

XCR100_U Rough Terrain Crane

Technical specifications



100USt



157.4ft



207ft

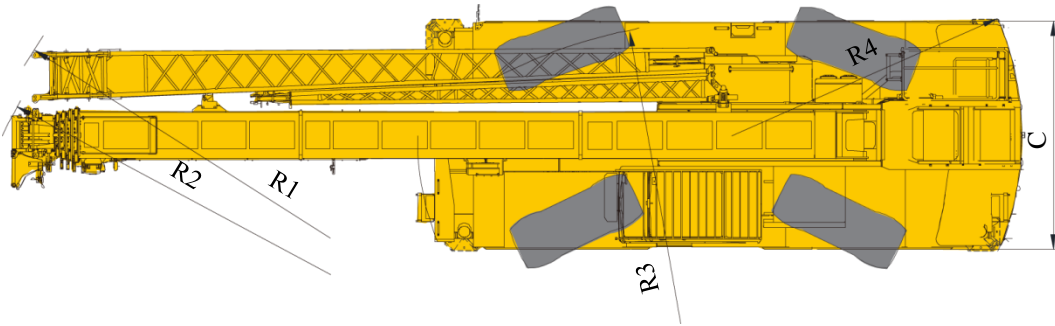
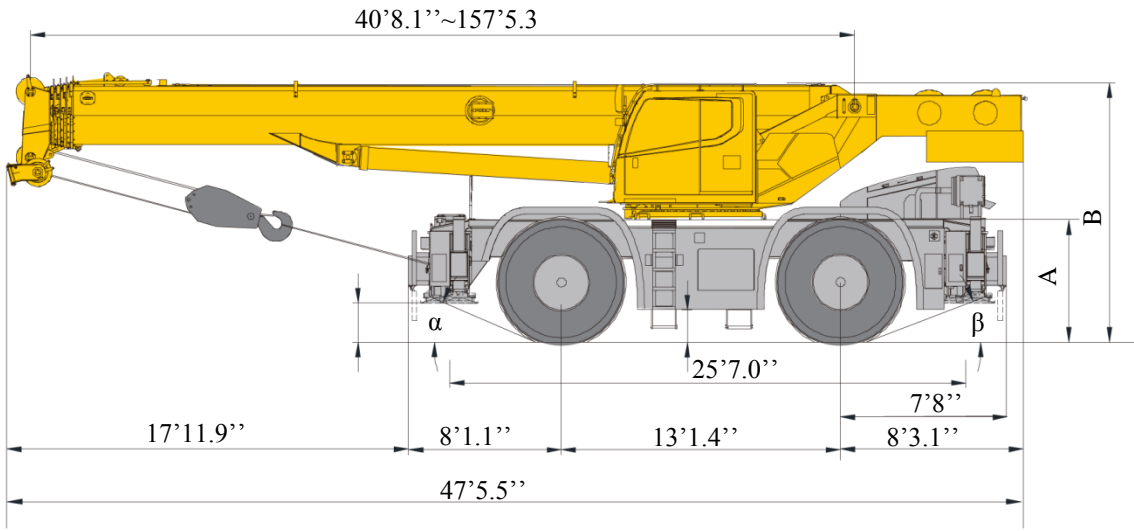


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Dimensions



	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~157.4ft.	●
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/rpm), max. torque of 850/1500(lb.ft/rpm), 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	Front Axle	Rear Axle	Gross vehicle weight
lb	62508	55100	117608 (22046lb counterweight)
	61004	59911	120915 (22046lb counterweight + Optional 3306lb counterweight)



Hook	No. of lines	Weight (lb)	Remarks
60USt	8	1036	Single hook
7.7USt	1	463	Single hook

Working speeds



29.5 R 25








21.6

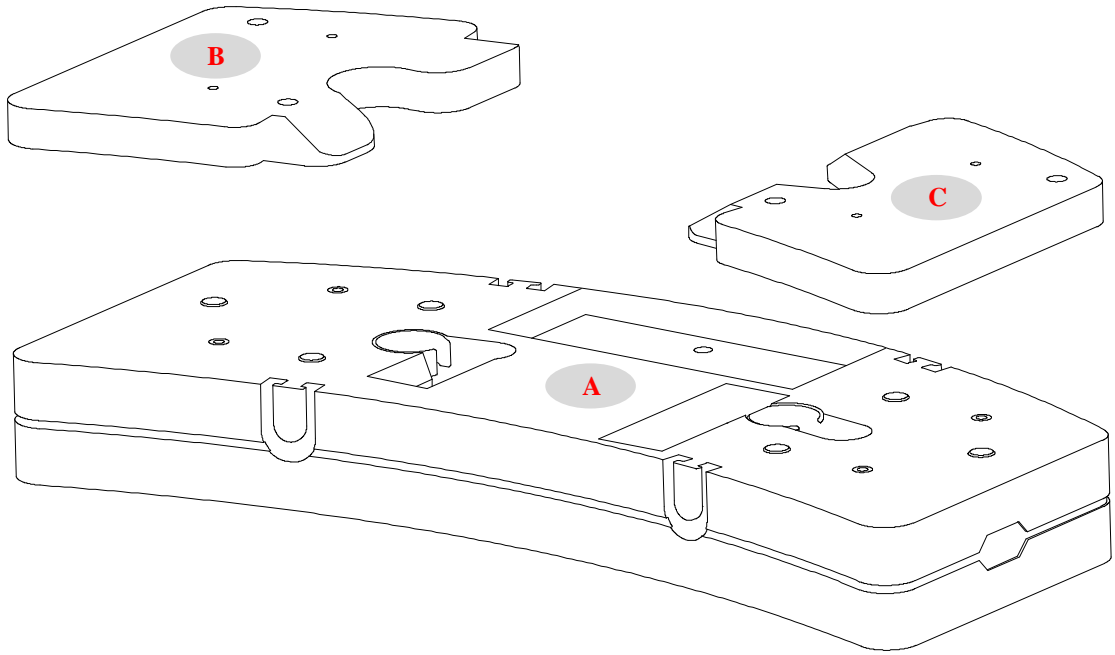


64.6%



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
	0-1.5r/min		
	Approx. 55s for boom elevation from -1.5° to 80°		
	Approx. 110s for boom extension from 40.7ft to 157.4ft		

Counterweight

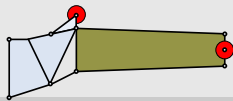


Counterweight	A	B (optional)	C (optional)
Size (L×W×H) ft	10.7×5.0×1.8	4.5×3.2×0.4	4.5×3.2×0.4
Weight lb	22046	1653	1653

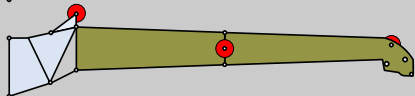
Working mode	0 lb	22046lb	22046lb+3306lb (optional)
Combinations	—	A	A+B+C

Boom / Jib combinations

Jib – 34.4ft



Jib – 57.4ft



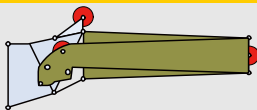
Component

Structure

Size (L×W×H) ft

Weight lb

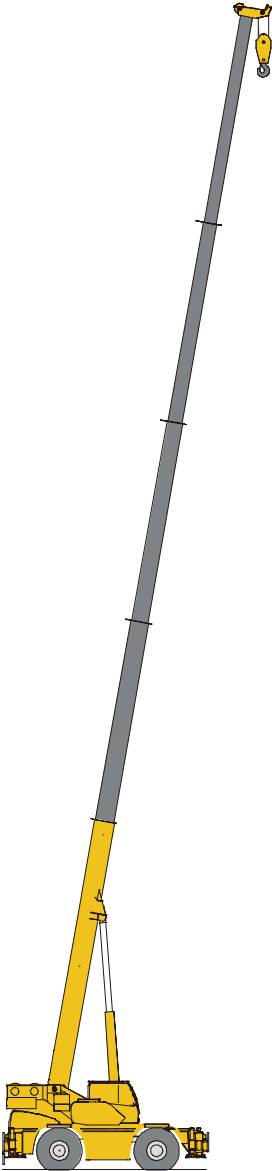
First and second jib
section assembly +
Connecting bracket



Folded : 36.4×3.0×4.4

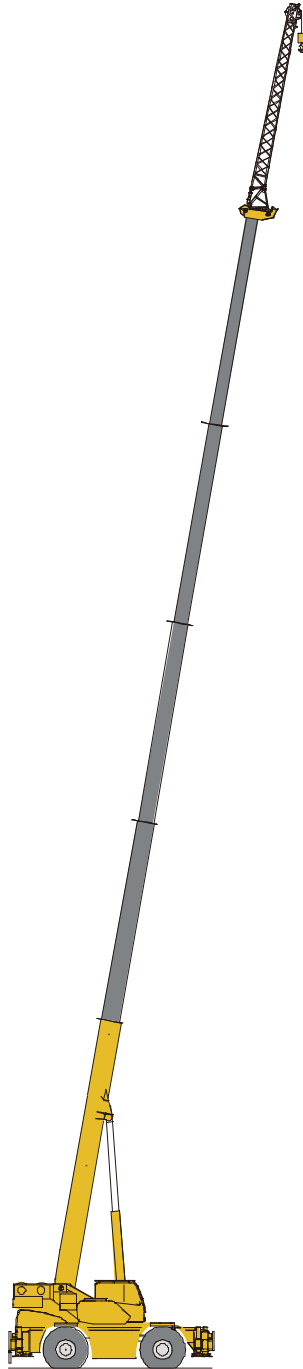
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Boom / Jib combinations



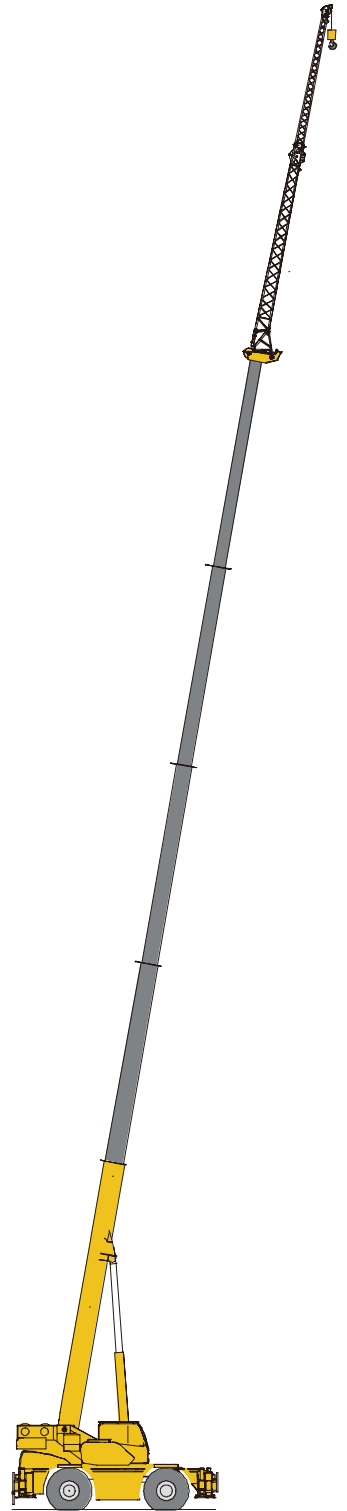
Telescopic boom

40.7ft~157.4ft



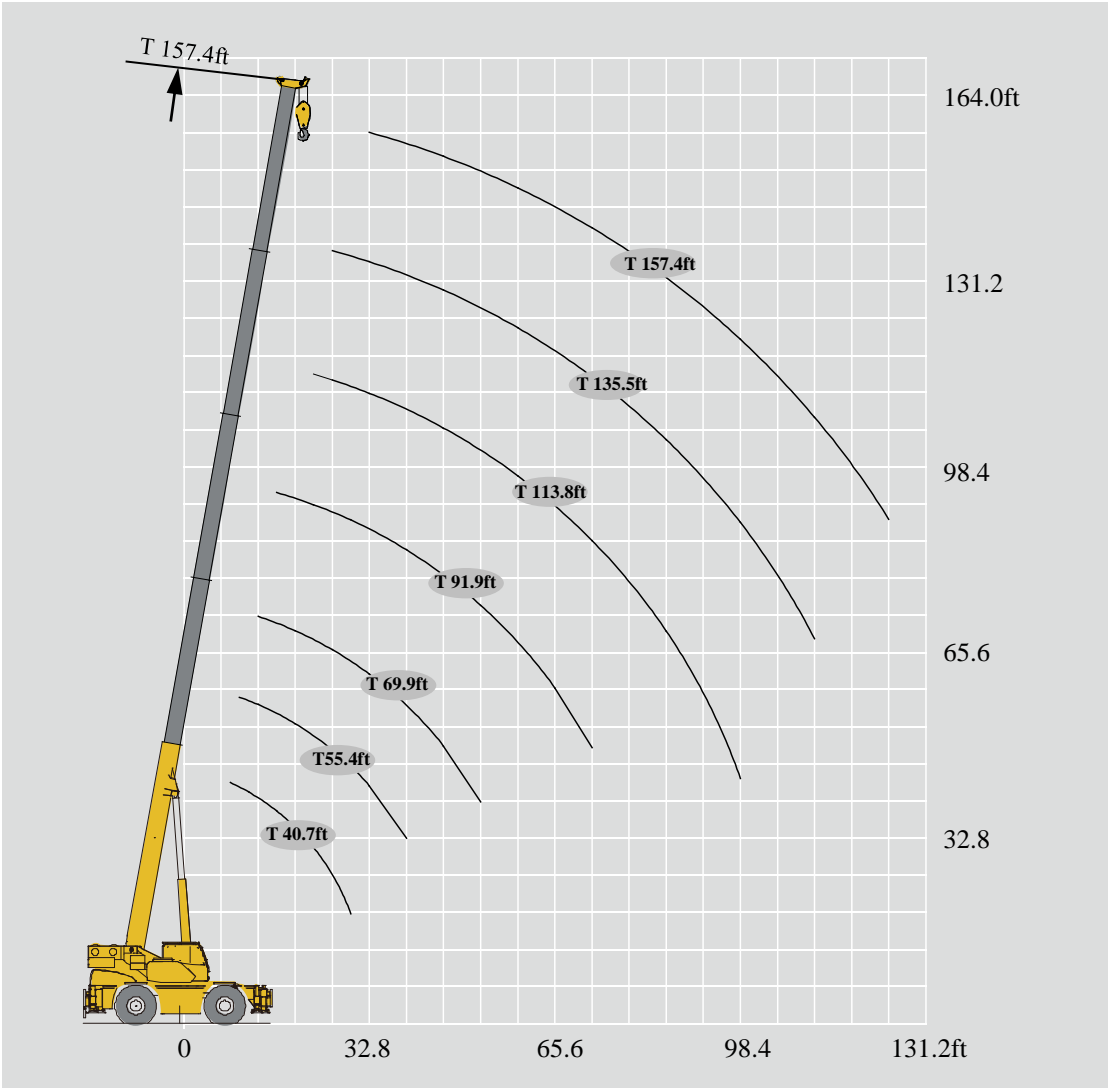
Telescopic boom + First jib section

157.4ft + 34.4ft



Telescopic boom + First and second jib sections

157.4ft + 57.4ft



Lifting capacities

T 40.7~157.4ft

ASME B30.5 85%

Unit : lb

ft	40.7-157.4ft T		25.6ft×25.3ft		360°		25353lb										ft
	40.7ft	55.4ft	69.9ft	91.8ft	113.8ft	135.5ft	157.4ft	62.6ft	84.6ft	106.3ft	128.2ft	77.1ft	99.1ft	121.0ft	143.0ft		
8.2	200001*																8.2
9.8	176368	139551															9.8
11.5	165345	139551															11.5
13.1	159613	139551	101412						77381								13.1
16.4	127646	127646	99207	73854					77161	77822			76720				16.4
19.7	106482	106482	88184	73854					77161	74736	51367		76720	71429			19.7
23.0	91270	90389	83775	70327	55997				77161	69665	48281		76720	65477			23.0
26.2	77161	77161	80247	65036	51367	38140			77161	65477	45635	35494	76720	61508	46297		26.2
29.5	63492	61729	65036	60627	48281	38140			73193	61508	42990	33951	71209	58863	44312	28880	29.5
32.8		55115	52249	55776	45194	37919	25132	59524	58201	40565	32628	57761	55776	42328	28660		32.8
39.4		37478	35494	42108	40344	36596	25132	43431	46297	36817	29983	41887	42328	38801	27558		39.4
45.9			26455	31085	30864	31746	25132	32849	32849	33289	26676	31305	34392	35494	26455		45.9
52.5			19841	21826	23810	24912	22707		25794	29321	23810	24030	26676	27998	23369		52.5
59.0				16975	20282	20062	20062		20723	23810	21605	18739	19621	22487	20944		59.0
65.6				14330	16094	17416	16975		16755	19621	19621		16755	16535	17857		65.6
72.2				10803	13007	13669	14991			16314	16975		12787	13889	15873		72.2
78.7					10141	11243	12346			13889	14330		10582	12566	13228		78.7
85.3					8157	8377	10362			11684	12346		8598	10582	11243		85.3
91.8					5732	7055	8598					10582			8818	9480	91.8
98.4					4409	5512	7055					9039		6614	7937	98.4	
105.0						4409	5071					7716			5952	105.0	
111.5						3527	4189								4850	111.5	
118.1							3086								3748	118.1	
124.6							2205								3086	124.6	
2nd	0	50%	100%	100%	100%	100%	100%	0%	0%	0%	0%	50%	50%	50%	50%	2nd	
3rd	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	3rd	
4th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	4th	
5th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%	5th	

Notes: The lifting load with a * followed is available only when additional equipment is used;
When a load weighing more than 60 USt is lifted, a larger hook block is required for operation.

Lifting capacities

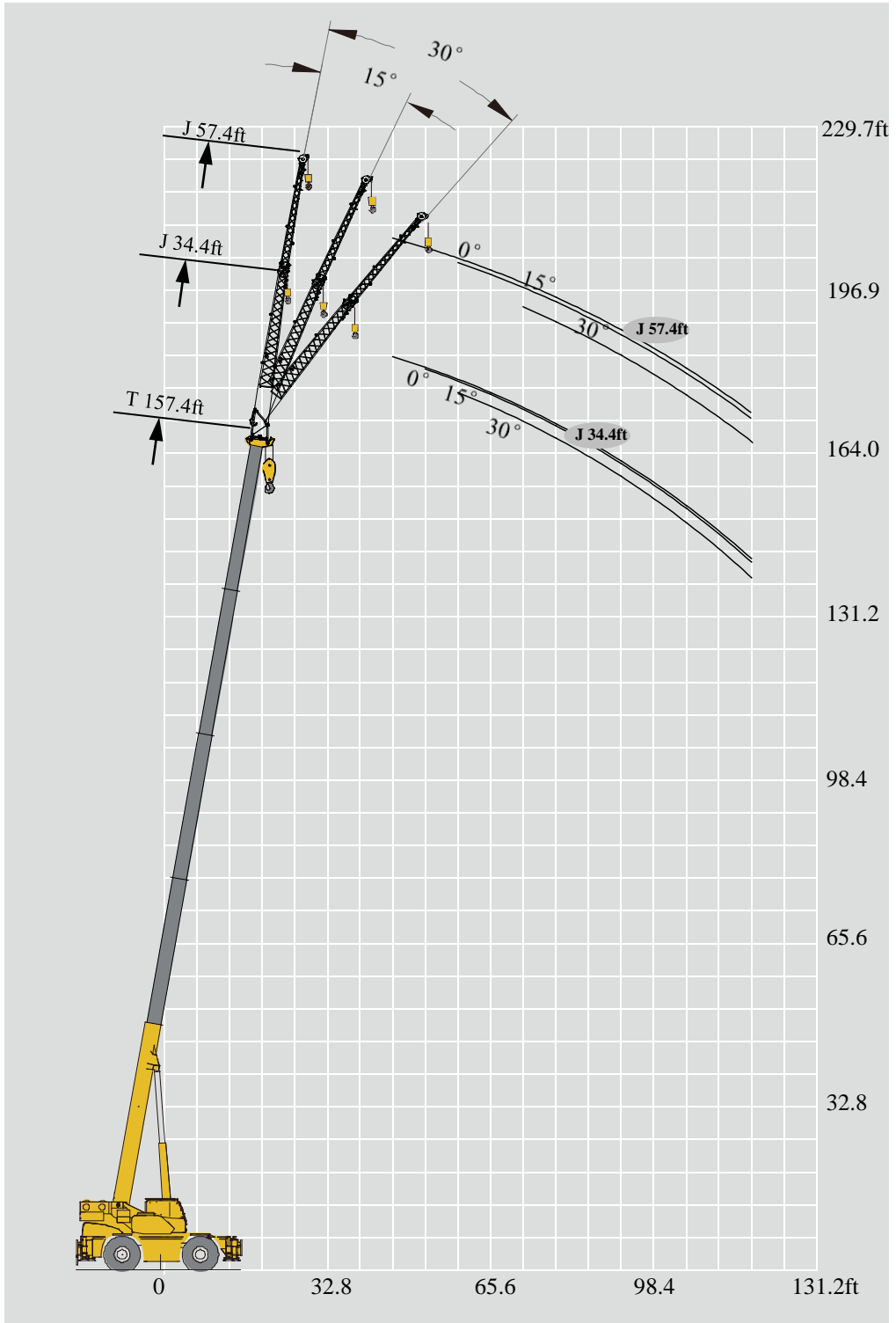
T 40.7~157.4ft

ASME B30.5 85%

Unit : lb

ft	40.7-157.4ft T		25.6ft×25.3ft		360°		22046lb										ft
	40.7ft	55.4ft	69.9ft	91.8ft	113.8ft	135.5ft	157.4ft	62.6ft	84.6ft	106.3ft	128.2ft	77.1ft	99.1ft	121.0ft	143.0ft		
8.2	200001*																8.2
9.8	176368	139551															9.8
11.5	165345	139551															11.5
13.1	159613	139551	101412						77381								13.1
16.4	127646	127646	99207	73854					77161	77822			76720				16.4
19.7	106482	106482	88184	73854					77161	74736	51367		76720	71429			19.7
23.0	91270	90389	83775	70327	55997				77161	69665	48281		76720	65477			23.0
26.2	77161	77161	77161	65036	51367	38140			77161	65477	45635	35494	76720	61508	46297		26.2
29.5	63272	61729	61508	60627	48281	38140			69445	61508	42990	33951	67461	58863	44312	28880	29.5
32.8		53792	49163	52690	45194	37919	25132	56438	58201	40565	32628	54674	55776	42328	28660		32.8
39.4		36596	32849	36817	38801	36596	25132	40785	43872	36817	29983	38140	39903	38801	27558		39.4
45.9			23810	29101	28880	30203	25132	30644	31085	33289	26676	27998	29983	33510	26455		45.9
52.5			17637	20282	22266	23369	22707		24251	27558	23810	21385	24912	26235	23369		52.5
59.0				15653	17416	18519	20062		19400	22266	21605	15873	18078	20944	20944		59.0
65.6				13007	14771	14991	16975		15873	18298	18960		15432	15432	17857		65.6
72.2				9480	11905	12566	14991			15212	15873		11684	12787	14771		72.2
78.7					9480	10362	12346			12787	13448		9480	11464	12346		78.7
85.3					7496	7496	9259			10803	11243		7716	9480	10362		85.3
91.8					5071	6173	7716				9700			7937	8598		91.8
98.4					3968	4850	6173				8157			5732	7055		98.4
105.0						3968	4189				7055				5071		105.0
111.5						2866	3748								4189		111.5
118.1							2646								3307		118.1
124.6							1984								2425		124.6
2nd	0	50%	100%	100%	100%	100%	100%	0%	0%	0%	0%	50%	50%	50%	50%		2nd
3rd	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%		3rd
4th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%		4th
5th	0	0	0	25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%		5th

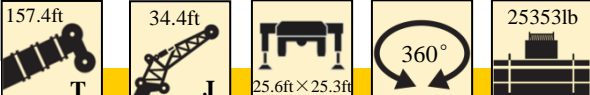
Notes: The lifting load with a * followed is available only when additional equipment is used;
When a load weighing more than 60 USt is lifted, a larger hook block is required for operation..



Lifting capacities

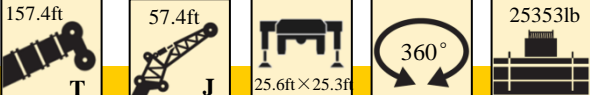
J 34.4-57.4ft

ASME B30.5 85% Unit : lb



ft	157.4ft + 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	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

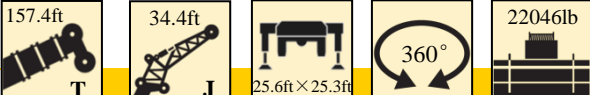


ft	157.4ft + 57.4ft			ft
	0°	15°	30°	
45.9	5512			45.9
52.5	5512			52.5
59.1	5512	3968		59.1
65.6	5512	3748		65.6
72.2	5512	3307	2205	72.2
78.7	5512	3086	2205	78.7
85.3	5291	2866	1764	85.3
91.9	4850	2646	1764	91.9
98.4	4409	2205	1764	98.4
105.0	4189	1984	1543	105.0
111.5	3527	1984	1543	111.5
118.1	2646	1764	1543	118.1

Lifting capacities

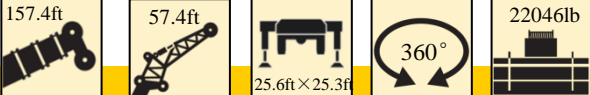
J 34.4-57.4ft

ASME B30.5 85% Unit : lb



ft	157.4ft+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	157.4ft+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
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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	Gross vehicle weight		lb	117608 (22046lb counterweight)	120915 (25353lb counterweight)	±3%
	Axle load	1st axle	lb	62508	61004	±3%
		2nd axle	lb	55100	59911	±3%
Power	Engine model		—	B6.7		—
	Engine rated power		bhp/rpm	280/2000		—
	Engine rated torque		lb.ft/rpm	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 (at 14.9mph)		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	±1%	
		Fully-extended boom	ft·lb	1192233	±1%	
	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	157.4	±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	≥1.5	—	
	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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