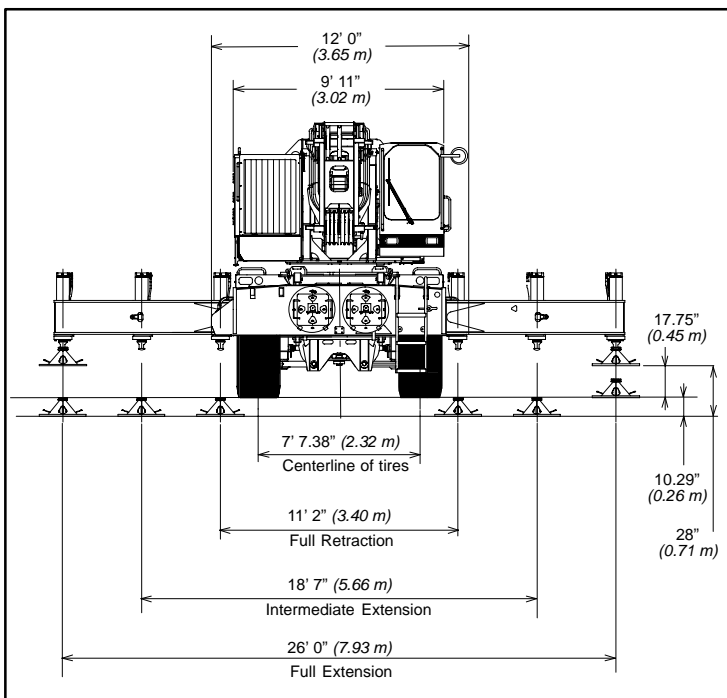
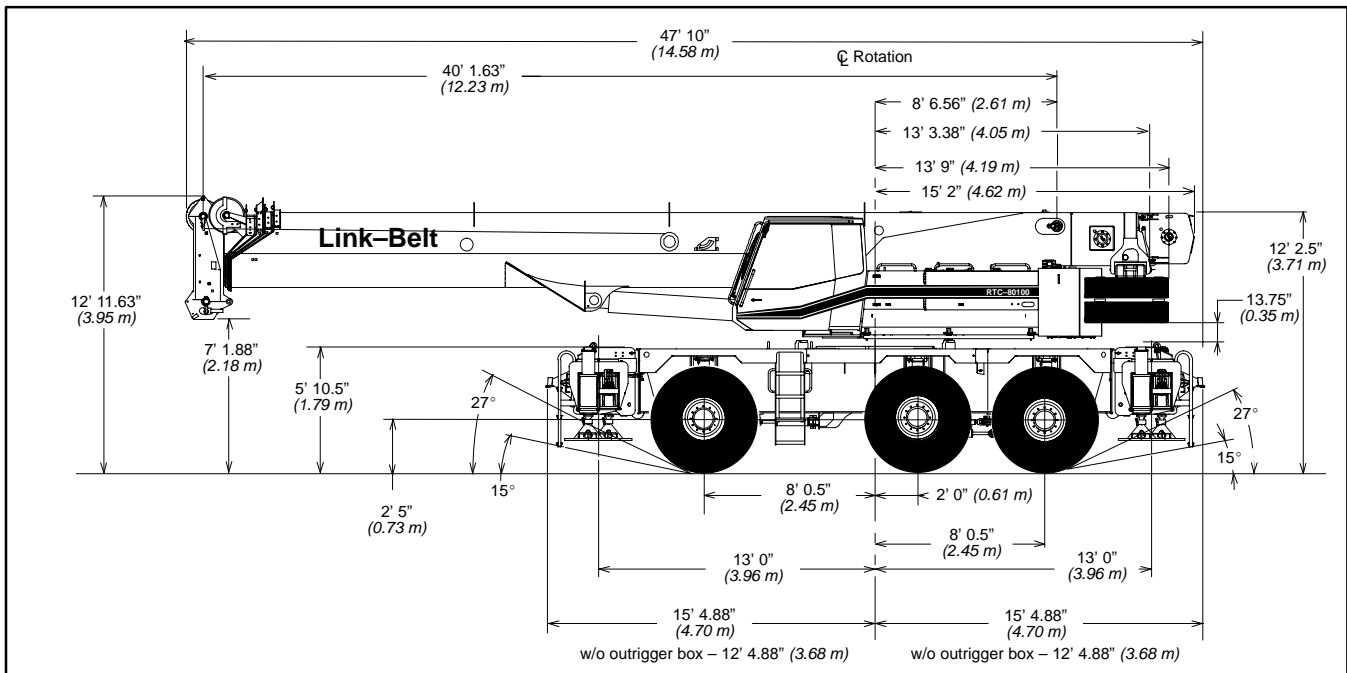


Specifications

Telescopic Boom Rough Terrain Crane

RTC-80100 100-ton (90 metric ton)

Series II



General Dimensions	feet	metric
Turning Radius (6-wheel steer - centerline of tires)	20' 7"	6.27
Turning Radius (2-wheel steer - centerline of tires)	35'	10.67
Turning Radius (6-wheel steer - outside front outrigger box)	25' 6"	7.77
Turning Radius (2-wheel steer - outside front outrigger box)	37' 0"	11.28
Tailswing of counterweight (w/o Aux. Winch)	13' 9"	3.90
Tailswing of Auxiliary Winch	15' 3"	4.65

Upper Structure

■ Boom

Formed Construction Design

- U-shaped boom utilizes formed plates to resist buckling using high strength 130,000 p.s.i. (896 MPa) steel. Increased wear pad area for improved load distribution and longer life.

Standard Boom

- 40' – 150' (12.19 – 45.72 m) five-section full power boom.
- **Standard mode** is the full power, synchronized mode of telescoping all sections proportionally.
- **A-max¹** mode (or mode 'A1') extends only the inner and center sections to 95' (29 m) offering increased capacities for in-close, maximum capacity picks.
- **A-max²** mode (or mode 'A2') tip, outer and center sections extend to 122.5' (37.34 m) offering maximum stability.
- Mechanical Boom Angle Indicator

Boom Head

- Six, 16.38" (0.42 m) root diameter nylon sheaves handle up to twelve parts of wire rope.
- Quick-reeve design
- Rope dead end lugs provided on each side of boom head
- Easily removable wire rope guards
- Fly pinning alignment tool

Boom Elevation

- One Link-Belt designed hydraulic cylinder with holding valve and bushings in each end.
- Hand control for controlling boom elevation from -3° to 80°.

Optional Auxiliary Lifting Sheave

- Single 16.38" (0.42 m) root diameter nylon sheave with removable wire rope guard.
- Use with one or two parts of line.
- Does not affect erection of fly or use of main head sheaves for multiple reeving.

Optional

- 100-ton (90.72 mt) 6-sheave, quick reeve hook block, with safety latch
- 80-ton (72.57 mt) 5-sheave, quick reeve hook block with safety latch
- 50-ton (45.36 mt) 4-sheave, quick reeve hook block with safety latch
- 12-ton (10.89 mt) hook ball (swivel) with safety latch
- Boom floodlight

■ Fly

Optional

- 31' – 55' (9.45 – 16.76 m) two-piece (bifold) stowable, offsettable to 2°, 25° or 45°.
- Two, 15' (4.57 m) fly extensions provide a total fly length of 85' (25.9 m).

■ Cab and Controls

Environmental ULTRA CAB™

- LCF-2000 construction process featuring laminated fibrous composite material.
- Isolated from sound with acoustical vinyl insulation.
- Six-way adjustable operator's seat with retractable seat belt.
- Four-way adjustable tilting-telescoping and locking steering wheel.

- All windows are tinted and tempered safety glass.
- Slide by door opens to 3' (0.91 m) width.
- Sliding rear and right side windows and swing up roof window for maximum visibility and ventilation.
- Audible swing alarm
- Backup alarm
- 12-volt accessory outlet
- Electric windshield wiper
- Top hatch window wiper
- Fire extinguisher
- Windshield washer
- Warning horn
- Travel lights
- Sun screen
- Mirrors
- Cup holder
- Circulating fan

Optional

- Amber strobe light
- Hot water cab heater
- Amber rotating beacon
- Air conditioning

Controls

Hydraulic controls (joystick type) for:

- Front winch
- Optional rear winch
- Drum rotation indicators
- Single-axis controls – optional
- Hand-held outrigger controls and sight level bubble also provided in upper cab.
- Boom hoist
- Swing

Foot controls for:

- Boom telescope
- Engine throttle with throttle lock
- Service brake
- Swing brake

Cab Instrumentation

Corner-post mounted gauges with integral audio/visual warning system for:

- Tachometer
- Oil pressure
- Hydraulic oil temperature
- Water temperature
- Voltmeter
- Fuel

■ Rated Capacity Limiter

- **Microguard 434** Graphic audio-visual warning system built into the cornerpost with anti-two block and function limiters.
- Anti-two block weight designed for quick reeve of hookblock.

Operating data available includes:

- Machine configuration
- Boom length
- Head height
- % of allowed load
- Actual load
- Boom angle
- Radius of load
- Allowed load

Presetable alarms include:

- Maximum and minimum boom angles.
- Maximum tip height.
- Maximum boom length.
- Swing left/right positions.
- Operator defined area alarm is standard.

Optional

- **Internal RCL light bar:** Visually informs operator when crane is approaching maximum load capacity (kickouts and presetable alarms) with a series of green, yellow and red lights.
- **External RCL light bar:** Visually informs ground crew when crane is approaching maximum load capacity (kickouts and presetable alarms) with a series of three lights; green, yellow and red.

■ Swing

- Bi-directional hydraulic swing motor mounted to a planetary reducer for 360° continuous smooth swing at 1.5 r.p.m.
- **Swing park brake** – 360° electric over hydraulic (spring applied, hydraulic released) multi-disc brake mounted on the speed reducer. Operated by switch in lefthand controller.
- **Swing brake** – 360°, foot operated, hydraulic applied disc brake mounted on the speed reducer.
- **Swing lock** – Standard; two position travel lock operated from the operator's cab.
- **360° pawl-in-gear swing lock** – meets New York City requirements. – (optional)

■ Counterweight

- **Standard** – 24,000 lbs. (10 886 kg). Capacities for 0 (0 kg) and 12,000 lbs (5 443 kg) also available.
- **Optional** – Hydraulic counterweight removal controlled with hand-held controller from the ground.

■ Hydraulic System

Main Pumps

- A Two-section gear pump, mounted to a mechanical pump drive, driven by the diesel engine supplies hydraulic power for the boom hoist, telescope, and charge circuits. Section one can deliver 47 gpm at 4,400 psi and section two can deliver 38 gpm at 4,400 psi.
- Two, closed-loop piston pumps are mounted to a mechanical pump drive, driven by the diesel engine and serve as travel pumps. These two pumps supply hydraulic power to the wheel motors and are capable of delivering 88 gpm at 6,090 psi each.
- Two closed loop piston pumps are mounted to the rear of the two travel pumps. The left pump drives the front winch and the right pump drives the optional rear winch. each pump is capable of delivering 49 gpm at 4,150 psi.
- A pressure compensated piston pump mounted to the rear of the left winch pump supplies hydraulic power to the outrigger, counterweight removal (optional), oscillation, and travel brake circuits/ This pump can deliver 21 gpm at 3,000 psi.
- A single section gear pump mounted to the rear of the right side winch pump supplies hydraulic power to the swing and steering circuits. This pump can deliver 27 gpm at 3,000 psi.
- O-Ring Face Seal (ORFS) technology throughout with hydraulic oil cooler.

Reservoir

- 255 gal. (965 L) capacity. Diffuser for deaeration.

Filtration:

- One 7-micron filter located inside hydraulic reservoir.
- Accessible for easy replacement.
- One 7-micron charge filter located next to the reservoir with an in-cab indicator light

Control Valves:

- Five separate, pilot operated control valves allow simultaneous operation of all crane functions.

- All control valves are pressure compensated for improved metering.
- Adjustable fine metering control on winch, boom hoist and swing functions.

Load Hoist System

Standard

- 2M front winch with grooved lagging.
- Two-speed motor and automatic brake.
- Power up/down mode of operation.
- Controls for future addition of rear winch.

- Bi-directional, piston-type hydraulic motor, driven through a planetary reduction unit for positive operator control under all load conditions.
- Asynchronous parallel double crossover grooved drums minimize rope harmonic motion.
- Rotation resistant wire rope.

Line Pulls and Speeds

- Maximum line pull 21,022 lbs. (9 535 kg) and maximum line speed of 431 f.p.m. (131.40 m/min) on standard 15" (0.38 m) root diameter grooved drum.

Optional

- 2M rear winch with two-speed motor, automatic brake, grooved lagging and power up/down mode of operation.
- Hoist drum cable followers.
- Third wrap indicators.

Carrier

Type

- 9' 11" (3.02 m) wide, 156.75" (4.19 m) wheel-base.
- 6 x 6 x 6 – (6-wheel steer, 6-wheel drive) For rough terrain with limited turning area.

Frame

- 100,000 p.s.i. (689.5 MPa) steel, torsion resistant, single-box construction.
- Integral 100,000 p.s.i. (689.5 MPa) steel outrigger boxes.

Standard Carrier Equipment

- One front, one rear, and two mid-point carrier ladders
- Non-slip safety strips on carrier deck
- Full deck fenders
- Pontoon storage
- Full lighting package
- Front towing shackles
- Hook block tie back
- Carrier mounted mirrors

Optional

- Front and rear mounted pintle hook
- Hydraulic power pinning outrigger boxes

Engine

Engine	Detroit Diesel Series 40
Cylinders – cycle	6 – 4
Bore	4.59 in. (116.59 mm)
Stroke	5.35 in. (135.89 mm)
Displacement	530 cu. in. (8.69 L)
Maximum brake hp	300 @ 2,000 rpm
Peak torque (ft. lb.)	1,050 @ 1,300 rpm
Electric system	12 volt
Starting system	12 volt
Fuel capacity	95 gallons (360 L)
Alternator	130 amps
Crankcase capacity (total system)	28 qts. (26.5 L)
<ul style="list-style-type: none"> • Water/fuel separator on engine • 110-volt block heater • Optional – Ether injection package 	

Transmission

- Hydrostatic type consisting of two variable speed piston pumps supplying hydraulic power to six hydraulic cam lobe wheel drive motors computer controlled for smooth and reliable operation.

Axles

- Six, heavy-duty Link-Belt fabricated axle housings that support the wheel drive motors and connect to the steering and suspension system.

Suspension

- Fully independent double "A" Arm construction with automatic axle oscillation

Steering

- Hydraulic front-wheel, rear-wheel, coordinated six-wheel and six-wheel "crab" steering
- Modes selected by rotary switch on overhead console.
- All modes are fully coordinated and controlled by steering wheel.

Optional

- Rear steer indicator

Tires

Front and Rear

- Standard 23.5R25 2-Star radials.

Optional

- Spare tires and rims

Brakes

Service

- Two, fully hydraulic caliper disc-type brakes at each wheel end with independent front and rear system. Controlled by foot pedal in cab.

Parking/Emergency

- Spring applied, hydraulic released, cab controlled, wet, multiple disc-type integral to the front wheel drive motors.

Outriggers

- Three position operation capability.
- Four hydraulic, telescoping beam and jack outriggers.
- Vertical jack cylinders equipped with integral holding valve.
- Beams extend to 26' (7.93 m) centerline-to-centerline and retract to a 12' (3.6 m) width.
- Equipped with stowable, lightweight 26" (0.66 m) round steel pontoons.
- Hand-held controls and sight level bubble located in upper structure cab.

Confined Area Lifting Capacities (CALC™) System

- Three operational outrigger configurations are available:
 - Full extension – 26' (7.93 m)
 - Intermediate position – 18' 7" (5.66 m)
 - Full retraction – 11' 2" (3.22 m)
- For confined area operation, rated lifting capacities are provided for the intermediate and fully retracted outrigger positions.
- When the outrigger position levers (located on the outrigger beams) are engaged, the operator can set the crane in the intermediate or full retraction outrigger position without leaving the cab.

Travel Speeds and Gradability

With outrigger boxes and counterweight	
Tires	23.5R25 2-Star radials
Maximum Speed	18.5 (29.77 km/h)
Gradability at 1.0 mph (1.6 km/hr)	50.4%
Maximum Tractive Effort at 1.0 mph. (1.6 km/hr)	61,180 lbs. (27 751 kg)

Without outrigger boxes and counterweight	
Tires	23.5R25 2-Star radials
Maximum Speed	18.5 (29.77 km/h)
Gradability at 1.0 mph (1.6 km/hr)	88%
Maximum Tractive Effort at 1.0 mph. (1.6 km/hr)	61,180 lbs. (27 751 kg)

Travel Load

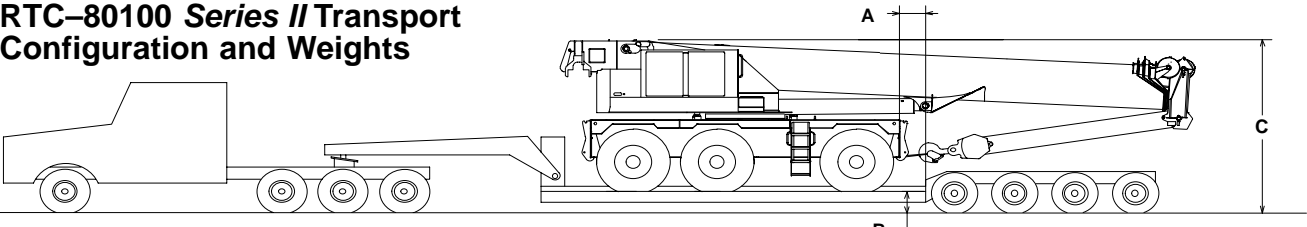
Tire	Max. Axle Load @ 20 mph (32.20 km/hr)
23.5R25 2-Star	57,330 lbs. (26 005 kg)

■ Axle Loads

Base machine with standard 40' – 150' (12.19 – 45.72 m) five-section boom, 2M main winch with 2-speed hoisting and power up/down, 850' (259 m) of 7/8" (22 mm) wire rope. 6x6x6 carrier with Detroit Diesel Series 40 engine, 23.5R25 tires, 95 gals. (360 L) of fuel, tow shackles, hook block tieback and 24,000 lbs. (10 886 kg) of counterweight.	G.V.W. ^①		Upper facing front				Upper facing rear			
			Front axle		Rear axle group		Front axle		Rear axle group	
		lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.
	123,656	56 089	38,347	17 394	85,309	38 696	55,045	24 968	68,611	31 121
Remove outrigger boxes and beams	-15,960	-7 239	-6,035	-2 737	-9,925	-4 502	-6,035	-2 737	-9,925	-4 502
Remove main counterweight	-24,182	-10 969	12,928	5 864	-37,110	-16 833	-31,518	-14,296	7,336	3 328
Cold weather start aid – ether injector	19	9.5	-2	-0.9	21	10	-2	-0.9	8	4
Pintle hook, front	20	9	29	13	-9	-4	29	13	-9	-4
Pintle hook, rear	20	9	-9	-4	29	13	-9	-4	29	13
Rear steer indicator	10	4.5	-2	-1	12	5	-2	-1	12	5
Winch roller – rear winch	110	50	-82	-37	192	87	166	75	-56	-25
Winch roller – front winch	94	42	-42	-4	141	64	119	54	-25	-11
2M Auxiliary Winch	1,700	771	-1,143	-518	284	1,289	2,449	1 110	-749	-348
500' (152 m) of 7/8" (22 mm) wire rope on auxiliary winch	862	391	-579	-263	1,441	518	1,242	563	-380	-172
Cab heater	10	4.5	8	3.6	2	1	0	0	10	4.5
Air conditioning in operator's cab	120	54	48	22	72	33	44	20	76	34
360 degree swing lock	139	63	35	16	104	47	71	32	68	31
Fly brackets to boom base sections for fly options	277	126	372	169	-95	-43	-159	-72	436	198
31' – 55' (9.45 – 16.76 m) offset fly (stowed)	2,632	1 194	4,223	1 916	-1,591	-722	-2,200	-998	4,832	2 192
Floodlight to boom base section	10	5	26	12	-16	-7	-18	-8	28	13
100-ton (90.72 mt) capacity hook block to front/rear bumper	1,750	794	2,537	1 151	-787	-357	-1,192	-541	2,942	1 334
80-ton (72.57 mt) capacity hook block to front/rear bumper	1,411	640	2,046	928	-635	-288	-961	-436	2,372	1 076
50-ton (45.36 mt) capacity hook block to front/rear bumper	1,200	544	1,740	789	-540	-244	-817	-370	2,017	915
12-ton (10.9 mt) capacity hook ball to front/rear bumper	722	327	1,047	475	-325	-147	-492	-223	1,214	551
Auxiliary lifting sheave	120	54	347	157	-227	-103	-254	-115	374	170

① – Adjust gross weight and axle loading according to component weight. Note: All weights are ± 3%.

RTC-80100 Series II Transport Configuration and Weights



Total Weight: 88,257 lbs. (40 033 kg), equipped with:

- 40' – 150', Five-Section Boom
- 80-ton Hookblock
- One winch with 850' of 7/8" rope
- 31' – 55' Bi-fold fly
- Ether injection system
- Hot water cab heater
- Air Conditioning
- Tow Shackles
- Pintle Hooks

Drop Off Load Weight: 41,642 lbs. (18 889 kg)

- Two outrigger boxes
- 24,000 lbs (10 886 kg) Counterweight
- Two, 15' (4.57 m) Fly Sections

Axle Group Weights

Truck Wt.	Bed Length	Steer	Drivers	Trailer	A
45,200 lbs. (20 502 kg)	24' (7.32 m)	10,055 lbs. (4 561 kg)	57,606 lbs. (26 129 kg)	65,734 lbs. (29 816 kg)	10.5" (0.27 m)
54,200 lbs. (24 585 kg)	34' (10.36 m)	10,090 lbs. (4 577 kg)	58,864 lbs. (26 700 kg)	73,503 lbs. (33 340 kg)	50.5" (1.28 m)

B – 18" (0.46 m) or 24" (0.61 m)

	Normal Suspension	Collapsed Suspension
C (with 18" Trailer)	13' 8" (4.17 m)	13' 5" (4.09 m)
C (with 24" Trailer)	14' 2" (4.32 m)	13' 11" (4.24 m)