

XCR100_U Rough Terrain Crane

Technical specifications



100USt



157.5ft



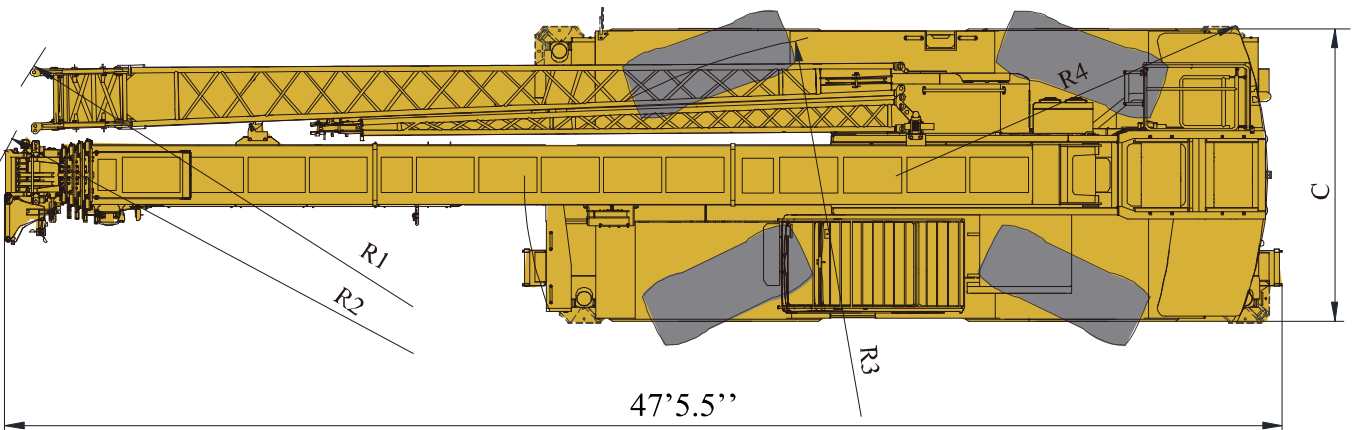
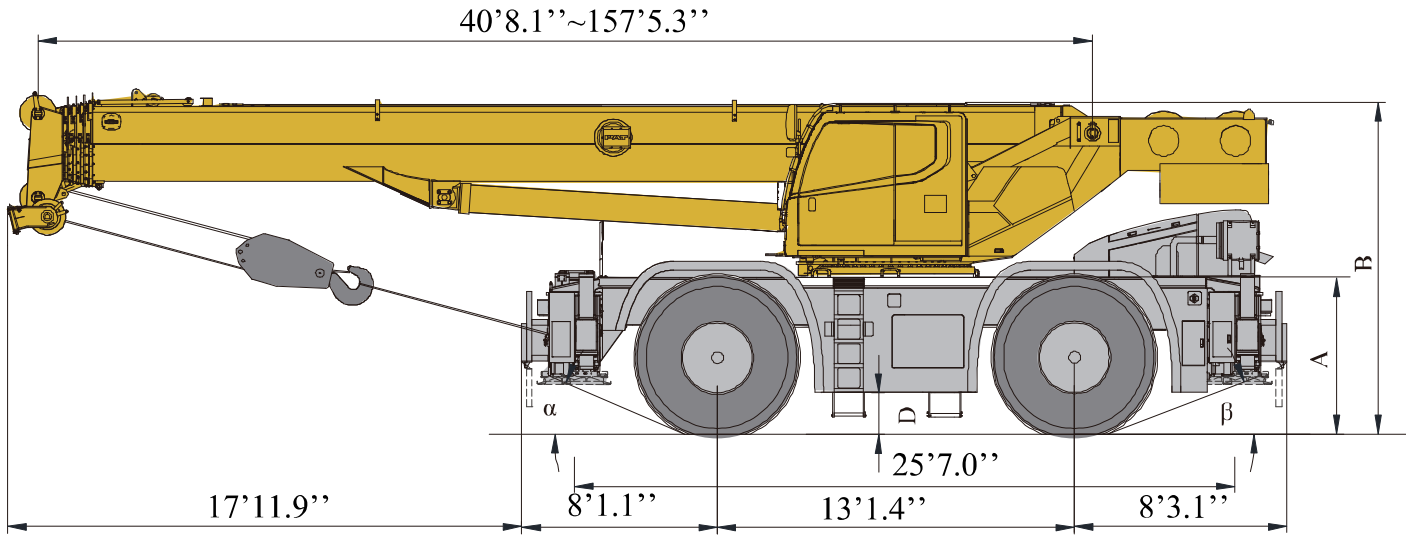
207ft



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Dimensions



	α	β	A	B	C	D	R1	R2	R3	R4
29.5R25	24°	24°	6'2.6''	12'9.4''	10'9.1''	1'9.6''	36'11.4''	38'0.1''	21'3.8''	14'10.8''

Technical specifications

		
Boom	1 basic boom and 4-telescoping sections, U-shape cross section welding structure. Double cylinder plus ropes telescoping mechanism. 6 pulleys on boom head are standard. Boom 40.7ft~157.5ft.	●
Jib	Two-section lattice structure. Three offset angles of 0° , 15° and 30° are available. It is stowed along the side of the boom. Jib length 34.4ft~57.4ft.	●
Frame	Made of high strength fine grained steel, welded torsion-resistant frame type construction with large cross-section, high load-bearing capacity.	●
Outrigger	4 outriggers, H-shaped arrangement, which are controlled by electrical and hydraulic and located at both sides of chassis frame.	●
Engine	B6.7,in line, six-cylinder water-cooled compression ignition diesel engine, manufactured by Cummins, with rated power of 280/2200(bhp/(r/min)), max. torque of 850/1500(lb.ft/(r/min)), U.S. EPA Tier emission standard compliant Fuel tank capacity: approx. 80.6gal	●
Transmission	6WG210, automatic transmission from ZF Germany, with 6 forward and 3 reverse gears	●
Axles	Both front and rear axles are for driving and steering, and the axles have features of great load bearing capacity	●
Suspensions	Front axle is rigidly connected with frame; rear axle is equipped with swing hydraulic suspensions, which have cushioning function when driving on roads; the rear suspension cylinder may be locked to rigid state so as to meet the requirement for travel with a load suspended, increasing operation stability.	●
Tires	4 specialized off-road, large bearing capacity. Tire specifications: 29.5R25.	●
Steering	Front axle independent steering, tight turning radius steering, crab walk steering and rear axle independent steering modes are available. The steering angle can be self-adjusted when changing mode.	●
Brakes	Service brake: double-circuit hydraulic disc brake, acting on all wheels. Automatically braking and alarm are available when the pressure in braking system is too low. Parking brake: spring-loaded brake, acting on front axles, hydraulic-released independent disc brake.	●
Hydraulic system	A dual-variable displacement pump, used for hoisting, elevating and telescoping operations, and a gear pump, used for slewing, outrigger, steering and braking operations; a load sensitive proportional multi-way change valve is used as main valve; an independent hydraulic oil radiator. Tank capacity: approx. 279.2 gal.	●
Operating mode	Hydraulic controlled pilot operation system is equipped with two levers controlling the main movements of the crane, by which speed may be felt.	●
Electrical System	24 V DC, two sets of 12 V battery in series.	●
Main winch system	The system is driven by a hydraulic motor through a planetary gear reducer, with a normally closed brake and a balance valve equipped.	●
Auxiliary winch system	The system is driven by a hydraulic motor through a planetary gear reducer, with a normally closed brake and a balance valve equipped.	○
Slewing system	Single-row four-point ball contact slewing ring, driven by a hydraulic motor through planetary gear reducer, and with a normally closed brake fitted.	●
Operator's cab	Tiltable cab, with sliding door and adjustable seat equipped. It is equipped with safe glass and roof protective grille. Sun shade is available for windshield and roof window. Heater and air conditioner, radio, 12 V and 24 V DC outlets are standard.	●
Safety devices	Hydraulic balance valve, hydraulic relief valve, hydraulic double-way valve and LMI. Lowering limiter is equipped in winch to prevent rope over-releasing. Anti-two block is fitted on the boom head to prevent rope over-winding, 360° turntable locking device .	●
Counterweight	22046lb	●
	33061b	○
Hook Block	60USt hook block, 7.7USt hook block	●

Product parts list is as mentioned above. Please refer to the product quotation for specific parts.

Symbol explanation:

● —it means the standard configuration;

○ —it means the optional configuration.

Weight






Axle	1	2	Total weight
lb	62508	55100	117608 (22046lb counterweight)
	61004	59911	120915 (22046lb counterweight + Optional 3306lb counterweight)








Hook	Part of lines	Weight (lb)	Notes
60USt	8	1036	Single hook
7.7USt	1	463	Single hook

Working speeds

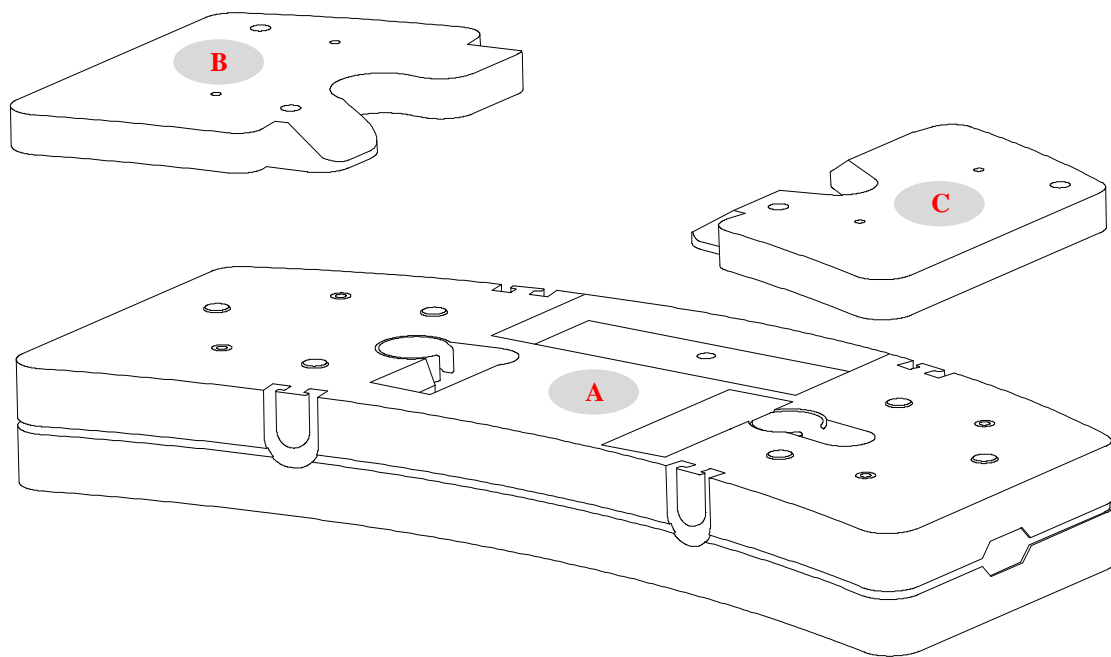


		
29.5 R 25	21.6	64.6%



作业机构 Drive	Working speed	Max. single line pull	Rope diameter/ length
	0-475.7 ft/min, no load, 4th layer	17550lb	0.7874in/787.4ft
	0-295.3 ft/min, no load, 4th layer	17550lb	0.7874in/492.1ft
	0-2r/min		
	Approx. 55s for boom elevation from -1.5° to 80°		
	Approx. 110s for boom extension from 40.7ft to 157.5ft		

Counterweight

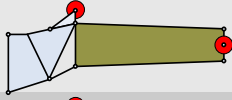


Counterweight	A	B (optional)	C (optional)
Size (L×W×H) ft	10.7×5.0×1.8	4.5×3.2×0.4	4.5×3.2×0.4
Weight lb	22046	1653	1653

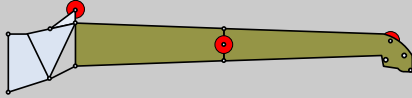
Working mode	0 lb	22046lb	22046lb +3306lb (Optional)
Combinations	—	A	A+B+C

Boom / Jib combinations

Jib – 34.4ft



Jib – 57.4ft



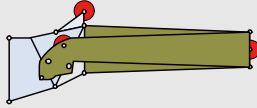
Component

Structure

Size (L×W×H) ft

Weight lb

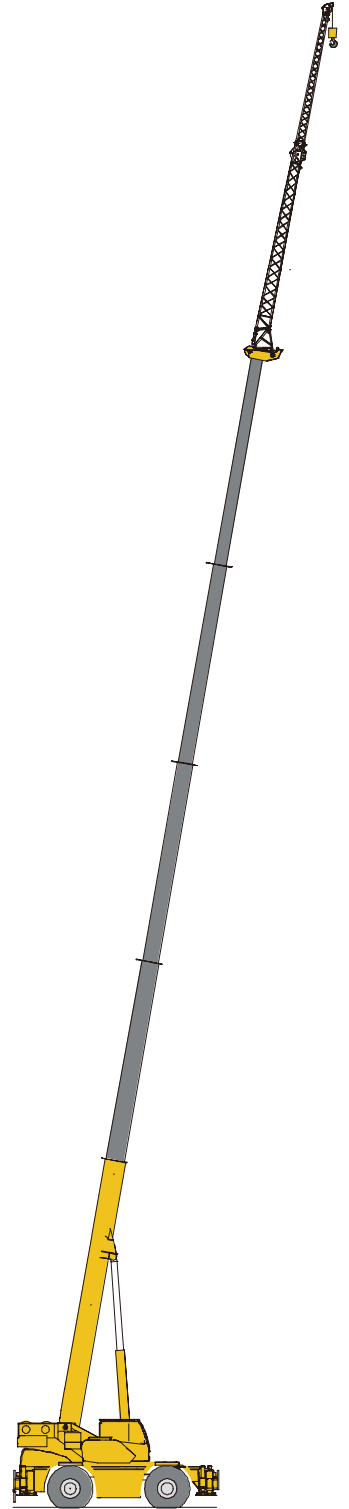
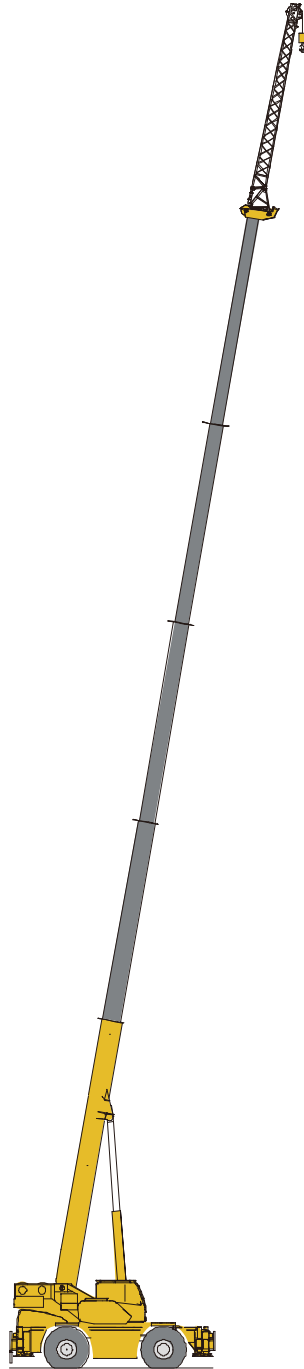
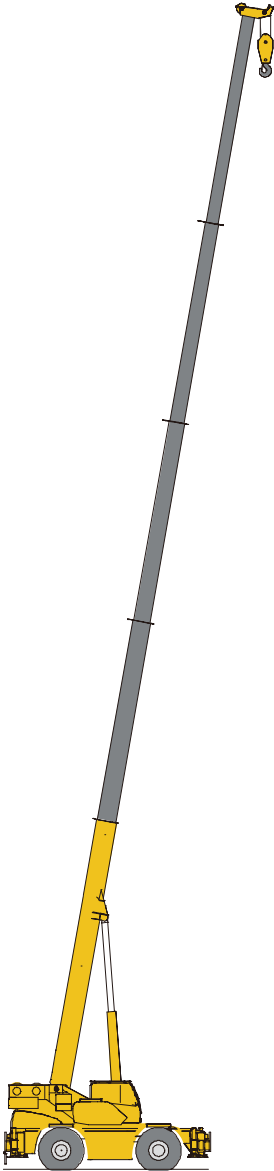
First and second jib section
assembly + Connecting bracket



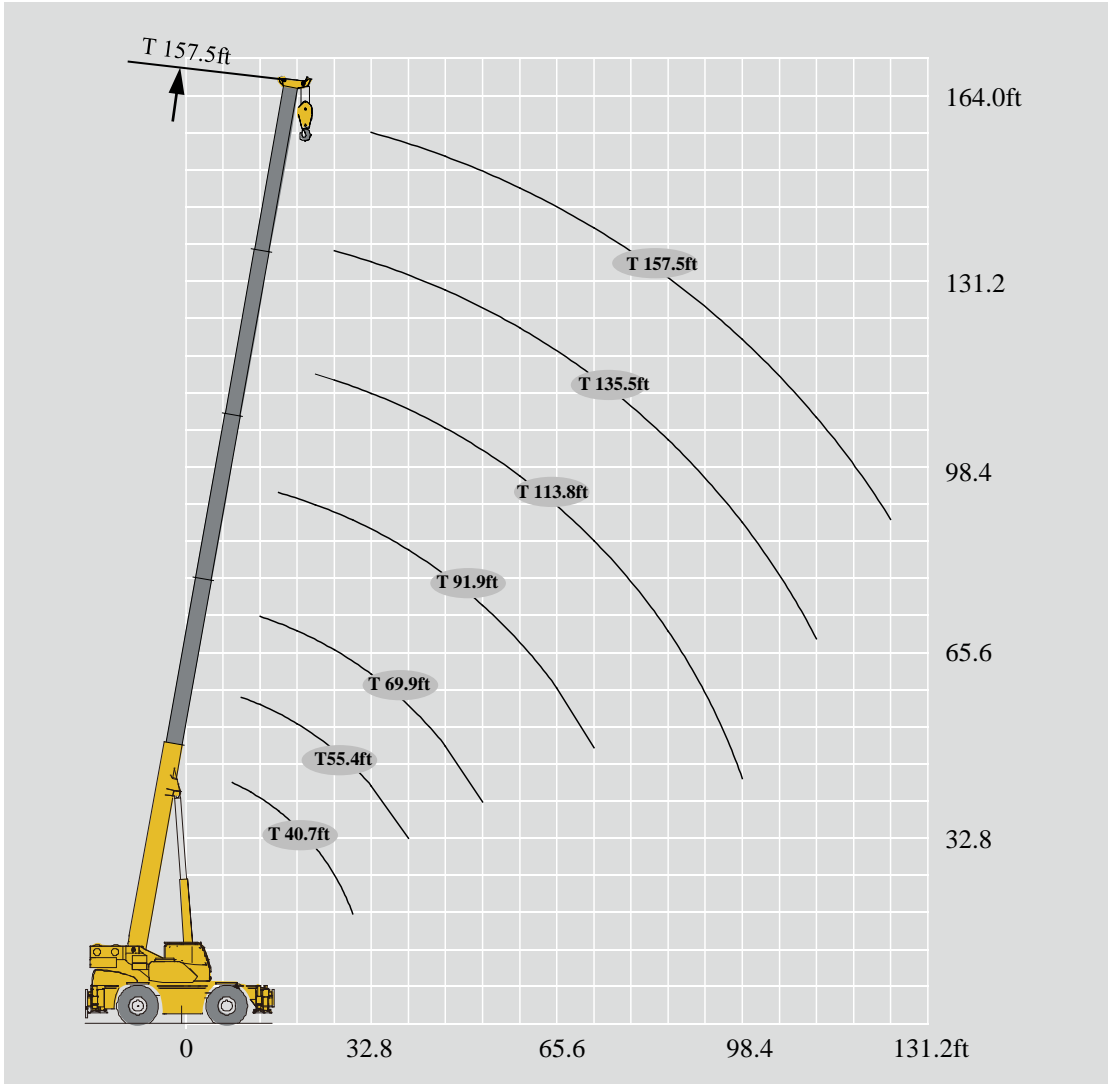
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Boom / Jib combinations

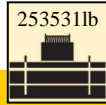


<p>Telescopic boom</p>	<p>Telescopic boom + First jib section</p>	<p>Telescopic boom + First and second jib sections</p>
<p>40.7ft~157.5ft</p>	<p>157.5ft + 34.4ft</p>	<p>157.5ft + 57.4ft</p>



Lifting capacities

T 40.7~157.5ft



ASME B30.5 85%

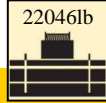
Unit : lb

ft	40.7ft	55.4ft	69.9ft	91.9ft	113.8ft	135.5ft	157.5ft	62.7ft	84.6ft	106.3ft	128.3ft	77.1ft	99.1ft	121.1ft	143.0ft	ft
8.2	198416*															8.2
9.8	176370	139552														9.8
11.5	165347	139552														11.5
13.1	159614	139552	101413					77382								13.1
16.4	127647	127647	99208	73855				77162	77823			76721				16.4
19.7	106483	106483	88185	73855				77162	74653	51369		76721	71430			19.7
23.0	91271	90389	83776	70327	55997			77162	69666	48356		76721	65477			23.0
26.2	77162	77162	80248	65036	51368	38167		77162	65481	45649	35494	76721	61509	46334		26.2
29.5	63493	61729	65036	60627	48281	38140		73193	61452	42898	33976	71209	58863	44216	28881	29.5
32.8		55116	52249	55777	45195	37919	25112	59525	58117	40563	32628	57761	55777	42253	26455	32.8
39.4		37479	37479	42108	40345	36597	25133	43431	46297	36726	29939	41888	42329	38729	27558	39.4
45.9			26455	31085	30865	31747	25133	32849	34833	33193	26568	31306	34392	35461	26455	45.9
52.5			19842	23589	23810	24912	22708		27558	29321	23854	24030	26676	27999	23369	52.5
59.1				18298	20283	20062	20062		21826	23810	21653	18739	21385	22487	20944	59.1
65.6				14330	16094	17416	16976		17637	19621	19621		17196	18298	17857	65.6
72.2				11244	13007	14110	14991			16314	16976		14110	15212	15873	72.2
78.7					10582	11684	12346			13889	14330		11464	12566	13228	78.7
85.3					8378	9480	10362			11684	12346		9480	10582	11244	85.3
91.9					6614	7716	8598				10582			8818	9480	91.9
98.4					5291	6393	7055				9039			7275	7937	98.4
105.0						5071	5732				7716				6614	105.0
111.5						3968	4630								5512	111.5
118.1							3748								4630	118.1
124.7							2866								3748	124.7
二节臂 2nd	0	50%	100%	100%	100%	100%	100%	0%	0%	0%	0%	50%	50%	50%	50%	2nd
三节臂 3rd	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	3rd
四节臂 4th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	4th
五节臂 5th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	5th

The lifting load with a * followed is available only when the boom sheave block is used together with the single top, with 13 parts of line.

Lifting capacities

T 40.7~157.5ft

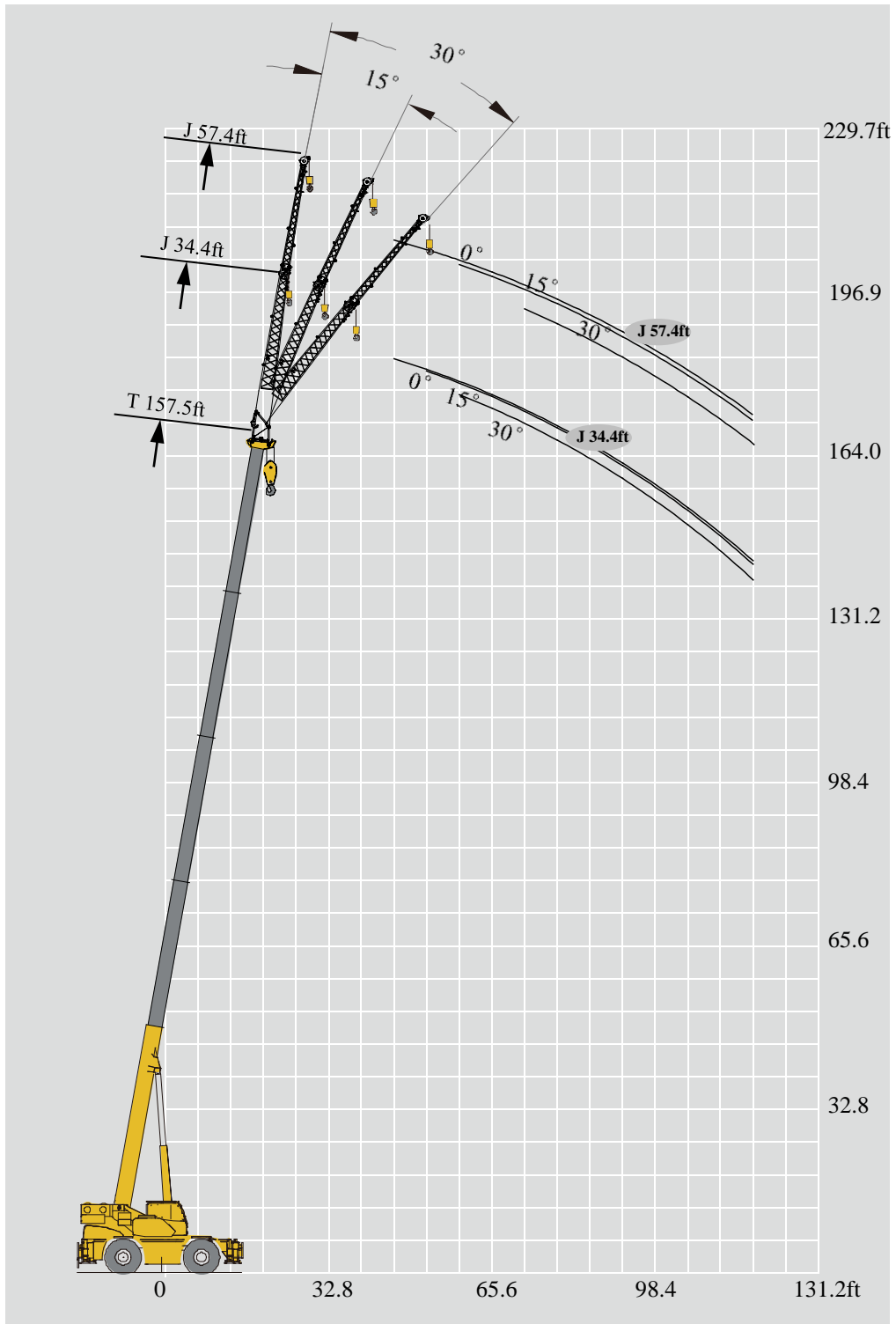









ASME B30.5 85%








Unit : lb

ft	40.7ft	55.4ft	69.9ft	91.9ft	113.8ft	135.5ft	157.5ft	62.7ft	84.6ft	106.3ft	128.3ft	77.1ft	99.1ft	121.1ft	143.0ft	ft
8.2	198416*															8.2
9.8	176370	139552														9.8
11.5	165347	139552														11.5
13.1	159614	139552	101413					77382								13.1
16.4	127647	127868	99208	73855				77162	77823			76721				16.4
19.7	106483	110231	88185	73855				77162	74653	51369		76721	71430			19.7
23.0	91271	97003	83776	70327	55997			77162	69666	48356		76721	65477			23.0
26.2	77162	78925	77162	65036	55997	38140		77162	65481	45649	35494	76721	61509	46334		26.2
29.5	63273	62170	61509	60627	51368	38140		69446	61452	42898	33976	67461	58863	44216	28881	29.5
32.8		53793	49163	52690	48281	37919	25112	56438	58117	40563	32628	54675	55777	42253	28660	32.8
39.4		36597	35935	36817	45195	36597	25133	42549	44754	36726	29939	40785	39904	38729	27558	39.4
45.9			25574	29101	38801	30203	25133	31747	33731	33193	26568	30203	29983	33510	26455	45.9
52.5			18739	22046	28881	23369	24126		26455	27558	23854	23149	24912	26235	25565	52.5
59.1				16976	22267	18519	20723		21164	22267	21653	18078	19842	20944	21826	59.1
65.6				13007	17416	14991	16976		17416	18298	18960		15873	17196	17857	65.6
72.2				10141	14771	13007	13889						13007	14110	14771	72.2
78.7					11905	10582	11464						10582	11464	12346	78.7
85.3					9480	8598	9259						8378	9480	10362	85.3
91.9					7496	6834	7716					9700		7937	8598	91.9
98.4					5732	5512	6173					8157		6393	7055	98.4
105.0						4189	5071					7055			5952	105.0
111.5						3307	3968								4850	111.5
118.1							3086								3968	118.1
124.7							2205								3086	124.7
二节臂 2nd	0	50%	100%	100%	100%	100%	100%	0%	0%	0%	0%	50%	50%	50%	50%	2nd
三节臂 3rd	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	3rd
四节臂 4th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	4th
五节臂 5th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	5th

The lifting load with a * followed is available only when the boom sheave block is used together with the single top, with 13 parts of line.



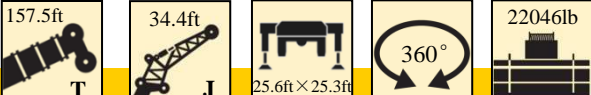
    		ASME B30.5 85%			Unit : lb
		157.5ft + 34.4ft			
		0°	15°	30°	
45.9		12125			45.9
52.5		12125	9921		52.5
59.1		12125	9921	5732	59.1
65.6		12125	9700	5512	65.6
72.2		11464	9039	5291	72.2
78.7		9921	8378	4850	78.7
85.3		8378	7937	4630	85.3
91.9		6834	7055	4409	91.9
98.4		5512	5732	4189	98.4
105.0		4850	4630	3968	105.0
111.5		3968	3968	3748	111.5
118.1		3086	3307	3086	118.1

    		ASME B30.5 85%			Unit : lb
		157.5ft + 57.4ft			
		0°	15°	30°	
45.9		5512			45.9
52.5		5512			52.5
59.1		5512	3968		59.1
65.6		5512	3748		65.6
72.2		5512	3307	2205	72.2
78.7		5512	3086	2205	78.7
85.3		5291	2866	1764	85.3
91.9		4850	2646	1764	91.9
98.4		4409	2205	1764	98.4
105.0		4189	1984	1543	105.0
111.5		3527	1984	1543	111.5
118.1		2646	1764	1543	118.1

Lifting capacities

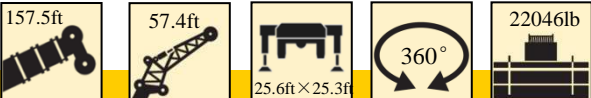
J 34.4-57.4ft

ASME B30.5 85% Unit : lb



ft	157.5ft+34.4ft			ft
	0°	15°	30°	
45.9	12125			45.9
52.5	12125	9921		52.5
59.1	12125	9921	5732	59.1
65.6	12125	9700	5512	65.6
72.2	11464	9039	5291	72.2
78.7	9921	8378	4850	78.7
85.3	8378	7937	4630	85.3
91.9	6834	7055	4409	91.9
98.4	5512	5732	4189	98.4
105.0	4409	4630	3968	105.0
111.5	3527	3527	3748	111.5
118.1	2646	2866	3086	118.1















ASME B30.5 85% Unit : lb



ft	157.5ft+57.4ft			ft
	0°	15°	30°	
45.9	5512			45.9
52.5	5512			52.5
59.1	5512	3968		59.1
65.6	5512	3748		65.6
72.2	5512	3307	2205	72.2
78.7	5512	3086	2205	78.7
85.3	5291	2866	1764	85.3
91.9	4850	2646	1764	91.9
98.4	4409	2205	1764	98.4
105.0	4189	1984	1543	105.0
111.5	3086	1984	1543	111.5
118.1	2205	1764	1543	118.1

Description of symbols

Symbol glossary

	Outriggers		Axle
	Radius		Driving speed
	Boom angle		Grade ability
	Boom length		Tires
	Hook block		Counterweight
	360° rotation		Superstructure
	Winch		Rough terrain crane

Crane specific symbols



	Boom		Jib
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Table of main technical parameters

Category	Item	Unit	Parameter		Allowance
Dimensions	Outline size (length×width×height)	ft	47.5×10.8×12.8		±1%
	Wheel base	ft	13.1		±1%
	Track (Front/ Rear)	ft	8.3/8.3		±1%
	Front/ Rear overhang	ft	8.1/7.8		±1%
	Front/ Rear extension	ft	18.0/0.4		±1%
Weight	Total vehicle mass in travel configuration	lb	117608 (22046lb counterweight)	120915 (253531lb counterweight)	±3%
	Axle load	1st axle	lb	62508	±3%
		2nd axle	lb	55100	±3%
Power	Engine model	—	B6.7		—
	Engine rated power/rpm	bhp/(r/min)	280/2000		—
	Engine rated torque/rpm	lb.ft/(r/min)	850/1500		—
Travel	Max. travel speed	mph	≥21.6		—
	Min. turning diameter	ft	≤42.7		—
	Min. ground clearance	ft	1.8		±1%
	Approach angle	°	24		±1°
	Departure angle	°	24		±1°
	Braking distance (at14.9mph)	ft	≤29.5		—
	Max. grade ability	%	≥64.6		—

Table of main technical parameters

Category	Item		Unit	Parameter	Allowance	
Main performance	Max. total rated lifting capacity		USt	100	±5%	
	Min. rated working radius		ft	8.2	±1%	
	Turning radius at turntable tail	Counterweight	ft	14.9	±1%	
	Max. load moment	Base boom	ft·lb	2096559	±5%	
		Fully-extended boom	ft·lb	1192233	±5%	
	Outrigger span	Longitudinal	ft	25.6	±1%	
		Lateral	ft	25.3	±1%	
	Hoist height	Base boom	ft	42.7	±1%	
		Fully-extended boom	ft	157.5	±1%	
		Fully-extended boom + Jib	ft	207.0	±1%	
	Boom length	Base boom	ft	40.7	±1%	
		Fully-extended boom	ft	157.5	±1%	
		Fully-extended boom + Jib	ft	214.9	±1%	
Jib offset angle			°	0°、15°、30°	—	
Working speed	Boom raising time		s	≤55	—	
	Boom fully extending time		s	≤110	—	
	Max. slewing speed		r/min	≥2	—	
	Outrigger extending and retracting time	Outrigger beam	Retracting	s	≤35	—
			Extending	s	≤40	—
		Outrigger jack	Retracting	s	≤40	—
			Extending	s	≤55	—
	Hoisting speed (single line, 4th layer, no load)	Main winch	fpm	≥475.7	—	
Auxiliary winch		fpm	≥295.3	—		

Notes

1. The total rated loads given in the rated load charts are the maximum lifting capacity when the crane is set up on firm and level ground, which includes the weight of the hook block and slings. The weight of above-mentioned devices should be deducted from the rated lifting load.
2. The working radius shown in the rated load charts is the radius when the load is lifted off the ground, and it is the actual value including loaded boom deflection. Take boom deflection into consideration before beginning a lifting operation.
3. A lifting operation is permissible only when the wind force is below grade 5 (instantaneous wind speed is 46.2ft/s, wind pressure is 142.2psi).
4. Before beginning lifting operation, the operator should know the weight of the load to be lifted and its working range, and then select proper working conditions. Never operate the crane beyond the limit shown in the chart. Use the lower value from the chart when the boom length or working radius is between the range of values.
5. Observe the boom angle limit. Never operate the crane with the boom angle beyond the recommended limit even if a load is not being carried. Otherwise, the crane will tip.
6. The boom should be extended according to the telescoping code shown by digits, which means the percentage of boom sections extended.



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