



# 644G H

## LOADER

**Miller**  
SINCE 1924  
**Ted B. Miller Co. Inc.**  
220810 Hwy. 62 East  
P.O. Box 400  
Gering, Nebr. 69341  
Phone #308-436-2177  
Fax #308-433-7645



Model shown may include options

**SAE Net  
Horsepower**

185 hp  
(138 kW)

**Buckets  
Range to**

4.25 cu. yd.  
(3.2 m<sup>3</sup>)

**Operating  
Weights to**

38,245 lb.  
(17,345 kg)

## ENGINE

John Deere engineered and manufactured. Replaceable wet type cylinder liners provide superior heat dissipation, longer life. High strength alloy heads have replaceable valve inserts. The forged steel, 7-main bearing crankshaft is statically and dynamically balanced for smooth operation. Cast aluminum pistons provide good heat transfer and pistons are sprayed with cooling oil for longer life.

**Engine:** John Deere 6076A

Rated power at 2200 rpm.....185 SAE net hp (138 kW)

.....196 SAE gross hp (146 kW)

Cylinders.....6

Displacement.....466 cu. in. (7.636 L)

Fuel consumption, typical....3.3 to 6.4 gal./hr. (12.3 to 24.3 L/h)

Maximum net torque at 1400 rpm.....597 lb.-ft. (809 Nm)

Air cleaner.....dual stage dry type with restriction indicator

Electrical system.....12 volt with 95-amp alternator

Battery (one 12 volt)

25 amps at 80°F (27°C).....reserve capacity 160 min.

BCI group 27 cold cranking capacity

at 0°F (-18°C).....925 amps

## TRANSMISSION

The transmission provides smooth shift at full power through a torque converter, countershaft transmission. A single shift lever controls direction and speed ranges. In 4th range the transmission shifts automatically. A quick shift button on the hydraulic control lever allows the operator to downshift and return to the prior gear.

## TRAVEL SPEEDS

Gear	Forward		Reverse	
	mph	(km/h)	mph	(km/h)
1	4.4	7.0	4.4	7.0
2	7.0	11.2	7.0	11.2
3	13.7	22.0	13.7	22.0
4	21.5	34.6		

## FINAL DRIVES

Large, heavy-duty, planetary final drive gears are mounted inboard where size is not restricted by wheel diameter. They distribute axle shock loads evenly over three gears and run in a cooling oil bath for long life and trouble-free service.

## DIFFERENTIALS

Conventional front and rear differentials are standard. John Deere's exclusive hydraulic differential lock is the superior traction alternative. It can be ordered on the front, with a conventional differential in the rear. Or you can order the hydraulic lock front and rear. In either case the operator is in complete control, engaging and disengaging the differential lock as needed. When engaged the affected wheels are 100 percent locked up; turning at the same speed, giving maximum traction for faster loading, pulling you through slippery spots. Differentials available:

Conventional front and rear.....	standard
Hydraulic lock front, conventional rear.....	optional
NoSPIN front, conventional rear.....	optional
Hydraulic lock front and rear.....	optional
Front axle disconnect.....	optional

## BRAKES

Hydraulic actuated, wet disk brakes are mounted inboard. They are bathed in cooling oil for long life, self-adjusting, self-equalizing, and require no periodic service. The spring-applied, hydraulically-released parking brake is a disc and caliper type attached to the transmission output shaft. An optional front axle disconnect is available for loaders that might be driven long distances.

## STEERING

The steering system in the 644G H provides low effort, smooth control at any engine rpm. High torque steering cylinder geometry and large cylinders permit full power steering at all speeds through the 80 degree steering arc (40 degrees each direction).

Turning radius.....17 ft. 11 in. (5.46 m)

(measured to centerline of outside tire)

Rear axle oscillation.....26 degrees, stop to stop

Vertical travel at center of tire.....36.6 in. (929 mm)

## HYDRAULICS

### Loader functions and steering:

A gear pump delivers 69.5 gpm (263 L/min.) at 600 psi (4137 kPa) and 2200 engine rpm. The loader function relief valve pressure setting is 3000 psi (20 685 kPa). The maximum steering pressure is 2650 psi (18 270 kPa).

### Controls:

Dual pilot hydraulic valves with one or two levers. An optional triple valve is available for forks and attachments.

### Brakes and pilot system:

The axial-piston pump delivers 7.6 gpm (28 L/min.) at 600 psi (4137 kPa) and 2200 engine rpm. Maximum system pressure is 2450 psi (16 893 kPa).

### Ride control:

This option helps dampen loader hydraulics during transport for a smoother ride.

### Loader operating cycle times at full throttle with rated load in the bucket:

Raise.....6.2 sec.

Dump.....1.8 sec.

Lower.....3.5 sec. (float)/3.9 sec. (power)

### Maximum lift capacity with 4.00 cu. yd. (3.1 m<sup>3</sup>) stockpiling bucket for 644G H Loader:

Maximum height.....19,258 lb. (8734 kg)

Ground level.....31,981 lb. (14 504 kg)

## TIRES

### Choice of:

20.5-25, 12 PR L2

20.5-25, 16 PR L2

20.5-25, 16 PR L3

20.5-25, Radial, One Star L3 equivalent

20.5-25, Radial, One Star L2 equivalent

23.5-25, 12 PR L2

23.5-25, 16 PR L3

23.5-25, 20 PR L3

23.5-25, Radial, One

Star L3 equivalent

## CAPACITIES

	U.S.
Fuel tank.....	75 gal. (284 L)
Cooling system.....	30 qt. (28.5 L)
Crankcase.....	23 qt. (22 L)
Crankcase, including filter.....	25 qt. (24 L)
Transmission case and filters.....	15 qt. (14 L)
Front differential.....	30 qt. (28 L)
Rear differential.....	30 qt. (28 L)
Loader hydraulic sump.....	120 qt. (115 L)

## OPERATING WEIGHT

See 644G H Loader Operating Information and various charts.

# 644G H LOADER OPERATING INFORMATION

OPERATING INFORMATION	Bucket Type/Size	BUCKET TYPE		
		Stockpiling w/o Bolt-on Edge**	Stockpiling w/Edge and Spillguard*	Multipurpose**
Capacity, heaped SAE	cu. yd. m <sup>3</sup>	4.00 3.1	4.25 3.2	3.50 2.7
Capacity, struck SAE	cu. yd. m <sup>3</sup>	3.63 2.79	3.78 2.89	2.94 2.25
Bucket width	in. m	120.0 3.05	112.2 2.85	120.0 3.05
Breakout force, SAE J732C	lb. kN	38,045 169.2	33,997 151.2	34,783 154.7
Tipping load, straight	lb. kg	29,712 13,475	29,377 13,323	26,195 11,880
Tipping load, 40-deg. full turn, SAE	lb. kg	25,040 11,356	24,652 11,180	21,862 9915
Tipping load, 35-deg. turn	lb. kg	25,955 11,771	25,580 11,601	22,718 10,303
Reach, 45-deg. dump, 7 ft. (2.13 m) clearance	in. mm	62.8 1596	64.4 1635	64.0 1626
Reach, 45-deg. dump, full height	in. mm	41.3 1049	45.0 1142	43.9 1117
Dump clearance, 45-deg., full height	in. mm	115.8 2942	111.3 2828	112.6 2861
Overall length	ft.-in. m	25-9.4 7.86	26-1.4 7.96	26-4.2 8.03
Loader clearance circle, bucket in carry position	ft.-in. m	42-3.5 12.89	42-0.3 12.81	42-8.2 13.01
Operating weight	lb. kg	36,634 16,614	36,779 16,680	38,245 17,345

\*Auxiliary spillguard is dealer installed. The spillguard is primarily intended to prevent spillage of loose material. However, it does increase bucket capacity which can be utilized in loose materials.

\*\*Allied equipment ordered through John Deere dealer.

Loader operating information is based on machine with all standard equipment, 23.5-25, 12 PR L2 tires, ROPS cab, full fuel tank, and 175-lb. (79 kg) operator. Operating information is affected by tire size, ballast and attachments. For selected items, add or subtract the following:

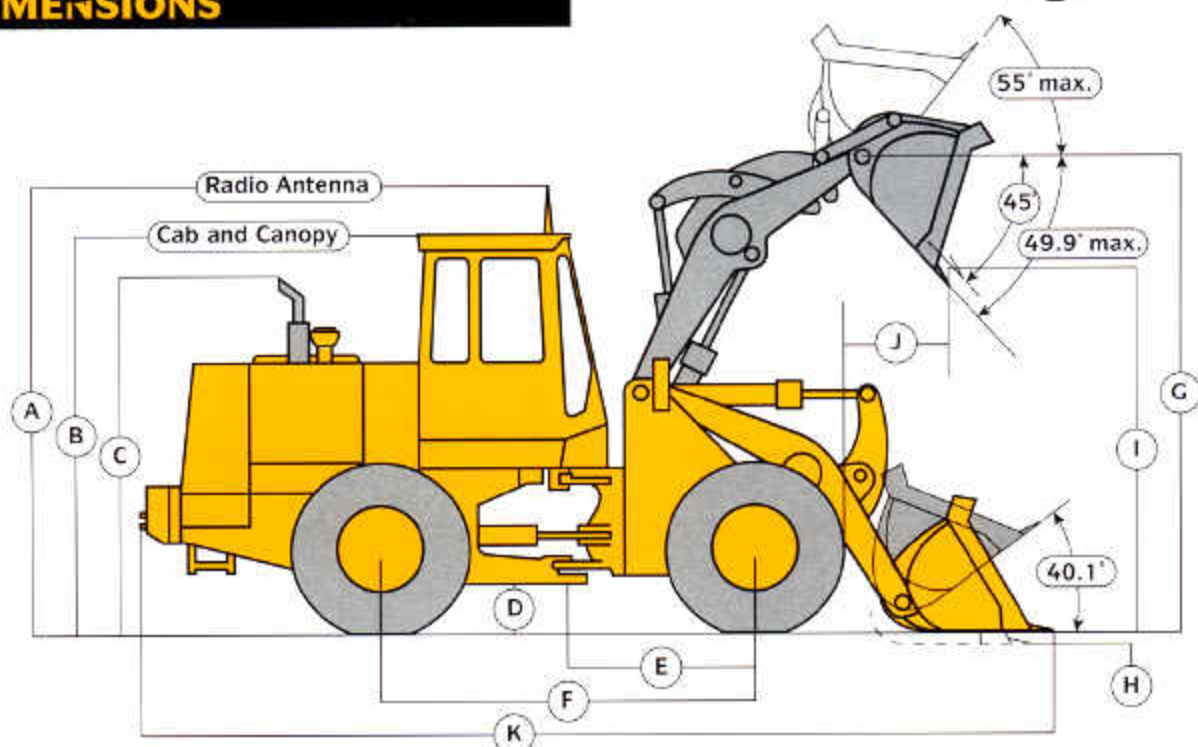
### Adjustments to operating weights and tipping load for 4.00 cu. yd. (3.1 m<sup>3</sup>) stockpiling bucket.

## ADJUSTMENTS TO OPERATING WEIGHTS

Add (+) or deduct (-) lb. (kg) as indicated for loaders with:		Operating Weight	Tipping Load Straight	Tipping Load 35 Deg. Turn, SAE	Tipping Load 40 Deg. Full Turn, SAE
20.5-25, 12 PR L2 tires w/o CaCl <sub>2</sub>	lb. kg	-1587 -720	-1105 -501	-981 -445	-955 -433
20.5-25, 12 PR L2 tires w/CaCl <sub>2</sub> and 1st counterweight*	lb. kg	-1188 -539	-1755 -796	-1455 -660	-1378 -625
20.5-25, 16 PR L2 tires w/o CaCl <sub>2</sub>	lb. kg	-1499 -680	-1043 -473	-928 -421	-902 -409
20.5-25, 16 PR L2 tires w/CaCl <sub>2</sub> and 1st counterweight*	lb. kg	-1100 -499	-1693 -768	-1400 -635	-1325 -601
20.5-25, 16 PR L3 tires w/o CaCl <sub>2</sub>	lb. kg	-1235 -560	-860 -390	-765 -347	-743 -337
20.5-25, 16 PR L3 tires w/CaCl <sub>2</sub> and 1st counterweight*	lb. kg	-836 -379	-1510 -685	-1237 -561	-1166 -529
20.5 R25 One Star L2 tires equivalent w/o CaCl <sub>2</sub>	lb. kg	-1120 -508	-781 -354	-692 -314	-673 -305
20.5 R25 One Star L2 tires equivalent w/CaCl <sub>2</sub>	lb. kg	-721 -327	-1431 -649	-1166 -529	-1098 -498
23.5-25, 12 PR L2 tires w/CaCl <sub>2</sub> and 1st counterweight*	lb. kg	+975 +442	+148 +67	+240 +109	+267 +121
23.5-25, 20 PR L3 tires w/o CaCl <sub>2</sub>	lb. kg	+494 +224	+342 +155	+306 +139	+295 +134
23.5-25, 20 PR L3 tires w/CaCl <sub>2</sub> and 1st counterweight*	lb. kg	+1471 +667	+492 +223	+545 +247	+562 +255
ROPS canopy in lieu of ROPS cab	lb. kg	-320 -145	-295 -134	-273 -124	-276 -125
Bucket teeth	lb. kg	+262 +119	-333 -151	-328 -149	-326 -148
Deduct 2nd rear counterweight	lb. kg	-1422 -645	-3258 -1478	-2789 -1265	-2672 -1212

\*CaCl<sub>2</sub> not to be used with two standard counterweights.

# DIMENSIONS



## Key:

A Overall height.....	12 ft. 3.2 in. (3.74 m)
B Height to top of cab and canopy.....	11 ft. 2.7 in. (3.42 m)
C Height to top of exhaust.....	10 ft. 4.4 in. (3.16 m)
D Ground clearance.....	19 in. (483 mm)
E Length from centerline to front axle.....	63 in. (1600 mm)
F Wheelbase.....	126 in. (3200 mm)
G Height to hinge pin - fully raised.....	13 ft. 1.9 in. (4.0 m)
H Digging depth.....	3.2 in. (81 mm)
I Dump height.....	
J Reach bucket fully raised.....	See Operating Information
K Overall length.....	

## TIRES

	<b>20.5-25</b>
Tread width.....	85.4 in. (2170 mm)
Width over tires.....	107.6 in. (2732 mm)
Change in vertical height.....	- 2.0 in. (51 mm)

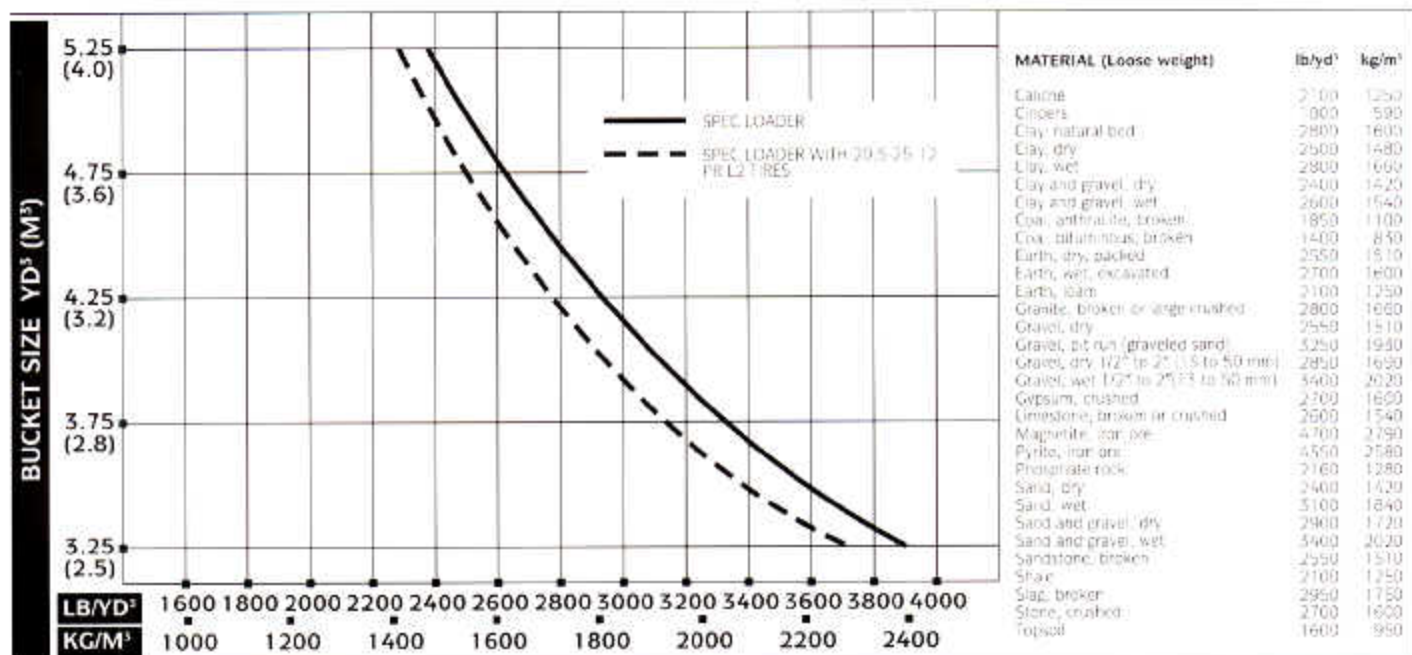
## 20.5 R25

Tread width.....	85.4 in. (2170 mm)
Width over tires.....	108.0 in. (2743 mm)
Change in vertical height.....	- 2.4 in. (62 mm)

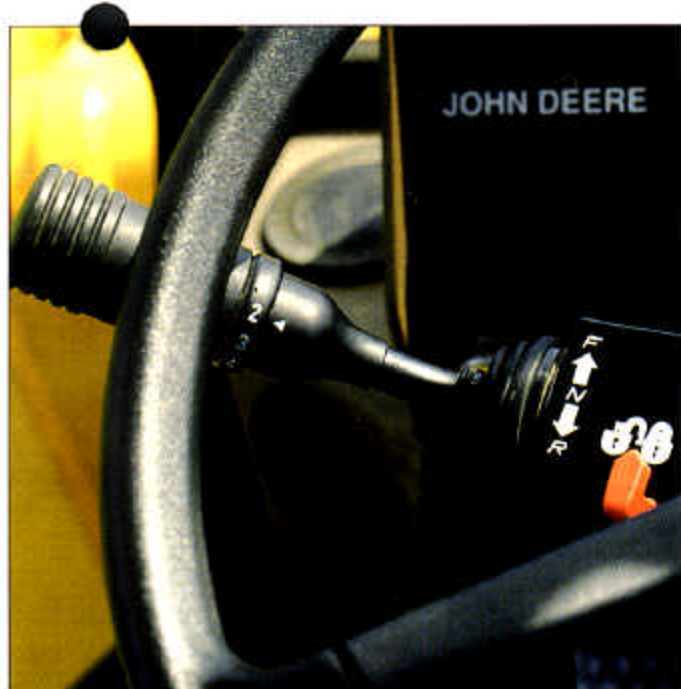
## 23.5-25

Tread width.....	83.5 in. (2120 mm)
Width over tires.....	108.9 in. (2765 mm)
Change in vertical height.....	0

# BUCKET SELECTION GUIDE\*

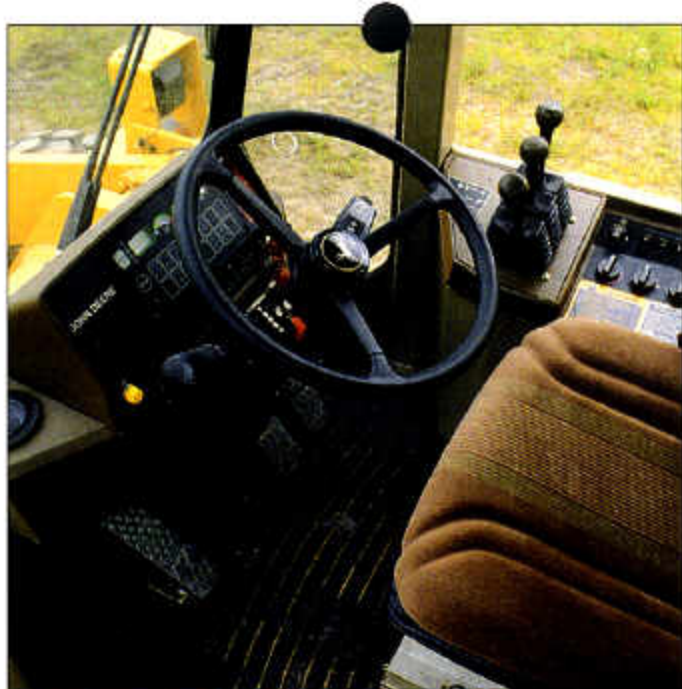


\*This guide, representing bucket sizes not necessarily manufactured by Deere, will help in selecting the proper bucket size for material density and loader configuration. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment.



## TRANSMISSION

A single, low effort shift lever by the steering wheel electrically controls the transmission direction and speed range. The "quick-shift" button on the loader boom raise lever lets you downshift and upshift between two gears (in 1st, 2nd and 3rd gear) for faster loading cycles. In 4th gear the transmission shifts automatically between 2nd, 3rd and 4th speeds.



## OPERATOR'S STATION

Large glass areas provide superior visibility. A micro-processor-controlled monitor features tachometer, speedometer, and onboard diagnostics and provides audible and visible warnings. A fully-adjustable suspension seat, molded rubber floor mat and electrically-controlled parking brake are standard. One lever controls all boom and bucket hydraulics. Two-lever controls and a quiet cab are available.



## SERVICEABILITY

The open articulation area gives convenient access to plumbing, steering and hydraulic components. Improved service intervals reduce maintenance time. Examples: front drive shaft slip joint, 500 hours; articulation joint, 1,000 hours; front driveline support, 2,000 hours; outer axle seal and drive shaft U-joint are lubed for life. Fuel filters and a water separator are standard.



## BRAKES/FINAL DRIVES

Large final drive planetaries and hydraulic wet disk brakes are mounted inboard. There are no exposed parts or troublesome air system. An optional hydraulic differential lock in the front axle, or in both axles, improves traction. A spring-applied and hydraulically-released parking brake automatically engages when the engine is shut off. It can be applied or released with an electric switch.

## ADDITIONAL STANDARD EQUIPMENT

**Engine:**  
Air cleaner, dry type with dust valve  
Alternator, 95 amp  
Antifreeze, with level sensor in radiator  
Safety fan guard  
Blower-type cooling fan  
Fuel filter and water separator  
Muffler

**Power Train:**  
Power shift-torque converter-type transmission  
Single lever electric shift  
Automatic shift in 4th speed range  
Quick shift (upshift/downshift button)  
Transmission oil cooler  
Transmission clutch disconnect  
Axles with conventional differentials  
Front and rear brakes hydraulically actuated, wet disk, inboard mounted  
Conforms to SAE J1473 OCT90, ISO3450  
Parking brake, spring-applied, hydraulically-released, disc and caliper

Conforms to J1473 OCT90, ISO3450  
**Hydraulics:**  
Hydraulic oil cooler  
Two spool hydraulic control valve with single lever control  
Return to dig control for bucket  
Power steering (two cylinders) and 40 degrees articulation each side

**Electrical System:**  
Lights  
Driving with guards  
Flashing and turn signals  
Stop and tail  
Conforms to SAE J99  
Horn  
Conforms to SAE J994, J1446  
Reverse warning alarm  
Conforms to SAE J994, J1146  
Battery terminal safety covers  
Bypass start safety cover at starter  
**Operator's Station:**  
Canopy, ROPS/FOPS, isolation mount  
Conforms to SAE J1040 APR88, SAE J231 JAN81, ISO3471 and ISO3449

Adjustable vinyl seat with armrest  
Two-inch (51 mm) seat belt with retractors  
Conforms to SAE J386  
Ashtray  
Storage compartment  
Floor mat  
Key switch, start and shutoff  
Mirrors, rearview, two inside, two outside  
Conforms to SAE J985

**Multifunction Monitor:**  
Instruments  
Engine coolant temp  
Fuel gauge  
Transmission oil temp  
Digital display (selectable)  
Engine rpm  
Speedometer  
Hourmeter  
Alternator voltage  
Warning lights  
Low radiator coolant level  
Air restriction indicator  
Low alternator voltage  
Low transmission oil press

Hydraulic oil filter restriction  
Low brake pressure  
Park brake on  
Ether injection on  
Secondary steering activated (if equipped)  
Fasten seat belt indicator  
Turn signals and flashers  
Built-in diagnostics  
Fault code retrieval  
Onboard diagnostics for all monitor, wiring, gauges, sensors, etc.

**Other:**  
Articulation locking bar  
Conforms to SAE J276  
Rubber steering stops  
Drawbar  
Lockable engine side shields and rear grille  
Loader boom lock  
Rear bottom guard  
Service steps and handholds  
Conforms to SAE J185  
Standard counterweights  
910 lb. (413 kg), 1422 lb. (645 kg)

## OPTIONAL OR SPECIAL EQUIPMENT

**Buckets:**  
Auxiliary spill guard  
Bolt-on cutting edges  
Bucket teeth  
**Axles:**  
Front axle disconnect  
Front hydraulic differential lock  
Front NoSPIN differential package  
High traction with front and rear hydraulic differential locks  
**Engine:**  
Additional battery  
Battery disconnect  
Engine coolant heater  
Starting aid, ether  
**Hydraulics:**  
Two spool valve with two lever control  
Three spool valve, single lever main

control with second control lever for auxiliary function  
Three spool valve, two lever main control with third control lever for auxiliary function  
**Electrical System:**  
Lights  
Front and rear work  
Conforms to SAE J1029  
Alternator  
135 amp  
**Loader:**  
Automatic boom height control  
**Operator's Station:**  
Cab, ROPS/FOPS  
Conforms to SAE J1040 APR88, SAE J231 JAN81, ISO3471 and ISO3449  
Heater, defroster, pressurizer

Conforms to SAE J1503  
Dome light/map light  
Front and rear windshield wiper and washer  
Cab, ROPS/FOPS  
Conforms to SAE J1040 APR88, SAE J231 JAN81, ISO3471 and ISO3449  
Air conditioner, heater, defroster, pressurizer  
Conforms to SAE J1503  
Dome light/map light  
Front and rear windshield wiper and washer  
Three in. (76 mm) seat belt with retractors  
Conforms to SAE J386  
Adjustable deluxe suspension vinyl seat with armrests

Adjustable deluxe suspension cloth seats with armrests  
Secondary steering  
Conforms to SAE J53  
Windows - cab rear opening  
Seat back rest extension  
**Overall Vehicle:**  
Auxiliary bottom guards, transmission and front frame  
Fenders, front and rear  
Lift/tie down hooks  
License plate bracket  
Ride control system  
Steps, frame mounted with access platform  
Conforms to SAE J185  
SMV symbol  
Transmission side frame guards

## THE JDAvantEDGE

JDAvantEdge is a wealth of support programs, parts systems and dealer resources, all designed to give you the edge. This package of special benefits is a major reason why John Deere offers the "best value" for your equipment dollar.

**Best parts support** - Twelve regional parts depots in North America and others around the world put parts support near your job no matter where in the world it is.

A computerized FLASH™ parts locating system linking these depots to dealerships can find out-of-stock parts in a hurry and get them into your hands fast. Usually within 24 hours.

**Best service backup** - Dealer service technicians are regularly schooled, at our modern facility in Davenport, Iowa, or by professionals in the field, to diagnose quickly and repair efficiently.

If they're stumped, a phone call to DTAC (Dealer Technical Assistance Center) puts them in touch with a staff of pros at the factory who help them find a solution quickly.

**Best dealers** - Your John Deere dealer is an important contributor to the JDAvantEdge. He or she is committed to being the best equipment supplier you can work with.

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at standard conditions per SAE J1349 and DIN 70 020, using No. 2-D fuel at 35 API gravity. No derating is required up to 10,000 feet (3050 m) altitude. Gross power is without cooling fan.

This is a dollars-and-cents commitment in parts inventory, in service facilities, in field service trucks. It's a sweat-and-blood commitment in dedicated, skilled and highly trained and motivated personnel in each and every department at the dealership.

But what sets John Deere dealers apart from all the rest is something more, a factor somewhat difficult to measure ... a caring attitude, and a sincere desire to be the best at meeting the needs of each individual customer.

**John Deere Finance Plans** - Whether you rent, lease or buy John Deere equipment, your dealer can explain the John Deere options available. One-stop options that let you free up operating capital, keep other lines of credit open. More solid benefits of the JDAvantEdge.

**Best protection** - In addition to the new equipment warranty that meets or exceeds the competition, SECURE® extended coverage, an optional service product for John Deere equipment, is available for repair coverage after the warranty concludes. Full machine or power train coverage is available for a variety of time periods to meet your needs. Consult your dealer for availability and details.



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 all standard equipment, 23.5-25, 12 PR L2 tires, ROPS cab, full fuel tank, and 175-lb. (79 kg) operator.

