



bmc
Tech Spec

IC-20-J **Industrial Crane**

Features the exclusive
rotating boom

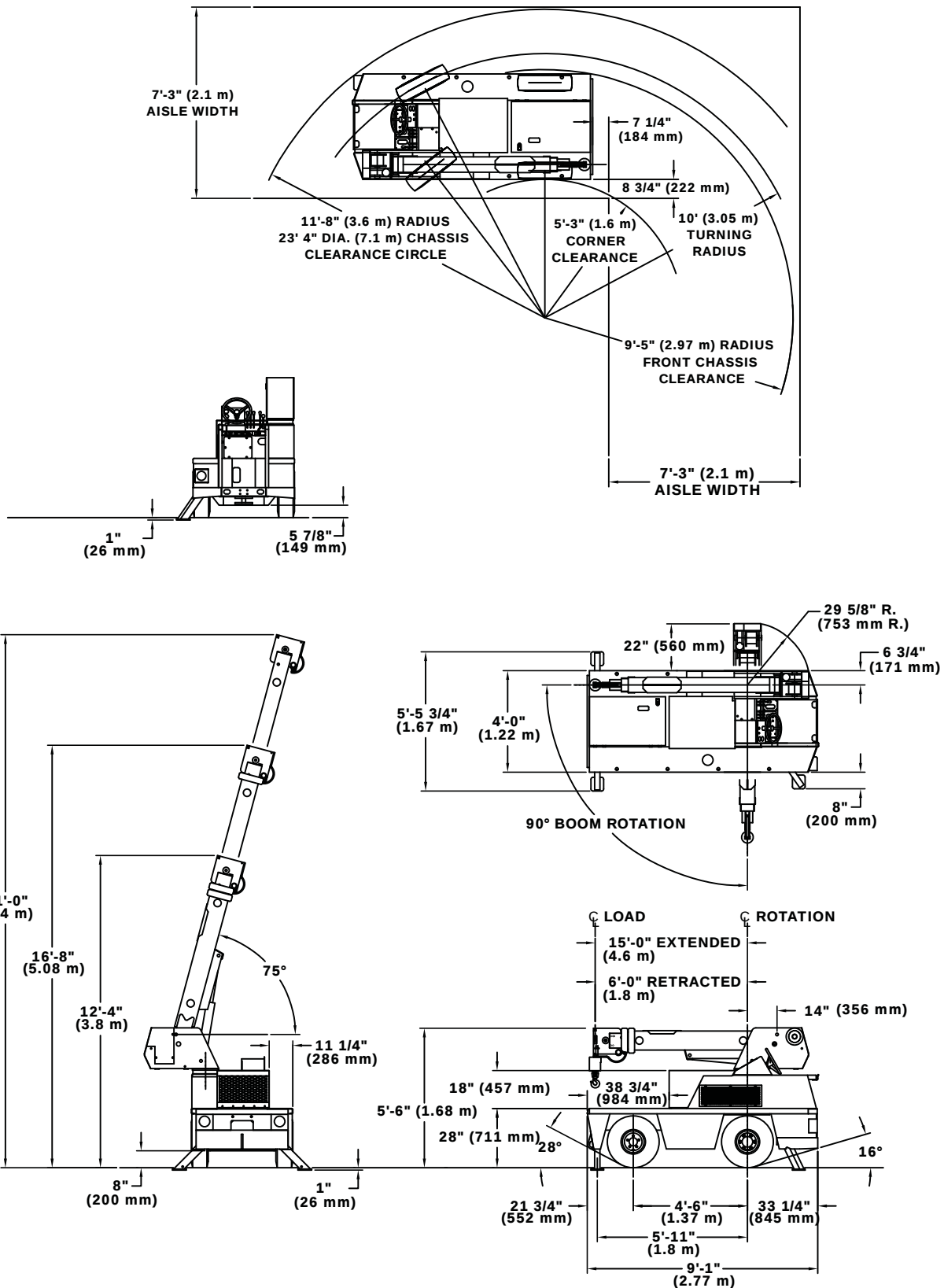
- Capacity on Outriggers ... 5,000 lbs (2,270 kg)
- Pick and Carry Capacity ... up to 2,500 lbs (1,130 kg)
- Height ... 5' 6" (1.66 m) w/o Operator Guard
- Height ... 7' 6" (2.3 m) with Operator Guard
- Width ... 4' (1.22 m)
- Boom Rotation ... 90 Degrees
- Sheave Height ... up to 27' 9" (8.46m)
- Horizontal Reach ... up to 22' (4.78 m)
- Tight Turning Radius
- Rear Wheel Steer ... Standard
- Front Wheel Drive ... Standard
- Fully Hydraulic Controls for Smooth Precise Operations
- Dual Fuel or Diesel Available

BRODERSON
Manufacturing Corp.





IC-20-J





IC-20-J

Specifications

GENERAL:

Weight	6,380 lb (2,900 kg)
Travel Speed	0 to 5.5 mph (8.8 km/h)
Drawbar Pull	3,000 lb (1,360kg)
Boom Movement:	
Rotation	90°
Elevation	0° to 75°
Extension	6 ft to 15 ft (1.8 m to 4.6 m)
Boom Speeds:	
Rotation	10 seconds
Elevation	9 seconds
Extension	25 seconds

ENGINE:

Make	GM	Kubota
Model	2.4 L EFI	V2403-M-E3B
Type	Dual Fuel	Diesel
No. Cyl.	4	4
Displacement	2.4 L	2.4 L
HP @ Gov. Speed	65 HP (48 kW)	48.9 HP (36.5 kW)
EPA Certification	Tier 2 Certified	Tier 4 Certified
Fuel Tank Capacity	13.5 Gallons (51 L)	

HYDROSTATIC PUMP:

Piston type, direct driven from engine crankshaft. Maximum flow 30 GPM (114 L/min). Maximum pressure 3,000 psi (207 bar).

AXLES:

Front Axle:

Contains planetary geared torque hubs and high torque hydraulic drive motors. Axle oscillates a total of 1-1/2 inches (63.5 mm).

Rear Axle:

Non-oscillating.

STEERING:

Hydraulic steering unit controls cylinder attached to rear axle.

BRAKES:

Primary braking from hydrostatic transmission. Foot-actuated disc brakes for additional braking. Spring applied hydraulic released park brake, actuated from a toggle switch on operator's control panel. All braking is on front wheels.

TIRES:

Front - 7.5 x 10 pneumatic, 16-ply
Rear - 7.5 x 10 pneumatic, 16-ply

CHASSIS:

CARGO DECK:

19 sq. ft. (1.77 m²) of deck area. 5,000 lb (2,270 kg) capacity.

OUTRIGGERS:

Three hydraulic outriggers of box-beam construction. Independent controls for each. Hydraulic cylinders are equipped with direct-connected holding valves.

Lifting Sling Brackets

Includes two lift rings in front deck and lug on turntable for attaching lifting sling cables. Cables not included.

Pulling Eye

Mounted on front bumper.

OPERATOR COMPARTMENT:

Provides one-position access to all chassis & crane functions. Includes fire extinguisher & bubble level.

ELECTRICAL:

12 Volt System

Lighting Package:

One pair headlights and taillight.

Instrument Package:

Lighted fuel, voltmeter, oil pressure, and water temperature gauges, hydraulic oil temperature gauge and hourmeter.

Back-Up Alarm:

Provides pulsating sound from 97dB alarm when transmission is in reverse.

Outrigger Alarm System:

Two-tone alarm is activated when "outrigger down" or "outrigger out" controls are operated.

HYDRAULIC SYSTEM:

Tandem pump mounted to rear of hydrostatic piston pump. Delivers 6 GPM (23 L/min) at 2,500 PSI (172 bar) for boom circuits and 16 GPM (98.5 L/min) at 2,500 PSI (172 bar) for hoist circuit. System protected by relief valves. Hydraulic oil reservoir has 9.5 gallon (36 L) capacity.

BOOM ASSEMBLY:

Three-section boom assembly equipped with bearing pads, double-acting hydraulic cylinders extends boom. The primary extension cylinder and the double-acting boom elevation cylinder are equipped with direct connected holding valves. Boom angle indicator on left side of boom.

Boom Rotation:

Two double-acting hydraulic cylinders connected to turntable torque tube provides 90° rotation. Heavy-duty ball bearing supports boom.

Anti-Two-Block Device:

Prevents damage to hoist rope and/or crane components from pulling load hook against tip.

Sheave Block, Two-Part:

Single sheave block for 2-part line requirements.



IC-20-J

Options

Listed below are brief descriptions of options available for this product.
Consult the IC-20-1J Engineering Spec for additional information.

MODEL:

IC-20-1J Industrial Crane

ENGINE OPTIONS:

Spark Arrester Muffler

Installed in addition to std. muffler.

Engine Shut Down Gauges

Shuts engine off when high water temperature or low engine oil pressure occurs. For diesel only.

TIRE OPTIONS:

Solid Rubber Tires

For applications where hazardous ground conditions exist.

Solid Rubber Tires - Non Marking

Foam Filling of Tires

Spare Tire & Wheel, pneumatic

Spare Tire & Wheel, Solid Rubber

Spare Tire & Wheel, Solid Rubber - Non Marking

Foam Filling of Spare Tire

CARGO DECK OPTIONS:

Deck Mat

CHASSIS OPTIONS:

Auxiliary Winch

Mounted behind the front bumper, hydraulically driven with control in operator's console provides bare drum line pull of 3,000 lbs (1,360 kg) @ 20 FPM (6m/min).

Pintle Hook - Rear

Holland "T-60-A" pintle hook mounted on rear of frame. 5-ton capacity.

Lifting Sling

Three leg lift sling to attach to Lifting Rings.

Rearview Mirrors

One mounted on right-hand deck stake and one mounted on left-hand deck stake.

OPERATOR COMPARTMENT

OPTIONS:

Operator Guard

Tubular steel weldment with heavy expanded steel mesh top section. Overhead height with guard installed is 90 inches.

Floor Mat

Vinyl mat with foam backing.

ELECTRICAL OPTIONS:

Strobe Lights

One yellow strobe light mounted on top of operator's guard for high visibility. When the operator's guard is not ordered the strobe light is mounted on left-hand frame rail.

Boom Work Lights

One work light mounted to boom to light boom tip and one work light mounted to turret to light ground under boom tip.

BOOM ATTACHMENTS:

Boom Swing Lock

Prevents boom from being swung in normal 90 degree arc.

7 Foot Pin-On Jib

Consists of jib with pair of tension bars, tip sheave, cable keeper and jib attaching pins. Tension bars provide two positions: In-line and 30 degree offset.

Rated Capacity Limiter:

Operator's aid that warns operator of impending overload with audible and visual signals. Readouts for load, boom angle, and load radius

Should you require an option or special equipment not listed please consult your dealer salesperson or BMC®.

BRODERSON

Manufacturing Corp.

14741 West 106th Street
Lenexa, KS 66215 USA

Tel (913) 888-0606
Fax (913) 888-8431
www.bmccranes.com

Dimensions and values shown are
for reference purposes only.
Specifications subject to change.



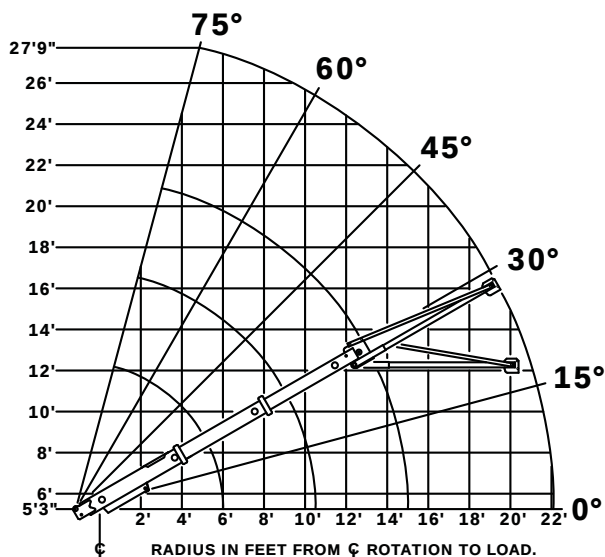


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Load Chart

IC-20-1J

Industrial Crane



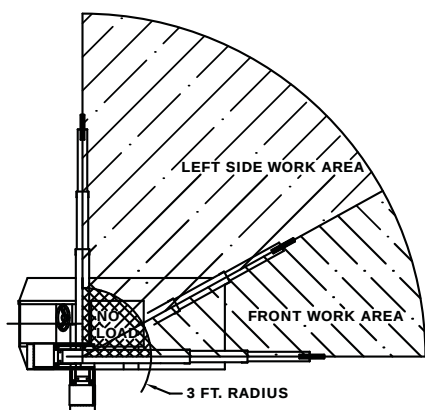
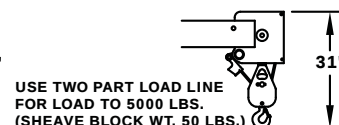
CAPACITIES IN LBS FOR OPERATION ON FIRM LEVEL SURFACE

LOAD RADIUS FEET	3-SECTION BOOM				7-FT. JIB
	FRONT ON RUBBER	FRONT ON OUTRIGGERS	LEFT SIDE ON RUBBER	LEFT SIDE ON OUTRIGGERS	ON RUBBER OR OUTRIGGERS
4	2500	5000	3800	5000	1300
5	2000	4000	3100	4000	1100
6	1500	3300	2500	3300	750
8	1400	2500	1500	2500	650
10	1300	2000	1000	2000	550
12	1200	1600	750	1400	500
15	1100	1200	500	1000	500
17					425
19					325
22					225

EXCEEDING CAPACITY RATINGS OR APPLYING SIDE LOADS TO THE BOOM OR JIB IS MISUSE, IS HAZARDOUS, AND VOIDS WARRANTY.

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.

BOOM ANGLE MUST NOT BE LESS THAN 30° EXCEPT WHILE RIGGING IF THE JIB IS IN THE 30° OFFSET POSITION.



WORK AREA DIAGRAM

NOTE: DO NOT OPERATE INSIDE 3 FOOT LOAD RADIUS.

JIB MAY BE OPERATED IN ALL WORKING AREAS.

PICK AND CARRY WITH THE SHORTEST PRACTICAL BOOM, CENTERED OVER THE FRONT AXLE. OPERATE WITH THE BOOM AS LOW AS POSSIBLE, WITH THE LOAD CLOSE TO THE GROUND. PICK AND CARRY CAPACITIES ARE FOR SMOOTH, LEVEL, PAVED SURFACES.

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

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

DECK LOAD CAPACITY 5000 LBS. (CENTERED OVER AXLE). CARRY SPEED 3 MPH MAX.

THE BOOMS ON THIS UNIT ARE ALL STEEL AND HAVE NO LINE VOLTAGE RATING.

ALL CAPACITIES APPLY TO FIRM LEVEL SURFACES.

ENSURE ANTI-TWO BLOCK SWITCH IS FUNCTIONAL AFTER INSTALLING OR REMOVING JIB.

MAXIMUM HYDRAULIC PRESSURE 2500 PSI

OPERATION:

1. READ AND UNDERSTAND THE OPERATION AND MAINTENANCE MANUAL BEFORE OPERATING THIS CRANE.
2. CHECK LEVEL OF ENGINE OIL AND HYDRAULIC OIL DAILY.
3. CHECK UNIT FOR VISIBLE DEFECTS AND LOOSE PARTS DAILY.
4. START ENGINE.
5. SET VEHICLE PARK BRAKE SECURELY.
6. EXTEND OUTRIGGERS TO SOLID FOOTING.
7. OPERATE ALL HYDRAULIC CONTROLS SLOWLY AND SMOOTHLY. AVOID SUDDEN STARTS AND STOPS.
8. DRIVE SLOWLY WHEN MAKING SHARP TURNS ON SLOPES.

THE LOAD HOIST LINE ON THIS UNIT MUST BE 5/16" DIA. 6X36- IPS-IWRC WIRE ROPE WITH A MINIMUM BREAKING STRENGTH OF 9160 LBS.

TIRE PRESSURE 145 PSI FOR 7.50-10 16PR; TORQUE FRONT WHEEL NUTS TO 60 FT. LBS., REAR WHEEL NUTS TO 200 FT. LBS. (THESE CONDITIONS MUST BE MAINTAINED TO HANDLE RATED LOADS ON THIS CRANE.)



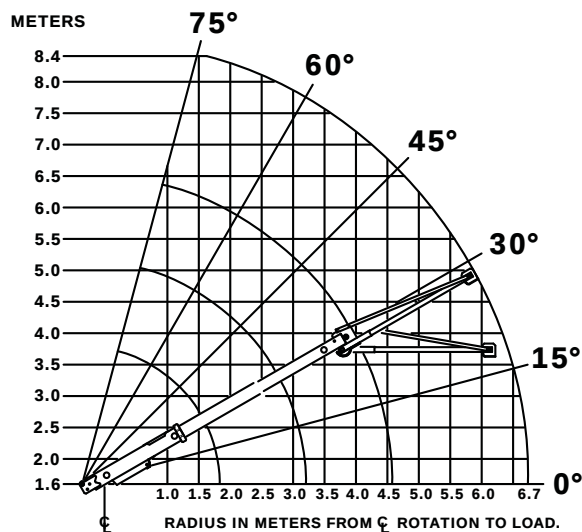
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Load Chart

IC-20-1J

Industrial Crane

Metric



LOAD RADIUS METERS	3-SECTION BOOM				2.1 m JIB
	FRONT ON RUBBER	FRONT ON OUTRIGGERS	LEFT SIDE ON RUBBER	LEFT SIDE ON OUTRIGGERS	ON RUBBER OR OUTRIGGERS
1.2	1130	2270	1720	2270	590
1.5	920	1840	1430	1840	510
2.0	670	1370	990	1370	310
2.5	630	1110	650	1110	290
3.0	590	920	460	920	250
3.5	550	770	370	700	230
4.0	520	660	290	530	220
4.5	500	550	230	460	220
5.0					200
5.5					170
6.0					130
6.7					100

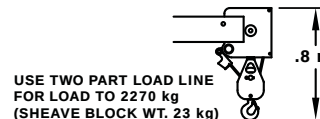
EXCEEDING CAPACITY RATINGS OR APPLYING SIDE LOADS TO THE BOOM OR JIB IS MISUSE, IS HAZARDOUS, AND VOIDS WARRANTY.

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.

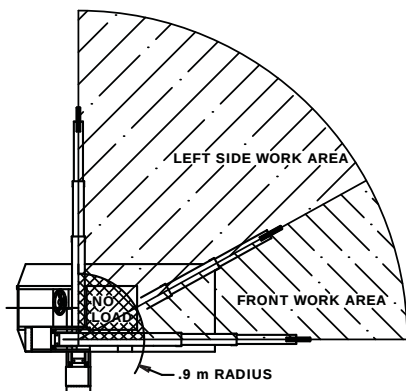
BOOM ANGLE MUST NOT BE LESS THAN 30° EXCEPT WHILE RIGGING IF THE JIB IS IN THE 30° OFFSET POSITION.



USE SINGLE PART LOAD LINE FOR LOAD TO 1135 kg (DOWNHAUL WEIGHT 18 kg)



USE TWO PART LOAD LINE FOR LOAD TO 2270 kg (SHEAVE BLOCK WT. 23 kg)



WORK AREA DIAGRAM

NOTE: DO NOT OPERATE INSIDE .9 METER LOAD RADIUS.

JIB MAY BE OPERATED IN ALL WORKING AREAS.

PICK AND CARRY WITH THE SHORTEST PRACTICAL BOOM, CENTERED OVER THE FRONT AXLE. OPERATE WITH THE BOOM AS LOW AS POSSIBLE, WITH THE LOAD CLOSE TO THE GROUND. PICK AND CARRY CAPACITIES ARE FOR SMOOTH, LEVEL, PAVED SURFACES.

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

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

DECK LOAD CAPACITY 2270 kg (CENTERED OVER AXLE). CARRY SPEED 5 km/hr MAX.

THE BOOMS ON THIS UNIT ARE ALL STEEL AND HAVE NO LINE VOLTAGE RATING.

ALL CAPACITIES APPLY TO FIRM LEVEL SURFACES.

ENSURE ANTI-TWO BLOCK SWITCH IS FUNCTIONAL AFTER INSTALLING OR REMOVING JIB.

MAXIMUM HYDRAULIC PRESSURE 172 bar

OPERATION:

1. READ AND UNDERSTAND THE OPERATION AND MAINTENANCE MANUAL BEFORE OPERATING THIS CRANE.
2. CHECK LEVEL OF ENGINE OIL AND HYDRAULIC OIL DAILY.
3. CHECK UNIT FOR VISIBLE DEFECTS AND LOOSE PARTS DAILY.
4. START ENGINE.
5. SET VEHICLE PARK BRAKE SECURELY.
6. EXTEND OUTRIGGERS TO SOLID FOOTING.
7. OPERATE ALL HYDRAULIC CONTROLS SLOWLY AND SMOOTHLY. AVOID SUDDEN STARTS AND STOPS.
8. DRIVE SLOWLY WHEN MAKING SHARP TURNS ON SLOPES.

THE LOAD HOIST LINE ON THIS UNIT MUST BE 7.9 mm DIA. 6X36-IPS-IWRC WIRE ROPE WITH A MINIMUM BREAKING STRENGTH OF 4155 kg.

TIRE PRESSURE 1000 kPa FOR 7.50-10 16PR; TORQUE FRONT WHEEL NUTS TO 80 Nm, REAR WHEEL NUTS TO 270 Nm (THESE CONDITIONS MUST BE MAINTAINED TO HANDLE RATED LOADS ON THIS CRANE.)

Metric