



644G H

LOADER



JOHN DEERE

6

MASTER

MASTER

**SAE Net
Horsepower**

185 hp
(138 kW)

**Buckets
Range to**

4.25 cu. yd.
(3.2 m³)

**Operating
Weights to**

38,245 lb.
(17 345 kg)

Model shown may include options

MASTER

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 – Turbocharged and Aftercooled
 Rated power at 2200 rpm.....185 SAE net hp (138 kW)
196 SAE gross hp (146 kW)
 Cylinders6
 Displacement466 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 1300 rpm643 lb.-ft. (872 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 convertor, 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 rearstandard
 Hydraulic lock front, conventional rearoptional
 NoSPIN front, conventional rearoptional
 Hydraulic lock front and rearoptional
 Front axle disconnectoptional

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 radius17 ft. 11 in. (5.46 m)
 (measured to centerline of outside tire)
 Rear axle oscillation26 degrees, stop to stop
 Vertical travel at center of tire36.6 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:

Raise6.2 sec.
 Dump1.8 sec.
 Lower3.5 sec. (float)/3.9 sec. (power)

Maximum lift capacity with 4.00 cu. yd. (3.1 m³) stockpiling bucket for 644G H Loader:

Maximum height19,258 lb. (8734 kg)
 Ground level31,981 lb. (14 504 kg)

TIRES

Choice of:

20.5-25, 12 PR L2	23.5-25, 12 PR L2
20.5-25, 16 PR L2	23.5-25, 16 PR L3
20.5-25, 16 PR L3	23.5-25, 20 PR L3
20.5-25, Radial, One Star L3 equivalent	23.5-25, Radial, One Star L3 equivalent
20.5-25, Radial, One Star L2 equivalent	

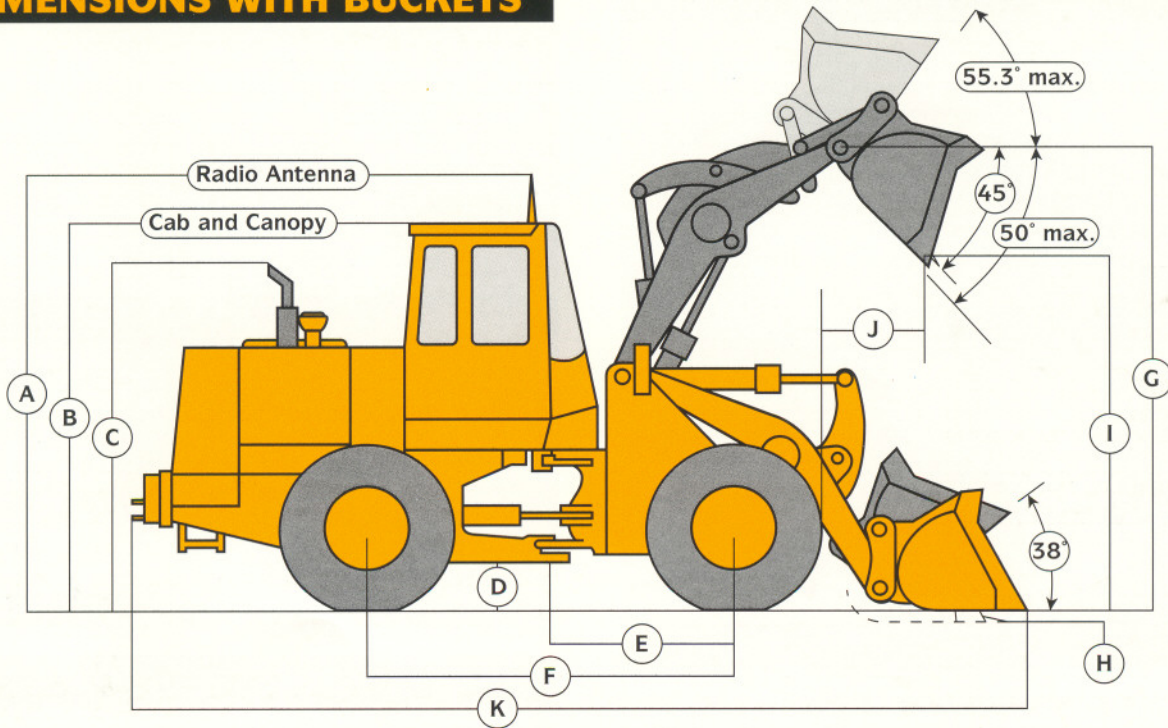
CAPACITIES

	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.

DIMENSIONS WITH BUCKETS



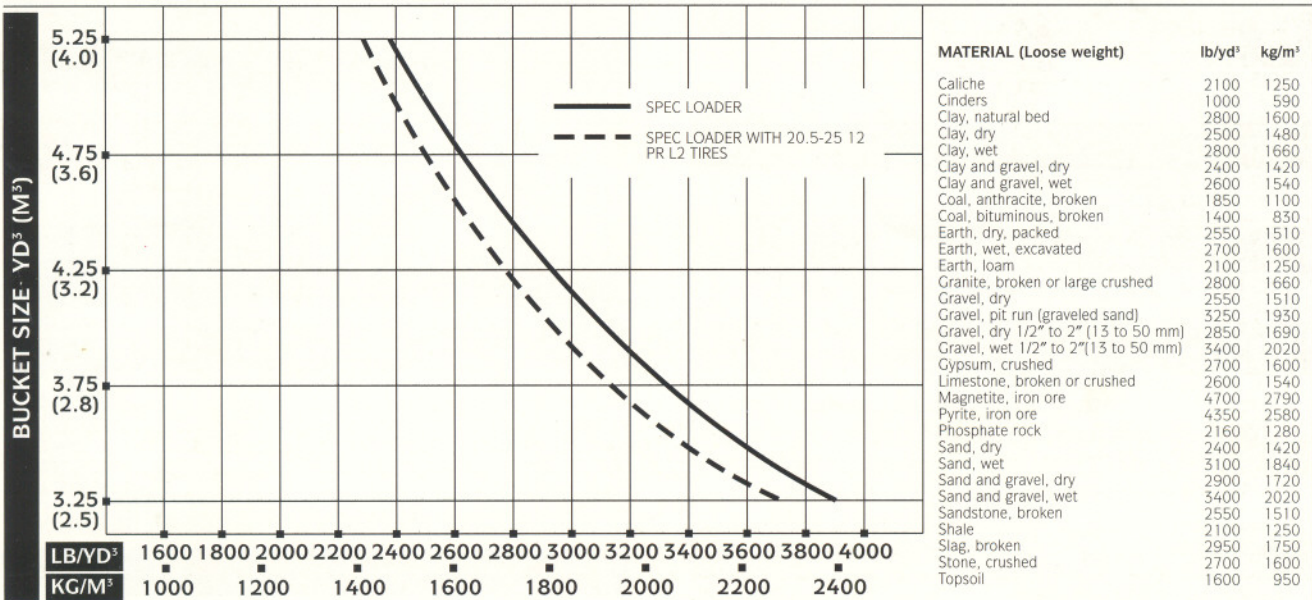
Key:

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	} See Operating Information ▲
J Reach bucket fully raised	
K Overall length	

TIRES

	20.5-25	20.5 R25	23.5-25
Tread width	85.4 in. (2170 mm)	85.4 in. (2170 mm)	83.5 in. (2120 mm)
Width over tires	107.6 in. (2732 mm)	108.0 in. (2743 mm)	108.9 in. (2765 mm)
Change in vertical height	- 2.0 in. (51 mm)	- 2.4 in. (62 mm)	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.

644G H LOADER OPERATING INFORMATION (WITH BUCKETS)

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 ³	4.00 3.1	4.25 3.2	3.50 2.7
Capacity, struck SAE	cu. yd. m ³	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 m³) stockpiling bucket.

ADJUSTMENTS TO OPERATING WEIGHTS (WITH BUCKETS)

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

*CaCl₂ not to be used with two standard counterweights.

DIMENSIONS WITH TOOL CARRIER (COUPLER AND ATTACHMENTS)

Size		TIRES		
		20.5-25	20.5 R25	23.5-25
Tread width	in. mm	85.4 2170	85.4 2170	83.5 2120
Width over tires	in. mm	107.6 2732	108.0 2743	108.9 2765
Change in vertical height	in. mm	-2.0 -51	-2.4 -62	0 0

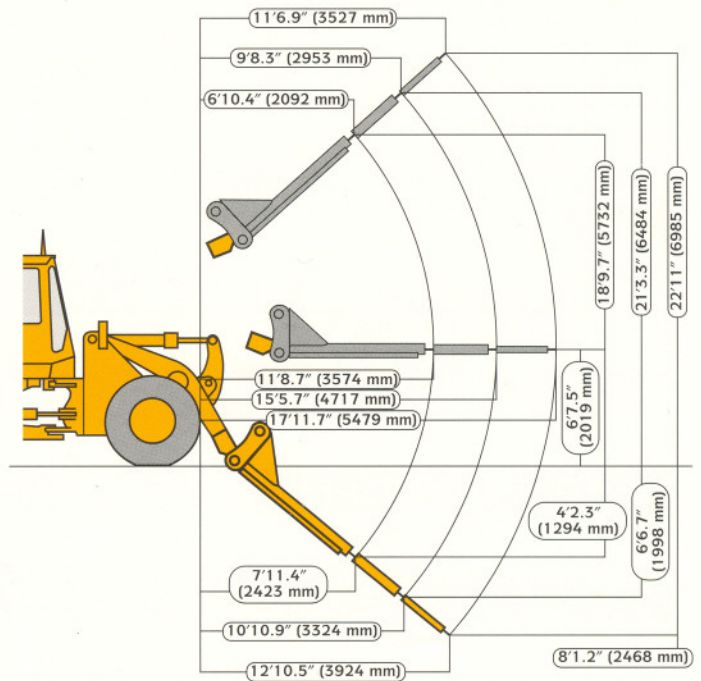
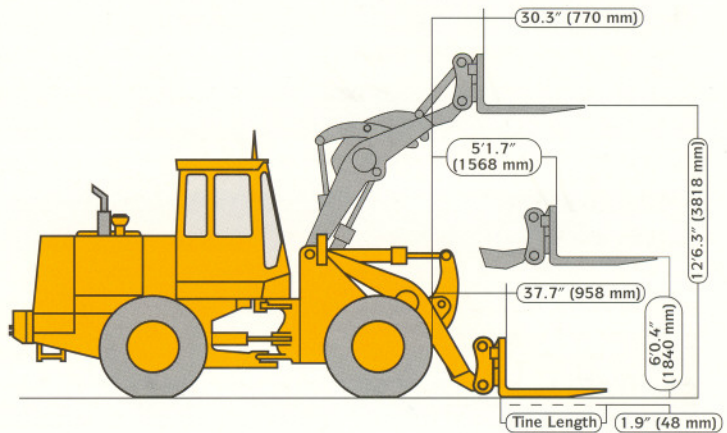
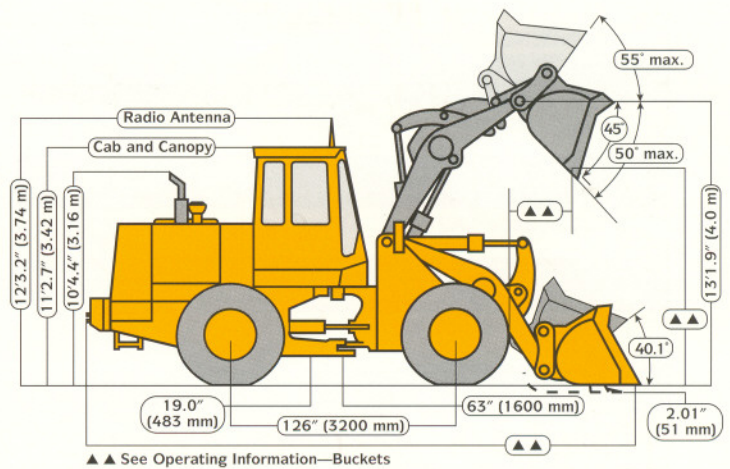
PALLET FORK*

Tine length	in. mm	54 1372	60 1524	72 1829
Ground to top of tine clearance	ft.-in. mm	12-6.3 3818	12-6.3 3818	12-6.3 3818
Max. reach with fork level	ft.-in. mm	5-1.7 1568	5-1.7 1568	5-1.7 1568
Overall length	ft.-in. mm	27-6.3 8387	28-0.3 8539	29-0.3 8844
Tipping load, straight (fork level, load centered on tine)	lb. kg	20,482 9289	19,933 9040	18,885 8565
Tipping load, 35-deg. turn (fork level, load centered on tine)	lb. kg	17,867 8103	17,378 7881	16,449 7460
Tipping load, 40-deg. full turn (fork level, load centered on tine)	lb. kg	17,233 7811	16,754 7598	15,852 7189
Operating weight	lb. kg	36,730 16 658	36,801 16 690	36,945 16 755

MATERIAL HANDLING ARM*

Boom Position		Retracted	Mid-Position	Extended
Operating load	lb. kg	6279 2848	4968 2253	4350 1973
Tipping load, straight	lb. kg	14,852 6736	11,748 5328	10,279 4662
Tipping load, 35-deg. turn	lb. kg	13,009 5900	10,292 4668	9003 4083
Tipping load, 40-deg. full turn	lb. kg	12,561 5697	9935 4506	8700 3946
Operating weight	lb. kg	35,536 16 116	35,536 16 116	35,536 16 116

*Allied equipment ordered through John Deere dealer.



644G H LOADER OPERATING INFORMATION (WITH TOOL CARRIER)

OPERATING INFORMATION	Bucket Type/Size	GENERAL PURPOSE BUCKETS	
Capacity, heaped SAE	cu. yd. m ³	3.75 2.8	3.25 2.5
Capacity, struck, SAE	cu. yd. m ³	3.17 2.42	2.78 2.13
Bucket width	in. m	112.2 2.85	112.2 2.85
Breakout force, SAE J732C	lb. kN	35,317 157.1	38,085 169.4
Tipping load, straight	lb. kg	29,445 13 354	29,792 13 511
Tipping load, 35-deg. turn	lb. kg	25,661 11 638	26,019 11 800
Tipping load, 40-deg. full turn, SAE	lb. kg	24,749 11 224	25,100 11 383
Reach, 45-deg. dump, 7 ft. (2.13 m) clearance	in. mm	65.0 1652	63.7 1618
Reach, 45-deg. dump, full height ▲▲	in. mm	44.8 1138	42.3 1075
Dump clearance, 45-deg., full height ▲▲	in. mm	113.0 2871	115.6 2935
Overall length ▲▲	ft.-in. m	26-0.3 7.93	25-8.5 7.83
Loader clearance circle, bucket in carry position	ft.-in. m	41-10.8 12.77	41-8.6 12.72
Operating weight	lb. kg	36,976 16 769	36,806 16 692

All 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 loads for 3.25 cu. yd. (2.5 m³) general purpose bucket and 60-in. (1524 mm) pallet fork.

ADJUSTMENTS TO OPERATING WEIGHTS (WITH TOOL CARRIER)

Add (+) or deduct (-) lb. (kg) as indicated for loaders with:		Operating Weight	Bucket*			Fork*		
			Straight	35° Turn	Full Turn	Straight	35° Turn	Full Turn
20.5-25, 12 PR L2 tires without CaCl ₂	lb. kg	- 1587 - 720	- 1109 - 503	- 988 - 448	- 959 - 435	- 745 - 338	- 663 - 300	- 642 - 291
20.5-25, 12 PR L2 tires with CaCl ₂ and first counterweight**	lb. kg	- 1188 - 539	- 1762 - 799	- 1460 - 662	- 1383 - 627	- 1195 - 542	- 992 - 450	- 939 - 426
20.5-25, 16 PR L2 tires without CaCl ₂	lb. kg	- 1499 - 680	- 1047 - 475	- 933 - 423	- 906 - 411	- 705 - 320	- 626 - 284	- 608 - 276
20.5-25, 16 PR L2 tires with CaCl ₂ and first counterweight**	lb. kg	- 1100 - 499	- 1700 - 771	- 1404 - 637	- 1330 - 603	- 1155 - 524	- 955 - 433	- 906 - 411
20.5-25, 16 PR L3 tires without CaCl ₂	lb. kg	- 1235 - 560	- 862 - 391	- 767 - 348	- 745 - 338	- 580 - 263	- 514 - 233	- 498 - 226
20.5-25, 16 PR L3 tires with CaCl ₂ and first counterweight**	lb. kg	- 836 - 379	- 1515 - 687	- 1241 - 563	- 1171 - 531	- 1030 - 467	- 842 - 382	- 796 - 361
20.5 R25, One Star, L2 equivalent tires without CaCl ₂	lb. kg	- 1120 - 508	- 783 - 355	- 697 - 316	- 677 - 307	- 524 - 237	- 463 - 210	- 450 - 204
20.5 R25, One Star, L2 equivalent tires with CaCl ₂ and first counterweight**	lb. kg	- 721 - 327	- 1435 - 651	- 1171 - 531	- 1188 - 539	- 975 - 442	- 792 - 359	- 747 - 339
23.5-25, 12 PR L2 tires with CaCl ₂ and first counterweight**	lb. kg	+ 975 + 442	+ 150 + 68	+ 242 + 110	+ 269 + 122	+ 104 + 47	+ 163 + 74	+ 181 + 82
23.5-25, 20 PR L3 tires without CaCl ₂	lb. kg	+ 494 + 224	+ 344 + 156	+ 306 + 139	+ 298 + 135	+ 243 + 110	+ 218 + 99	+ 209 + 95
23.5-25, 20 PR L3 tires with CaCl ₂ and first counterweight**	lb. kg	+ 1468 + 666	+ 494 + 224	+ 549 + 249	+ 567 + 257	+ 340 + 154	+ 375 + 170	+ 386 + 175
ROPS canopy in lieu of ROPS cab	lb. kg	- 320 - 145	- 298 - 135	- 251 - 114	- 238 - 108	- 201 - 91	- 170 - 77	- 161 - 73
Deduct second rear counter- weight	lb. kg	- 1422 - 645	- 3197 - 1450	- 2736 - 1241	- 2622 - 1189	- 2179 - 988	- 1868 - 847	- 1790 - 812

* Allied equipment ordered through John Deere dealer.

** CaCl₂ not to be used with two standard counterweights.