

GROVE®

GRT655/GRT655L

Product Guide

ASME B30.5 Imperial 85%



55 USt
(51 t)



GRT655
34.9 ft - 114.3 ft
(10.6 m - 34.8 m)

GRT655L
35.3 ft - 141.2 ft
(10.8 m - 43 m)

GVW

GRT655
76,065 lbs
(34,502 kg)

GRT655L
77,635 lbs
(35,215 kg)



GRT655
170 ft
(51.8 m)

GRT655L
196 ft
(59.7 m)



GROVE GRT655/GRT655L

FEATURES

The Grove GRT655 and GRT655L rough-terrain cranes deliver exceptional performance, versatility, and reliability in a compact package. Equipped with full-power booms ranging from 114.3 ft (34.8 m) on the GRT655 to 141.2 ft (43 m) on the GRT655L, these cranes offer impressive lifting capabilities and reach typically found in larger classes. Both models feature a hydraulically tilting cab, Manitowoc's Crane Control System (CCS) with ECO mode, and class-leading load charts to maximize productivity and operator comfort. Their compact footprint allows efficient operation on confined jobsites, even with outriggers fully extended, while a standard two-year warranty provides added confidence in their performance and reliability.



Crane Control System

The Crane Control System (CCS) offers a user-friendly interface, two full graphic displays mounted vertically for easier viewing and a jog dial for easier navigation and data input. The system allows the electronic controllers to be reprogrammed by the operator for specific speed and reaction. Parts commonality across Grove, Manitowoc and Potain product lines enhances operator familiarization and serviceability.

Backing up our promise

Our GRT line of Rough Terrain cranes have been designed from the ground up to provide class-leading specifications and have undergone extensive testing to ensure they provide industry-leading quality and reliability. We stand behind our GRT cranes and we're willing to prove it with a two-year standard warranty and available three, four or five-year extended service coverage options.

**GRT655 &
GRT655L**

GROVE.
REAL.
TOUGH.

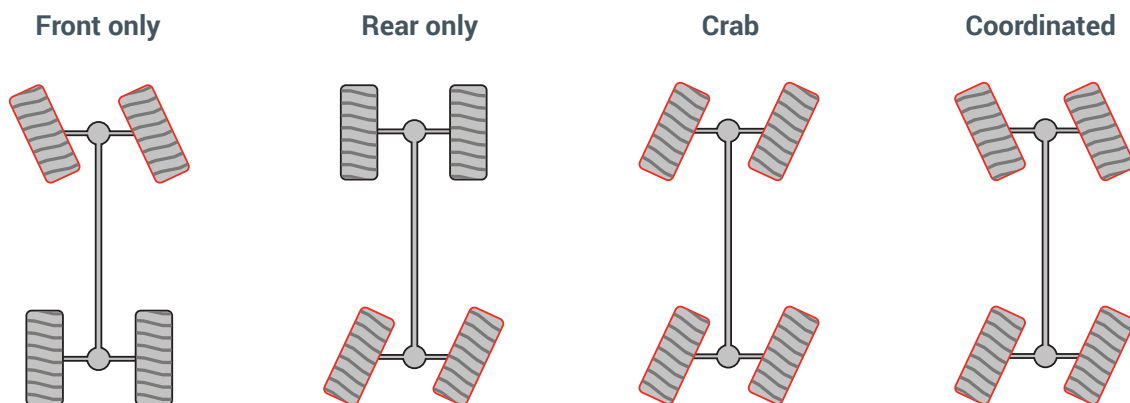
Full-Vision Tilt Cab

The tilt cab is designed with operator comfort and productivity in mind. Offering a full-vision design and 20° tilt for improved viewing at high boom angles. The tilt/telescoping steering wheel can also be positioned for optimum use.



Exceptional Maneuverability

Maneuvering around the jobsite is easier with Grove rough-terrain cranes. Four-wheel drive capability combined with four steering modes (front only, rear only, crab and coordinated) allows your operators to get closer to the lift regardless of congested areas or adverse ground conditions.



All Grove rough-terrain cranes offer front and rear cross-axle differential locks — which can be activated when working in difficult terrain.



Boom

Two boom options provide you with the versatility you demand. The GRT655 comes equipped with a 34.9 ft - 114.3 ft (10,6 m - 34,8 m) four-section, full-power boom. The GRT655L is equipped with a 35.3 ft - 141.2 ft (10,8 m - 43,0 m) five-section, full-power boom. Optional 26 ft - 45 ft (7,92 m - 13,7 m) manual offsettable telescopic swingaway extension adds to your lifting capabilities.

The world's most advanced crane service and support network

WORLDWIDE SUPPORT NETWORK

Manitowoc's customer service extends beyond any borders. Our locations span the globe, covering five continents. No matter where the job takes you, you have a business partner nearby.



PARTS

Locating the correct part quickly is vital to managing your operations. With Manitowoc Customer Support, the parts you need are just a phone call or click away.

LIFT SOLUTIONS

The Manitowoc Crane Lift Solutions Team is dedicated to helping customers with unique and customized applications for their Manitowoc cranes, regardless of product line.

TRAINING

Manitowoc Training Centers offer courses for operators and technicians across the globe to provide in-depth instruction on crane operation, maintenance, and troubleshooting procedures.

EnCORE

Manitowoc's EnCORE program maximizes your investment by rebuilding or repairing your crane to extend its life significantly. EnCORE also includes remanufactured parts.



MANITOWOC FINANCE

Manitowoc Finance gets you in the field with the right equipment by giving you access to flexible, affordable financing. With Manitowoc Finance, equipment can be acquired with virtually no cash outlay, and unlike traditional lending, our financial products don't affect bank lines of credit. Your capital resources remain intact for times when you need ready access to cash.

Competitive rates with flexible financing options and payment schedules put you in control.

Did you know? Manitowoc Finance can finance used Manitowoc cranes. You can also trade-in your used fleet for upgrade and get financed by Manitowoc Finance.





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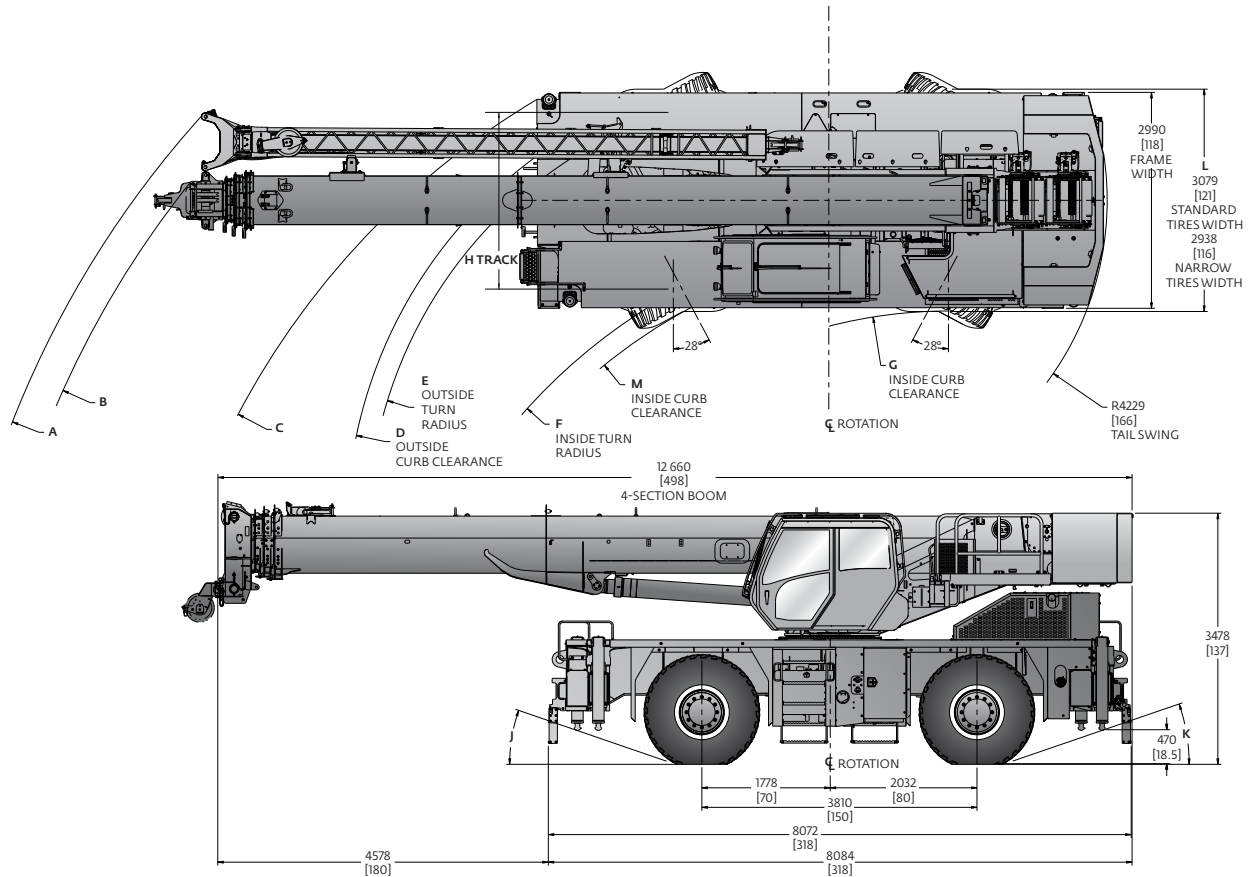
Specifications

DIMENSIONS

GRT655

	Tire Size	A	B	C	D	E	F	G	H	J	K	L	M
2 WHEEL STEER	23.5 X 25	548 (13 927)	530 (13 450)	438 (11 125)	412 (10 459)	400 (10 161)	310 (7864)	261 (6623)	97 (2464)	25°	21°	121 (3079)	298 (7564)
	18.0 X 25	548 (13 928)	530 (13 450)	438 (11 125)	409 (10 386)	399 (10 138)	311 (7888)	263 (6688)	96 (2439)	19°	19°	116 (2938)	298 (7577)
4 WHEEL STEER	23.5 X 25	402 (10 210)	388 (9860)	279 (7082)	253 (6435)	242 (6140)	150 (3813)	138 (3513)	97 (2464)	25°	21°	121 (3079)	138 (3514)
	18.0 X 25	402 (10 210)	388 (9860)	279 (7082)	250 (6362)	241 (6116)	151 (3837)	141 (3587)	96 (2439)	19°	19°	116 (2938)	139 (3526)

Dimensions in inches (mm) unless otherwise specified.

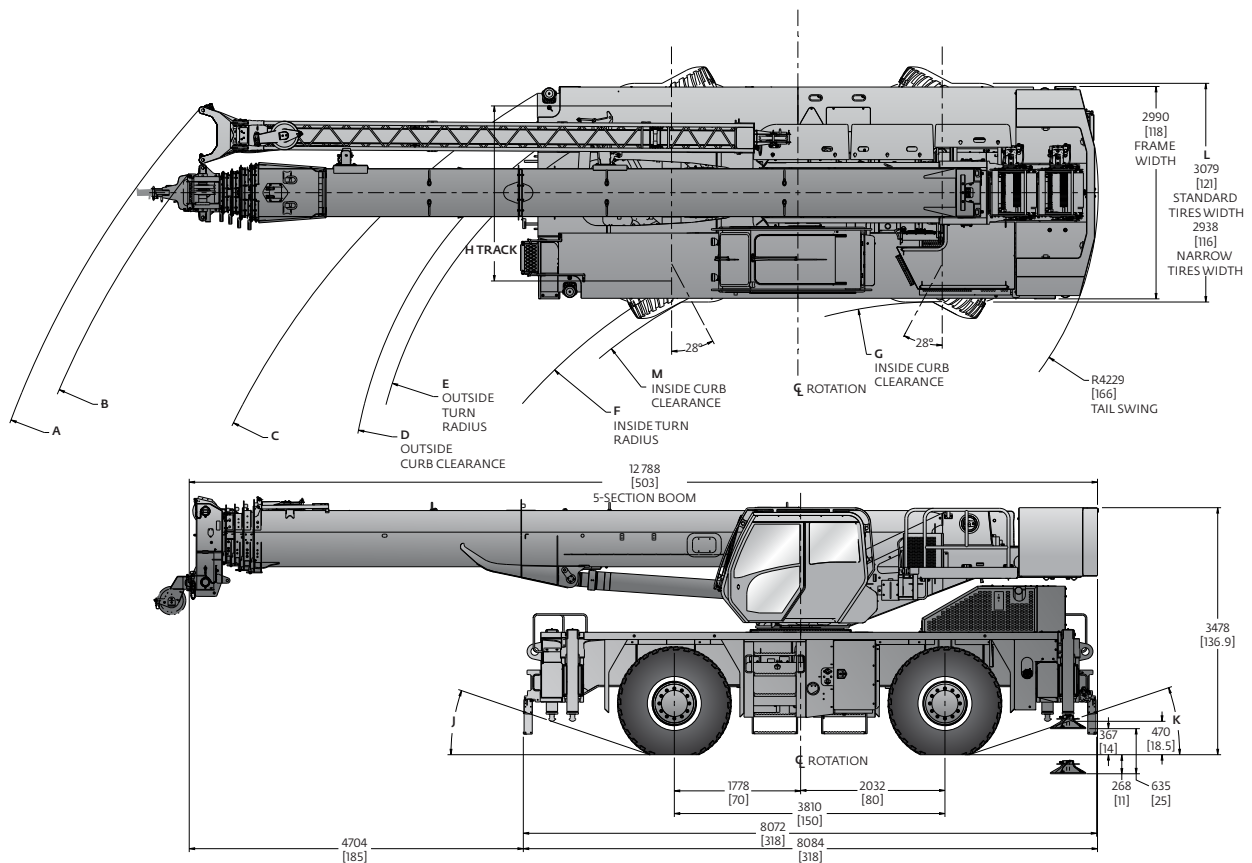


DIMENSIONS

GRT655L

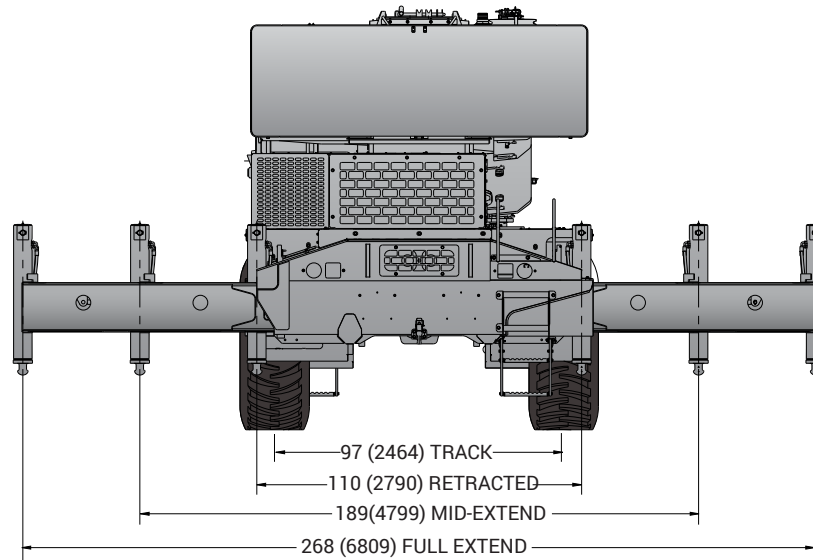
	Tire Size	A	B	C	D	E	F	G	H	J	K	L	M
2 WHEEL STEER	23.5 X 25	552 (14 017)	533 (13 548)	438 (11 125)	412 (10 459)	400 (10 161)	310 (7864)	261 (6623)	97 (2464)	25°	21°	121 (3079)	298 (7564)
	18.0 X 25	552 (14 017)	533 (13 548)	438 (11 125)	409 (10 386)	399 (10 138)	311 (7888)	263 (6688)	96 (2439)	19°	19°	116 (2938)	298 (7577)
4 WHEEL STEER	23.5 X 25	406 (10 309)	392 (9969)	279 (7082)	253 (6435)	242 (6140)	150 (3813)	138 (3513)	97 (2464)	25°	21°	121 (3079)	138 (3514)
	18.0 X 25	406 (10 309)	392 (9969)	279 (7082)	250 (6362)	241 (6116)	151 (3837)	141 (3587)	96 (2439)	19°	19°	116 (2938)	139 (3526)

Dimensions in inches (mm) unless otherwise specified.



WEIGHTS

GRT655/GRT655L

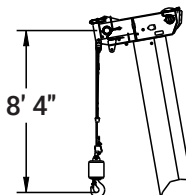
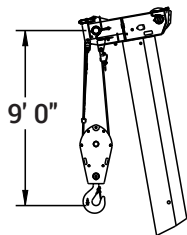
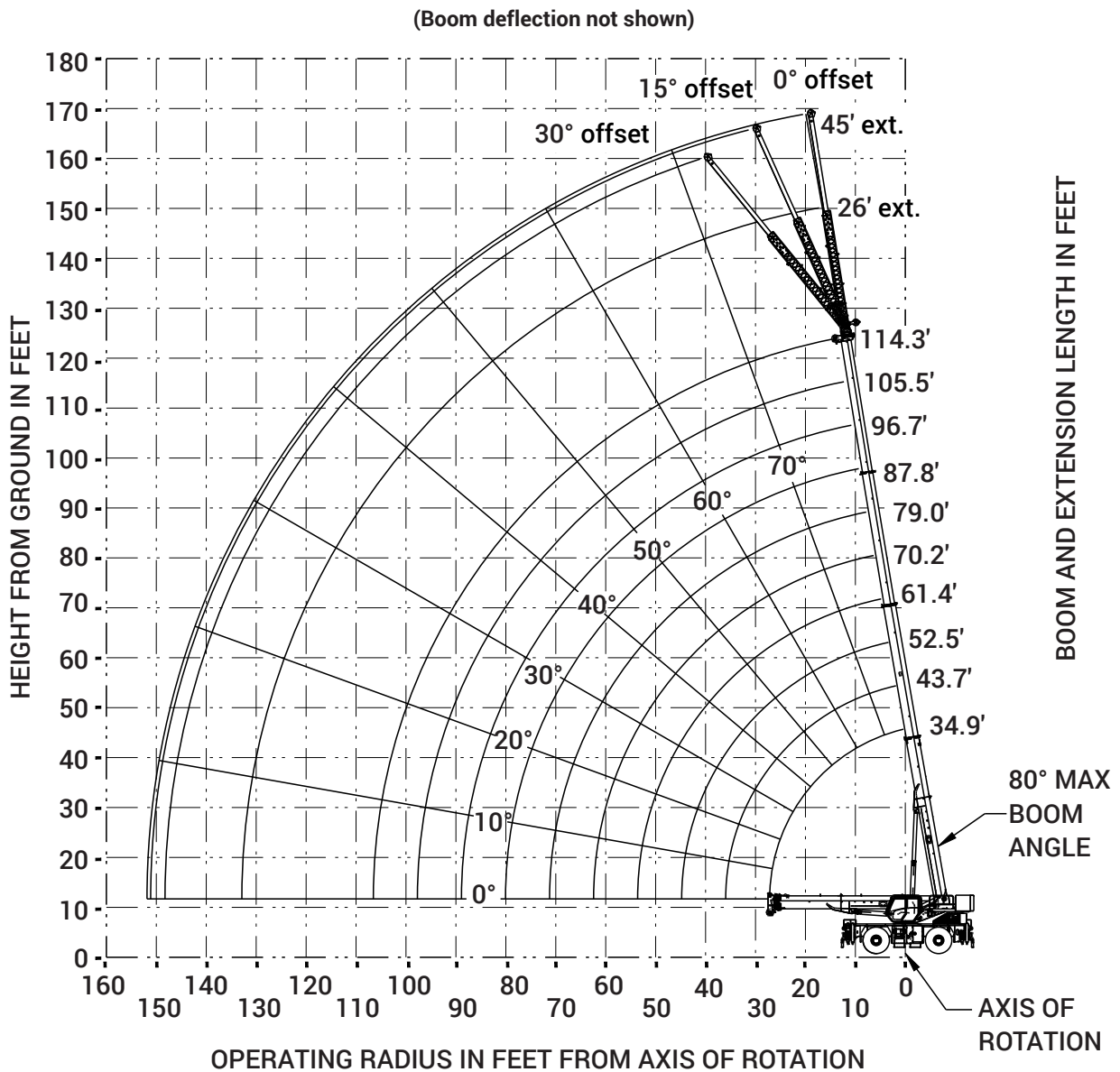


Weights - GRT655	GVW		Front		Rear	
	lb	kg	lb	kg	lb	kg
Basic crane with Cummins Stage V/T4F engine, 114.3 ft (34.8 m) main boom, main hoist with wire rope, full counterweight (includes IPO cwt)	72,551	32 909	30,897	14 015	41,654	18 894
Add: 56 USt (50 t) 5 sheave hookblock	937	425	968	439	-31	-14
crane weight	73,488	33 334	31,865	14 454	41,623	18 880
Add: 7.5 USt (7 t) headache ball	366	166	588	267	-222	-101
crane weight	73,854	33 500	32,453	14 720	41,401	18 779
Add: 26 ft - 45 ft (7,92 m-13,7 m) telescopic swingaway & stowage brackets	2055	932	3638	1,650	-1583	-718
crane weight	75,909	34 432	36,091	16 371	39,818	18 061
Add: Auxiliary Hoist with 590 ft (180 m) of wire rope in place of IPO cwt	54	24	-9	-4	63	29
crane weight	75,963	34 456	36,082	16 367	39,881	18 090
Add: Auxiliary boom nose	100	45	280	127	-180	-82
crane weight	76,063	34 502	36,362	16 494	39,701	18 008

Weights - GRT655L	GVW		Front		Rear	
	lb	kg	lb	kg	lb	kg
Basic crane with Cummins Stage V/T4F engine, 114.3 ft (34.8 m) main boom, main hoist with wire rope, full counterweight (includes IPO cwt)	74,123	33 622	33,667	15 271	40,456	18 351
Add: 56 USt (50 t) 5 sheave hookblock	937	425	968	439	-31	-14
crane weight	75,060	34 047	34,635	15 710	40,425	18 336
Add: 7.5 USt (7 t) headache ball	366	166	588	267	-222	-101
crane weight	75,426	34 213	35,223	15 977	40,203	18 236
Add: 26 ft - 45 ft. (7,9 m - 13,7 m) telescopic swingaway & stowage brackets	2,055	932	3,706	1681	-1,651	-749
crane weight	77,481	35 145	38,929	17 658	38,552	17 487
Add: Auxiliary Hoist with 590 ft (180 m) of wire rope in place of IPO cwt	54	24	-9	-4	63	29
crane weight	77,535	35 169	38,920	17 654	38,615	17 515
Add: Auxiliary boom nose	100	45	283	128	-183	-83
crane weight	77,635	35 215	39,203	17 782	38,432	17 432

WORKING RANGE

GRT655 with Telescopic Extension



DIMENSIONS ARE FOR THE LARGEST GROVE FURNISHED HOOK BLOCK AND OVERHAUL BALL, WITH ANTI-TWO BLOCK ACTIVATED.

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LOAD CHART

GRT655



35 ft - 114 ft



12,300 lb



100%



360°



Pounds

Radius in Feet	Main Boom Length in Feet									
	34.9	43.7	52.5	61.4	70.2	79.0	87.8	96.7	105.5	114.3
8	110,000 (68.5)	—	—	—	—	—	—	—	—	—
10	88,750 (65)	81,000 (70.5)	79,700 (74)	79,200 (77)	72,650 (79.5)	—	—	—	—	—
12	80,150 (61)	78,100 (67.5)	76,400 (72)	75,050 (75)	68,200 (77.5)	*57,800 (80)	—	—	—	—
15	69,550 (55)	68,200 (63)	66,700 (68)	65,450 (72)	60,450 (75)	51,050 (77)	42,250 (79)	*34,500 (80)	—	—
20	55,300 (43)	55,800 (55.5)	54,900 (62)	53,900 (67)	49,400 (70.5)	42,050 (73)	34,950 (75.5)	33,300 (77)	28,100 (78.5)	*25,800 (80)
25	40,400 (26)	43,300 (46.5)	43,750 (55.5)	44,100 (61.5)	41,300 (66)	35,150 (69)	29,250 (72)	28,150 (74)	27,000 (76)	24,600 (77.5)
30	—	34,750 (35)	35,200 (48)	35,500 (56)	35,250 (61.5)	29,950 (65)	24,900 (68.5)	23,950 (71)	23,150 (73)	21,800 (75)
35	—	24,950 (17)	28,150 (39.5)	28,300 (50)	28,450 (56.5)	25,950 (61)	21,500 (64.5)	20,650 (67.5)	20,000 (70)	19,400 (72)
40	—	—	22,050 (29)	22,300 (43)	22,500 (51)	22,750 (56.5)	18,750 (61)	18,050 (64.5)	17,450 (67)	16,900 (69.5)
45	—	—	—	18,050 (34.5)	18,300 (45.5)	18,500 (52)	16,550 (57)	15,900 (61)	15,350 (64)	14,900 (66.5)
50	—	—	—	14,850 (24)	15,150 (38.5)	15,300 (47)	14,700 (53)	14,100 (57.5)	13,600 (61)	13,150 (64)
55	—	—	—	—	12,700 (30.5)	12,900 (41.5)	13,000 (48.5)	12,550 (53.5)	12,100 (57.5)	11,700 (61)
60	—	—	—	—	10,700 (19)	10,900 (35)	11,050 (43.5)	11,150 (49.5)	10,850 (54)	10,500 (58)
65	—	—	—	—	—	9300 (27)	9470 (38)	9560 (45)	9570 (50.5)	9420 (54.5)
70	—	—	—	—	—	7950 (14)	8100 (32)	8220 (40.5)	8240 (46.5)	8240 (51.5)
75	—	—	—	—	—	—	6950 (23.5)	7070 (35)	7120 (42.5)	7140 (48)
80	—	—	—	—	—	—	4650 (6.5)	6070 (29)	6150 (38)	6190 (44)
85	—	—	—	—	—	—	—	5210 (20.5)	5300 (32.5)	5370 (40)
90	—	—	—	—	—	—	—	—	4550 (26)	4640 (35.5)
95	—	—	—	—	—	—	—	—	3900 (17)	3990 (30)
100	—	—	—	—	—	—	—	—	—	3410 (23.5)
105	—	—	—	—	—	—	—	—	—	2890 (13.5)
Min. boom angle for indicated length (no load)										12°
Max. boom length at 0° boom angle (no load)										105.5 ft

NOTE: () Boom angles are in degrees.

*This capacity is based on maximum boom angle.

Boom Angle	Main Boom Length in Feet									
	34.9	43.7	52.5	61.4	70.2	79	87.8	96.7	105.5	114.3
0°	17,600 (27.1)	12,700 (35.9)	9480 (44.7)	7160 (53.6)	5420 (62.4)	4060 (71.2)	2970 (80)	2070 (88.9)	1320 (97.7)	—

NOTE: () Reference radii in feet.

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The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane

LOAD CHART

GRT655



114 ft



26 ft - 45 ft



12,300 lb



100%



360°



Pounds

Feet	26 ft length			45 ft length		
	0° offset	15° offset	30° offset	0° offset	15° offset	30° offset
20	*12,200 (80)	—	—	—	—	—
25	12,200 (79.5)	*9590 (80)	—	*8460 (80)	—	—
30	12,200 (77.5)	9000 (79)	*6710 (80)	7710 (79.5)	—	—
35	12,200 (75.5)	8490 (77.5)	6460 (79.5)	7060 (77.5)	*5120 (80)	—
40	11,950 (73.5)	8020 (75.5)	6230 (78)	6540 (76)	4890 (78.5)	—
45	10,950 (71.5)	7610 (73.5)	6030 (76)	6080 (74.5)	4670 (77)	*3750 (80)
50	10,100 (69.5)	7250 (71.5)	5840 (73.5)	5680 (72.5)	4470 (75)	3640 (79.5)
55	9410 (67.5)	6940 (69)	5670 (71.5)	5320 (70.5)	4290 (73.5)	3530 (77.5)
60	8800 (65.5)	6630 (67)	5520 (69.5)	5020 (69)	4130 (71.5)	3430 (76)
65	8270 (63)	6380 (65)	5380 (67)	4750 (67)	3980 (70)	3330 (74)
70	7790 (61)	6140 (62.5)	5250 (65)	4500 (65.5)	3840 (68)	3250 (72)
75	7140 (58.5)	5920 (60.5)	5130 (62.5)	4280 (63.5)	3720 (66)	3170 (70)
80	6160 (56)	5720 (58)	5020 (60)	4080 (61.5)	3600 (64)	3100 (68)
85	5320 (53.5)	5540 (55.5)	4930 (57)	3900 (59.5)	3480 (62)	3030 (65.5)
90	4580 (50.5)	4870 (53)	4850 (54.5)	3740 (57.5)	3370 (60)	2970 (63.5)
95	3930 (47.5)	4190 (50)	4370 (51)	3590 (55)	3280 (58)	2910 (61)
100	3360 (44.5)	3590 (46.5)	3730 (48)	3450 (53)	3180 (55.5)	2860 (58.5)
105	2840 (41)	3050 (43)	3160 (44.5)	3320 (50.5)	3100 (53)	2820 (56)
110	2380 (37.5)	2560 (39.5)	2650 (41)	3090 (48)	3020 (50.5)	2770 (53.5)
115	1960 (33.5)	2120 (35.5)	2190 (36.5)	2710 (45)	2950 (48)	2740 (50.5)
120	1580 (29)	1720 (31)	1770 (31.5)	2360 (42.5)	2740 (45)	2710 (47.5)
125	1240 (23.5)	1360 (25.5)	—	2040 (39)	2360 (42)	2480 (44)
130	—	1030 (17.5)	—	1750 (36)	2000 (38.5)	2090 (40.5)
135	—	—	—	1490 (32)	1680 (34.5)	1730 (36)
140	—	—	—	1240 (27.5)	1380 (30)	1410 (31)
145	—	—	—	1010 (22.5)	1110 (24.5)	—
Min. boom angle for indicated length (no load)	16°	16°	30°	21°	23°	30°
Max. boom length at 0° boom angle (no load)	79 ft			79 ft		

- 26 ft and 45 ft folding boom extension lengths may be used for single line lifting service.
 - Radii listed are for a fully extended boom with the boom extension erected. For main boom lengths less than fully extended, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is configured. For boom angles not shown, use the rating of the next lower boom angle.
- WARNING: Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
- Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
 - Capacities listed are with outriggers fully extended and vertical jacks set only.

NOTE: () Boom angles are in degrees.

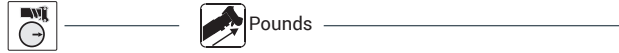
*This capacity is based on maximum boom angle.

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LOAD CHART

GRT655

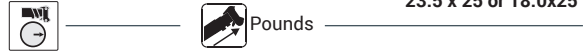
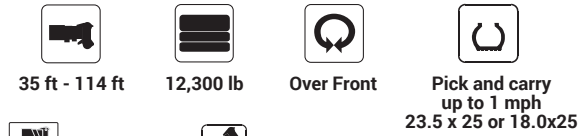


Radius in feet	Main Boom Length in Feet			
	34.9	43.7	52.5	61.4
10	40,700 (65)	38,000 (70.5)	—	—
12	34,350 (61)	34,350 (67.5)	28,000 (72)	—
15	25,400 (55)	25,800 (63.5)	25,600 (68.5)	23,000 (72)
20	15,750 (43)	16,300 (55.5)	16,650 (62.5)	17,100 (67)
25	10,150 (26.5)	11,000 (47.5)	11,450 (56)	11,700 (62)
30	—	7600 (37)	8100 (49)	8260 (56)
35	—	5230 (19)	5710 (41)	5890 (50)
40	—	—	3940 (30)	4160 (43.5)
45	—	—	—	2840 (36)
50	—	—	—	1810 (25)
Minimum boom angle (°) for indicated length (no load)				0°
Maximum boom length at 0° boom angle (no load)				61.4 ft

NOTE: () Boom angles are in degrees

Boom angle	Main Boom Length in Feet			
	34.9	43.7	52.5	61.4
0°	8460 (27.1)	4870 (35.9)	2620 (44.7)	1190 (53.6)

NOTE: () Reference radii in feet.



Radius in feet	Main Boom Length in Feet			
	34.9	43.7	52.5	61.4
10	36,050 (65)	37,300 (70.5)	—	—
12	31,350 (61)	33,100 (67.5)	27,700 (72)	—
15	25,900 (55)	27,350 (63.5)	25,000 (68.5)	22,200 (72)
20	19,250 (43)	20,600 (55.5)	20,400 (62.5)	20,550 (67)
25	14,750 (26.5)	15,800 (47.5)	16,050 (56)	16,200 (62)
30	—	12,350 (37)	12,750 (49)	13,000 (56)
35	—	9700 (19)	10,250 (41)	10,500 (50)
40	—	—	8270 (30)	8550 (43.5)
45	—	—	—	6810 (36)
50	—	—	—	5340 (25)
Minimum boom angle (°) for indicated length (no load)				0°
Maximum boom length at 0° boom angle (no load)				61.4 ft

NOTE: () Boom angles are in degrees

Boom angle	Main Boom Length in Feet			
	34.9	43.7	52.5	61.4
0°	13,250 (27.1)	9280 (35.9)	6530 (44.7)	4480 (53.6)

NOTE: () Reference radii in feet.

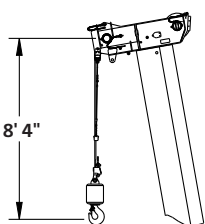
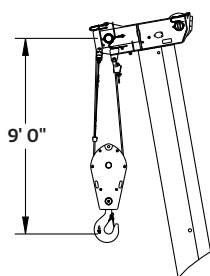
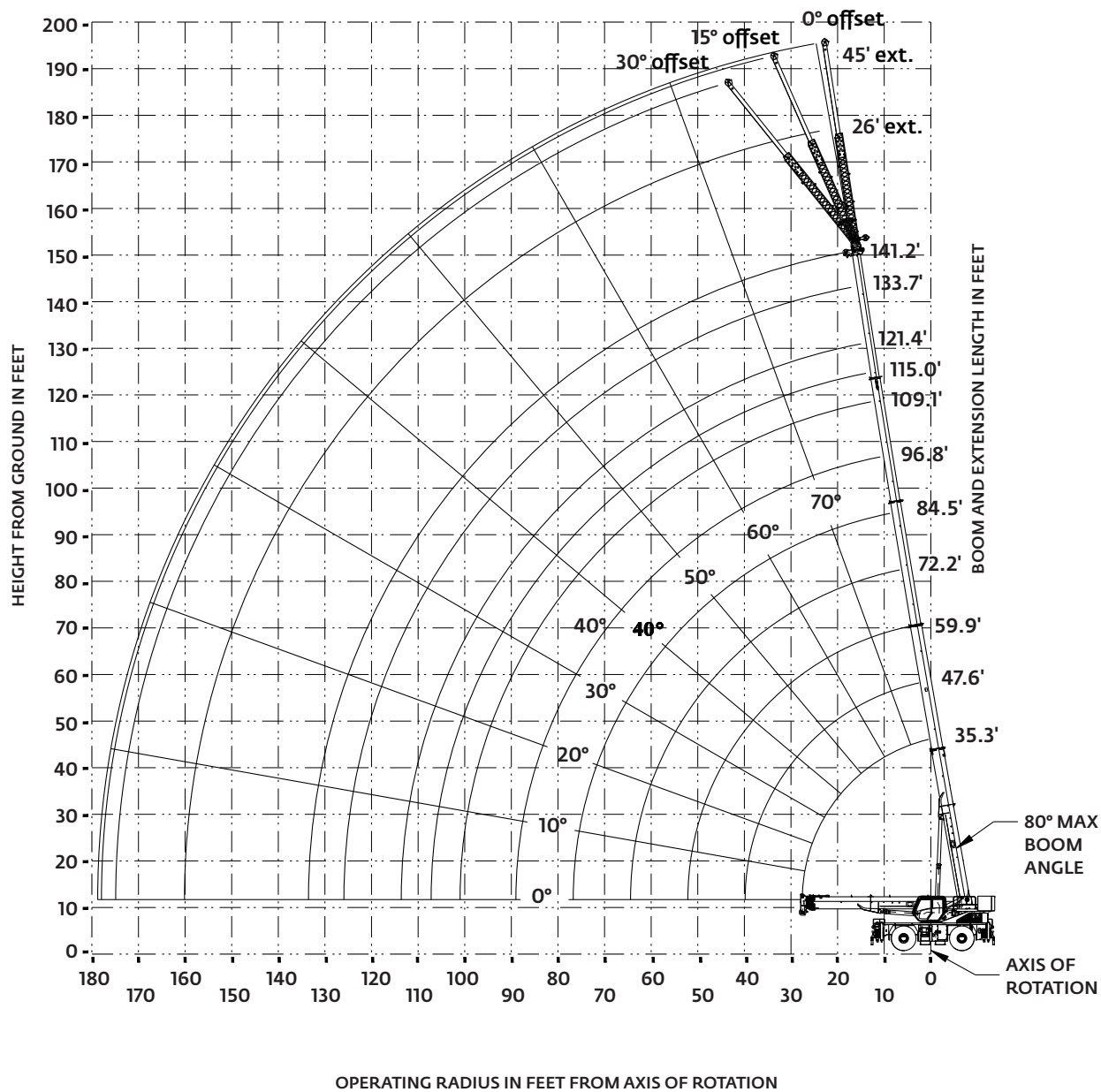
- Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.
- Capacities are applicable to machines with properly inflated tires at cold inflation pressure. Refer to the individual cranes load chart books for applicable tire pressures.
- Capacities are applicable only with machine on firm level surface.
- On rubber lifting with boom extension not permitted.
- For pick and carry operation, boom must be centered over front of machine, mechanical swing lock engaged and load restrained from swinging.
- Axle lockouts must be functioning when lifting on rubber.
- All lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures. See lifting capacity chart for tire used. Damaged tires are hazardous to safe operation of crane.
- Creep - not over 200 ft of movement in any 30 minute period and not exceeding 1 mph.

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WORKING RANGE

GRT655L with Telescopic Extension



DIMENSIONS ARE FOR THE LARGEST GROVE FURNISHED HOOK BLOCK AND OVERHAUL BALL, WITH ANTI-TWO BLOCK ACTIVATED.

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LOAD CHART

GRT655L



35 ft - 141 ft



12,300 lb



100%



360°



Pounds

Radius in Feet	Main Boom Length in Feet									
	35.3	47.6	59.9	72.2	84.5	96.8	109.1	121.4	133.7	141.2
8	110,000 (68.5)	—	—	—	—	—	—	—	—	—
10	87,750 (64.5)	44,200 (72)	42,600 (76)	41,300 (79)	—	—	—	—	—	—
12	79,150 (61)	44,200 (69.5)	42,600 (74)	41,300 (77)	—	—	—	—	—	—
15	68,650 (55)	44,200 (65.5)	42,600 (71)	41,300 (74.5)	39,700 (77)	*36,000 (80)	—	—	—	—
20	54,550 (43.5)	44,200 (58.5)	42,600 (65.5)	40,700 (70.5)	36,250 (73.5)	31,450 (76)	*27,950 (80)	*21,300 (80)	—	—
25	40,300 (27)	43,100 (50.5)	42,400 (60)	36,250 (66)	32,250 (70)	27,750 (73)	24,900 (75.5)	21,300 (77.5)	*18,100 (80)	—
30	—	34,450 (41.5)	35,000 (54.5)	32,750 (61.5)	29,050 (66)	24,650 (70)	22,350 (72.5)	20,250 (75)	18,100 (77)	15,700 (79.5)
35	—	27,300 (30)	28,350 (48)	28,850 (56.5)	26,450 (62.5)	22,150 (66.5)	19,650 (70)	18,450 (72.5)	16,850 (74.5)	15,700 (75.5)
40	—	—	22,200 (40.5)	22,650 (51.5)	23,150 (58.5)	20,100 (63.5)	17,100 (67)	16,450 (70)	15,500 (72.5)	14,700 (73.5)
45	—	—	17,800 (31.5)	18,300 (46)	18,750 (54)	17,900 (60)	15,000 (64)	14,450 (67.5)	14,000 (70)	13,600 (71.5)
50	—	—	14,500 (19)	15,050 (40)	15,450 (50)	15,600 (56.5)	13,300 (61)	12,750 (65)	12,350 (68)	12,150 (69.5)
55	—	—	—	12,500 (33)	12,950 (45)	13,100 (52.5)	11,800 (58)	11,350 (62.5)	10,950 (65.5)	10,800 (67)
60	—	—	—	10,450 (23.5)	10,950 (39.5)	11,100 (48.5)	10,550 (55)	10,100 (59.5)	9790 (63)	9620 (65)
65	—	—	—	—	9300 (33.5)	9470 (44.5)	9460 (51.5)	9060 (56.5)	8740 (60.5)	8580 (62.5)
70	—	—	—	—	7900 (26)	8110 (39.5)	8240 (48)	8120 (53.5)	7820 (58)	7670 (60.5)
75	—	—	—	—	6710 (14.5)	6930 (34.5)	7050 (44)	7230 (50.5)	7000 (55.5)	6860 (58)
80	—	—	—	—	—	5920 (28)	6080 (39.5)	6250 (47.5)	6280 (52.5)	6140 (55.5)
85	—	—	—	—	—	5050 (19.5)	5230 (35)	5410 (43.5)	5470 (49.5)	5500 (53)
90	—	—	—	—	—	—	4480 (29.5)	4670 (40)	4740 (46.5)	4780 (50)
95	—	—	—	—	—	—	3810 (23)	4000 (35.5)	4100 (43.5)	4140 (47)
100	—	—	—	—	—	—	3220 (12.5)	3400 (31)	3520 (40)	3580 (44)
105	—	—	—	—	—	—	—	2870 (25.5)	2980 (36)	3070 (41)
110	—	—	—	—	—	—	—	2390 (17.5)	2510 (32)	2600 (37.5)
115	—	—	—	—	—	—	—	—	2080 (27)	2170 (33.5)
120	—	—	—	—	—	—	—	—	1690 (21)	1790 (29)
Min. boom angle for indicated length (no load)							11°	16°	20°	28°
Max. boom length at 0° boom angle (no load)							96.8 ft			

NOTE: () Boom angles are in degrees.

*This capacity is based on maximum boom angle.

Boom Angle	Main Boom Length in Feet									
	35.3	47.6	59.9	72.2	84.5	96.8	109.1	121.4	133.7	141.2
0°	16,350 (27.5)	10,350 (39.8)	6840 (52.1)	4500 (64.4)	2830 (76.7)	1590 (89)	—	—	—	—

NOTE: () Reference radii in feet.

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LOAD CHART

GRT655L



141 ft



26 ft – 45 ft



12,300 lb



100%



360°



Pounds

Radius in Feet	26 ft Length			45 ft Length		
	0° Offset	15° Offset	30° Offset	0° Offset	15° Offset	30° Offset
35	8610 (80)	—	—	—	—	—
40	8610 (77.5)	*8400 (80)	—	*6010 (80)	—	—
45	8610 (76)	7820 (78.5)	*6200 (80)	6010 (78.5)	—	—
50	8470 (74.5)	7280 (77)	6030 (78.5)	6010 (77)	4630 (80)	—
55	7860 (72.5)	6800 (75)	5870 (76.5)	5760 (75.5)	4460 (78)	—
60	7290 (71)	6360 (73)	5730 (75)	5460 (74)	4310 (76.5)	*3520 (80)
65	6780 (69.5)	5980 (71)	5440 (73)	5170 (72.5)	4170 (75)	3430 (78.5)
70	6330 (67.5)	5620 (69.5)	5160 (71)	4940 (71)	4040 (73.5)	3350 (76.5)
75	5930 (65.5)	5310 (67.5)	4900 (69)	4710 (69.5)	3920 (72)	3280 (75)
80	5570 (64)	5020 (65.5)	4660 (67)	4500 (68)	3810 (70.5)	3210 (73.5)
85	5240 (62)	4750 (63.5)	4440 (65)	4310 (66)	3700 (68.5)	3150 (71.5)
90	4890 (60)	4510 (61.5)	4230 (63)	4060 (64.5)	3600 (67)	3080 (70)
95	4200 (57.5)	4280 (59)	4050 (60.5)	3840 (63)	3440 (65)	3030 (68)
100	3530 (55.5)	3,890 (57)	3870 (58.5)	3640 (61)	3280 (63.5)	2980 (66.5)
105	2930 (53)	3240 (55)	3500 (56)	3450 (59)	3130 (61.5)	2930 (64.5)
110	2390 (50.5)	2660 (52.5)	2900 (53.5)	3270 (57)	2990 (59.5)	2820 (62.5)
115	1910 (48)	2140 (50)	2360 (51)	2810 (55)	2860 (57.5)	2710 (60)
120	1470 (45.5)	1660 (47.5)	1870 (48.5)	2300 (53)	2740 (55.5)	2610 (58)
125	1060 (43)	1230 (44.5)	1420 (45.5)	1830 (51)	2300 (53.5)	2310 (56)
130	—	—	1010 (42.5)	1400 (48.5)	1870 (51)	1940 (53.5)
135	—	—	—	1010 (46.5)	1480 (49)	1610 (51)
140	—	—	—	—	1120 (46.5)	1290 (48.5)
145	—	—	—	—	—	1010 (45.5)
Min. boom angle for indicated length (no load)	42°	43°	41°	45°	45°	44°
Max. boom length at 0° boom angle (no load)	72 ft			72 ft		

NOTE: () Boom angles are in degrees.

*This capacity is based on maximum boom angle.

- 26 ft and 45 ft folding boom extension lengths may be used for single line lifting service.
- Radii listed are for a fully extended boom with the boom extension erected. For main boom lengths less than fully extended, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is configured. For boom angles not shown, use the rating of the next lower boom angle.

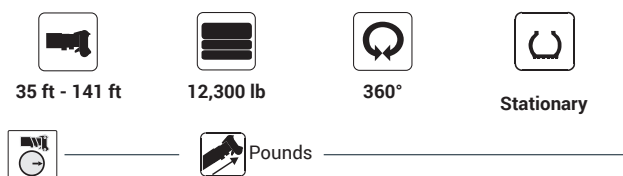
WARNING: Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
- Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
- Capacities listed are with outriggers fully extended and vertical jacks set only.

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LOAD CHART

GRT655L

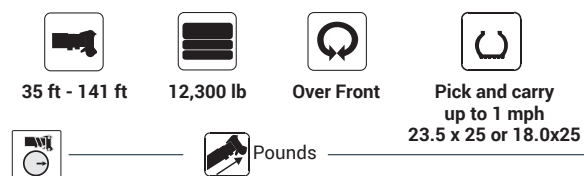


Radius in Feet	Main Boom Length in Feet			
	35.3	47.6	59.9	72.2
10	40,300 (64.5)	35,400 (71.5)	—	—
12	33,550 (61)	32,700 (69)	22,000 (73.5)	—
15	24,850 (54.5)	25,400 (65)	20,000 (70.5)	20,000 (74)
20	15,100 (44)	16,200 (58)	16,650 (65.5)	16,550 (70)
25	9800 (28.5)	10,950 (51)	11,350 (60)	11,350 (65.5)
30	—	7560 (42)	7980 (54.5)	8140 (61)
35	—	5170 (31)	5680 (48)	5880 (56.5)
40	—	—	4010 (41)	4250 (51.5)
45	—	—	2740 (32.5)	3020 (46)
50	—	—	1750 (19.5)	2050 (40.5)
55	—	—	—	1270 (33.5)
Min. boom angle for indicated length (no load)				32°
Max. boom length at 0° boom angle (no load)				59.9 ft

NOTE: () Boom angles are in degrees.

Boom Angle	Main Boom Length in Feet			
	35.3	47.6	59.9	72.2
0°	7940 (27.5)	3470 (39.8)	1390 (52.1)	—

NOTE: () Reference radii in feet.



Radius in Feet	Main Boom Length in Feet			
	35.3	47.6	59.9	72.2
10	30,500 (64.5)	30,500 (71.5)	—	—
12	26,450 (61)	24,000 (69)	21,500 (73.5)	—
15	21,800 (54.5)	20,700 (65)	19,600 (70.5)	19,400 (74)
20	17,750 (44)	18,800 (58)	17,700 (65.5)	17,400 (70)
25	13,650 (28.5)	15,150 (51)	15,700 (60)	15,400 (65.5)
30	—	11,750 (42)	12,400 (54.5)	13,400 (61)
35	—	9230 (31)	9870 (48)	10,850 (56.5)
40	—	—	7860 (41)	8640 (51.5)
45	—	—	6240 (32.5)	6860 (46)
50	—	—	4900 (19.5)	5390 (40.5)
55	—	—	—	4150 (33.5)
60	—	—	—	3110 (24)
Min. boom angle for indicated length (no load)				0°
Max. boom length at 0° boom angle (no load)				72.2 ft

NOTE: () Boom angles are in degrees.

Boom Angle	Main Boom Length in Feet			
	35.3	47.6	59.9	72.2
0°	12,000 (27.5)	7290 (39.8)	4410 (52.1)	2300 (64.4)

NOTE: () Reference radii in feet.

- Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.
- Capacities are applicable to machines with properly inflated tires at cold inflation pressure. Refer to the individual cranes load chart books for applicable tire pressures.
- Capacities are applicable only with machine on firm level surface.
- On rubber lifting with boom extension not permitted.
- For pick and carry operation, boom must be centered over front of machine, mechanical swing lock engaged and load restrained from swinging.
- Axle lockouts must be functioning when lifting on rubber.
- All lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures. See lifting capacity chart for tire used. Damaged tires are hazardous to safe operation of crane.
- Creep - not over 200 ft of movement in any 30 minute period and not exceeding 1 mph.

LOAD HANDLING

GRT655/GRT655L

Weight reductions for load handling devices		
Item	Weight (lb)	Weight (kg)
Auxiliary Boom Nose	100	45
Hook blocks and overhaul weights:		
56 USt (51 t), 5-sheave	937+	425
38 USt (35 t), 3 sheave	853+	387
18.7 USt (17 t), 1-sheave	575+	261
8.3 USt (7.5 t), overhaul weight	364+	165
7.5 USt (7 t), overhaul ball	366+	166

+Refer to rating plate for actual weight.

Tire inflation - PSI (bar)			
Size (front & rear)		TRA Code	Lifting service, general travel and extended travel
			Static, creep
Standard	23.5 X 25 (28 ply)	E-3/L-3	80 (5.5)
Narrow	18.0 X 25 (32 ply)	E-3/L-3	109 (7.5)

Line pulls and reeving information			
Hoists	Cable Specs.	Permissible Line Pulls	Nominal Cable Length
Main & Auxiliary	5/8 in (16 mm) 35x7 Class EEIPS + Rotation Resistant Min. Breaking strength 61,200 lb (27 760 kg)	12,240 lb (5552 kg)*	590 ft (180 m)

The approximate weight of 5/8 in (16 mm) wire rope is 1.34 kg/m (0.90 lb/ft).

*With certain boom and hoist tackle combinations, the allowable line pull may be limited by hoist performance. Refer to Hoist Performance table for lift planning to ensure adequate hoist performance on drum rope layer required.

Telescopic Boom Extension		Without Overhaul Weight or Block	With Overhaul Ball
26 ft - 45 ft (7,9 m - 13,7 m) Telescopic boom extension	*26 ft (7,9 m)	2900 lb (1315 kg)	4100 lb (1860 kg)
	*45 ft (13,7 m)	3700 lb (1678 kg)	5600 lb (2540 kg)

*Reduction of main boom capacities (no deduct required for stowed boom extension)

NOTE: All load handling devices and boom attachments are considered part of the load and suitable allowances MUST BE MADE for their combined weights. Weights are for Grove furnished equipment.

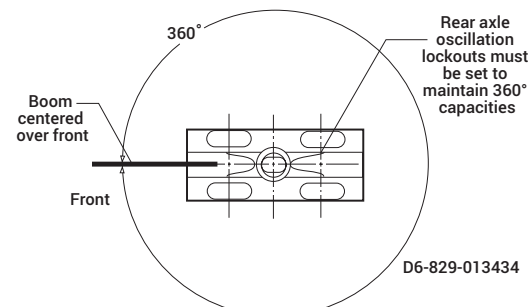
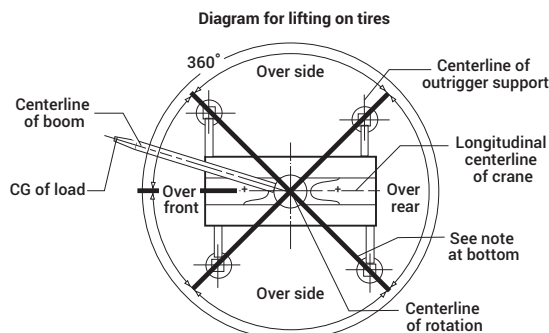
NOTE: When operating at temperatures below -40°F, capacities shall be derated 3.6% of rated load for each degree Fahrenheit below -40°F without shock load.

Hoist Performance				
Wire rope layer	Hoist line pulls		Drum capacity	
	Two speed hoist		Layer ft (m)	Total ft (m)
	Low	High		
	Available lb (kg)	Available lb (kg)		
1	16,568 (7515)	7435 (3372)	95 (29)	95 (29)
2	15,053 (6828)	6756 (3064)	104 (31,7)	199 (60,7)
3	13,792 (6256)	6190 (2808)	114 (34,7)	312 (95,1)
4	12,726 (5772)	5711 (2590)	123 (37,5)	435 (132,6)
5	11,813 (5358)	5301 (2404)	133 (40,5)	568 (173,1)
6	11,022 (4999)	4946 (2243)	142 (43,3)	710 (216,4)

*Refer to Line Pulls and Reeving Information table for max. lifting capacity of wire rope. Synthetic rope layer height may vary and may reduce available line pull per layer.

Working Area Diagram

Diagram for lifting on tires



Bold lines determine the limiting position of any load for operation within working areas indicated.

SPECIFICATIONS

Superstructure



Boom (GRT655)

34.9 ft - 114.3 ft (10,6 m - 34,8 m) four-section, full-power boom.
Synchronized extension and retraction. Maximum tip height: 125 ft (38,1 m)

Boom (GRT655L)

35.3 ft - 141.2 ft (10,8 m - 43,0 m) five-section, full-power boom.
Synchronized extension and retraction. Maximum tip height: 151 ft (46,0 m)



*Optional manual swingaway extension

26 ft - 45 ft (7,9 m - 13,7 m) telescopic swingaway extension. Offsettable at 0°, 15°, and 30°. Stows alongside base boom section.

Maximum tip height (GRT655): 170 ft (51,8 m)

Maximum tip height (GRT655L): 196 ft (59,7 m)



Boom nose

Four nylatron sheaves mounted on heavy-duty tapered roller bearings with removable pin-type guards. Quick-reeve type boom nose. Removable single sheave auxiliary boom nose with removable pin type rope guard.



Boom elevation

One double - acting hydraulic cylinder with integral holding valve provides elevation from -3° to +80°.



Crane Control System (CCS)

"Graphic Display" RCL load moment and anti-two block system with audio-visual warning and control lever lockout. This system provides electronic display of boom angle, boom length, load radius, boom tip height, maximum permissible load, actual load and warning of impending two-block condition. The work area definition system allows the operator to pre-select and define safe working areas. If the crane approaches the pre-set limits, audio-visual warnings aid the operator in avoiding job site obstructions. ECO mode system to control engine R.P.M. to lower noise and improve fuel consumption. .



Counterweight

12,300 lb (5579 kg) one piece, pinned to superstructure.



Cab

Operator controlled 20° hydraulic tilt, Full vision, all steel fabricated with acoustical lining and tinted safety glass throughout. Deluxe seat with headrest incorporates armrest-mounted electronic programmable single-axis or dual axis controllers and a jog dial for easier data input. Tilt/telescoping steering wheel with various controls incorporated into the steering column. Other standard features include: hot water heater, cab circulating air fan, sliding side and opening rear window, sliding skylight with electric wiper and sunscreen, electric windshield wash/wipe, fire extinguisher, seat belt, air conditioning, and dual cab mounted work lights.



Swing

Variable speed, planetary swing drive with foot applied multi-disc proportional wet brake. Spring applied, hydraulically released swing brake. Two position mechanical swing lock pin, operated from cab. Maximum swing speed: 1.7 r.p.m.



Hoist (main and optional auxiliary hoist)

Planetary reduction driven by axial piston motor. Grooved drum with automatic spring applied multi-disk wet brake. Electronic hoist drum rotation indicator, third wrap indicator with hoist function cut-out, hoist cable follower and hoist access platform are standard.

Maximum hoist single line pull:

1st layer: 16,568 lb (7515 kg)

3rd layer: 13,792 lb (6256 kg)

5th layer: 11,813 lb (5358 kg)

Maximum hoist single line speed (no load):

487 ft/min (148 m/min)

Rope diameter:

5/8 in (16 mm)

Maximum usable rope:

700 ft (213 m) 5 layers

Maximum permissible single line pull:

12,240 lb (5552 kg) with 35 x 7 class rope

Rope construction:

35 x 7 rotation - resistant

Rope length:

Main hoist: 590 ft (180 m)

Aux. hoist : 590 ft (180 m)

* Denotes optional equipment

SPECIFICATIONS

Carrier



Chassis

Parallel box section fabricated from high strength, low alloy steel with integral outrigger boxes, front and rear, tie-down, and towing lugs.



Outrigger system

Four hydraulic telescoping single stage double box beam outriggers with inverted jack cylinders and integral jack holding valves. Three position settings, 0%, 50%, and fully extended. Polymer outrigger floats 19.6 in (500 mm) diameter. Outrigger Monitoring System (OMS) with in-cylinder sensors. Outrigger beam position shown on RCL display. Maximum outrigger pad load: 75,200 lb (34 110 kg)



Outrigger controls

Controls and crane leveling indicator located in cab. Extension and retraction are thru the CCS system.



Hydraulic system

Two main pumps (1) variable displacement piston and (1) gear with a combined output capacity of 88 gal/min (331 l/min). Maximum operating pressure: 4000 p.s.i. (276 bar) Return line in-tank filter with full flow by-pass protection and service indicator. Replaceable cartridge with 4 micron filtration rating per ISO cleanliness level of 17/15/12. Superstructure mounted oil cooler with thermostatically controlled electric motor driven fan/air to oil. System pressure test ports.



Engine (Tier 4f / Stage V)

Cummins B6.7L diesel engine with after-treatment system. Six-cylinder, turbo-charged and water-cooled engine. 173 HP (129 kw) at 2,200 rpm. Maximum torque: 650 lb-ft (881 Nm) at 1500 rpm. Meets emissions per U.S. EPA Tier 4 Final and E.U. Stage V.

Fuel requirement: Maximum of 15 ppm sulfur content (ultra-low sulfur diesel). Diesel exhaust fluid required. Please review your country's appropriate engine emissions standards before selecting an engine.



Engine (Tier 3)

Cummins QSB6.7L diesel six cylinder, turbo-charged with 160 H.P. (119 kW) at 2500 r.p.m., maximum torque : 540 lb/ft (732 Nm) at 1500 r.p.m. Fuel requirements: Maximum of 5000 ppm Sulfur Diesel fuel.

Please review your country's appropriate engine emissions standards before selecting an engine.



Fuel tank capacity

58 gal (220 L)



Transmission

Rangeshift with 6 forward and 6 reverse speeds. (3 speeds high and 3 speeds low). Front axle disconnect for 4 x 2 drive.



Axles

FRONT: Drive/steer with differential and planetary reduction hubs rigid mounted to frame.

REAR: Drive/steer with differential and planetary reduction hubs pivot mounted to frame. Automatic full hydraulic lockouts on rear axle permits

8.7 in (221 mm) of oscillation only with boom centered over the front.

Cab controlled, cross axle differential locks (front and rear) standard.



Brakes

Full hydraulic split (dual) circuit dry disc operating on all wheels with dual calipers. Parking brake is spring applied/hydraulically released on the front axle input shaft.



Steering

Fully independent power steering.

Front: Fully hydraulic steering wheel controlled.

Rear: Fully hydraulic via separate momentary switch. Provides four steering modes, front only, rear only, coordinated, and crab. Rear steer not aligned indicator.

Outside 4ws coordinated steer radius: 21.0 ft (23.5 x 25: 6,14 m); 20.8ft (18.0 x 25: 6,09 m)

Inside 4ws coordinated steer radius: 12.5 ft (23.5 x 25: 3,81 m); 12.5 ft (18.0 x 25: 3,83 m)



Tires

23.5 x 25 – 28 Bias ply rating; 18.0 x 25 – 32 Bias ply rating

SPECIFICATIONS



Electrical system

Two 12V maintenance free batteries with disconnect. 24V system / 24V lighting



Lighting

Full lighting including turn indicators, head, tail, brake, and hazard warning, and two work lights mounted on cab front.



Maximum Drive Speed

18.8 mph (30,3 kph) with counterweight installed



Gradeability (theoretical)

75.2% to drive train stall based on 77,635 lbs (35,215 kg) GVW with 23.5 x 25 tires, counterweight, auxiliary hoist, telescopic extension, block and ball.

Miscellaneous standard equipment

Full length aluminum fenders with full aluminum decking, dual rear view mirrors, hook block tie-down, electronic back-up alarm, front stowage tray, hot water cab heater/defroster, cab air conditioner, hoist mirrors, A/V warning system, combination tie-down/towing lugs, coolant sight level indicator, hoist access platform.

*Optional equipment

- Auxiliary Hoist Package: Includes auxiliary hoist with electronic hoist drum rotation indicator, hoist drum cable follower, third wrap indication, 180 m (590 ft) of 16 mm (5/8 in) of 35 x 7 class rotation resistant wire rope.
- Auxiliary Lighting and Convenience Package: Includes superstructure mounted amber flashing light, dual base boom mounted floodlights, and rubber mat for storage trough.
- 360° positive mechanical swing lock
- Rear Pintle Hitch
- Wireless wind speed indicator
- Vertical external mounted RCL light tower
- -20°F / -30°C cold weather package
- -40°F / -40°C arctic weather package
- Emergency stop buttons on each side of carrier
- Second beacon light
- Refinery Kit
- Boom position indicator light
- Three-camera system (back-up, blind side, hoist)



NOTES

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Form No. GRT655/GRT655L
Part No. 18-001/0926

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