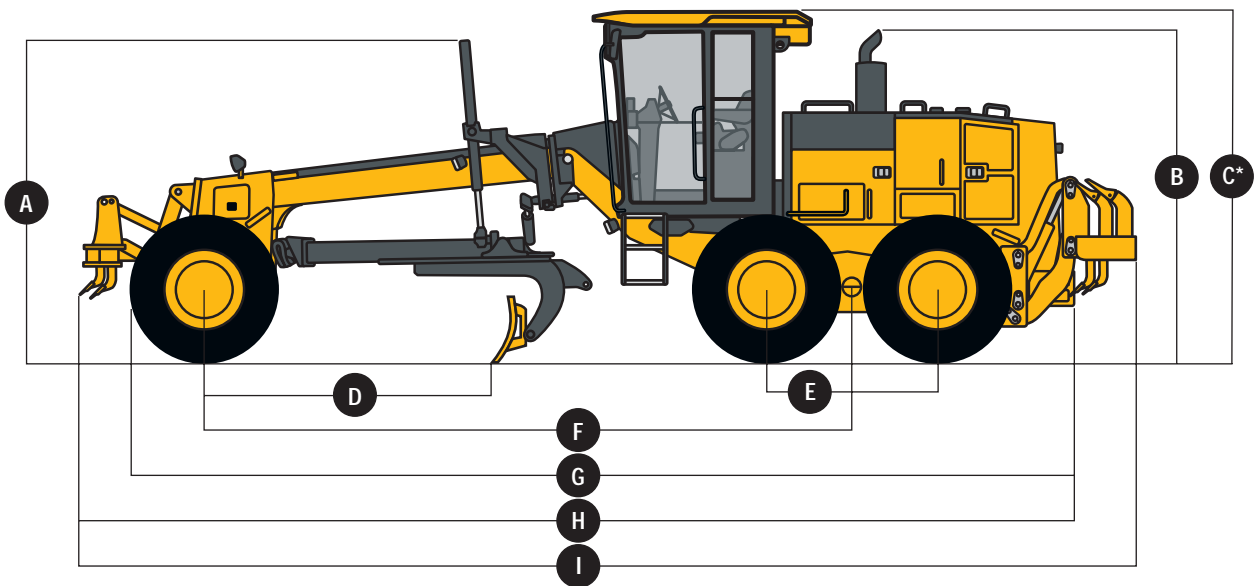
Type	parallelogram linkage with manual valve control and hydraulic float, tool bar for five ripper and nine scarifier shanks	
	<i>rear ripper</i>	<i>scarifier</i>
Width of Cut	87 in. (2.21 m)	87 in. (2.21 m)
Number of Shanks	3 standard, can hold up to 5	can hold up to 9
Lift Above Ground	21.4 in. (544 mm)	26.8 in. (681 mm)
Maximum Penetration	18 in. (457 mm)	12.7 in. (323 mm)
Shank Size	2.25 x 5.5 in. (57 x 140 mm)	1 x 3 in. (25 x 76 mm)

Capacities (U.S.)

Fuel Tank	106 gal. (401.2 L)
Cooling System	13 gal. (49.2 L)
Engine Lubrication, Including Filter	7.5 gal. (28.4 L)
Transmission	6 gal. (22.7 L)
Differential Housing	9.5 gal. (36 L)
Tandem Housings (each)	20 gal. (75.7 L)
Circle Gearbox	1.5 gal. (5.7 L)
Hydraulic Reservoir	14 gal. (53 L)

Dimensions

A Height to Top of Blade-Lift Cylinders.....	116 in. (2.95 m)	F Wheelbase.....	20 ft. 1 in. (6.12 m)
B Height to Top of Exhaust.....	122 in. (3.10 m)	G Overall Length	346.7 in. (8804 mm)
C Height to Top of Cab*	10 ft. 5 in. (3.18 m)	H Overall Length with Scarifier	375.4 in. (9534 mm)
D Blade Base.....	101.1 in. (2568 mm)	I Overall Length with Scarifier and Ripper.....	405.7 in. (10 304 mm)
E Tandem Axle Spacing	60.8 in. (1.54 m)		*Add 8.9 in. (225 mm) for full-height cab.



**Optional or Special Equipment
With Approximate Weights**

770D

Add these weights to SAE standard equipment operating weight to obtain total operating weight.

Coolant Heater	8 lb. (4 kg)
Rotary Ejector Precleaner	17 lb. (8 kg)
Lighting Packages with LED Colored Lights	
Grading (10 halogen lights): Transportation Lights Plus Mid-Frame (2), Under Cab (2), and Backup Reverse Lights (2)	8 lb. (4 kg)
Deluxe Grading (16 halogen lights): Grading Lights Plus Front Roof Inner (2), Front Roof Outer (2), and Rear Roof Lights (2)	17 lb. (8 kg)
Deluxe Grading Lights with Additional Right-Side Cab Roof Lights (2) (18 halogen lights): Deluxe Grading Lights Plus Rear Right-Side Roof Lights (2)	20 lb. (9 kg)
High-Front Light Bar for Snowplowing	44 lb. (20 kg)
24- to 12-Volt 30-Amp Converter	3 lb. (1 kg)
Auxiliary Hydraulic Control Valve Section and Controls (optional valves are available for attachments such as rear ripper, front-mounted scarifier, and snow equipment; see dealer price list for details)	
	15 lb. (7 kg)
Hydraulics for Front-Mounted Equipment	19 lb. (9 kg)
Moldboards with Through-Hardened Dura-Max® Cutting Edge	
12 ft. x 24 in. x 7/8 in. with 8-in. x 3/4-in. cutting edge	100 lb. (45 kg)
12 ft. x 27 in. x 1 in. with 8-in. x 3/4-in. cutting edge	277 lb. (126 kg)
13 ft. x 27 in. x 1 in. with 8-in. x 3/4-in. cutting edge	396 lb. (180 kg)
14 ft. x 24 in. x 7/8 in. with 6-in. x 5/8-in. cutting edge	231 lb. (105 kg)
14 ft. x 24 in. x 7/8 in. with 8-in. x 3/4-in. cutting edge	346 lb. (157 kg)
14 ft. x 27 in. x 1 in. with 8-in. x 3/4-in. cutting edge	554 lb. (251 kg)
Extensions, 2 ft. (610 mm), Right or Left (less cutting edge)	
For Use with 24-in. Moldboards	218 lb. (99 kg)
For Use with 27-in. Moldboards	228 lb. (103 kg)
Overlay End Bits, Reversible (one pair)	
For 6-in. (152 mm) Cutting Edge	42 lb. (19 kg)
For 8-in. (203 mm) Cutting Edge	50 lb. (23 kg)
Extended Wear Moldboard Side-Shift Wear Inserts	8 lb. (4 kg)
Extended Wear Circle Wear Inserts	43 lb. (20 kg)
Bottom Guard, Heavy Duty with Side Guards	391 lb. (177 kg)
Front Weight	550 lb. (249 kg)
Push Block	
Front (standard)	1,500 lb. (682 kg)
Front (heavy)	2,000 lb. (909 kg)
Rear Hitch	50 lb. (23 kg)
Ripper/Scarifier, Rear Mounted with Hitch and Ripper Shanks (3)	3,000 lb. (1361 kg)
Scarifier, Front Mounted with Teeth (5)	1,874 lb. (850 kg)
Scarifier, Mid-Mount with Teeth (11)	2,662 lb. (1208 kg)
Tires	
14.00-24, 12 PR G2	- 474 lb. (- 215 kg)
17.5-25, 12 PR G2	- 210 lb. (- 95 kg)
14.00-R24, Radial, G2 General Purpose	0 lb. (0 kg)
14.00-R24, Radial, G2 Snow	180 lb. (82 kg)
17.5-R25, Radial, G2 General Purpose	120 lb. (54 kg)
17.5-R25, Radial, G2 Snow	168 lb. (76 kg)
17.5-R25, Radial, G3 General Purpose	252 lb. (114 kg)
Multi-Piece Rims	
10 in. x 24 in.	297 lb. (135 kg)
14 in. x 25 in.	265 lb. (120 kg)
Low Cab with Opening Front and Side Windows (air conditioning, heater ducts, and 3-in. seat belt)	
	35 lb. (16 kg)
Tall Cab with Fixed Front and Side Windows (air conditioning, heater ducts, and 3-in. seat belt)	
	126 lb. (57 kg)
Tall Cab with Opening Front and Side Windows (air conditioning, heater ducts, and 3-in. seat belt)	
	132 lb. (60 kg)
Canopy, Low Profile with ROPS (3-in. seat belt)	- 356 lb. (- 161 kg)
Deluxe Cloth Seat with Air Suspension and Adjustable Armrests and Headrest	28 lb. (13 kg)
Wipers/Washers, Lower-Front Windows	9 lb. (4 kg)

Specifications

Engine 870D

Type	John Deere PowerTech™ 6081H; certified to EPA Tier 2 emissions
Rated Speed	2,000 rpm
Engine Power	
Gears 1–2	180 net hp (134 kW)
Gear 3	185 net hp (138 kW)
Gears 4–5	200 net hp (149 kW)
Gears 6–8	235 net hp (175 kW)
Aspiration	turbocharged with waste-gate boost pressure regulation and air-to-air aftercooler
Number of Cylinders	6
Displacement	494 cu. in. (8.1 L)
Net Torque @ 1,000 rpm	
Gears 1–2	731 lb.-ft. (991 Nm) @ 66% net torque rise
Gear 3	793 lb.-ft. (1075 Nm) @ 57% net torque rise
Gears 4–5	835 lb.-ft. (1132 Nm) @ 52% net torque rise
Gears 6–8	913 lb.-ft. (1238 Nm) @ 61% net torque rise
Lubrication	pressure system with full-flow filter and cooler
Air Cleaner with Restriction Indicator	dual element, dry, with tangential unloader
Electrical System	24 volt with 100-amp alternator
Batteries (two 12 volt)	1,400 cold-cranking amps, 440-min. reserve capacity

Steering and Articulation

All-hydraulic power frame articulation for maneuverability and productivity; crab steering reduces side drift, positions tandems on firm ground, and increases side slope stability	
Articulation (both left and right)	22 degrees
Turning Radius (front steer plus articulation)	23 ft. 0 in. (7.01 m)
Front Wheel Lean	20 degrees

Tires and Rims

Tire Size	Front	Rear
14.00-24 on 10-in. (254 mm) Rim		
Wheel Tread (on ground)	83 in. (2.11 m)	82 in. (2.08 m)
Overall Width (top of tires)	99 in. (2.51 m)	98 in. (2.49 m)
Ground Clearance (front axle)	25.1 in. (638 mm)	
17.5-25 on 14-in. (356 mm) Rim		
Wheel Tread (on ground)	86 in. (2.18 m)	85 in. (2.16 m)
Overall Width (top of tires)	105 in. (2.67 m)	104 in. (2.64 m)
Ground Clearance (front axle)	25.1 in. (638 mm)	

Productivity

Blade Pull @ Maximum Weight and 0.9 Coefficient of Traction	29,320 lb. (13 299 kg)
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Operating Weights

SAE Operating Weights With Standard Equipment	
Front	9,200 lb. (4173 kg)
Rear	25,550 lb. (11 589 kg)
Total	34,750 lb. (15 760 kg)
Typical Operating Weights with Front Push Block and Ripper	
Front	10,490 lb. (4758 kg)
Rear	30,140 lb. (13 672 kg)
Total	40,630 lb. (18 430 kg)
Maximum Operating Weight (snow equipment)	
Rear	32,576 lb. (14 777 kg)
Total	48,620 lb. (22 045 kg)

Transmission **870D**

Type	direct-drive John Deere PowerShift Plus™, modulated shift on-the-go, Event-Based Shifting (EBS), inching pedal
Travel Speeds (with no tire slip)	<i>Forward and reverse @ 2,000 rpm with 17.5-R25 tires</i>
Shift Lever Position 1	2.3 mph (3.7 km/h)
Shift Lever Position 2	3.3 mph (5.2 km/h)
Shift Lever Position 3	4.5 mph (7.2 km/h)
Shift Lever Position 4	6.3 mph (10.0 km/h)
Shift Lever Position 5	9.5 mph (15.2 km/h)
Shift Lever Position 6	13.3 mph (21.3 km/h)
Shift Lever Position 7	18.4 mph (29.4 km/h)
Shift Lever Position 8	25.7 mph (41.1 km/h)

Final Drives

Spiral bevel differential, inboard-mounted planetary sealed in cooled, filtered oil; operator-controlled differential lock/unlock; 2-in. (51 mm) pitch tandem drive chains

Front Axle

Heavy-duty, welded box construction	
Oscillation (total)	32 degrees
Wheel Lean (each direction)	20 degrees

Brakes

Foot-controlled, hydraulically operated, multiple wet-disc brakes sealed in cooled, filtered oil; self adjusting, maintenance free; includes spring-applied, hydraulically released parking brake; both independent braking systems effective on all four tandem wheels

Hydraulic System

Type	closed center, pressure compensated load sensing (PCLS), variable-displacement piston pump, O-ring face seal fittings
Hydraulic Pump	5.5 cu. in. (90 cm ³)
Rated Flow @ 2,000 rpm	54.7 gpm (207 L/min.)
Maximum System Pressure	2,750 psi

Blade Function

All-hydraulic, industry preferred hand-lever placement of blade-function controls; includes float position; easy conversion from two-hand to one-hand blade-lift control; seven blade-lift arm positions

Blade Range	
Lift Above Ground	17.2 in. (437 mm)
Blade Side Shift, Right or Left	26.9 in. (680 mm)
Shoulder Reach Outside Wheels (Frame Straight)	
Right	91 in. (2.31 m)
Left	91.5 in. (2.32 m)
Pitch at Ground Line	42 degrees forward / 5 degrees back

Circle

Type	welded construction, heat treated for strength, machined for flatness, equipped with replaceable wear inserts
Circle Diameter	60 in. (1.52 m)
Rotation	360 degrees
Drive	hydraulic motor and worm gear with positive lock
Side Shift	
Right	28.5 in. (724 mm)
Left	31 in. (787 mm)

ROPS

Low-profile cab, full-height cab, and canopy ROPS (Rollover Protective Structure) meet criteria within SAE J1040MAY 1994, ISO 3471-1997, SAE J397MAY1994, and ISO 3164

Mainframe

Type	welded box construction
Width, Minimum	12.07 in. (306.5 mm)
Height, Minimum	10.63 in. (270 mm)
Thickness	
Sides	0.63 in. (16 mm)
Top and Bottom	1.26 in. (32 mm)
Weight per ft., Minimum	137 lb./ft. (204 kg/m)
Minimum Vertical Section Modulus	132.2 cu. in. (2166 cm ³)
Average Vertical Section Modulus at Saddle	183.1 cu. in. (3001 cm ³)

Draft Frame

Welded box construction machined for flatness with double ball-and-socket pivot connection, equipped with replaceable wear inserts

Moldboard

870D

Type	high-strength, pre-stressed, wear-resistant, high-carbon steel, equipped with replaceable side-shift wear inserts
Length	14 ft. 0 in. (4.3 m)
Height	27 in. (686 mm)
Thickness	1.0 in. (25 mm)

Cutting Edge

Type	Dura-Max® through-hardened steel edge
Thickness and Width	0.75 x 8 in. (19 x 203 mm)

Front Scarifier

Type	V-type manual two-pitch position with hydraulic float
Width of Cut	48 in. (1.20 m)
Number of Teeth	5 standard, can hold up to 9
Shank Spacing	5.75 in. (146 mm)
Lift Above Ground	21.8 in. (554 mm)
Maximum Penetration	13.3 in. (338 mm)
Shank Size	1 x 3 in. (25 x 76 mm)

Rear Ripper / Scarifier

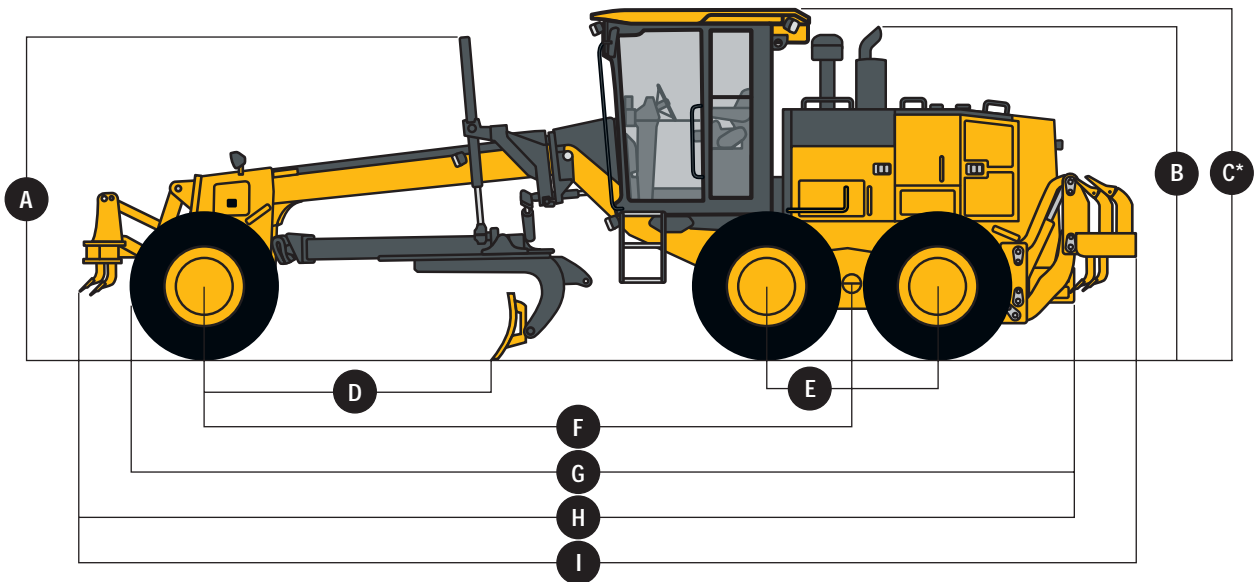
Type	parallelogram linkage with manual valve control and hydraulic float, tool bar for five ripper and nine scarifier shanks
	<i>rear ripper</i> <i>scarifier</i>
Width of Cut	87 in. (2.21 m) 87 in. (2.21 m)
Number of Shanks	3 standard, can hold up to 5 can hold up to 9
Lift Above Ground	21.4 in. (544 mm) 26.8 in. (681 mm)
Maximum Penetration	18 in. (457 mm) 12.7 in. (323 mm)
Shank Size	2.25 x 5.5 in. (57 x 140 mm) 1 x 3 in. (25 x 76 mm)

Capacities (U.S.)

Fuel Tank	106 gal. (401.2 L)
Cooling System	13 gal. (49.2 L)
Engine Lubrication, Including Filter	7.5 gal. (28.4 L)
Transmission	6 gal. (22.7 L)
Differential Housing	9.5 gal. (36 L)
Tandem Housings (each)	20 gal. (75.7 L)
Circle Gearbox	1.5 gal. (5.7 L)
Hydraulic Reservoir	14 gal. (53 L)

Dimensions

A Height to Top of Blade-Lift Cylinders.....	116 in. (2.95 m)	F Wheelbase.....	20 ft. 1 in. (6.12 m)
B Height to Top of Exhaust.....	122 in. (3.10 m)	G Overall Length	346.7 in. (8804 mm)
C Height to Top of Cab*	10 ft. 5 in. (3.18 m)	H Overall Length with Scarifier	375.4 in. (9534 mm)
D Blade Base.....	99.7 in. (2533 mm)	I Overall Length with Scarifier and Ripper	405.7 in. (10 304 mm)
E Tandem Axle Spacing	60.8 in. (1.54 m)		*Add 8.9 in. (225 mm) for full-height cab.



Optional or Special Equipment

With Approximate Weights

870D

Add these weights to SAE standard equipment operating weight to obtain total operating weight.

Coolant Heater	8 lb. (4 kg)
Rotary Ejector Pre cleaner	17 lb. (8 kg)
Lighting Packages with LED Colored Lights	
Grading (10 halogen lights): Transportation Lights Plus Mid-Frame (2), Under Cab (2), and Backup Reverse Lights (2)	8 lb. (4 kg)
Deluxe Grading (16 halogen lights): Grading Lights Plus Front Roof Inner (2), Front Roof Outer (2), and Rear Roof Lights (2)	17 lb. (8 kg)
Deluxe Grading Lights with Additional Right-Side Cab Roof Lights (2) (18 halogen lights): Deluxe Grading Lights Plus Rear Right-Side Roof Lights (2)	20 lb. (9 kg)
High-Front Light Bar for Snowplowing	44 lb. (20 kg)
24- to 12-Volt 30-Amp Converter	3 lb. (1 kg)
Auxiliary Hydraulic Control Valve Section and Controls (optional valves are available for attachments such as rear ripper, front-mounted scarifier, and snow equipment; see dealer price list for details)	
	15 lb. (7 kg)
Hydraulics for Front-Mounted Equipment	
	19 lb. (9 kg)
Moldboards with Through-Hardened Dura-Max® Cutting Edge	
12 ft. x 27 in. x 1 in. with 8-in. x 3/4-in. cutting edge	– 277 lb. (– 126 kg)
13 ft. x 27 in. x 1 in. with 8-in. x 3/4-in. cutting edge	– 158 lb. (– 72 kg)
16 ft. x 27 in. x 1 in. with 8-in. x 3/4-in. cutting edge	300 lb. (136 kg)
Extensions, 2 ft. (610 mm), Right or Left (less cutting edge)	
For Use with 27-in. Moldboards	228 lb. (103 kg)
Overlay End Bits, Reversible (one pair)	
For 8-in. (203 mm) Cutting Edge	50 lb. (23 kg)
Extended Wear Circle Wear Inserts	43 lb. (20 kg)
Bottom Guard, Heavy Duty with Side Guards	391 lb. (177 kg)
Front Weight	550 lb. (249 kg)
Push Block	
Front (standard)	1,500 lb. (682 kg)
Front (heavy)	2,000 lb. (909 kg)
Rear Hitch	50 lb. (23 kg)
Ripper/Scarifier, Rear Mounted with Hitch and Ripper Shanks (3)	3,000 lb. (1361 kg)
Scarifier, Front Mounted with Teeth (5)	1,874 lb. (850 kg)
Tires	
14.00-24, 12 PR G2	– 594 lb. (– 269 kg)
17.5-25, 12 PR G2	– 330 lb. (– 150 kg)
14.00-R24, Radial, G2 General Purpose	– 120 lb. (– 54 kg)
14.00-R24, Radial, G2 Snow	60 lb. (27 kg)
17.5-R25, Radial, G2 General Purpose	0 lb. (0 kg)
17.5-R25, Radial, G2 Snow	48 lb. (22 kg)
17.5-R25, Radial, G3 General Purpose	132 lb. (60 kg)
550/65R25, Radial, G2 Low Profile	570 lb. (259 kg)
One-Piece Rims	
10 in. x 24 in.	– 297 lb. (– 135 kg)
14 in. x 25 in.	– 265 lb. (– 120 kg)
Low Cab with Opening Front and Side Windows (air conditioning, heater ducts, and 3-in. seat belt)	
	35 lb. (16 kg)
Tall Cab with Fixed Front and Side Windows (air conditioning, heater ducts, and 3-in. seat belt)	
	126 lb. (57 kg)
Tall Cab with Opening Front and Side Windows (air conditioning, heater ducts, and 3-in. seat belt)	
	132 lb. (60 kg)
Canopy, Low Profile with ROPS (3-in. seat belt)	– 356 lb. (– 161 kg)
Deluxe Cloth Seat with Air Suspension and Adjustable Armrests and Headrest	28 lb. (13 kg)
Wipers/Washers, Lower-Front Windows	9 lb. (4 kg)

670D / 770D / 870D MOTOR GRADERS

Key: ● Standard equipment ▲ Optional or special equipment

*See your John Deere dealer for further information.

670 770 870 Engine

- ● ● Certified to EPA Tier 2 emissions
- ● ● Self-diagnostic with service-code display
- ● ● Rubber isolation mounting to reduce noise and vibration
- ● ● Altitude-compensating turbocharger
- ● ● Vertical spin-on engine oil filter
- ● ● Air-to-air aftercooling for low-engine-speed lugging
- ● ● Environmentally friendly engine oil drain valve and hose
- ● ● Quick-release dual-stage fuel filter with primer pump
- ● ● Fuel/water separator and visual sediment bowl
- ● ● Dual air cleaner elements, radial seal, dry type
- ▲ ▲ ▲ Rotary ejector precleaner
- ● ● Self-draining muffler with curved stack
- ● ● Blower-type cooling fan with automatic tensioner
- ● ● Variable horsepower
- ● ● Electric fuel shutoff
- ● ● Safety fan guard
- ● ● Extended-life engine coolant -34°F (-37°C)
- ● ● Engine coolant surge tank
- ● ● Serpentine belt with automatic tensioner
- ● ● Glow plugs
- ▲ ▲ ▲ Electric intake manifold heaters for cold-weather starting
- ▲ ▲ ▲ High-pressure ether starting aid
- ▲ ▲ ▲ Engine coolant heater, 1,500 W, 120 volt

Transmission

- ● ● John Deere PowerShift Plus™, direct drive, countershaft, eight speeds forward and eight speeds reverse
- ▲ ▲ ▲ Autoshift transmission (gears 4-8)
- ● ● Electronic shift modulation
- ● ● Over-speed protection
- ● ● Self-diagnostic with service-code display
- ● ● Industry standard U-shaped shift pattern
- ● ● Transmission neutral lock, safety start switch
- ● ● Rubber isolation mounting to reduce noise and vibration
- ● ● Easy-access vertical spin-on oil filter
- ● ● Separate oil lubrication, filtration, and cooling system
- ● ● Quick-disconnect transmission test ports

Axle, Final Drive, and Brakes

- ● ● Operator-controlled, hydraulically operated differential lock
- ● ● Spiral bevel planetary final drives
- ● ● Separate oil lubrication, filtration, and cooling system
- ● ● Inboard, wet multi-disc brakes
- ● ● Primary and secondary brakes, SAE J / ISO 3450
- ● ● Spring-applied, hydraulically released parking brake, SAE J / ISO 3450

Electrical

- ● ● Heavy-duty, low-maintenance, 1,400 CCA, 440-min. reserve capacity batteries (2)
- ▲ ▲ ▲ Heavy-duty, low-maintenance, 750 CCA, 180-min. reserve capacity batteries (2)
- ● ● 100-amp alternator
- ● ● Bypass start safety cover on starter

670 770 870 Electrical (continued)

- ● ● Electrical load center
- ● ● Individual circuit protection, blade-type fuses
- ● ● Electrical master disconnect switch
- ● ● Positive terminal battery covers
- ● ● High-output halogen transporting lights (4)
- ● ● Cab prewired for rotating beacon, radio, and auxiliary circuit
- ● ● Electric horn, SAE J1446
- ● ● Reverse warning alarm, 111 db(A), SAE J994
- ● ● Rear stop lights (2)
- ● ● Front and rear turn signals (2)
- ▲ ▲ ▲ Halogen grading lights (10)
- ▲ ▲ ▲ Deluxe halogen lighting package (16)
- ● ● LED brake and turn lights
- ▲ ▲ ▲ Deluxe halogen snow package (18)

Hydraulic System

- ● ● Separate reservoir, filtration, and cooling system
- ● ● 54.7-gpm (207 L/min.) axial-piston main pump
- ● ● O-ring face seal fittings
- ● ● Float position on blade cylinders
- ▲ ▲ ▲ Conversion kit from two-hand to one-hand blade lift
- ▲ ▲ ▲ Hydraulic pump disconnect for cold-weather starting

Blade Function

- ● ● Industry preferred control pattern
- ● ● Seven-position saddle
- ● ● Four-function hydraulic control valve, right and left
- ▲ ▲ ▲ Up to six auxiliary function control valves, three right and three left
- ▲ ▲ ▲ Integrated Grade Control

Draft Frame

- ● ● Double ball and socket for extreme-reach positions left and right
- ● ● Replaceable wear inserts

Circle

- ● ● Nylon wear inserts
- ▲ ▲ ▲ Extreme-service bronze wear inserts
- ● ● 360-degree rotation
- ▲ ▲ ▲ Circle drive with slip clutch

Moldboard

- ● 12-ft. x 24-in. x 0.88-in. (3.66 m x 610 mm x 22 mm) high strength, wear resistant
- ▲ ▲ 14-ft. x 24-in. x 0.88-in. (4.27 m x 610 mm x 22 mm) high strength, wear resistant
- ▲ ▲ ▲ 12-ft. x 27-in. x 1-in. (3.66 m x 686 mm x 25 mm) high strength, wear resistant
- ▲ ▲ ▲ 13-ft. x 27-in. x 1-in. (3.96 m x 686 mm x 25 mm) high strength, wear resistant
- ▲ ● 14-ft. x 27-in. x 1-in. (4.27 m x 686 mm x 25 mm) high strength, wear resistant
- ▲ 16-ft. x 27-in. x 1-in. (4.88 m x 686 mm x 25 mm) high strength, wear resistant
- ● Standard-duty wear inserts
- ▲ ▲ ● Extreme-service wear inserts

Cutting Edge

- ● 0.62-in. x 6-in. (16 mm x 152 mm) Dura-Max® through-hardened steel
- ▲ ▲ ● 0.75-in. x 8-in. (19 mm x 203 mm) Dura-Max through-hardened steel

670 770 870 Front Attachments

- ▲ ▲ ▲ Push block
- ▲ ▲ ▲ Front weight, 550 lb.
- ▲ ▲ ▲ V-type scarifier with float position, 5 shanks
- ▲ ▲ ▲ Mid-mount scarifier with float position, 11 shanks
- ▲ ▲ ▲ Auxiliary hydraulics for front-mounted equipment

Rear Attachments

- ▲ ▲ ▲ Ripper/scarifier combination with parallelogram linkage
- ▲ ▲ ▲ Bottom guard
- ▲ ▲ ▲ Side panels for bottom guard

Tires and Rims

- ● ▲ Single-piece rims
- ▲ ▲ ● Three-piece rims
- ▲ ▲ 13.00-24, 12 PR G2
- ▲ ▲ 14.00-24, 12 PR G2
- ▲ ▲ ▲ 17.5-25, 12 PR L2
- ▲ ▲ ● 14.00-R24, Radial
- ▲ ▲ ● 17.5-R25, Radial

Operator's Station

- ● ● Low-profile ROPS cab with air conditioning and heater
- ▲ ▲ ▲ ROPS canopy
- ▲ ▲ ▲ Full-height ROPS cab with air conditioning and heater
- ● ● Adjustable front console with tilt steering wheel
- ● ● Gauges: Fuel level / Engine coolant temperature / Rear steer indicator / Transmission and hydraulic temperature
- ● ● Monitor system with warning lights: Park brake on / Service brake pressure and/or audible alarm / Hydraulic oil temperature / Transmission oil temperature / Engine oil pressure / Alternator voltage / Differential lock filter restriction / Engine air filter restriction / Wait to start (cold start) / Transmission oil filter restriction / Hydraulic oil filter restriction / Differential lock engaged / Saddle lock pin disengaged / Service code warning
- ● ● Selectable display on monitor: Transmission gear and direction / Vehicle speed (mph) / Vehicle speed (km/h) / Engine speed (rpm) / Hourmeter / Alternator voltage / Service codes
- ● ● Indicators: Turn signal / Four-way flasher
- ● ● Instrument lights
- ● ● Interior lights
- ● ● Rearview mirrors (SAE J985): Exterior (2) / Interior
- ● ● Deluxe mechanical-suspension seat with adjustable armrests
- ▲ ▲ ▲ Deluxe air-suspension seat with adjustable armrests
- ● ● Retractable seat, 3 in., SAE J386
- ● ● Tinted glass
- ▲ ▲ ▲ Wipers for lower-front windows
- ● ● Front and rear windshield washers with intermittent wipers
- ▲ ▲ ▲ Openable lower-front windows
- ● ● Rear window electrical defroster
- ▲ ▲ ▲ Radio, AM/FM/weatherband
- ▲ ▲ ▲ Radio, AM/FM/weatherband with cassette
- ▲ ▲ ▲ Radio, AM/FM/weatherband with CD
- ▲ ▲ ▲ Heated outside mirrors
- ● ● Floor mat



JOHN DEERE

DKADGDRD Litho in U.S.A. (07-09)

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 10,000-ft. (3050 m) 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 units with standard equipment: 670D and 770D units with 12-ft. x 24-in. x 0.88-in. (3.66 m x 610 mm x 22 mm) high-strength, wear-resistant moldboards with 0.62-in. x 6-in. (16 mm x 152 mm) Dura-Max through-hardened-steel cutting edges; 670D unit with 14.00-24, 12 PR G2 tires; 770D unit with 14.00-R24, Radial tires; and 870D unit with 17.5-R25 radial tires and 14-ft. x 27-in. x 1-in. (4.27 m x 686 mm x 25 mm) high-strength, wear-resistant moldboard with 0.75-in. x 8-in. (19 mm x 203 mm) Dura-Max through-hardened steel cutting edge. Weights include lubricants, coolants, full fuel tanks, and 175-lb. (79 kg) operators.

