RT110



RT110 PRODUCT GUIDE

Complies with ANSI B30.5

Rough Terrain Crane

110 ton lift capacity (100 metric ton) 141' main boom (43 m) 35' - 60' jib (11 - 19 m)



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FEATURES



Formed boom made with highyield steel which reduces the operating weight of the boom and maximizes performance.



We chose the AxleTech brand axle because AxleTech offers the most reliable product on the market and has years of experience in manufacturing mobile crane axles.





Full vision operator cab is designed for maximum comfort and ease of operation.

The Dana 16.4HR 36626 transmission offers the latest technology for the diverse needs of off-road cranes.





The Cummins QSC 8.3 diesel engine is TIER-III compliant and is proven to have superior performance and durability.

Greer RCI 777 LMI (load moment indicator) delivers the industry's most reliable electronic monitoring system available.



STANDARD EQUIPMENT

- Formed boom
- Offsettable jib 0° 20° 40°
- Auxiliary winch
- Cameras
- Auxiliary lifting sheave
- 110 ton hook block
- 7.7 ton hook ball
- Rotation resistant wire rope
- Deluxe tilt seat
- Air conditioner / Heater
- Work light package: boom, cab and super structure
- Revolving amber light
- AM/FM radio
- Battery disconnect switch
- Front and rear lift lugs

ANSI & CE certified



KEY/SYMBOLS

	Engine	р4	LMI	Load Moment Indicator (LMI)	p5
00	Transmission	p4		Max. boom length with jib ext.	p5
-	Axles	p4		Main boom	p6
Ī	Steering	р4		Main and auxiliary winches	p6
	Gradeability	р4	0	Cameras	p6
O	Brakes	p4		Hook block	p6
0	Tires and wheels	р4	8	Hook ball	p6
	Outrigger system (100%, 50%, 0% extended)	p4		Crane with counterweight	р7
	Hydraulic system	р5		Side stowed jib	p7
	Operator cab	р5	A	Distance from the hook to the head	p8
	Counterweight	p5		Tip height	р9
♦	Swing	p5		Working radius	р9

TECHNICAL DESCRIPTION



ENGINE

Cummins QSC 8.3 Inline 6 cylinder intercooled turbo diesel. Horsepower Hp (kW) 305 (224) @ 2200 rpm. Peak torque ft. lb. (Nm) 1000 (1356) @ 1500 rpm. 80 gallon (303 L) fuel tank capacity.

USA Federal EPA / California ARB / European EU / Tier III emission rating.



TRANSMISSION

Dana powershift (16.4HR 36626) transmission -6 speeds forward and 3 speeds reverse. Front axle disconnect offering both 4x4 and 4x2 operation.



AXLES

Axletech front and rear steering axles with planetary reduction.

Front - Rigid mount.

Four-Wheel crab steer

Rear - Full floating rear axle. Automatic rear axle oscillating lock occurs when superstructure is swung 10° from centerline in either direction.



Power steering with three independent modes. Two-Wheel Four-Wheel

STEERING



GRADEABILITY

109.8% max. gradeability in 1st gear 4x4. 3.7% max. gradeability in 6th gear 4x2.



BRAKES

18.5 inches (470 mm) diameter disc brakes on all wheels hydraulically operated.



TIRES AND WHEELS

29.5R25 radial, earthmoving style tires. Steel disc wheels.



OUTRIGGER SYSTEM

Four independent horizontal beams and vertical jacks with integral holding valves, each independently controlled from operator cab.

100% - Fully extended outriggers	
footprint	25.9 sq. ft. (7.9 sq. m).
50% - Mid position outriggers	
footprint	18.2 sq. ft. (5.54 sq. m).
0% - Fully retracted outriggers	
footprint	10.4 sq. ft. (3.18 sq. m).
Light-weight aluminum, quick-rele	ase outrigger pontoons.
Floating ground bearing area	(0.27 sq. m)
(418.5 sq. in).	
Outringer anan	Longth OC 2 ft (0 m)

Outrigger span Length 26.3 ft. (8 m). Width 25.9 ft. (7.9 m).



TECHNICAL DESCRIPTION



HYDRAULIC SYSTEM

PERMCO hydraulic pumps.

Gear pump for main and auxiliary winches, boom hoist and telescope cylinders.

Gear pump for steering.

Gear pump for outriggers and slewing.

317 gallon (1200 L) hydraulic reservoir with external sight and temperature gauge.

Easily accessible (10 micron) cartridge style full flow filters with bypass protection.

Max. operating pressure: 30MPa (4351 psi, 300 bar).



OPERATOR CAB

Full vision operator cab designed for max. comfort. All steel fabrication with acoustical lining and tinted safety glass throughout. The cab has a sliding door on the left and a sliding window on the right with a swing-up skylight with retractable shade and wiper motor. Fully adjustable deluxe seat with tilt. Foot controls for boom telescope, service brake and engine throttle. Tilt steering.

Temperature control is provided by a hydraulically driven air conditioning unit. Easy view dashboard with gauges for all engine sensors and rocker switch outrigger controls. Standard amenities also include bubble level, dome light, left side rearview mirror, seat belt, travel swing lock and signal horn.



COUNTERWEIGHT

Single 22,046 lb. (10,000 kg) hyd	d removable counterweight.
Length	10.5 ft. (3.2 m).
Width	4.3 ft. (1.3 m).
Height	2.9 ft. (0.9 m).



SWING

Bi-directional hydraulic swing drive with multi-disc wet brake and planetary reduction gearbox. Spring applied hydraulically released swing brake and 360° pneumatic positive swing lock.

Max. swing speed: 2 rpm.



LOAD MOMENT INDICATOR (LMI)

GREER RCI 777 LMI control system. Microguard graphic display load moment and anti-two block system with audiovisual warning and function limiter.

System displays the following information: crane configuration, boom length, boom angle, load radius, allowed capacity, actual load, and load percentage of allowed capacity.

System includes settable work parameters: min./max. boom length, min./max. boom angle, defined swing area.



MAX. BOOM LENGTH WITH JIB EXTENSION

35-60 ft. (11-19 m) jib consisting of 35 ft. (11 m) lattice side stow jib and 25 ft. (8 m) manual pull out section. Main jib is offsettable at 0° , 20° and 40° .

Max. tip height with 35 ft. (10.8 m) jib erected is 184 ft. (56.1 m).

Max. tip height with 35 ft. (10.8 m) jib + 25 ft. (7.7 m) fixed pullout extension is 207 ft. (63 m).



TECHNICAL DESCRIPTION



MAIN BOOM

Four section, full power, synchronized boom. Boom is constructed of high-yield steel. 5 sheave quick reeve boom tip with removable rope guards. Rope termination lugs on both sides of boom head. Auxiliary lifting sheave and manual angle indicator are included.

Fully extended boom length:	141 ft. (43 m).
Fully retracted boom length:	38 ft. (11.5 m).
Max. tip height, main boom:	150 ft. (45.7 m).
Boom angle range (min./max.)	3° / + 78°.
Boom raising / lowering time	82 sec. / 69 sec.
Boom extension / retraction time	170 sec. / 158 sec.



MAIN AND AUXILIARY WINCHES

Standard two speed main and auxiliary hoists, each with planetary reduction and spring applied multi-disk wet brake.

Each hoist features:

Grooved drum lagging.

Hoist drum cable followers.

Max. permissible line pull: 21,605 lbs. (9800 kg).

Winch speed: 0 - 413 fpm. (126 m/min).

Power up / power down.

Electronic drum rotation indicators.

Rope construction: 0.79 in. (20 mm) rotation resistant compacted strand.



CAMERAS

The crane comes equipped with two cameras, a winch camera for viewing hoist operation and a rear camera for viewing the rear of the crane. The monitor is located in the cab, and one can easily toggle between both camera views.



HOOK BLOCK AND HOOK BALL

110 ton, 7 sheave (steel), standard reeve hook block with odd part pin-off and safety latch.

7.7 ton top swivel hook ball with safety latch.



CRANE AND COMPONENT WEIGHTS

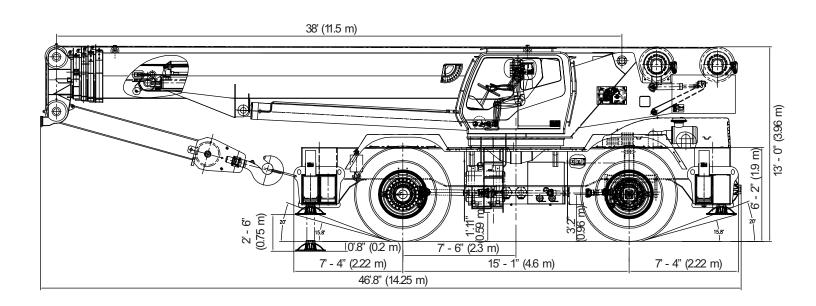
CRANE OPERATING WEIGHTS								
	Gross Veh	icle Weight	Front A	de Load	Rear Axle Load			
	lb	kg	lb	kg	lb	kg		
Crane with ctwt.	143,299	64,999	68,067	30,875	75,232	34,125		

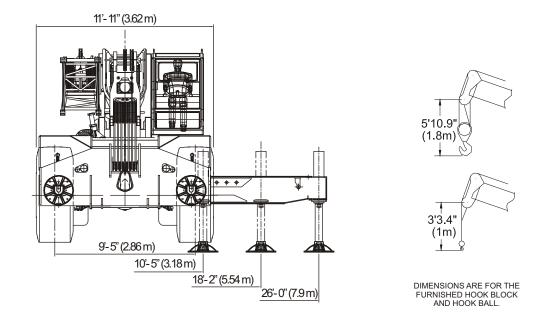
DEDUCTIONS FOR LOAD HANDLING								
	lb	kg		lb	kg			
Jib stowed aside boom	2,738	1,242	7 sheave 110 ton hook block	2,702	1225			
Auxiliary head	158	72	7.7 ton hook ball	357	162			





CRANE DIMENSIONS

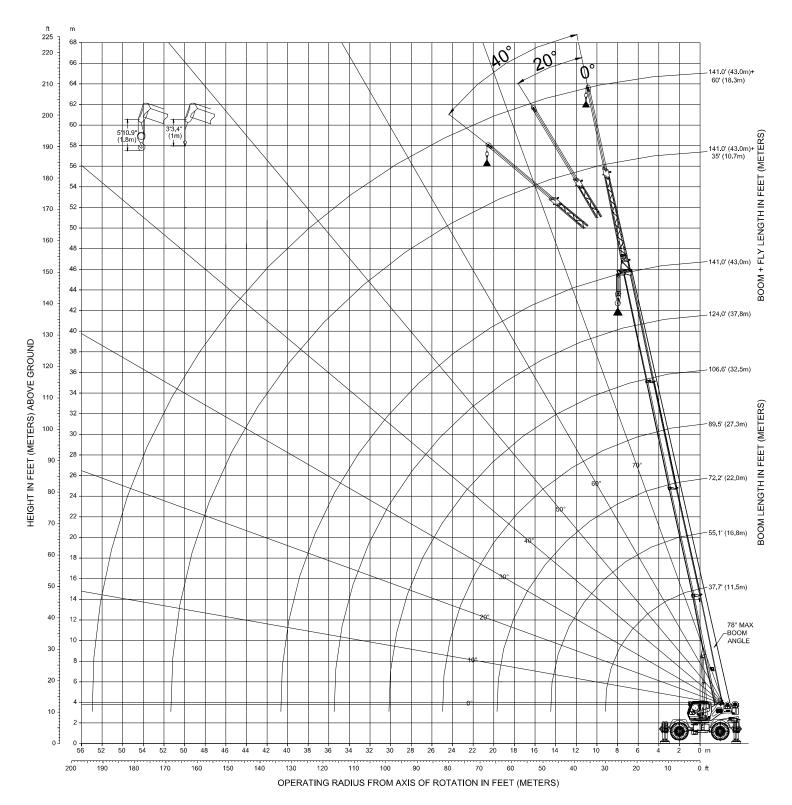








WORKING RANGE DIAGRAM







	22,0)00 lbs. c			D OUTRI 2.6 ft. x 2		MAIN BO	OM CAPA		85%
		BOOM	LENGTI	H IN FEE	T - CAPA	CITY LIS	TED IN PO	OUNDS		
RADIUS	38	51	64	77	90	103	115	128	141	RADIUS
FT.										FT.
10	220000	168290	125730							10
12	201630	157378	118446							12
15	157630	141010	107520	89420	76660					15
20	113740	113510	93060	78200	67860	58070				20
25	87290	87990	81730	69290	60490	52130	42450	37170		25
30	69700	70890	68750	62140	54550	47920	39040	34310	30020	30
35		58660	57430	56200	49490	43220	36070	31890	28150	35
40		48800	47760	47160	45310	39700	33430	29800	26390	40
45			38840	38560	37990	36490	31230	27930	24960	45
50			32320	32180	31910	30910	29250	26170	23640	50
55			27480	27280	27170	26500	25690	24220	22320	55
60				23430	23390	22490	22410	21270	19930	60
65				20390	20320	20020	20020	18770	17690	65
70					17790	17580	17370	16640	15760	70
75					15720	15520	15400	14800	14080	75
80					14060	13770	13700	13210	12610	80
85						12290	12230	11820	11310	85
90						11060	10940	10600	10160	90
95						10210	9830	9520	9130	95
100							8860	8560	8220	100
105							8070	7710	7410	105
110								6970	6670	110
115								6340	6010	115
120								5910	5440	120
125									4930	125

LIFTING CAPACITY NOTES:

Rated lifting capacities shown do not exceed 85% of the tipping loads. The weight of the hook block, hook ball and any additional auxiliary lifting devices are not calculated into the rated lifting capacity and must be deducted prior to operation.





M	22,000 lbs			TRIGGERS		OM CAPAC ANSI B30.		85%
	BOOM LENGTH IN FEET - CAPACITY LISTED IN POUNDS							
RADIUS	38	51	64	77	90	103	128	RADIUS
FT.								FT.
10	220000	168290	125730					10
12	190124	157378	118446					12
15	145310	141010	107520	89420	76660			15
20	101570	101270	91650	78200	67860	58070		20
25	64380	65650	61700	59810	56850	52010	37170	25
30	45010	46810	45070	44260	42800	40020	34310	30
35		35190	34510	34230	33540	31840	28380	35
40		27360	27220	27220	26950	25910	23590	40
45			21910	22060	22040	21410	19830	45
50			17920	18120	18250	17890	16810	50
55			14910	15030	15240	15050	14340	55
60				12580	12800	12730	12290	60
65				10630	10790	10800	10500	65
70					9130	9170	9070	70
75					7750	7790	7790	75
80					6670	6610	6670	80
85						5610	5680	85
90						4780	4820	90
95						10210	4060	95
100							3380	100
105							2790	105
110							2290	110
115							1920	115

LIFTING CAPACITY NOTES:

Rated lifting capacities shown do not exceed 85% of the tipping loads. The weight of the hook block, hook ball and any additional auxiliary lifting devices are not calculated into the rated lifting capacity and must be deducted prior to operation.



	22,000 I	FULLY RE bs. ctwt.	ETRACTED 9 f	OUTRIGGE t. x 22.6 ft.		BOOM CAP ANSI B30.5	ACITY	85%
	E	BOOM LENG	GTH IN FEE	T - CAPACI	TY LISTED	IN POUNDS	3	
RADIUS	38	51	64	77	90	103	124	RADIUS
FT.								FT.
10	183700	168290	125730					10
12	122940	119290	101670					12
15	79430	78960	70600	66650	61250			15
20	46530	47690	44570	43180	40910	37170		20
25	30540	32090	30870	30420	29460	27450	23750	25
30	20880	22760	22420	22400	22060	20950	18680	30
35		16570	16690	16900	16910	16300	14900	35
40		12200	12570	12900	13100	12820	11980	40
45			9480	9870	10190	10110	9650	45
50			7110	7520	7900	7940	7750	50
55			5310	5640	6040	6180	6170	55
60				4140	4530	4720	4850	60
65				2950	3270	3490	3720	65
70					2230	2450	2750	70
75					1370	1570	1900	75



0	22,000 lbs. ctwt.	ON TIRES BOOM CE ANSI B30.5	ENTERED 75%	OVER FRONT
	BOOM LENGT	H IN FEET - CAPACITY L	ISTED IN POUNDS	
RADIUS	35	55	72	RADIUS
FT.				FT.
10	111980	92300		10
12	101420	92300	89800	12
15	88440	89760	89800	15
20	71830	73480	87890	20
25	59680	61520	72490	25
30	50360	52320	61010	30
35		45020	52190	35
40		39150	45260	40
45		34320	39590	45
50		20990	34860	50
55			31010	55
60			27660	60
65			24420	65

LOCATIONS



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