### **Grove RT765E-2** Product Guide



### **Features**

- 60 t (65 USt) capacity
- 11 m 33,5 m (36 ft 110 ft) four-section full power boom
- 10,1 m (33 ft) offsettable lattice swingaway extension
- 10,1 m 17,1 m (33 ft 56 ft) bi-fold lattice swingaway extension
- 6,1 m (20 ft) or 12,2 m (40 ft) extension inserts
- 6516 kg (14,365 lb) counterweight pinned to superstructure

### Features

#### MEGAFORM<sup>™</sup> boom

The superstructure features a full-power four-section MEGAFORM<sup>™</sup> boom that can reach to a maximum tip height of 119 ft. The sequence synchronized extension features telescopic boom sections via a single lever joystick controller.



### Extensions

An optional bi-fold swingaway lattice extension easily stows on the side of the base boom for easy transport while providing on-board extension from 33 ft - 56 ft for a maximum tip height of 174.5 ft. By adding inserts of 20 ft or 40 ft, the maximum tip height on the RT765E-2 can be extended even further to 194 ft or 214 ft.

An optional 33 ft fixed swingaway is also available with a maximum tip height of 150 ft.





# CraneST kR

CraneSTAR is an exclusive and innovative crane asset management system that helps improve your profitability and reduce costs by remotely monitoring critical crane data. Visit www.cranestar.com for more information.

### Smooth operation

The RT765E-2 has a quick-reeve boom nose and swingaway alignment device to help operators set up smoothly.

## Contents

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#### Superstructure

#### Boom Boom

11 m - 33,5 m (36 ft - 110 ft) four-section, full-power sequenced synchronized boom.

Maximum tip height: 36,4 m (119 ft).

#### \*Optional fixed swingaway extension

10,1 m (33 ft) offsettable lattice swingaway extension. Offsettable at 0°, 25° and 45°. Stows alongside base boom section.

Maximum tip height: 45,8 m (150 ft).

#### \*Optional bi-fold swingaway extension

10,1 m - 17,1 m (33 ft - 56 ft) bi-fold lattice swingaway extension. Offsettable at 0°, 25° and 45°. Stows alongside base boom section. Maximum tip height: 53,2 m (174.5 ft).

#### \*Optional 6,1 m (20 ft) or 12,2 m (40 ft) inserts

Installs between boom nose and bi-fold extension, non-stowable. Maximum tip height: 59,1 m (194 ft) with 20 ft insert, 65,2 m (214 ft) with 40 ft insert.



#### Boom nose

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

\*Optional removable 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 78°.



### Load moment and anti-two block system

Standard "Graphic Display" load moment and anti-two block system with audio-visual warning and control lever lockout. These systems provide electronic display of boom angle, length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block condition. The standard 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.



Full-vision, all-steel fabricated with acoustical lining and tinted safety glass throughout. Deluxe seat incorporates armrest-mounted hydraulic single-axis controllers. 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 rear windows, sliding skylight with electric wiper and sunscreen, electric windshield wash/wipe, fire extinguisher, seat belt, air conditioning, and dual cab mounted work light.



Planetary swing with foot-applied multi-disc brake. Spring applied, hydraulically-released swing brake and plunger-type, one position, mechanical house lock operated from cab. \*Optional 360° mechanical swing lock. Maximum speed: 2.5 rpm.



#### Counterweight

6516 kg (14,365 lb) pinned to superstructure.

Hydraul

### Hydraulic system

Three main gear pumps with a combined capacity of 465 LPM (123 GPM).

Maximum operating pressure: 27,6 MPa (4000 psi). Two individual post pressure compensated valve banks.

Return line type filter with full flow by-pass protection and service indicator. Replaceable cartridge with micron filtration rating of 5/12/16. 507 L (134 gallon) reservoir. Integral oil cooler. System pressure test ports.

### Hoist specifications (HP30A) main and auxiliary hoist

Main and auxiliary hoist: Model HP30A

Planetary reduction with automatic spring applied multi-disc brake. Grooved drum. Electronic hoist drum rotation indicator and hoist drum cable followers.

Hoist maximum single line pull: 8226 kg (18,134 lb)

Maximum single line speed: 153 m/min (502 fpm)

Maximum permissible line pull: 7620 kg (16,800 lb) with 35 x 7 class rope

#### Superstructure continued

Rope diameter: 19 mm (3/4 in)

Rope length: 152 m (500 ft)

Rope type: 35x7 class rotation resistant

Maximum rope stowage: 210 m (692 ft).

#### Carrier



Chassis

Box section frame fabricated from high-strength, low alloy steel. Integral outrigger housings and front/rear towing, lifting, and tie down lugs.



#### Outrigger system

Four hydraulic telescoping single-stage double box beam outriggers with inverted jacks and integral holding valves. Three position settings, 100%, 50% and fully retracted. All steel fabricated, quick-release type round outrigger floats, 610 mm (24 in) diameter. Maximum outrigger pad load: 41 731 kg (92,000 lb). Outrigger position monitoring system (required for North American, Canada, and E.U. Countries).



#### Outrigger controls

Controls and crane level indicator located in cab.

#### Engine (Tier 3F)

Cummins QSB 6.7 L diesel, six cylinders, turbocharged, 194 kW (240 bhp) (Gross) at 2500 rpm. Maximum torque: 987 N-m (728 ft lb) at 1500 rpm.

**Note:** Required for sale outside of North American and European Union countries



#### Engine (Tier 4)

Cummins QSB6.7L diesel six cylinder, turbo-charged with Cummins Compact Catalyst (CCC) & Selective Catalytic Reduction (SCR) combo muffler, using Diesel Exhaust Fluid (DEF) injection. Meets emission per U.S. tier 4F and E.U. stage IV. 194kW (260 bhp) at 2500 r.p.m. Maximum torque: 987N-m (729 lb-ft).

Fuel requirement: Maximum of 15 ppm sulphur content (Ultra Low Diesel Fuel and Diesel Exhaust Fluid (DEF)).

**Note:** Tier 4F engine Required in North American, Canada, and European Union countries.



#### Fuel tank capacity

280 L (74 gal) - draw volume



Rangeshift with 6 forward and 6 reverse speeds

(3 speeds high and 3 speeds low). Front axle disconnect for 4 x 2 travel.

**Electrical system** 

Three 12-volt maintenance free batteries. 12-volt starting and lighting, circuit breakers, battery disconnect switch.

I---I Drive

4 x 4



Fully independent power steering:

Front: Full hydraulic, steering wheel controlled.

Rear: Full hydraulic, switch controlled.

Provides infinite variations of 4 main steering modes: front only, rear only, crab and coordinated.

Rear steer centered indicating light.

4 wheel outside turning radius - 7,1 m (23 ft 4 in).



**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 permit 203 mm (8 in) oscillation only with boom centered over the front.

#### **Carrier continued**



Full hydraulic split circuit brakes operating on all wheels. Spring-applied, hydraulically released axle-mounted parking brake.



29.5 x 25 - 28PR bias earthmover type.



Full lighting package including turn indicators, head, tail, brake and hazard warning lights.

₩ М

#### Maximum speed

37 km/h (23 mph) (no load).

#### 🖅 Gradeability (theoretical)

130% (Based on 42 594 kg [93,902 lb.] GVW) 29.5 x 25 tires, pumps engaged, 33,6 m (110 ft) boom, bi-fold extension, aux. hoist and cable, and 65 USt hook block.

#### Miscellaneous standard equipment

Full width steel fenders, full length steel decking, dual rear view mirrors, hook block tiedown, electronic back-up alarm, light package, front stowage well, tachometer, rear wheel position indicator, hot water heater, air conditioning package with hydraulic driven air conditioning, hoist mirrors, engine distress A/V warning system. Auxiliary hoist control valve arrangement (less hoist). Cold start aid and immersion type engine block heater, 120V 750 watt. Hoist access platform, CraneSTAR asset management system, Outrigger position monitoring system.

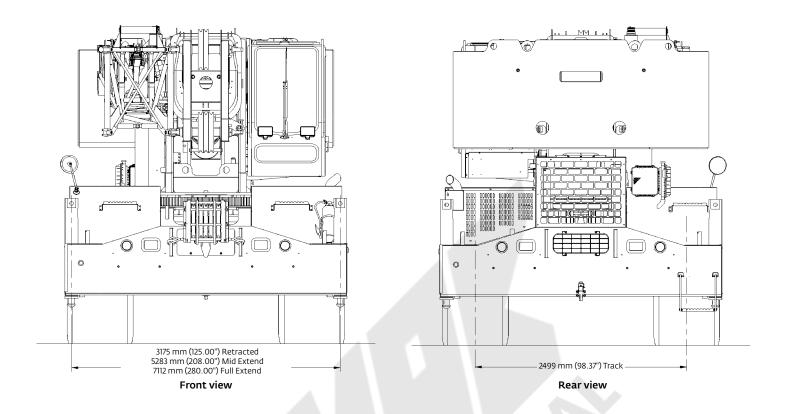
#### **\*Optional equipment**

- Auxiliary Hoist Package (includes Model HP30A) auxiliary hoist with electronic hoist drum rotation indicator, hoist drum cable follower, 152 m (500 ft) of 19 mm (3/4 in) 35 X 7 class wire rope, auxiliary single sheave boom nose.
- Auxiliary Light and Convenience Package: includes superstructure mounted amber flashing light, in-cab LMI light bar, and dual base boom mounted floodlights, rubber mat for stowage trough
- "CE" Mark Conformance (sound abatement foam kits, 3rd wrap indicator, emergency auxiliary steering, dual axis joystick controllers)
- Cross axle differential locks (front and rear)
- Manual pump disconnect
- Pintle hook rear
- 360º NYC style positive swinglock
- PAT event recorder
- Hydraulic removable counterweight
- 3rd wrap indicator with function lockout for main hoist or main and auxiliary hoist
- Wireless windspeed indicator
- -29° C (-20° F) Cold weather package
- -40° C / (-40° F) Arctic weather package
- Spare tire/wheel
- Synthetic rope for main and/or auxiliary hoist
- Vertical L.M.I. light tower (externally mounted)

# Dimensions and weights

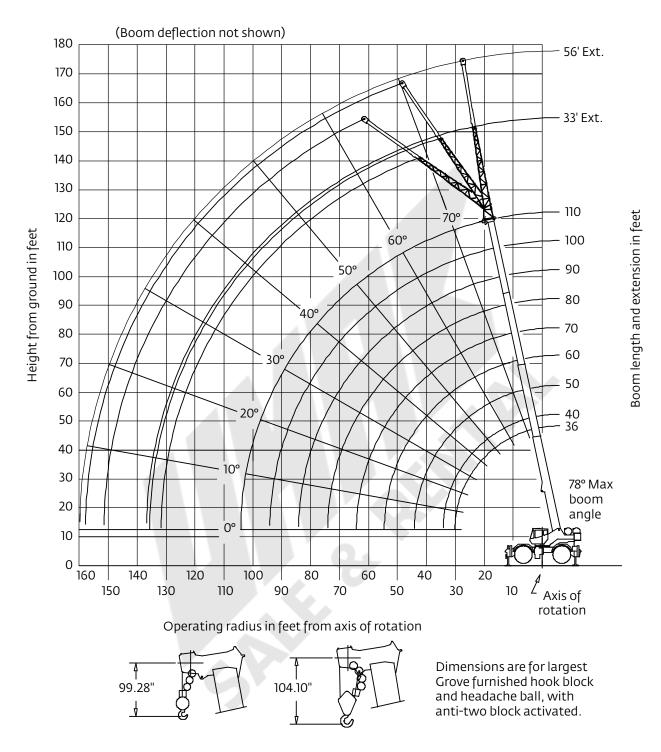
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	(589")	(605")	(491")	(462") Wheel Stee	(446")	(355")	(302")	(430")	(439")	(308")	(280") Wheel Ste	(266")	(172")	(138")	(98.37")
	Dimension	is for table a		ited in milin		ches), exact	t.			4	wheelste	ei			
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# Dimensions and weights

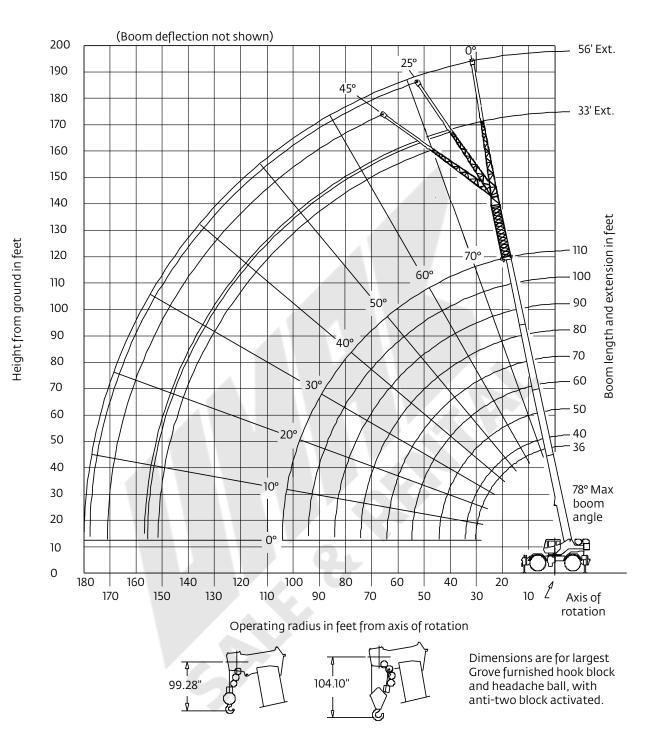


Weights						
	G۷	w	Fro	ont	Re	ar
	kg	Ib	kg	lb	kg	lb
<b>Basic Machine (T4F):</b> including 110 ft. main boom, main hoist with 500 ft. of wire rope, auxiliary hoist with 500 ft. of wire rope, full pinned counterweight, full Decking, A/C, & hoist access platform	(40 529)	89,349	(18 371)	40,501	(22 157)	48,848
ADD: 33ft -56 ft. bi-fold swingaway + extension carrier brackets + aux. boom nose	(1 324)	2,918	(2 168)	4,779	(-844)	-1,861
Crane Weight	(41 852)	92,267	(20 539)	45,280	(21 313)	46,987
ADD: 65T (60mt) 5 sheave hookblock stowed in trough	(480)	1,280	(480)	1,280	0	0
Crane Weight	(42 433)	93,547	(21 120)	46,560	(21 313)	46,987
ADD: 8.3T (7.5mt) headache ball tied to O/R cable	(161)	355	(262)	578	(-101)	-223
Crane Weight	(42 594)	93,902	(21 382)	47,138	(21 212)	46,764

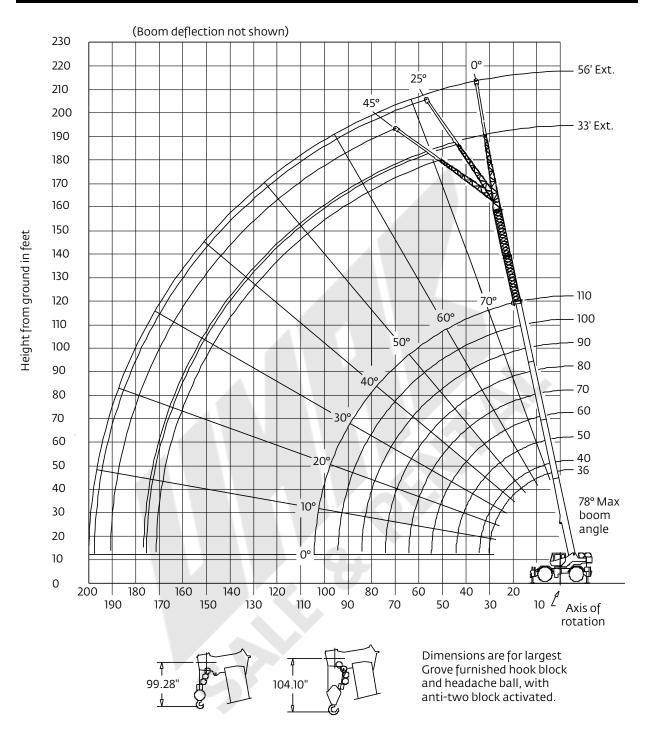
#### 110 ft main boom with 33 ft - 56 ft bi-fold swingaway



#### 110 ft main boom with one insert and 33 ft - 56 ft bi-fold swingaway



#### 110 ft main boom with two inserts and 33 ft - 56 ft bi-fold swingaway





 $[\mathbf{Q}]$ 360°

23 ft 4 in (100%)

Radius					#0001				
in				Main bo	om leng	th in fee	t		
feet	36	40	50	<sup>**</sup> 60	70	80	90	100	110
10	130,000 (69.5)	90,300 (71.5)	90,300 (75.5)	*62,500 (78)					
12	112,500 (65.5)	90,300 (68.5)	90,300 (73)	62,500 (76.5)	*40,200 (78)				
15	93,250 (60)	90,300 (63.5)	90,250 (69.5)	62,500 (73.5)	40,200 (76)	*40,200 (78)			
20	71,550 (49.5)	71,500 (55)	71,300 (63)	62,500 (68)	40,200 (71.5)	40,200 (74.5)	40,200 (78)	*36,900 (78)	
25	56,650 (36.5)	56,600 (45)	56,350 (56)	53,650 (63)	40,200 (67)	40,200 (70.5)	37,950 (73)	34,900 (75)	*25,150 (78)
30	43,500 (11.5)	44,300 (32)	43,950 (48.5)	43,650 (57.5)	40,200 (62.5)	36,050 (66.5)	32,750 (69.5)	30,200 (72)	25,150 (74)
35			33,550 (40)	33,700 (51.5)	34,700 (58)	31,450 (62.5)	28,550 (66)	26,400 (69)	24,700 (71.5)
40			25,800 (28)	26,150 (44.5)	26,900 (52.5)	27,700 (58.5)	25,200 (62.5)	23,300 (66)	21,800 (68.5)
45				20,650 (36.5)	21,450 (47)	22,300 (54)	22,400 (59)	20,700 (62.5)	19,400 (65.5)
50				16,550 (26.5)	17,400 (41)	18,250 (49.5)	19,100 (55)	18,550 (59.5)	17,350 (62.5)
55					14,300 (33.5)	15,150 (44)	16,000 (51)	16,400 (56)	15,600 (60)
60					11,800 (23.5)	12,700 (38.5)	13,550 (46.5)	13,950 (52.5)	14,100 (56.5)
65						10,700 (31.5)	11,550 (41.5)	11,950 (48.5)	12,300 (53.5)
70						9010 (22.5)	9920 (36)	10,250 (44)	10,650 (50)
75							8510 (29.5)	8890 (39.5)	9250 (46)
80							7260 (21)	7690 (34.5)	8050 (42.5)
85							9	6620 (28.5)	7010 (38)
90								5630 (20)	6100 (33)
95									5240 (27)
100									4480 (19.5)
Minimum	n boom ar	ngle (°) foi	r indicate	d length (	no load)				0
Maximun	n boom le	ngth (ft) a	at 0° boo	m angle (	no load)				110

NOTE: ( ) Boom angles are in degrees. #LMI operating code. Refer to LMI manual for operating instructions. \*This capacity is based on maximum boom angle.

	Lifting capacities at zero degree boom angle										
Boom	Main boom length in feet										
angle	36	36 40 50 **60 70 80 90 100 110									
0°	30,350 (30.1)	25,700 (34.2)	17,950 (44.2)	13,050 (54.6)	10,050 (64.2)	7790 (74.2)	6300 (84.2)	4900 (94.2)	3900 (104.2)		
NOTE: ( ) F	Reference r	adii in feet		-					80039604		

NOTE: ( ) Reference radii in feet. \*\* Boom length is with inner-mid fully extended and outer-mid & fly fully retracted.

THHIS CHARTIIS ONLY A GUIDE AND SHOULD NOT BEUSED TO OPERATE THE CRANE.



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360°

Radius		33 ft LENGTI			56 ft LENGT	н
in	0° OFFSET	25° OFFSET	45° OFFSET	0° OFFSET	25° OFFSET	45° OFFSET
feet	#0021	#0022	#0023	#0041	#0042	#0043
30	12,900 (78)					
35	12,900 (76.5)			*8330 (78)		
40	12,900 (74.5)	*10,850 (78)		8330 (77.5)		
45	12,900 (72)	10,450 (76.5)	*7410 (78)	8330 (76)		
50	12,100 (70)	10,000 (74.5)	7200 (77.5)	8330 (74)		
55	11,100 (68)	9220 (72.5)	6990 (75.5)	8250 (72)	*5300 (78)	
60	10,100 (65.5)	8550 (70)	6800 (73)	7540 (70.5)	5140 (77.5)	
65	9130 (63.5)	7930 (67.5)	6650 (70.5)	7160 (68.5)	5100 (75.5)	*3860 (78)
70	8460 (61)	7380 (65.5)	6490 (68)	6820 (66.5)	5100 (73.5)	3790 (77.5)
75	7840 (58.5)	6900 (63)	6370 (65.5)	6300 (64.5)	4800 (71.5)	3660 (75.5)
80	7230 (56)	6470 (60.5)	6110 (63)	5810 (62.5)	4580 (69.5)	3550 (73)
85	6690 (53.5)	6070 (58)	5780 (60)	5370 (60.5)	4470 (67)	3,450 (71)
90	6,140 (51)	5720 (55.5)	5480 (57.5)	4980 (58.5)	4330 (65)	3410 (68.5)
95	5670 (48.5)	5400 (52.5)	5200 (54.5)	4,630 (56.5)	4070 (63)	3,300 (66.5)
100	5150 (45.5)	5100 (49.5)	4950 (51.5)	4320 (54)	3830 (60.5)	3260 (64)
105	4650 (42.5)	4760 (46.5)	4650 (48)	4040 (52)	3620 (58.5)	3220 (61.5)
110	4,070 (39.5)	4430 (43)		3770 (49.5)	3410 (56)	3180 (59)
115	3540 (36)	3930 (39.5)		3540 (47.5)	3230 (53.5)	3060 (56)
120	3060 (32)	3400 (35)		3310 (45)	3050 (50.5)	2940 (53)
125	2630 (27)	2920 (30)		3070 (42)	2890 (48)	2800 (50)
130	2230 (21.5)			2770 (39.5)	2730 (45)	
135				2400 (36.5)	2590 (41.5)	
140				2050 (33)	2410 (38)	
145		-		1720 (29)	2040 (33.5)	
150				1420 (24.5)		
Minimum boom angle °) for indicated length (no load)	19	29	47	23	32	49
Maximum boom length (ft) at 0° boom angle (no load)		100			90	

NOTES:

1. All capacities above the bold line are based on structural strength of boom extension.

2. 33 ft and 56 ft boom extension lengths may be used for single line lifting service.

3. For main boom lengths less than 110 ft with the boom extension erected, 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 set up. For boom angles not shown, use the rating of the next lower boom angle.

4. 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.

5. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.

6. Capacities listed are with outriggers fully extended and vertical jacks set only.

7. When lifting over the main boom nose with 33 ft or 56 ft extension erected, the outriggers must be fully extended or 50% extended (17 ft spread).

#LMI operating code. Refer to LMI manual for operating instructions. \*This capacity is based upon maximum boom angle.

36

<b>MR</b> ft - 110 ft	<b>56 ft</b>	₩ 20 f	t 14,3	65 Ib		<b> </b> ft 4 in 00%)	ල 360°
				56 ft LEI	NGTH		7
	Radius	— Г	00	259		4 - 0	

Radius			-		
in	0°	25°	45°		
feet	OFFSET	OFFSET	OFFSET		
leer	#0084	#0085	#0086		
40	*6300 (78)				
45	6300 (77.5)				
50	6000 (76.5)				
55	5990 (75)				
60	5980 (73)	*4840 (78)			
65	5510 (71.5)	4840 (77.5)			
70	5010 (70)	4440 (76)			
75	4560	4050	*3760		
	(68)	(74.5)	(78)		
80	4170	3870	3460		
	(66.5)	(72.5)	(76.5)		
85	3820	3570	3260		
	(64.5)	(71)	(74.5)		
90	3520	3320	2960		
	(63)	(69)	(72.5)		
95	3220	3070	2770		
	(61)	(67)	(70.5)		
100	2980	2880	2570		
	(59)	(65.5)	(68.5)		
105	2780	2680	2460		
	(57.5)	(63.5)	(66.5)		
110	2530	2480	2340		
	(55.5)	(61.5)	(64.5)		
115	2340	2280	2200		
	(53.5)	(59.5)	(62)		
120	2190	2140	2050		
	(51.5)	(57.5)	(60)		
125	2000	1990	1910		
	(49.5)	(55)	(57.5)		
130	1850	1850	1810		
	(47.5)	(53)	(55)		
135	1720	1750	1670		
	(45)	(50.5)	(52.5)		
140	1610 (43)	1610 (48)			
145		1520 (45)			
150		1370 (42.5)			
Minimum boom angle (°) for indicated length (no load)	42	41	50		
Maximum boom length (ft) at 0° boom angle (no load)		70			

NOTE: ( ) Boom angles are in degrees.

#LMI operating code. Refer to LMI manual for operating instructions.

\*This capacity is based upon maximum boom angle.

#### NOTES:

I. All capacities above the bold line are based on structural strength of boom extension.

2. The 56 ft boom extension length may be used for single line lifting service only.

3. For main boom lengths less than 110 ft with the boom extension erected, 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 set up. For boom angles not shown, use rating of the next lower boom angle.

4. **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.

5. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.

6. Capacities listed are with outriggers fully extended and vertical jacks set only.

7. When lifting over the main boom nose with 56 ft extension erected and 20 ft insert, the outriggers must be fully extended or 50% extended (17 ft spread).

80039609A

mnik		TT A		<u></u>	Q
36 ft - 110 ft	56 ft	40 ft	14,365 lb	23 ft 4 in (100%)	360°

	56 ft LENGTH							
Radius in	#0084	#0085	#0086					
feet	0° OFFSET	25° OFFSET	45° OFFSET					
50	4510 (78)							
55	4210 (77)							
60	3910 (75.5)							
65	3710 (74)							
70	3410 (72.5)	*3710 (78)						
75	3220 (71)	3420 (76.5)						
80	2820 (69.5)	3120 (75)						
85	2520 (68)	2820 (73.5)	2730 (77.5)					
90	2320 (66.5)	2620 (72)	2530 (75.5)					
95	2030 (65)	2330 (70.5)	2340 (74)					
100	1830 (63)	2130 (68.5)	2140 (72)					
105	1630 (61.5)	1930 (67)	1940 (70.5)					
110	1440 (60)	1730 (65.5)	1740 (68.5)					
115	1240 (58.5)	1540 (63.5)	1550 (66.5)					
120	1140 (56.5)	1340 (62)	1450 (64.5)					
125		1240 (60)	1260 (62.5)					
130		1050 (58)	1160 (60.5)					
	No Load St	ability Data						
Min. boom angle (°) for indicated length	55	57	59					
Max. boom length (ft) at 0° boom angle		40						

800390

NOTE: () Boom angles are in degrees. \*This capacity is based upon maximum boom angle. #LMI operating code. Refer to LMI manual for instructions.

#### NOTES:

1. All capacities above the bold line are based on structural strength of boom extension.

2. The 56 ft boom extension length may be used for single line lifting service only.

3. For main boom lengths less than 110 ft with the boom extension erected, 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 set up. For boom angles not shown, use rating of the next lower boom angle.

4. **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.

5. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.

6. Capacities listed are with outriggers fully extended and vertical jacks set only.

7. When lifting over the main boom nose with 56 ft extension erected and 40 ft insert, the outriggers must be fully extended or 50% extended (17 ft spread).



#9005 Radius in Main boom length in feet feet 36 40 °60 70 50 45,300 39,700 10 (69.5)(71.5)41.500 39,700 29.600 12 (68.5) (66)(73) 26,450 20,900 32,450 31,750 15 (69.5)(60)(63.5)(73.5)19.200 18.850 18.750 18.550 17.300 20 (50)(55)(63)(68) (71.5)12,600 12,350 12,250 12,050 12,550 25 (36.5)(44.5)(56) (63) (67) 8650 8530 8250 8150 8710 30 (11.5) (31.5)(48.5)(57) (62.5)5600 5450 6170 35 (39.5)(51) (57.5)3700 3410 4300 40 (28) (44) (52) 1760 2850 45 (36)(46.5)1250 50 (40)Minimum boom angle (°) for indicated length 35 39 (no load) Maximum boom length (ft) at 0° boom angle 50 (no load)

NOTE: () Reference boom angles in degrees.

Lifting capacities at zero degree boom angle									
Boom	Main boom length in feet								
angle	36	40	50						
0°	8580 (30.1)	6310 (34.2)	2270 (44.2)		d				
Note: () Re	ference radi	i in feet.			80039611				

Note: () Reference radii in feet.

#LMI operating code. Refer to LMI manual for instructions. \*60 ft. boom length is with inner-mid extended and outer-mid & fly retracted.

#### NOTES TO ALL RUBBER CAPACITY CHARTS:

1. Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.

2. Capacities are applicable to machines equipped with 29.5 x 25 (28 or 34 ply General/Titan, Denman Rock Plus, Denman Broadway and Advance bias plus ply) tires at 65 psi cold inflation pressure.

3. Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.

4. Capacities are applicable only with machine on firm level surface.

5. On rubber lifting with boom extensions not permitted.

6. For pick and carry operation, boom must be centered over front of machine, mechanical swing lock engaged and load restrained from swinging.

7. Axle lockouts must be functioning when lifting on rubber.

8. 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.

9. Creep - not over 200 ft of movement in any 30 minute period and not exceeding 1 mph.



-Mi 36 ft - 110 ft

Q C Over Creep speed

front

Radius			#9006					
in		Main t	oom lengt	h in feet				
feet	36	40	50	*60	70			
10	47,200 (69.5)	44,000 (71.5)	34,000 (75.5)					
12	43,450 (66)	42,500 (68.5)	34,000 (73)	28,500 (76.5)				
15	35,900 (60)	35,200 (63.5)	34,000 (69.5)	28,500 (73.5)	21,350 (75.5)			
20	27,000 (50)	26,650 (55)	26,300 (63)	26,500 (68)	21,350 (71.5)			
25	20,750 (36.5)	20,550 (44.5)	20,500 (56)	20,550 (63)	21,300 (67)			
30	16,150 (11.5)	16,100 (31.5)	16,200 (48.5)	16,200 (57)	17,000 (62.5)			
35			12,850 (39.5)	12,850 (51)	13,750 (57.5)			
40			9550 (28)	9970 (44)	10,950 (52)			
45				7470 (36)	8470 (46.5)			
50				5550 (26)	6540 (40)			
55					5010 (33)			
60					3760 (23)			
Minimum b	oom angle	(°) for indica	ted length	(no load)	0			
Maximum l	boom length	n (ft) at 0° bo	oom angle (	no load)	70			
NOTE: () R	eference bo	om angles i	n degrees.					

Lifting capacities at zero degree boom angle							
Boom Main boom length in feet							
angle	36	40	50	*60	70		
0°	2,880 (64.2)						
Note: () Re	ference radi	i in feet			80039613		

Note: () Reference radii in feet

#LMI operating code. Refer to LMI manual for instructions. \*60 ft. boom length is with inner-mid extended and outer-mid & fly retracted.

#### NOTES TO ALL RUBBER CAPACITY CHARTS:

1. Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.

2. Capacities are applicable to machines equipped with 29.5 x 25 (28 or 34 ply General/Titan, Denman Rock Plus, Denman Broadway and Advance bias plus ply) tires at 65 psi cold inflation pressure.

3. Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.

4. Capacities are applicable only with machine on firm level surface.

Radius in feet				#9030							
toot –	Main boom length in feet										
leer	36	40	50	*60	70						
10	47,200 (69.5)	44,000 (71.5)	34,000 (75.5)								
12	47,200 (66)	44,000 (68.5)	34,000 (73)	28,500 (76.5)							
15	43,250 (60)	42,500 (63.5)	34,000 (69.5)	28,500 (73.5)	21,350 (75.5)						
20	32,950 (50)	32,600 (55)	32,250 (63)	28,500 (68)	21,350 (71.5)						
25	25,450 (36.5)	24,850 (44.5)	25,250 (56)	25,250 (63)	21,350 (67)						
30	17,850 (11.5)	17,250 (31.5)	17,800 (48.5)	18,050 (57)	19,000 (62.5)						
35			12,950 (39.5)	13,300 (51)	14,300 (57.5)						
40			9550 (28)	9970 (44)	10,950 (52)						
45				7470 (36)	8470 (46.5)						
50				5550 (26)	6540 (40)						
55					5010 (33)						
60					3760 (23)						
Minimum bo	oom angle	(°) for indica	ted length (	(no load)	0						
Maximum bo	oom length	n (ft) at 0° bo	oom angle (	no load)	70						

NOTE: () Reference boom angles in degrees.

14,365 lb

Lifting capacities at zero degree boom angle							
Boom	Boom Main boom length in feet						
angle	36	40	50	*60	70		
0° 17,750 12,950 7,390 4,140 2,880 (30.1) (34.2) (44.2) (54.6) (64.2)							
Note: () Re	ference radii	in feet.			80039612		

() Reference rad

#LMI operating code. Refer to LMI manual for instructions. \*60 ft. boom length is with inner-mid extended and outer-mid & fly retracted.

5. On rubber lifting with boom extensions not permitted.

6. For pick and carry operation, boom must be centered over front of machine, mechanical swing lock engaged and load restrained from swinging.

7. Axle lockouts must be functioning when lifting on rubber.

8. 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.

9. Creep - not over 200 ft of movement in any 30 minute period and not exceeding 1 mph.

# Load handling

Weight reductions	for load handling devices

33 ft - 56 ft : Folding boom extension:							
Without block or ball	With 355 lb overhaul ball						
3850 lb	5980 lb						
8620 lb	12,170 lb						
0 ft insert:							
7480 lb	10,370 lb						
13,320 lb	17,740 lb						
0 ft insert:							
9990 lb	12,360 lb						
14,610 lb	17,730 lb						
capacities (no dedu	uct required for						
130 lb							
ne balls:							
1280 lb +							
355 lb +							
	Without block   3850 lb   3850 lb   8620 lb   0 ft insert:   7480 lb   13,320 lb   0 ft insert:   9990 lb   14,610 lb   capacities (no deduce)   130 lb   the balls:   1280 lb +						

+Refer to rating plate for actual weight

When lifting over swingaway and/or jib combinations, deduct total weight of all load handling devices reeved over main boom nose directly from swingaway or jib capacity.

**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.

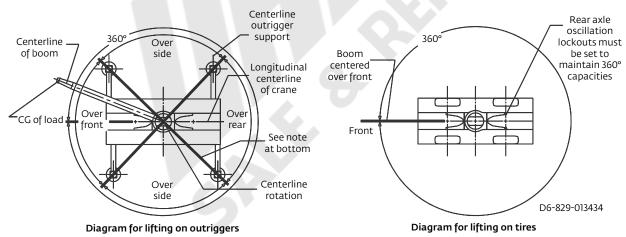
Hoists	Cable specs	Permissable line pulls	Nominal cable lengt
Main	19 mm (3/4 in) 6 x 37 class, EIPS, IWRC Special Flexible Min. breaking strength 58,800 lb	16,800 lb	500 ft
Main and auxiliary	19 mm (3/4 in) 35x7 Class Rotation Resistant (non- rotating) Min. breaking strength 85,800 lb	16,800 lb	500 ft

The approximate weight of 3/4 in wire rope is 1.5 lb/ft.

Hoist performance								
r	Nire rope ayer	Hoist li two-spe	ne pulls ed hoist	Drum rope capacity (ft)				
		Low available Ib*	High available lb*	Layer	Total			
	1	18,134	9067	101	101			
	2	16,668	8334	110	211			
	3	15,420	7710	120	331			
	4	14,347	7174	129	460			
	5	13,413 6707		139	599			
	6	12,594	6297	149	748			
۴M	*Max lifting capacity: 6x37 and 35x7 class = 16,800 lb							

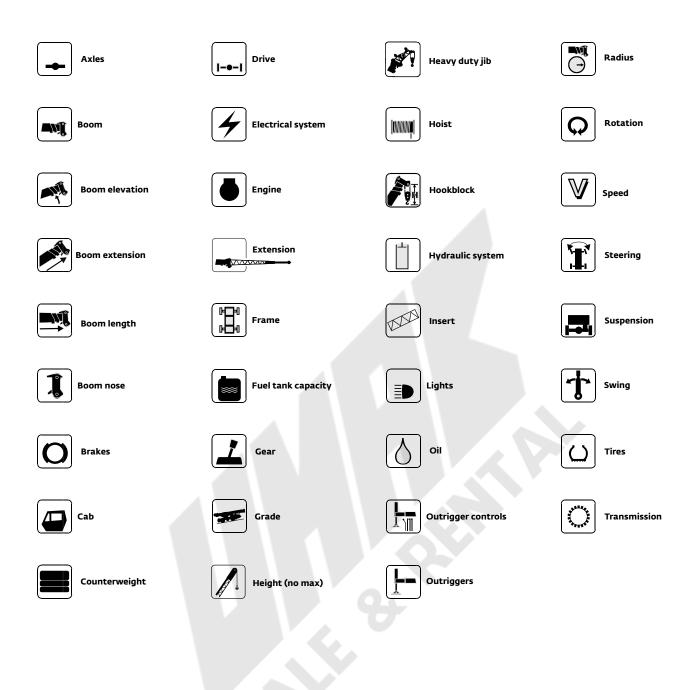
Tire inflation - PSI (BAR)						
Size (Front and Rear)	TRA Code	Lifting service, general travel and extended travel				
29.5 x 25 (28 or 34) General/Titan, Denman Broadway/Rock Plus	E-3	65 (4.5) See operator's manual for extended roading.)				





Bold lines determine the limiting position of any laod for operation withing working areas indicated.

# Symbols glossary



# Notes









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Grove Manitowoc National Crane Potain

## **Grove RT765E-2** Provisional Product Guide



### **Features**

- 60 t (65 USt) capacity
- 11 m 33,5 m (36 ft 110 ft) four-section full power boom
- 10,1 m (33 ft) offsettable lattice swingaway extension
- 10,1 m 17,1 m (33 ft 56 ft) bi-fold lattice swingaway extension
- 6,1 m (20 ft) or 12,2 m (40 ft) extension inserts
- 6516 kg (14,365 lb) counterweight pinned to superstructure

### Features

#### MEGAFORM<sup>™</sup> boom

The superstructure features a full-power four-section MEGAFORM<sup>™</sup> boom that can reach to a maximum tip height of 119 ft. The sequence synchronized extension features telescopic boom sections via a single lever joystick controller.





#### Extensions

An optional bi-fold swingaway lattice extension easily stows on the side of the base boom for easy transport while providing on-board extension from 33 ft - 56 ft for a maximum tip height of 174.5 ft. By adding inserts of 20 ft or 40 ft, the maximum tip height on the RT765E-2 can be extended even further to 194 ft or 214 ft.

An optional 33 ft fixed swingaway is also available with a maximum tip height of 150 ft.



### Smooth operation

The RT765E-2 has a quick-reeve boom nose and swingaway alignment device to help operators set up smoothly.

## Contents

Specifications	4
Dimensions and weights	7
Working range	8
Load charts	9
Symbols glossary	10

#### Superstructure

#### Boom

 $11\mbox{ m}$  - 33,5 m (36 ft - 110 ft) four-section, full-power sequenced synchronized boom.

Maximum tip height: 36,4 m (119 ft).

### 

#### \*Optional fixed swingaway extension

10,1 m (33 ft) offsettable lattice swingaway extension. Offsettable at  $0^{\circ}$ , 25° and 45°. Stows alongside base boom section.

Maximum tip height: 45,8 m (150 ft).

#### \*Optional bi-fold swingaway extension

10,1 m - 17,1 m (33 ft - 56 ft) bi-fold lattice swingaway extension. Offsettable at 0°, 25° and 45°. Stows alongside base boom section. Maximum tip height: 53,2 m (174.5 ft).

#### \*Optional 6,1 m (20 ft) or 12,2 m (40 ft) inserts

Installs between boom nose and bi-fold extension, non-stowable. Maximum tip height: 59,1 m (194 ft) with 20 ft insert, 65,2 m (214 ft) with 40 ft insert.



#### Boom nose

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

\*Optional removable 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 78°.



### Load moment and anti-two block system

Standard "Graphic Display" load moment and anti-two block system with audio-visual warning and control lever lockout. These systems provide electronic display of boom angle, length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block condition. The standard 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.



Full-vision, all-steel fabricated with acoustical lining and tinted safety glass throughout. Deluxe seat incorporates armrest-mounted hydraulic single-axis controllers. Dash panel incorporates gauges for all engine functions. Other standard features include: hot water heater, air-conditioning, cab circulating air fan, sliding side and rear windows, sliding skylight with electric wiper and sunscreen, electric windshield wash/ wipe, fire extinguisher and seat belt.



Planetary swing with foot-applied multi-disc brake. Spring applied, hydraulically-released swing brake and plunger-type, one position, mechanical house lock operated from cab. \*Optional 360° mechanical swing lock. Maximum speed: 2.5 rpm.



#### Counterweight

6516 kg (14,365 lb) pinned to superstructure.

### Hydraulic system

Three main gear pumps with a combined capacity of 391 LPM (103 GPM), 511 LPM (135 GPM) with optional air conditioning.

Maximum operating pressure: 27,6 MPa (4000 psi). Two individual post pressure compensated valve banks.

Return line type filter with full flow by-pass protection and service indicator. Replaceable cartridge with micron filtration rating of 5/12/16. 500 L (132 gallon) reservoir. Integral oil cooler. System pressure test ports.

#### Hoist specifications (HP30A-19G) main and auxiliary hoist

Main and auxiliary hoist: Model HP30A-19G

Planetary reduction with automatic spring applied multi-disc brake. Grooved drum. Electronic hoist drum rotation indicator and hoist drum cable followers.

Maximum single line pull: 8246 kg (20,250 lb)

Maximum single line speed: 179 m/min (542 fpm)

Maximum permissible line pull:

7620 kg (16,800 lb) with standard 6 x 37 class rope 7620 kg (16,800 lb) with optional 35 x 7 class rope

#### Superstructure continued

Rope diameter: 19 mm (3/4 in)

Rope length: 152 m (500 ft) \*Optional 168 m (550 ft) 35 x 7 class rope

Rope type: 6 x 37 class EIPS IWRC \*Optional 35 x 7 class rotation resistant

Maximum rope stowage: 256 m (841 ft).

#### Carrier



Chassis

Box section frame fabricated from high-strength, low alloy steel. Integral outrigger housings and front/rear towing, lifting, and tie down lugs.



#### Outrigger system

Four hydraulic telescoping single-stage double box beam outriggers with inverted jacks and integral holding valves. Three position settings, 100%, 50% and fully retracted. All steel fabricated, quick-release type round outrigger floats, 610 mm (24 in) diameter. Maximum outrigger pad load: 36 606 kg (80,700 lb).



### Outrigger controls

Controls and crane level indicator located in cab.



#### Engine (Tier III)

Cummins QSB 6.7 L diesel, six cylinders, turbocharged, 179 kW (240 bhp) (Gross) at 2500 rpm. Maximum torque: 987 N-m (728 ft lb) at 1500 rpm.

Note: Required for sale outside of North American and European Union countries



### Engine (Tier IV)

Cummins QSB 6.7 L diesel, six cylinders, turbocharged with Cummins Diesel Particulate Exhaust filter/ muffler. Meets emissions per U.S.E.P.A. Tier IV and E.U. Stage III B. 179 kW (240 bhp) at 2500 rpm. Maximum torque: 990 N-m (730 ft lb) at 1500 rpm.

Fuel requirement: Maximum of 15 ppm sulphur content (Ultra Low Diesel Fuel).

**Note:** Tier IV engine Required in North American and European Union countries.



### Fuel tank capacity

273 L (72 gal)



### Transmission

Spicer powershift with 6 forward and 6 reverse speeds (3 speeds high and 3 speeds low). Front axle disconnect for  $4 \ge 2$  travel.



### Electrical system

Two 12-volt maintenance free batteries. 12-volt starting and lighting, circuit breakers, battery disconnect switch.

I---I Drive

4 x 4

Steering

Fully independent power steering:

Front: Full hydraulic, steering wheel controlled.

Rear: Full hydraulic, switch controlled.

Provides infinite variations of 4 main steering modes: front only, rear only, crab and coordinated.

Rear steer centered indicating light.

4 wheel turning radius - 6,7 m (22 ft 2 in).



- **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 permit 203 mm (8 in) oscillation only with boom centered over the front.



Full hydraulic split circuit brakes operating on all wheels. Spring-applied, hydraulically released axle-mounted parking brake.

ᢕ Tires

29.5 x 25 - 28PR bias earthmover type.

#### **Carrier continued**

### Lights

Full lighting package including turn indicators, head, tail, brake and hazard warning lights.



#### Maximum speed

37 km/h (23 mph).

#### Gradeability (theoretical)

75% (Based on 40 802 kg [89,951 lb] GVW) 29.5 x 25 tires, pumps engaged, 33,6 m (110 ft) boom, bi-fold extension, aux. hoist and cable, and 60 USt hook block.

#### **Miscellaneous standard equipment**

Full width steel fenders, full length aluminum decking, dual rear view mirrors, hook block tiedown, electronic back-up alarm, light package, front stowage well, tachometer, rear wheel position indicator, 36,000 BTU hot water heater, air conditioning package with 28,500 BTU hydraulic driven air conditioning, hoist mirrors, engine distress A/V warning system. Auxiliary hoist control valve arrangement (less hoist). Cold start aid and immersion type engine block heater, 120V 1500 watt. Hoist access platform.

#### **\*Optional equipment**

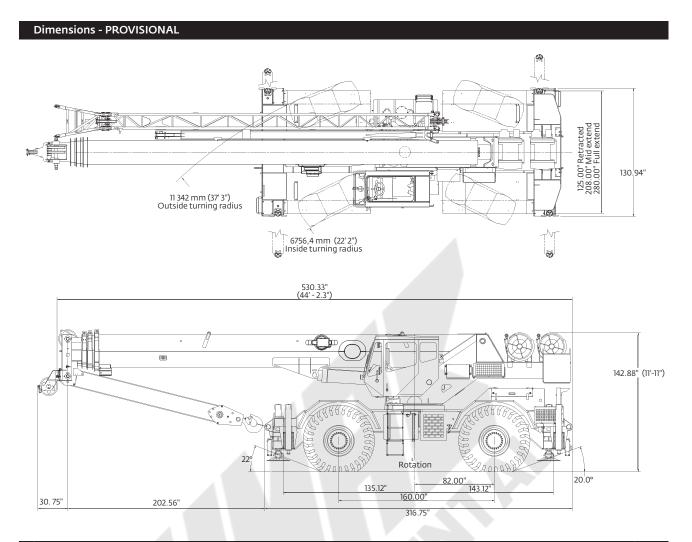
Auxiliary Hoist Package (includes Model HP30A-19G auxiliary hoist with electronic hoist drum rotation indicator, hoist drum cable follower, 152 m (500 ft) of 19 mm (3/4 in) 35 X 7 class wire rope, auxiliary single sheave boom nose.

► Auxiliary Light and Convenience Package: includes cab mounted amber flashing light, in-cab LMI light bar, 360° rotation spotlight and dual base boom mounted floodlights, rubber mat for stowage trough

CE" Mark Conformance (sound abatement foam kits, 3rd wrap indicator, emergency auxiliary steering, dual axis joystick controllers)

- Cross axle differential locks (front and rear)
- Manual pump disconnect
- Pintle hook rear
- ≥ 360° NYC style positive swinglock
- PAT event recorder
- Hydraulic removable counterweight

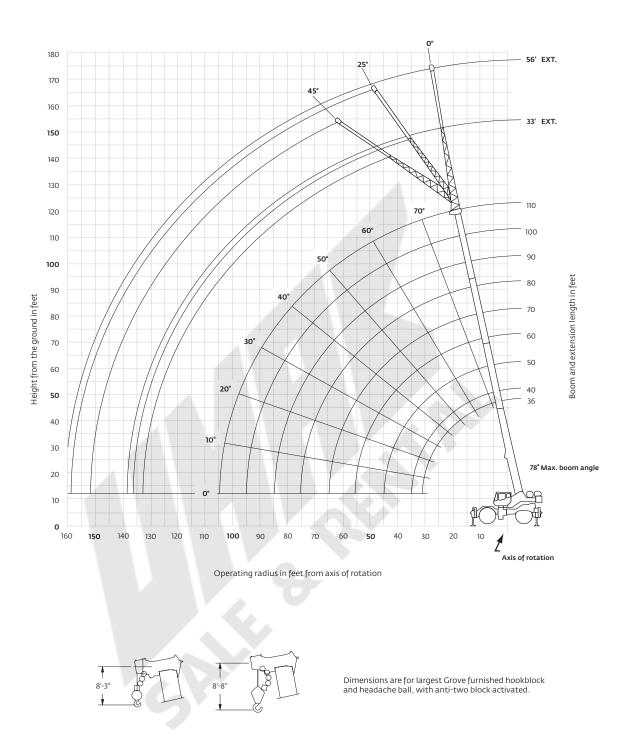
# Dimensions and weights



#### Weights - PROVISIONAL

	GVW		Front		Rear	
	kg	(Ib)	kg	(Ib)	kg	(Ib)
<b>RT765E-2 Basic Machine:</b> Including 110 ft main boom, main hoist with 500 ft of wire rope, IPO, full pinned counterweight	39 874	(87,907)	18 351	(40,457)	21 523	(47,450)
Add: 33 ft - 56 ft bi-fold swingaway + extension carrier brackets	1265	(2788)	1997	(4402)	-732	(-1614)
Add: 500 ft of wire rope on auxiliary hoist and auxiliary boom nose	317	(698)	87	(178)	-236	(-520)
Add: Auxiliary boom nose	59	(130)	171	(377)	-112	(-247)
Add: 60 t (65 USt) 5-sheave hook block	581	(1280)	581	(1280)	-9,9	(0)
Add: 45 t (50 USt) 3-sheave hook block	458	(1010)	458	(1010)	0	(0)
Add: 7,5 t (8.3 USt) headache ball	161	(355)	262	(578)	-101	(-223)
Remove: Hydraulic removal counterweight	-6042	(-13,320)	206	(4550)	-8106	(-17,870)

#### 110 ft main boom and 33 ft - 56 ft bi-fold swingaway



PROVISIONAL THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE. The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane

# Load chart RT765E-2

Ĺ	wij - 110 ft	14,400 lb	23 ft 4 in (100	%)	<b>Q</b> 360°				
					Pounds				)
Feet	35.9	40	50	60.4	70	80	90	100	110
10 12 15 20 25 30 35 40 45 55 60 65 70 75 80 85 90 95 100	130,000 112,500 93,300 71,600 56,600 43,500	90,300 90,300 90,300 71,500 56,550 44,150	90,300 90,250 71,350 56,350 43,850 33,600 26,100	62,500 62,500 62,500 53,650 43,500 33,100 25,700 20,400 16,500	40,200 40,200 40,200 40,200 34,100 26,700 21,400 17,450 14,500 12,050	40,200 40,200 36,050 31,450 27,500 22,100 18,150 15,200 12,800 10,850 9,190	40,200 40,200 37,950 32,750 28,550 25,200 22,400 18,700 15,750 13,350 11,350 9760 8380 7180	36,900 34,900 30,200 26,400 23,300 20,700 18,550 16,150 13,750 11,750 10,150 8780 7610 6590 5680	25,150 25,150 24,700 21,800 19,400 17,350 15,600 14,050 12,100 10,450 9100 7920 6910 6030 5240 4530
				Maint	oom length	in foot			
Boom angle	35.9	40	50	60.4	70	80	90	100	110

0°

30,350

25,700

17,950

13,050

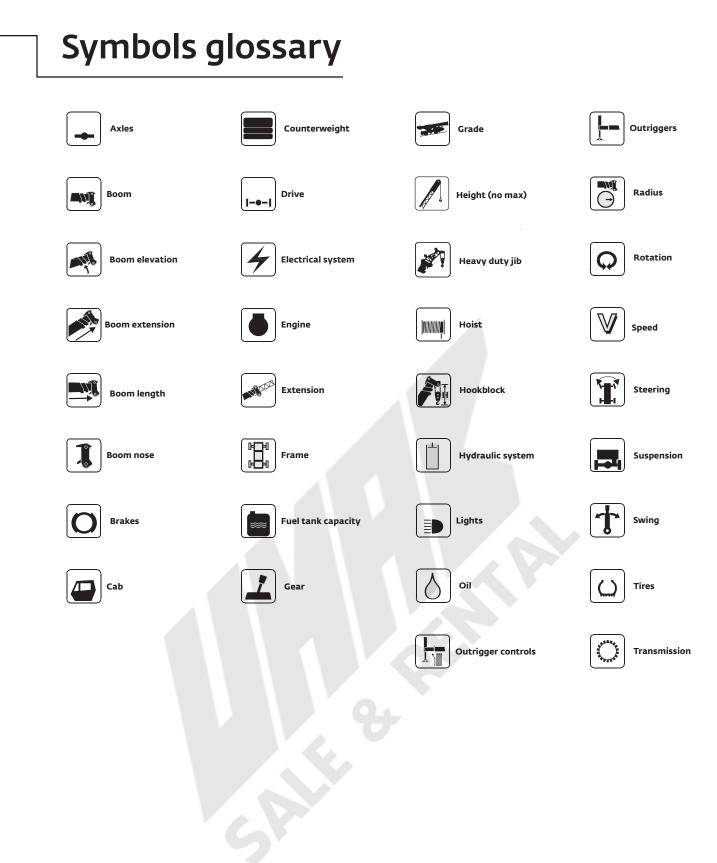
10,300

7970

6280

5000

4000



### 

## Notes





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