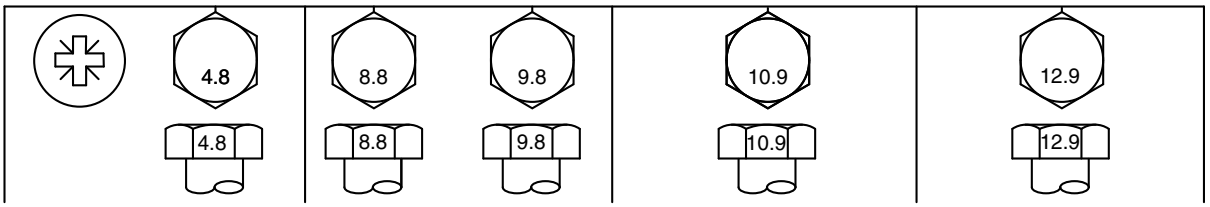
Metric Bolt and Screw Torque Values



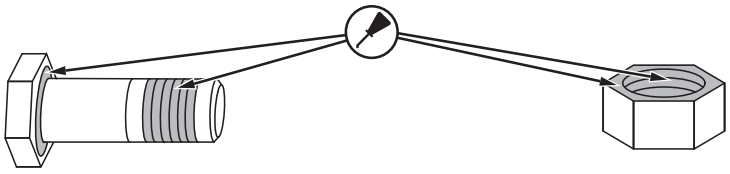
TS1742—UN—31MAY18

Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
M6	3.6	31.9	3.9	34.5	6.7	59.3	7.3	64.6	9.8	86.7	10.8	95.6	11.5	102	12.6	112
									N·m	lb·ft	N·m	lb·ft	N·m	lb·ft	N·m	lb·ft
M8	8.6	76.1	9.4	83.2	16.2	143	17.6	156	23.8	17.6	25.9	19.1	27.8	20.5	30.3	22.3
			N·m	lb·ft	N·m	lb·ft	N·m	lb·ft								
M10	16.9	150	18.4	13.6	31.9	23.5	34.7	25.6	46.8	34.5	51	37.6	55	40.6	60	44.3
	N·m	lb·ft														
M12	—	—	—	—	55	40.6	61	45	81	59.7	89	65.6	95	70.1	105	77.4
M14	—	—	—	—	87	64.2	96	70.8	128	94.4	141	104	150	111	165	122
M16	—	—	—	—	135	99.6	149	110	198	146	219	162	232	171	257	190
M18	—	—	—	—	193	142	214	158	275	203	304	224	322	245	356	263
M20	—	—	—	—	272	201	301	222	387	285	428	316	453	334	501	370
M22	—	—	—	—	365	263	405	299	520	384	576	425	608	448	674	497
M24	—	—	—	—	468	345	518	382	666	491	738	544	780	575	864	637
M27	—	—	—	—	683	504	758	559	973	718	1080	797	1139	840	1263	932
M30	—	—	—	—	932	687	1029	759	1327	979	1466	1081	1553	1145	1715	1265
M33	—	—	—	—	1258	928	1398	1031	1788	1319	1986	1465	2092	1543	2324	1714
M36	—	—	—	—	1617	1193	1789	1319	2303	1699	2548	1879	2695	1988	2982	2199

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench.
DO NOT use these values if a different torque value or tightening procedure is given for a specific application.
For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.

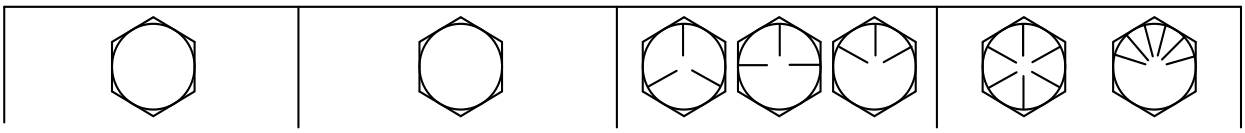


TS1741—UN—22MAY18

[a]Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.
[b]Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ2-19-30MAY18

Unified Inch Bolt and Screw Torque Values



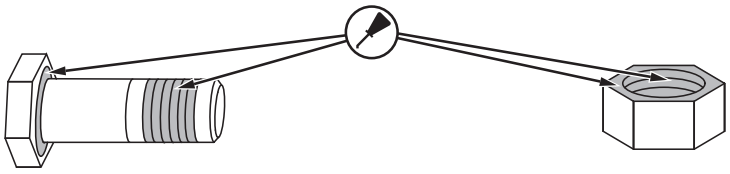
TS1671—UN—01MAY03

Bolt or Screw Size	SAE Grade 1[a]				SAE Grade 2[b]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]		Hex Head[c]		Flange Head[d]	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
1/4	3.1	27.3	3.2	28.4	5.1	45.5	5.3	47.3	7.9	70.2	8.3	73.1	11.2	99.2	11.6	103
													N·m	lb·ft	N·m	lb·ft
5/16	6.1	54.1	6.5	57.7	10.2	90.2	10.9	96.2	15.7	139	16.8	149	22.2	16.4	23.7	17.5
									N·m	lb·ft	N·m	lb·ft				
3/8	10.5	93.6	11.5	102	17.6	156	19.2	170	27.3	20.1	29.7	21.9	38.5	28.4	41.9	30.9
					N·m	lb·ft	N·m	lb·ft								
7/16	16.7	148	18.4	163	27.8	20.5	30.6	22.6	43	31.7	47.3	34.9	60.6	44.7	66.8	49.3
	N·m	lb·ft	N·m	lb·ft												
1/2	25.9	19.1	28.2	20.8	43.1	31.8	47	34.7	66.6	49.1	72.8	53.7	94	69.3	103	75.8
9/16	36.7	27.1	40.5	29.9	61.1	45.1	67.5	49.8	94.6	69.8	104	77	134	98.5	148	109
5/8	51	37.6	55.9	41.2	85	62.7	93.1	68.7	131	96.9	144	106	186	137	203	150
3/4	89.5	66	98	72.3	149	110	164	121	230	170	252	186	325	240	357	263
7/8	144	106	157	116	144	106	157	116	370	273	405	299	522	385	572	422
1	216	159	236	174	216	159	236	174	556	410	609	449	785	579	860	634
1-1/8	305	225	335	247	305	225	335	247	685	505	751	554	1110	819	1218	898
1-1/4	427	315	469	346	427	315	469	346	957	706	1051	775	1552	1145	1703	1256
1-3/8	564	416	618	456	564	416	618	456	1264	932	1386	1022	2050	1512	2248	1658
1-1/2	743	548	815	601	743	548	815	601	1665	1228	1826	1347	2699	1991	2962	2185

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench.
DO NOT use these values if a different torque value or tightening procedure is given for a specific application.
For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.



TS1741—UN—22MAY18

[a]Grade 1 applies for hex cap screws over 6 in (152 mm) long, and for all other types of bolts and screws of any length.
[b]Grade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.
[c]Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.
[d]Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ1-19-30MAY18

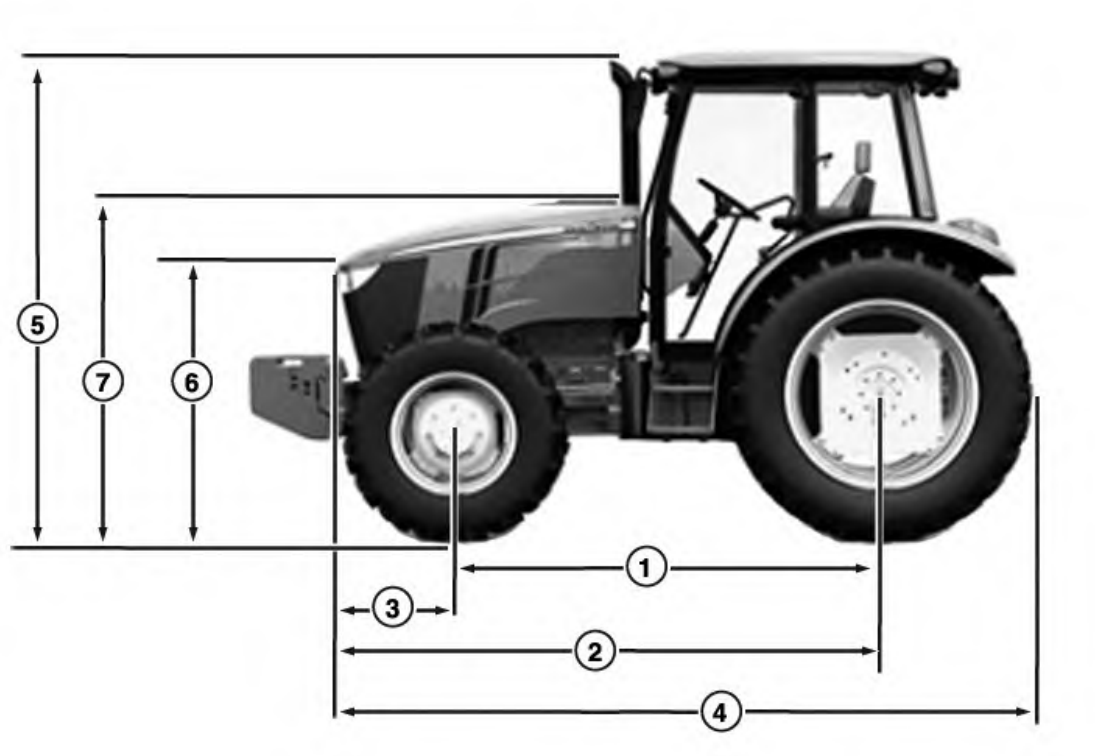
Fluid Capacities

	Liters	Gallons
Fuel Tank Capacity 5075M (Cab)	197	52
Fuel Tank Capacity 5090M/5100M/5115M (Cab)	165.4	43.5
Fuel Tank Capacity 5090M/5100M/5115M (OOS)	142.7	37.7
DEF Tank Capacity	12	3.17
Engine Crankcase with Filter (2.9L 3 Cylinder)	8.5	2.2
Engine Crankcase with Filter (4.5L 4 Cylinder)	13	3.4
Transmission/Hydraulic System	39.5	10.4
Front PTO Oil	3.1	0.8
Cooling System 5075M (Cab)	16	4.2
Cooling System 5090M/5100M/5115M (Cab)	22	5.8
Cooling System 5075M (OOS)	13.5	3.6
Cooling System 5090M/5100M/5115M (OOS)	19.5	5.2
MFWD Differential Housing	5.0	1.3
MFWD Wheel Hub (Each)	0.8	0.2

LGCKF7U,0000DD9-19-11JUN21

Machine Dimensions

Cab



RXA0154429—UN—18NOV16

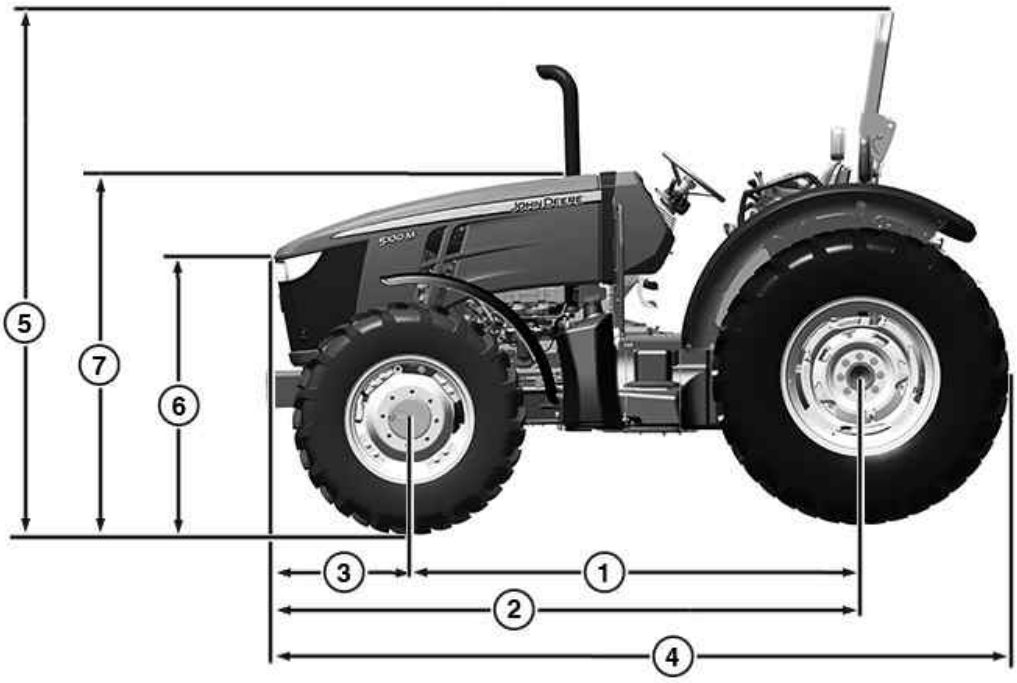
1—Wheelbase
2—Hood Length
3—Hood in Front of Axle
4—Overall Length
5—Overall Height
6—Front Hood Height
7—Rear Hood Height

NOTE: Measurements made with 16.9R34 rear tires.

	Millimeters	Inches
Wheelbase	2350	92.52
Hood Length	2995	117.9
Hood in Front of MFWD	695	27.3
Overall Length	3996	157.3
Overall Height	2677	105.4
Front Hood Height	1471	57.9
Rear Hood Height	1821	71.6

	Millimeters	Inches
5M (with fender extension)	2175	85.6
5M (without fender extension)	1880	74

OOS



PY42052—UN—12MAY17

1—Wheelbase
2—Hood Length
3—Hood in Front of Axle
4—Overall Length
5—Overall Height
6—Front Hood Height
7—Rear Hood Height

NOTE: Measurements made with 16.9R34 rear tires.

	Millimeters	Inches
Wheelbase	2350	90.5
Hood Length	2995	117.9
Hood in Front of Axle	695	27.3
Overall Length	3996	157.3

	Millimeters	Inches
Overall Height	2657	104.6
Front Hood Height	1471	58
Rear Hood Height	1821	71.6

	Millimeters	Inches
5M (with fender extension)	1755	69.1
5M (without fender extension)	1315	51.7

LGCKF7U,0000B5D-19-21APR21

Machine Weight

NOTE: Machine weight is measured with more than 18.9 L (5 gal) of fuel and all other fluids at full capacity.

Machine weight is approximately shipping weight. Adding or removing options will change the weight. If more accurate weight is desired, weigh on a platform scale.

Base Machine Weight	Kilograms	Pounds
OOS	3700	8157
2WD Cab	3900	8598
MFWD Cab	4175	9204

HK75640,00010FE-19-14SEP20

Engine Specifications and PTO Power

	5075M	5090M	5100M	5115M
Engine Power at 2200 rpm (Factory observed per 97/68/EC ISO industry standard) (± 3 %)	55 kW 74 hp	67 kW 90 hp	74 kW 100 hp	85 kW 115 hp
PTO Power at 2100 rpm (Factory observed per SAE industry standard) (± 5%)	45 kW 60 hp	56 kW 75 hp	63 kW 85 hp	75 kW 100 hp
Engine Type	Diesel	Diesel	Diesel	Diesel
Displacement	2.9 L	4.5 L	4.5 L	4.5 L
Aspiration	Turbocharged and Aftercooled	Turbocharged and Aftercooled	Turbocharged and Aftercooled	Turbocharged and Aftercooled
Cylinders	In-Line 3	In-Line 4	In-Line 4	In-Line 4
Fuel Control	Electronic	Electronic	Electronic	Electronic
Low Idle Speed	900 ±10 rpm	900 ±10 rpm	900 ±10 rpm	900 ±10 rpm
High Idle Speed	2300 ±50 rpm	2300 ±50 rpm	2300 ±50 rpm	2300 ±50 rpm
Rated Speed	2200 rpm	2200 rpm	2200 rpm	2200 rpm

LGCKF7U,0000C6A-19-11MAY21

Electrical Specifications

Battery Voltage	12 Volts
Battery Cold Cranking Capacity	950 A
Reserve Capacity	180 Minutes
Alternator Capacity	OOS: 90 A Cab: 120 A Field Installed Option: 200 A

HK75640,0001100-19-14SEP20

PTO Engine Speeds

PTO Speed	Engine Speed (rpm)
540	2100
540E	1645
1000	2103

HK75640,0001101-19-14SEP20

Hydraulic Specifications

Pump Type	Gear
Steering Pump Displacement	9.50 cc/rev 0.58 in^3/rev
Implement Pump Displacement	28.0 cc/rev 1.82 in^3/rev
Steering Pump Flow	23.6 L/min 6.2 gal/min
Implement Pump Flow	69.6 L/min 19.2 gal/min
Maximum Pressure-Steering	17500-18100 kPa 175-181 bar 2538-2625 psi
Maximum Pressure-Implement	19500-20500 kPa 195-205 bar 2828-2973 psi

HK75640,0001102-19-14SEP20

Rear Hitch Lift Capacities

IMPORTANT: In all applications, pay attention to axle load capacity and tire load capacity.

Cylinder Diameter	Throughout Lift Range Force		Max Lift Force	
	At Hitch Ball	610 mm Behind Lift Point	At Hitch Ball	610 mm Behind Lift Point
65 mm	23.6 kN (5305 lbf) 2406 kg (5305 lb)	22.9 kN (5148 lbf) 2341 kg (5161 lb)	36.3 kN (8160 lbf) 3705 kg (8168 lb)	25.8 kN (5800 lbf) 2630 kg (5799 lb)
65 mm & 75 mm	27.2 kN (6114 lbf) 2773 kg (6114 lb)	26.5 kN (5957 lbf) 2702 kg (5958 lb)	42.4 kN (9531 lbf) 4327 kg (9540 lb)	30.2 kN (6789 lbf) 3081 kg (6794 lb)

HK75640,0001103-19-14SEP20

Front Hitch Lift Capacities

IMPORTANT: In all applications, pay attention to axle load capacity and tire load capacity.

Throughout Lift Range Force		Max Lift Force	
At Hitch Ball	**610 mm Ahead of Lift Point**	**At Hitch Ball**	**610 mm Ahead of Lift Point**
25.8 kN (5800 lbf) 2627 kg (5791 lb)	18.5 kN (4159 lbf) 1882 kg (4149 lb)	30.2 kN (6789 lbf) 3079 kg (6788 lb)	27.6 kN (6205 lbf) 2814 kg (6203 lb)

HK75640,0001104-19-14SEP20

Wagon Hitch and Pick-Up Hitch Capacities

Maximum Static Vertical Loads	
High Position Wagon Hitch	2000 kg 4409 lb
Pick-Up Hitch Hook	2500 kg 5512 lb

HK75640,0001105-19-14SEP20

Drawbar Capacities

--Maximum Static Vertical Loads		
Drawbar-Standard	250 mm Extended	1250 kg 2756 lb
	350 mm Extended	1100 kg 2425 lb
	400 mm Extended	1000 kg 2205 lb
Hitch Position Wagon Hitch	-	2000 kg 4409 lb
Pickup Hitch Hook	-	2500 kg 5511 lb

LGCKF7U,0000C6B-19-11MAY21

Weight Distribution

MFWD

Implement Attachment	Rear Weight (% of machine weight)	Front Weight (% of machine weight)
Drawbar	65	35
Integral (Hitch)	60	40

2WD

Implement Attachment	Rear Weight (% of machine weight)	Front Weight (% of machine weight)
Drawbar	75	25
Integral (Hitch)	65	35

HK75640,0001107-19-14SEP20

Maximum Permissible Load

IMPORTANT: Always consult your tire manufacturer's information, as permissible load varies per manufacturer, load capacity, inflation pressure, speed-radius index, and travel speed.

Maximum Permissible Load - MFWD

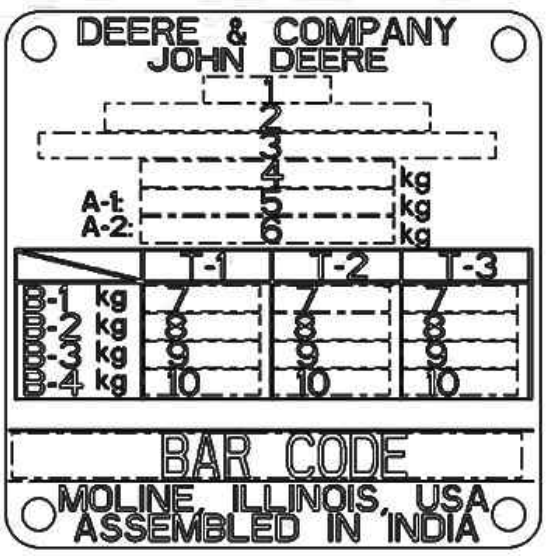
Description	5075M	5090M	5100M	5115M
Maximum Permissible Weight	7500 kg 16534.6 lb	7500 kg 16534.6 lb	7500 kg 16534.6 lb	7500 kg 16534.6 lb
A-1 Maximum Front Axle Load	3200 kg 7054.7 lb	3200 kg 7054.7 lb	3200 kg 7054.7 lb	3200 kg 7054.7 lb
A-2 Maximum Rear Axle Load	6000 kg 13227.7 lb	6000 kg 13227.7 lb	6000 kg 13227.7 lb	6000 kg 13227.7 lb

Maximum Permissible Load - 2WD

Description	5075M	5090M	5100M	5115M
Maximum Permissible Weight	6500 kg 14330 lb	6500 kg 14330 lb	6500 kg 14330 lb	NA
A-1 Maximum Front Axle Load	2110 kg 4651.7 lb	2110 kg 4651.7 lb	2110 kg 4651.7 lb	NA
A-2 Maximum Rear Axle Load	6000 kg 13227.7 lb	6000 kg 13227.7 lb	6000 kg 13227.7 lb	NA

LGCKF7U,0000BA9-19-06MAY21

Maximum Permissible Towable Mass



APY48044—UN—07MAY21

Maximum Permissible Towable Load - MFWD

Description	5075M	5090M	5100M	5115M
B-1 - No Brake	3500 kg 7716.1 lb	3500 kg 7716.1 lb	3500 kg 7716.1 lb	3500 kg 7716.1 lb
B-2 - Inertia Brake	16000 kg 35273.9 lb	16000 kg 35273.9 lb	16000 kg 35273.9 lb	16000 kg 35273.9 lb
B-3 - Hydraulic Brake	32000 kg 70547.9 lb	32000 kg 70547.9 lb	32000 kg 70547.9 lb	32000 kg 70547.9 lb
B-4 - Pneumatic Brake	32000 kg 70547.9 lb	32000 kg 70547.9 lb	32000 kg 70547.9 lb	32000 kg 70547.9 lb

Maximum Permissible Towable Load - 2WD

Description	5075M	5090M	5100M	5115M
B-1 - No Brake	3500 kg 7716.1 lb	3500 kg 7716.1 lb	3500 kg 7716.1 lb	NA
B-2 - Inertia Brake	16000 kg 35273.9 lb	16000 kg 35273.9 lb	16000 kg 35273.9 lb	NA
B-3 - Hydraulic Brake	32000 kg 70547.9 lb	32000 kg 70547.9 lb	32000 kg 70547.9 lb	NA
B-4 - Pneumatic Brake	32000 kg 70547.9 lb	32000 kg 70547.9 lb	32000 kg 70547.9 lb	NA

LGCKF7U,0000BAA-19-21MAY21

Ballast Capacities

Maximum Ballast Weight	5500 kg 12125 lb
Front Base Weight	55 kg 121 lb
Maximum Number Front Weights	14
Maximum Front Ballast	755 kg 1664 lb
Front Hitch Ballast	900 kg

Maximum Number of Rear Weights	Up to 3 pairs of 77 kg (170 lb) or Up to 2 pairs of 110 kg (242 lb)

LGCKF7U,0000B5F-19-21APR21

Sound Level

5090M, 5100M, and 5115M

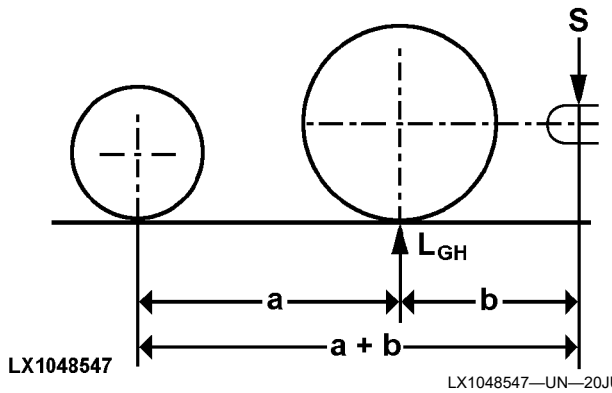
Max. sound level at operator's ear	86 dBA	Measurement method in accordance with regulation (EU) 1322/2014,Annex XIII according to test method 2

5075M

Max. sound level at operator's ear	90 dBA	Measurement method in accordance with regulation (EU) 1322/2014,Annex XIII according to test method 1

LGCKF7U,0000C6D-19-21MAY21

Calculate Maximum Permissible Download on Trailer Hitch



LX1048547—UN—20JUL09

Calculation of maximum permissible download at the trailer hitch in relation to Load Index (LI)

- The load index can be read on the sidewall of the tire. If the index is not provided, refer to the tire's load capacity as quoted by the tire manufacturer.
- The load index is quoted in conjunction with a Speed Index (SI).
- As a rule, the load capacity of the tire in kg can be derived directly from the LI; see the following table:

LI	kg	LI	kg	LI	kg	LI	kg
90 . .	600	111 . .	1090	132 . .	2000	153 . .	3650
91 . .	615	112 . .	1120	133 . .	2060	154 . .	3750
92 . .	630	113 . .	1150	134 . .	2120	155 . .	3875
93 . .	650	114 . .	1180	135 . .	2180	156 . .	4000
94 . .	670	115 . .	1215	136 . .	2240	157 . .	4125
95 . .	690	116 . .	1250	137 . .	2300	158 . .	4250
96 . .	710	117 . .	1285	138 . .	2360	159 . .	4375
97 . .	730	118 . .	1320	139 . .	2430	160 . .	4500
98 . .	750	119 . .	1360	140 . .	2500	161 . .	4625
99 . .	775	120 . .	1400	141 . .	2575	162 . .	4750
100 . .	800	121 . .	1450	142 . .	2650	163 . .	4875
101 . .	825	122 . .	1500	143 . .	2725	164 . .	5000
102 . .	850	123 . .	1550	144 . .	2800	165 . .	5150
103 . .	875	124 . .	1600	145 . .	2900	166 . .	5300
104 . .	900	125 . .	1650	146 . .	3000	167 . .	5450
105 . .	925	126 . .	1700	147 . .	3075	168 . .	5600
106 . .	950	127 . .	1750	148 . .	3150	169 . .	5800
107 . .	975	128 . .	1800	149 . .	3250	170 . .	6000
108 . .	1000	129 . .	1850	150 . .	3350	171 . .	6150
109 . .	1030	130 . .	1900	151 . .	3450	172 . .	6300
110 . .	1060	131 . .	1950	152 . .	3550	173 . .	6500

As a general rule, SI A8 implies a top speed of 40 km/h (25 mph), while SI B implies a top speed of 50 km/h (31 mph). If the SI is different, the manufacturer's instructions apply.

Calculate maximum trailer hitch download as follows:

$$S = \frac{(H_{max} - L_{GH}) * a}{a + b}$$, where

$H_{max.}$ = the smaller value from 2*load capacity of a tire on the rear axle and the maximum permissible rear axle load in kg

L_{GH} = the mass in kg acting on the ground through the rear wheels (to be ascertained by weighing)

a = the wheelbase (the horizontal distance between the front and rear axles)

b = the rear overhang (the horizontal distance between the center of the rear axle and center of the hitch point)

Example of how to calculate maximum trailer hitch download:

Given that: Empty mass on rear axle L_{GH} = 1800 kg

Wheelbase a = 2100 mm

Overhang b = 600 mm

Tire marking = 130A8

Maximum permitted speed of machine = 40 km/h (25 mph)

Permissible rear axle load = 3500 kg

$H_{max.}$ = 3500 kg
(1900 kg * 2 = 3800 kg, rear axle load = 3500 kg)

$$S = \frac{(3500\ kg - 1800\ kg) * 2100\ mm}{2100\ mm + 600\ mm} = 1322\ kg$$

CAUTION: At least 20% of the machine's total unladen mass must be on the front axle.

Trailer hitch download must not exceed the trailer hitch limit specified by the manufacturer.

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Calculate Permissible Mass

Calculating permissible machine mass and permissible trailer mass on the basis of the D value

EC-approved, dynamically tested hitches are always provided with a D value. This is calculated as follows:

$$D = \frac{G * A * B}{A + B}$$, where

D = D value of hitch

G = Gravitational constant 9.81 m/s^2

A = Machine mass

B = Trailer mass

To calculate trailer mass for a given D value and a given machine mass, and to calculate machine mass for a given D value and a given trailer mass, use the following formulas:

Machine mass $A = \frac{D * B}{G * B - D}$

Trailer mass $B = \frac{D * A}{G * A - D}$

*NOTE: If when calculating A the product of G*B is less than the D value, or if when calculating B the product of G*A is less than the D value, then the result of this calculation is negative. Even so, the D value is sufficient for every combination of machine mass and trailer mass.*

Example of how to calculate permissible trailer mass:

Given that: D value, D = 55 kN = 55000 N
Machine mass A = 7000 kg

$$B = \frac{55000\ N * 7000\ kg}{9.81\ m/s^2 * 7000\ kg - 55000\ N} = 28163\ kg$$

Pay close attention to permissible towed mass and machine mass!

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Fluorinated Greenhouse Gas

NOTE: Cab refrigerator (if equipped) contains approximately 0.040 kg (0.090 lb)of refrigerant.

4.5 Liter 4 Cylinder Engine

Air Conditioner System contains Fluorinated Greenhouse Gas (F-Gas)	
Type of F-Gas:	R-134a
F-Gas Mass:	1.59 kg 3.51 lb
CO_2 Equivalent (tonnes):	2.27 t
Global Warming Potential (GWP):	1430

2.9 Liter 3 Cylinder Engine

Air Conditioner System contains Fluorinated Greenhouse Gas (F-Gas)	
Type of F-Gas:	R-134a
F-Gas Mass:	1.70 kg 3.7 lb

Air Conditioner System contains Fluorinated Greenhouse Gas (F-Gas)	
CO_2 Equivalent (tonnes):	2.43 t
Global Warming Potential (GWP):	1430

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