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Dated June 2011

BMC's RT-300 Rough Terrain Crane is a self-propelled crane designed for lifting and material handling applications, with the special features of high maneuverability, high flotation, 4-wheel steer and 4-wheel drive. The basic unit consists of a chassis and hydraulic boom assembly. The chassis includes a frame, four hydraulic outriggers, engine, 6-speed transmission, front steering-driving axle, rear steering-driving axle, fuel tank, oil tank, control station and three-mode full-power steering, all-weather cab, and lighting package. The boom assembly includes a hydraulic-powered rotating turret, hydraulic telescopic boom, hydraulic boom elevation and a hydraulic-powered planetary gear winch, sheave block and downhaul weight. A Rated Capacity Limiter (RCL) - is standard.

RT-300-G:

4-section hydraulically extended boom with capacity of 30,000 pounds (13,600 kg) at 10 feet (3.05 m). Horizontal reach of 60 feet (18.3 m) and maximum height of 70 feet (21.3 m).

GENERAL:

Length:

Overall 29 feet 10 inches (9.09m)
Chassis 16 feet 10 inches (5.13m)

Width: 8 feet 4 inches (2.54m)

Height: 11 feet 2 inches (3.4m)

Wheelbase: 9 feet 5 inches (2.87m)

Ground Clearance, Chassis 15 inches (38cm)

Angle of Approach: 24 degrees

Angle of Departure: 22 degrees

Turning Radius: (4-Wheel Steering)

Outside Tire Centerline Radius 15 feet 7 inches (4.75m)
Vehicle Clearance Circle Diameter 15 feet 7 inches (4.75m)

Road Speed: 23 MPH (37 km/h)

Gradeability: 70 percent* (35 degrees)

**Calculated, wheels spin before values are reached.*

Grade Limit: 20 percent (11 degrees)

**Calculated, wheels spin before values are reached*

ENGINE:

Standard:

Cummins QSB4.5L Turbo

Cummins Model QSB4.5 diesel engine, turbocharged, charge air cooled, four cylinder, 4.5 liter (275 CID). U.S. EPA Tier 3 certified. Bore 4.21 inches (10.7 cm), stroke 4.88 inches (12.4 cm). Rated 160 hp (119 kw) at 2,500 rpm. 460 foot pounds (624 Nm) maximum torque at 1,500 rpm. 95 amp alternator. Oil capacity, 11.6 quarts (11 L). Coolant capacity, 14 quarts (13.2 L). Electronic controls for three engine speeds during crane operation – 640, 1200 or 1840 rpm. Protection system shuts down engine when coolant is too hot or oil pressure is too low. Charge air cooler, grid

heater and engine block heater which plugs into 120 volt AC extension cord are included.

Fuel Tank:

50 gallon (190 L) capacity.

TRANSMISSION:

Standard:

Funk Manufacturing Co. Model 2000 powershift transmission with 6 forward speeds and 3 reverse. Provides full powershifts at maximum engine speed in all gears. All shifting is done with a single-lever electrical control in the operator compartment. The transmission includes an automatic rear axle disconnect for two-wheel drive in speeds 4, 5 and 6 in forward and speed 3 in reverse. The other speeds are four-wheel drive. A torque converter with a stall torque ratio of 2.640:1 attaches directly to engine flywheel to drive transmission. Equipped with oil cooler and filter.

Forward gear ratios and speeds:

GEAR	RATIO	SPEED
1st	8.20	2.7 mph (4.3 km/h)
2nd	4.64	4.8 mph (7.7 km/h)
3rd	3.53	6.3 mph (10.1 km/h)
4th	2.00	11.2 mph (18 km/h)
5th	1.41	15.8 mph (25.4 km/h)
6th	0.80	24 mph (38.6 km/h)

Reverse gear ratios and speeds:

GEAR	RATIO	SPEED
1st	8.20	2.7 mph (4.3 km/h)
2nd	3.53	6.3 mph (10.1 km/h)
3rd	1.41	15.8 mph (25.4 km/h)

FRONT AXLE:

Standard:

AxleTech planetary driving-steering axle with 16.42 to 1 ratio. Rigid mounted on front. Axle has limited-slip differential.

REAR AXLE:

Standard:

AxleTech planetary driving-steering axle with 16.42 to 1 ratio. Rear axle is mounted with rubber elements to allow oscillation. Axle is not available with no-spin or limited-slip differential.

BRAKES:

Standard:

Four-wheel hydraulic with hydraulic booster. 17 inch (43 cm) x 4 inch (10 cm) brake at each wheel. Spring-applied and hydraulically released, disc-type parking brake on transmission.

STEERING:

Standard:

Hydraulic steering unit with two 3.5 inch (8.9 cm) cylinders attached to each axle. Allows limited steering when engine is not running. A switch on the control panel is used to select front-wheel steering, 4-wheel steering or crab steering. Electronic sensors and control box automatically align the steering when a new mode is selected. Steering wheel and electronically controlled selector valve control 3-mode steering: crab, round and 2-wheel front axle steering.

TIRES:

Standard:

17.5 x 25, 20-ply rating, mud lug.

Tire Options:

Spare Wheel and Tire:

Standard Size: Extra wheel with 17.5 x 25, 20-ply rating tire mounted, ready for service. Net Weight: 530 pounds (240kg)

CHASSIS:**Standard:****Engine Covers:**

Flip-up side covers.

Steps:

Grip-strut steps and grab bars provide easy two-step access to operator's compartment.

Outriggers:

Four independently controlled outriggers of swing-down design. Hydraulic cylinders are equipped with direct connected holding valves. Foot pad dimensions: 20 inches (51 cm) by 16 inches (41 cm).

Sheave Block and Downhaul Weight Storage:

Tray on left-hand side behind hydraulic tank for storing sheave block and downhaul weight for single-part line. Sheave block and downhaul weight are securely retained by chain and locking device.

Tie Downs:

Four holes (two front, two rear) that provide tie down locations for truck transport.

Optional Chassis Accessories:**Fenders:**

Four bolt on steel fenders over tires. Designed to reduce mud and rocks thrown from wheels in off-road applications. Also acts as platform for entrance and egress to cab. Includes rubber mud flaps and additional steps. Net Weight: 750 lbs (340 kg)

Auxiliary Front Winch:*

Planetary gear winch, mounted on front outrigger frame, with single-lever control on the operator console. Hydraulic powered to provide bare drum line pull of 14,700 lbs (6670 kg) and 68 ft/min (21m/min) line speed. Winch drum is 9.75 inches (24.8 cm) diameter by 13 inches (33.0 cm) long. Includes 125 feet (38.1 m) of 9/16 inch (14.3 mm) diameter 6x36-EIP-IWRC wire rope. Also includes wedge socket and 10,000 lb (4540 kg) hook. A pulling eye is provided on the outrigger frame below the winch for two parting the line with a sheave block (sheave block not included). Winch is mounted with four bolts and connected by quick-disconnect couplings for easy mounting and removal. Net Weight: 480 lbs (220 kg) (*Requires optional Operator Guard)

Lifting Eyes:

Consists of four eyes on chassis and turntable so slings can be attached for lifting crane. Net Weight: 40 pounds (18 kg)

Towing Eyes:

Consists of four eyes, two on front and two on rear, for towing. Net Weight: 40 pounds (18 kg)

Pintle Hook Front:

T-60-AOL Holland pintle hook mounted on front outrigger frame member, rated for 30,000 pounds (13,600 kg) trailer weight. Not available with Auxiliary Front Winch. Net Weight: 15 pounds (6.8 kg)

Pintle Hook Rear:

T-60-AOL Holland pintle hook mounted on rear frame member, rated for 30,000 pounds (13,600 kg) trailer weight. Net Weight: 15 pounds (6.8 kg)

OPERATOR'S COMPARTMENT:**Standard:**

Operator control station provides one-position access to all chassis and crane controls..

Mirrors:

A 7x16 (18cm x 41 cm) mirror on each side of the operator's compartment provides visibility behind the crane.

All Weather Cab:

Consists of rigid-mounted canopy section and two removable hinged doors with safety glass. Rugged canopy structure with laminated glass front and top. Doors are equipped with keyed locks to protect operator's compartment. Includes heater with two-speed fan, interior light, electric windshield wiper, 12-volt power outlet and a variable-speed electric defroster fan.

Operator's Compartment Options:

Window Wiper - Top Window:

12-volt electric wiper on top window operated with its own switch.

Operator Guard:

Tubular steel weldment with heavy expanded steel mesh top and grille front section. Guard will tilt to allow cab windows to be cleaned. Required with Front Auxiliary Winch. Net Weight: 140 pounds (64 kg)

Operator's Suspension Seat - Cloth:

Full-suspension with adjustments for height, tilt, fore-aft, operator weight and with armrest angle adjustment.

Operator's Suspension Seat - Vinyl:

Full-suspension with adjustments for height, tilt, fore-aft, operator weight and with armrest angle adjustment.

Air Conditioning:

Provides factory system using R134a refrigerant. Compact AC unit mounted in operator area, fan cooled condenser mounted on hood and belt driven compressor with magnetic clutch driven by engine. Net Weight: 125 pounds (57 kg)

Floor Mats:

Removable rubber mats in cab.

ELECTRICAL SYSTEM - Standard 12 Volt DC:

Standard:

Battery:

12 Volt, Group 31, 950 CCA battery.

Instrument Group:

Located at operator's station and includes fuel gauge, transmission oil temperature gauge, voltmeter, oil pressure, water temperature and hydraulic oil temperature gauges. Key switch and horn button on instrument panel. Hour-meter records only during actual engine operation. Also included are indicator lights for two-wheel drive, four-wheel drive and parking brake.

Lighting Kit:

Two modular, dual-beam headlights with turn signal lights. Taillights with brake and turn signal lights. Back-up lights. Turn signal and flasher switch. Lights installed in back of instrument gauges for night time operation. High-beam indicator lamp.

Back-Up Alarm:

Provides pulsating sound from a 102 dB alarm when ignition is on and transmission is in reverse.

Outrigger Alarm System:

102 dB alarm with alternating two-tone sound is actuated by a switch when the OUTRIGGER DOWN controls are operated.

Optional Electrical Accessories:

Strobe Lights:

Yellow strobe light mounted on top of engine hood for high visibility. Flashes 60-120 times per minute. Strobe draws only one-half amp. Includes switch in operator compartment.

Boom Work Lights:

Two halogen work lights, one on left side of boom to light boom tip and one on the turret to light ground under boom tip. Includes switch in operator compartment. Net Weight: 10 pounds (4.5 kg)

HYDRAULIC SYSTEM:

Standard:

Triple gear pump, mounted on and driven by the main transmission, delivers 14, 28 and 40 gpm (53, 106 and 151 L/min) at 3,000 psi (207 bar) and 2,500 rpm engine speed. System protected by relief valves, 100 mesh suction-line strainer and 10 micron return-line filter.

Hydraulic Reservoir:

70 gallon (265 L) capacity, equipped with 40 micron breather filter on top and oil level gauge on side.

BOOM ASSEMBLY:**Standard:**

High strength steel construction, equipped with bearing pads for efficient support and extension. Double-acting hydraulic cylinders extend and retract the second and third boom sections. Double runs of high strength leaf chain extend and retract the fourth section. The second stage extends first and retracts last, controlled by sequencing valves in the boom. The third and fourth sections extend and retract together proportionally, controlled by chains. The extension system is equipped with a holding valve. Twin, double-acting hydraulic cylinders control the boom elevation and are equipped with direct connected holding valves. Boom angle indicator is provided on left side of the boom. Boom tip sheaves are provided for four-part line.

BOOM HOIST:

Turret-mounted, planetary gear winch, is hydraulically powered to provide a bare-drum line pull of 13,100 pounds (5940 kg) and a speed of 185 feet per minute (56m/min). Line speed of the fourth layer on the drum is 240 feet per minute (73 m/min). Drum diameter is 9.75 inches (24.8 cm), length is 16 inches (40.6 cm). Includes 350 feet (107 m) of 9/16 inch (14.3 mm) wire rope, 6 X 36- EIP-RRLL-IWRC, 26,600 pound (118 kN) breaking strength.

BOOM ROTATION:**Standard:**

Heavy-duty ball bearing with external teeth supports boom. Rotation is by hydraulic motor and compound planetary gear drive. A spring-applied hydraulically released brake and an over-running load valve are provided. Hydraulic centerpost and electric slip rings allow continuous rotation.

BOOM ATTACHMENTS:**Standard:****Downhaul Weight & Hook:**

Downhaul weight and 10,000 pound (4540 kg) swivel hook to use with existing wedge socket on 9/16 inch (14.3 mm) load line. Specially designed to work with the anti-two-block system and to clamp the dead end of the rope.

Anti-Two-Block Device:

Designed to prevent damage to hoist rope and/or machine components from accidentally pulling sheave block or downhaul weight against boom tip. Consists of pivot arm at boom tip that is moved upward by sheave block or downhaul weight as hook approaches boom tip. Pivot arm actuates electric switch that is connected by cable reel to solenoid dump valve in hydraulic circuit. This valve will dump the HOIST RAISE, TELESCOPE EXTEND, BOOM LOWER circuits. No other circuits are affected. These circuits are returned to normal operation by lowering the load to a safe resting place with hoist or by retracting or raising boom to a shorter load radius. Key-operated, momentary override switch located under dashboard.

Rated Capacity Limiter:

Operator's aid that warns operator of impending overload with audible and visual signals. Has read-outs for load, boom angle, boom length and load radius. In the event of an overload, dumps the following boom functions: HOIST RAISE, TELESCOPE EXTEND, BOOM LOWER. These circuits are returned to normal by lowering load to a safe resting place with hoist or by retracting or raising boom to a shorter load radius. There is also an override button on the RCL control panel and an override switch under the dashboard.

Sheave Block:

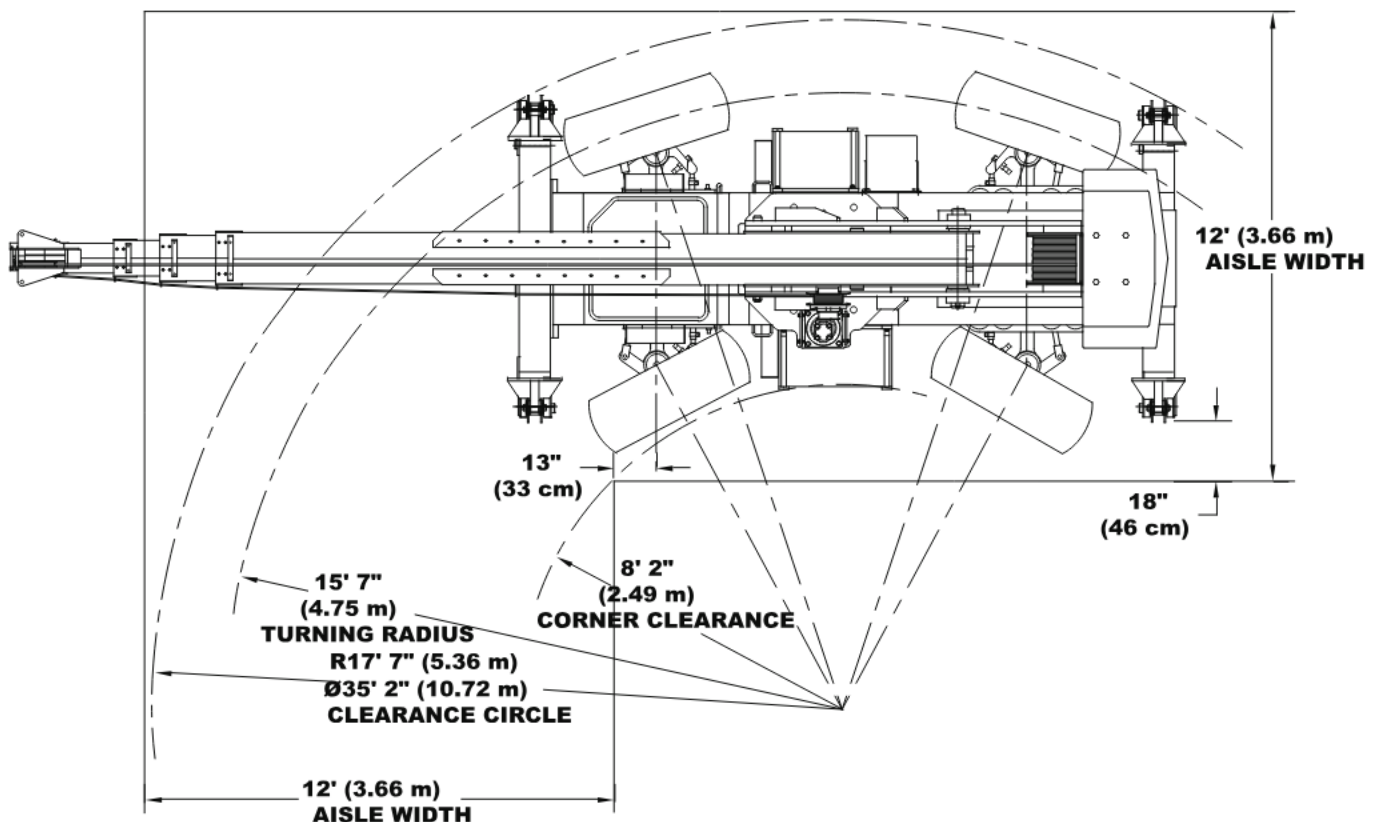
Double sheave block for four-part-line requirements. 12-inch (30.5 cm) O.D. sheaves for 9/16 inch (14.3 mm) diameter wire rope. Swivel hook with safety latch. Includes bar on top to actuate trip arm of anti-two-block device. 440-pound (200 kg) weight provides positive overhaul.

Optional Boom Attachments:

Boom Extension - 20 Ft. (6.1 m), Offset:

Provides 20 feet (6.1 m) of additional length for lifting loads with load line. May be set at 0 (in-line), 15 or 30 degrees offset. Swing-away boom extension may be stowed alongside base boom section when not in use. Tip sheave, knuckle sheave, attaching brackets and pins included. When boom extension is in the stowed position, the crane payload must be reduced by 500 pounds (225 kg). Includes anti-two-block system. Net Weight: 770 pounds (350 kg)

Specifications subject to change without notice.



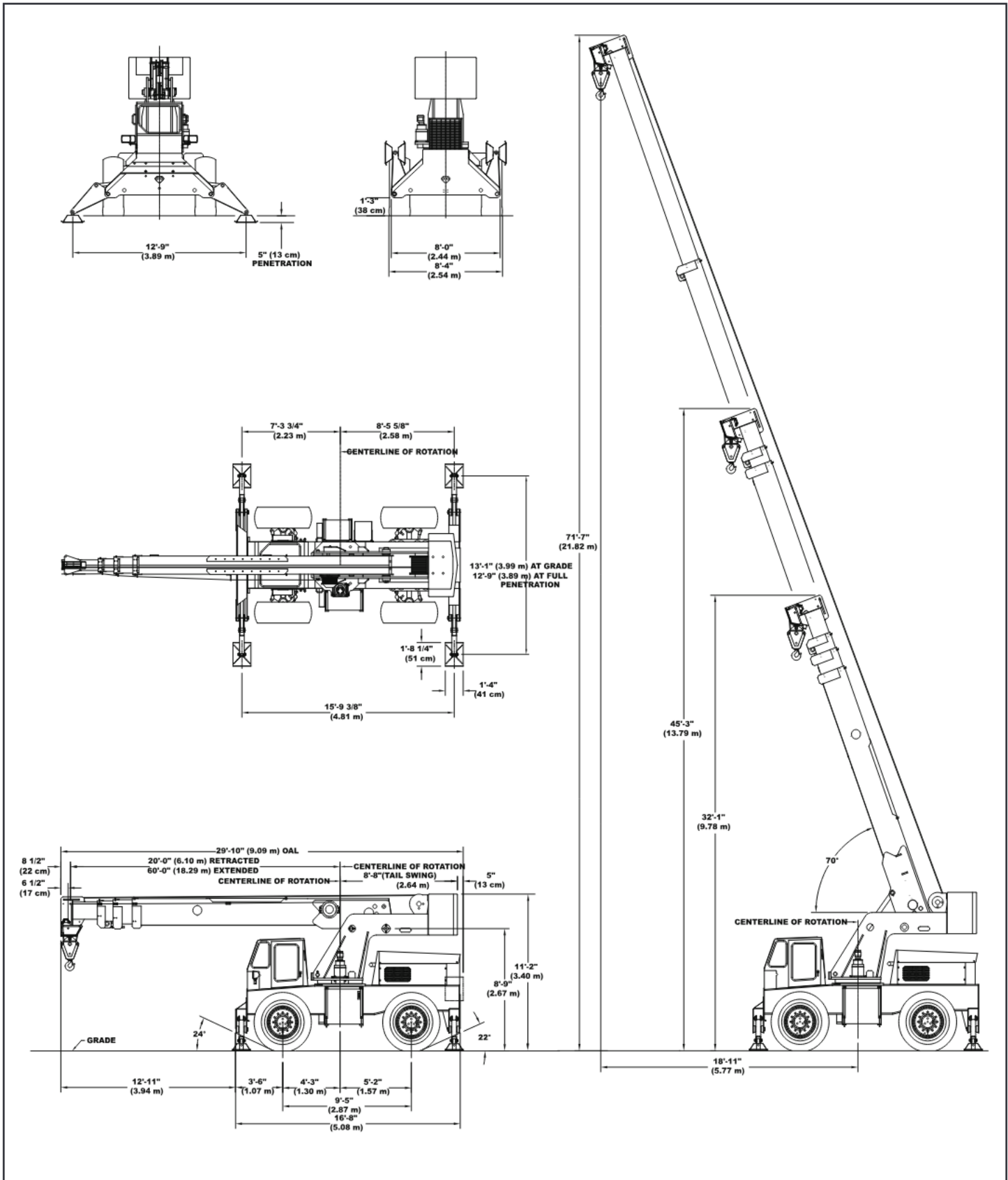
For additional options or special equipment not listed, please consult your dealer salesperson or contact **Broderson Manufacturing Corp.**

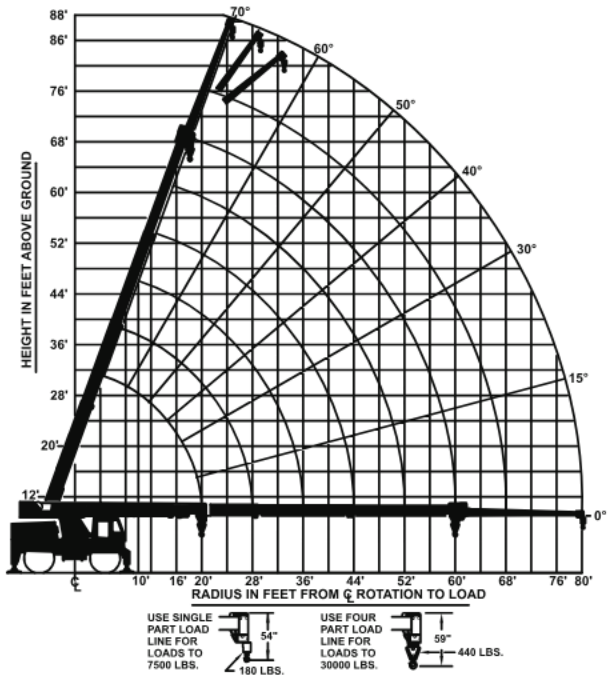
BRODERSON[®]
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Dimensions and values shown
 are for reference purposes
 only. Specifications subject
 to change.







CAPACITIES APPLY TO OPERATION ON FIRM LEVEL SURFACE				
MAIN BOOM CAPACITIES IN POUNDS				
LOAD RADIUS FEET	360° ROTATION		OVER FRONT	
	ON RUBBER	ON OUTRIGGERS	ON RUBBER	ON OUTRIGGERS
10	18300	30000	26300	30000
12	13500	28500	22500	28500
14	10400	25900	17600	25900
16	8300	22500	14000	22500
18	6700	19500	11400	19500
20	5500	16900	9400	17000
22	4500	14200	7900	15000
24	3700	12100	6800	13300
26	3100	10500	5700	11900
28	2500	9100	4800	10600
30	2000	7900	4200	9600
32	1600	6900	3600	8600
34	1400	6300	3200	8000
36	1200	5700	2900	7500
38	900	5200	2600	6900
40	800	4800	2400	6500
44	600	4100	1900	5600
48	----	3500	1600	4900
52	----	3100	1300	4200
56	----	2700	1000	3700
60	----	2300	800	3200
64	----	1950	----	2300
68	----	1750	----	2300
72	----	1500	----	2250
76	----	1300	----	1950
80	----	1000	----	1600

DO NOT POSITION BOOM AT LOAD RADI WHERE NO LOAD CAPACITIES ARE SHOWN.

20-FOOT BOOM EXTENSION CAPACITIES						
BOOM EXTENSION OFFSET ANGLE	MAIN BOOM ANGLE					
	0°	15°	30°	40°	50°	70°
0°	2300	2400	2700	3100	3700	4800 6200
15°	----	2300	2400	2600	2900	3400 4100
30°	----	----	2300	2400	2500	2700 3100

CAUTION: BOOM EXTENSION LOADS MUST NOT EXCEED MAIN BOOM CAPACITY.

LOAD RADIUS IS THE HORIZONTAL DISTANCE FROM CENTER OF ROTATION TO THE VERTICAL LOAD LINE WITH LOAD APPLIED.

LOAD HOOKS, DOWNHAUL WEIGHTS, HOOK BLOCKS AND OTHER LOAD HANDLING DEVICES SHALL BE CONSIDERED PART OF THE LOAD EXCEPT FOR HOIST ROPE.

BOOM EXTENSION DEDUCT: 500 LBS. WHEN STOWED ON BASE BOOM.

CAPACITIES ON OUTRIGGERS ARE 85% OF TIPPING LOADS. CAPACITIES ON RUBBER ARE 75% OF TIPPING LOADS. CAPACITIES BELOW BOLD LINES ARE LIMITED BY TIPPING. OTHER CAPACITIES ARE LIMITED BY STRUCTURAL OR HYDRAULIC CAPACITY.

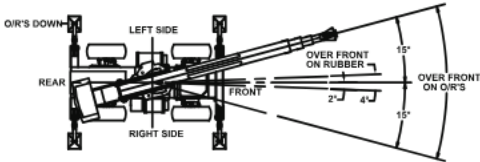
THE BOOMS ON THIS UNIT ARE ALL STEEL AND HAVE NO LINE VOLTAGE RATING - NO ELECTRICAL INSULATION VALUE.

MAXIMUM HYDRAULIC PRESSURE - 3000 PSI.

OPERATION:

1. READ AND UNDERSTAND OWNERS MANUAL BEFORE OPERATING.
2. CHECK LEVEL OF HYDRAULIC OIL AND ENGINE OIL DAILY.
3. CHECK UNIT FOR VISIBLE DEFECTS AND LOOSE PARTS DAILY.
4. OUTRIGGERS MUST ALL BE SET ON SOLID SURFACE.
5. AVOID QUICK STARTS AND STOPS WITH HYDRAULIC CONTROLS.

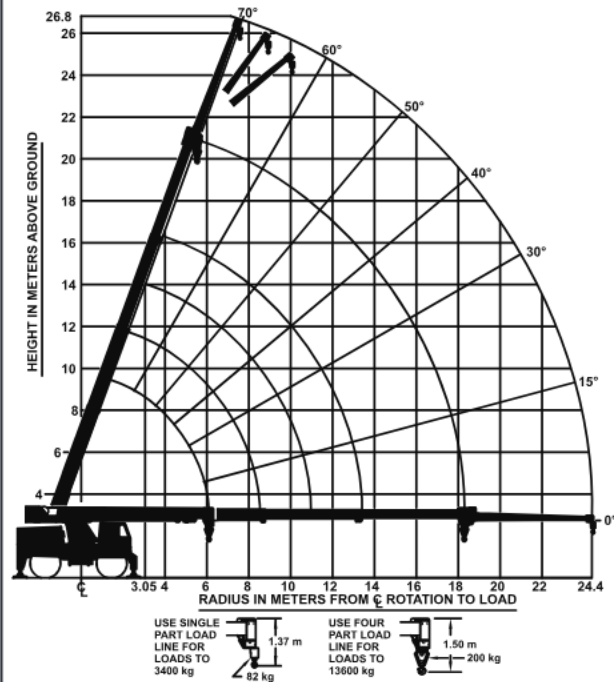
PICK AND CARRY ON RUBBER CAPACITIES ARE FOR SMOOTH, LEVEL PAVED SURFACE. FOR UNPAVED SURFACE REDUCE CAPACITY BY AT LEAST 25%.



THE LOAD HOIST LINE ON THIS UNIT MUST BE 9/16" DIA. 6 X 36-EIP-RR-L-IWRC WIRE ROPE (OR EQUIVALENT) WITH A MINIMUM BREAKING STRENGTH OF 33,600 LBS.

TIRE PRESSURE 100 PSI FOR 17.5-25 20PR.

Metric



LOAD RADIUS METERS	CAPACITIES APPLY TO OPERATION ON FIRM LEVEL SURFACE			
	MAIN BOOM OR EXTENSION CAPACITIES IN KILOGRAMS			
	360° ROTATION		OVER FRONT	
	ON RUBBER	ON OUTRIGGERS	ON RUBBER	ON OUTRIGGERS
3.05	8300	13600	11900	13600
3.5	6540	13160	10700	13160
4	5310	12290	8940	12290
4.5	4320	11160	7290	11160
5	3600	9920	6080	9920
5.5	3020	8820	5150	8820
6	2570	7850	4390	7870
7	1850	5930	3340	6410
8	1370	4680	2520	5320
9	960	3700	1970	4460
10	690	3020	1540	3770
11	540	2570	1310	3390
12	370	2230	1120	3000
13	300	1960	930	2670
13.4	270	1860	860	2540
14	----	1720	790	2380
15	----	1530	680	2120
16	----	1380	570	1870
17	----	1230	460	1690
18	----	1080	380	1500
18.3	----	1040	360	1450
19	----	940	----	1190
20	----	840	----	1040
22	----	670	----	1010
24	----	500	----	770
24.4	----	450	----	720

DO NOT POSITION BOOM AT LOAD RADII WHERE NO LOAD CAPACITIES ARE SHOWN.

BOOM EXTENSION OFFSET ANGLE	6.1 m BOOM EXTENSION CAPACITIES						
	MAIN BOOM ANGLE						
0°	1040	1090	1220	1400	1680	2170	2810
15°	----	1040	1090	1180	1310	1540	1860
30°	----	----	1040	1090	1130	1220	1400

CAUTION: BOOM EXTENSION LOADS MUST NOT EXCEED MAIN BOOM CAPACITY.

LOAD RADIUS IS THE HORIZONTAL DISTANCE FROM CENTER OF ROTATION TO THE VERTICAL LOAD LINE WITH LOAD APPLIED.

LOAD HOOKS, DOWNHAUL WEIGHTS, HOOK BLOCKS AND OTHER LOAD HANDLING DEVICES SHALL BE CONSIDERED PART OF THE LOAD EXCEPT FOR HOIST ROPE.

BOOM EXTENSION DEDUCT: 225 kg WHEN STOWED ON BASE BOOM.

CAPACITIES ON OUTRIGGERS ARE 85% OF TIPPING LOADS -- ON RUBBER, 75% OF TIPPING. CAPACITIES BELOW BOLD LINES ARE LIMITED BY TIPPING. OTHER CAPACITIES ARE LIMITED BY STRUCTURAL OR HYDRAULIC CAPACITY.

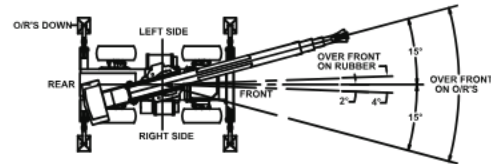
THE BOOMS ON THIS UNIT ARE ALL STEEL AND HAVE NO LINE VOLTAGE RATING. -- NO ELECTRICAL INSULATION VALUE.

MAXIMUM HYDRAULIC PRESSURE - 207 bar

OPERATION:

1. READ AND UNDERSTAND OWNERS MANUAL BEFORE OPERATING.
2. CHECK LEVEL OF HYDRAULIC OIL AND ENGINE OIL DAILY.
3. CHECK UNIT FOR VISIBLE DEFECTS AND LOOSE PARTS DAILY.
4. OUTRIGGERS MUST ALL BE SET ON SOLID SURFACE.
5. AVOID QUICK STARTS AND STOPS WITH HYDRAULIC CONTROLS.

PICK AND CARRY ON RUBBER CAPACITIES ARE FOR SMOOTH, LEVEL PAVED SURFACE. FOR UNPAVED SURFACE REDUCE CAPACITY BY AT LEAST 25%.



THE LOAD HOIST LINE ON THIS UNIT MUST BE 14.3 mm DIA. 6 X 36 EIP IWRC WIRE ROPE (OR EQUIVALENT) WITH A MINIMUM BREAKING STRENGTH OF 120 kN.

TIRE PRESSURE 689 kPa FOR 17.5-25 20PR.

Metric