

If there is a malfunction of the RCL or Anti-Two-Block system that causes loss of boom movement and cannot be remedied by the procedures above, the override keyswitch under the dashboard may be required to move the boom.

### **WARNING**

**We recommend the CANCEL button and emergency override switch be used with discretion. Improper or careless use of this switch can cause damage to the crane and endanger people and property. The operator who uses these overrides in an emergency should use good judgment.**

There is a light on the dashboard to warn that one or more outriggers is not fully extended when using the ON OUTRIGGERS setup on the RCL. Check the light daily when the outriggers are down and there is no load on the hook by raising and lowering each outrigger about three inches. The light should come on when an outrigger is up.

### **CRANE CAPACITY**

Before lifting loads, the operator must read the **Crane Capacity Chart** and adhere to the load capacities and radii of handling given. The information provided on this chart is based on stability, structural strength and hydraulic capacity.

To operate the crane safely, the operator must know the weight of the load and handling devices and the radius of the lifting operation. The crane must not be loaded beyond the specifications of the capacity chart except for test purposes as provided in ASME B30.5 Section 5-2.2. The person responsible for the lift must be sure that the load does not exceed the crane ratings at any radius at which the load may be during the entire lifting operation. The weights of the hooks, blocks, downhaul weights, slings, and other handling devices must be added with the load.

The **Rated Capacity Limiter** on the crane is intended to assist the operator in estimating loads and measuring load radii and to alert the operator to impending overload conditions. The use of the Rated Capacity Limiter does not replace the requirements of the preceding paragraph. Verified weights and measured radii must take precedence over the Rated Capacity Limiter readings. Please read the RCL Operation Manual.

The Rated Capacity Limiter displays a load, load radius and boom angle that are obtained from electronic calculations using readings from pressure, length and angle sensors. These readings cannot be exact and should be treated as estimates. In general, the smaller the load and the higher the boom angle, the larger the percent of error.

Be aware that the electronic and mechanical components cannot be 100% fail-safe. Do not consider the system as a substitute for good judgment, training, experience or accepted safe operating practices. The operator is solely responsible for operation of the crane. Setting the Rated Capacity Limiter for the configuration of the crane is necessary before starting a lift. If incorrectly set, the system will not alert the operator to an impending overload, possibly resulting in the loss of life or destruction of property.

If the Rated Capacity Limiter is inoperative or malfunctioning, repair or recalibration of the unit must be done as soon as reasonably possible. The person responsible for lifts must establish procedures for determining load weights and radii and conduct the lifts according to the second paragraph above.

The Rated Capacity Limiter is designed to stop crane functions at the limitations of the capacity chart. These are: BOOM LOWER, TELESCOPE EXTEND, HOIST RAISE, SWING LEFT and SWING RIGHT. Great care must be exercised when handling a load near capacity or near a two-blocking condition. If the boom is being lowered or swung, the load will tend to swing if the Rated Capacity Limiter stops the boom movement. If the load is moving too fast, the sudden stopping by the system can cause dangerous load swinging, which can cause death or injury to personnel or property damage by impact with the load or by the crane tipping.

### **WARNING**

**The Rated Capacity Limiter can suddenly stop the boom lower and swing functions, causing the load to bounce or swing. Use great care when handling a load near capacity limits or near a two-blocking condition.**

### **CRANE CAPACITY CHART DEFINITIONS AND RULES:**

The load radius is the horizontal distance from the centerline of boom rotation (the center of the turntable when it is level), to the vertical load line with the load suspended. Because of deflections of the boom and carrier, the load radius increases when a load is hoisted from its resting place. The load radius may be measured with a measuring tape. If the desired load radius falls between two load radii on the chart, it is recommended to use the load radius with the lower capacity and not try to interpolate between the numbers.

Load capacity ratings on this equipment are given on the basis that operations are to be conducted on firm and level terrain and in a safe environment. These capacity ratings are reduced in proportion to the deviation from the prescribed conditions. Any unfavorable environmental condition, such as soft, sloping or uneven terrain, high wind, or hazardous surroundings constitutes a deviation.

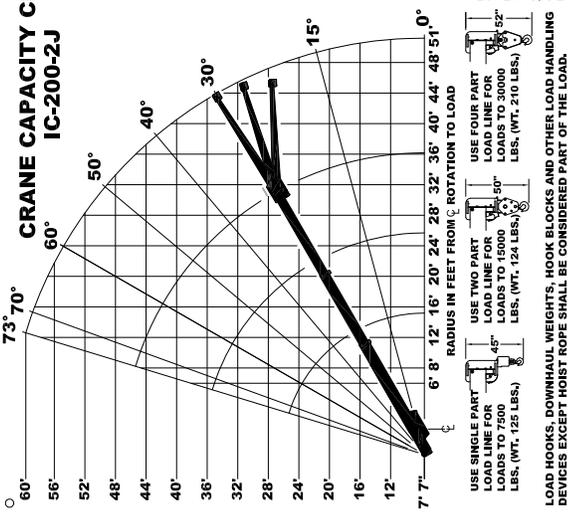
The main boom capacities are given in direct relation to the radius at which the load is being handled. Boom extension capacities depend on the boom angle as well as the load radius. The capacities shown on the capacity chart are the maximum allowable at the indicated radius. The greatest load that may be handled by the BMC IC-200 is 30,000 pounds (13600 kg), but only at a 6-foot (1.8 m) radius and on outriggers. All variances of loads and radii of handling are shown on the crane capacity chart. A metal chart is attached near the operator's seat and a laminated chart is included in the literature compartment for the express purpose of informing the operator when a load can or cannot be safely handled. The capacities shown in the 360° ROTATION columns of the capacity chart apply to the entire 360 degree rotation of the boom and are maximum allowable at the indicated radius. The capacities OVER FRONT are limited to the work area sectors on the placard.

Note that the 360° ROTATION capacities at some load radii are much less than the OVER FRONT capacities. The least stable position of the boom is over the side of the crane. Use great care when swinging a load from the front or rear of the crane toward the side of the crane. The load must be known in order to assure that the crane will not tip.

### **NOTICE**

**Under certain load conditions, torsion induced in the chassis can cause it to twist. This may result in an opposite-side outrigger or tire lifting free from the supporting surface. This is most likely to occur when the boom is positioned over one corner of the machine. The condition does not indicate a loss of stability when working within the limits of the capacity chart. Provided the crane capacity has not been exceeded, operation may continue without restriction.**

### CRANE CAPACITY CHART IC-200-2J



USE SINGLE PART LOAD LINE FOR LOADS TO 7500 LBS. (WT. 124 LBS.)

USE TWO PART LOAD LINE FOR LOADS TO 15000 LBS. (WT. 210 LBS.)

USE FOUR PART LOAD LINE FOR LOADS TO 30000 LBS. (WT. 210 LBS.)

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

LOAD RADIUS FEET	CAPACITIES APPLY TO OPERATION ON FIRM LEVEL SURFACE		CAPACITIES ON RUBBER TIRE		CAPACITIES ON OUTRIGGERS	
	360° ROTATION	OVER FRONT	ON RUBBER	ON OUTRIGGERS	ON RUBBER	ON OUTRIGGERS
6	16200	30000	30000	17000	30000	30000
8	13200	24000	13800	11500	24000	24000
10	10500	19800	11500	9600	19800	19800
12	7800	16100	9600	7900	16100	16100
14	6100	13500	7900	6300	13500	13500
16	4900	11200	6300	5100	11200	11200
18	4000	10000	5100	4300	10000	10000
20	3300	7700	4300	3600	7700	7700
22	2800	6600	3600	3000	6600	6600
24	2350	5750	3000	2500	5750	5750
26	1950	5150	2500	2100	5150	5150
28	1600	4650	2100	1800	4650	4650
30	1400	4200	1800	1550	4200	4200
32	1150	3400	1500	1250	3400	3400
34	900	3050	1250	1050	3050	3050
36	850	2800	1050	950	2800	2800
38	850	2600	950	850	2600	2600
40	850	2400	850	750	2400	2400
42	850	2200	750	650	2200	2200
44	850	2000	650	550	2000	2000
46	850	1800	550	450	1800	1800
48	850	1600	450	350	1600	1600
50	850	1400	350	250	1400	1400
52	850	1200	250	150	1200	1200
54	850	1000	150	100	1000	1000
56	850	800	100	75	800	800
58	850	600	75	50	600	600
60	850	400	50	30	400	400
62	850	200	30	15	200	200
64	850	100	15	0	100	100
66	850	0	0	0	0	0
68	850	0	0	0	0	0
70	850	0	0	0	0	0

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

CAUTION: BOOM EXTENSION LOADS MUST NOT EXCEED MAIN BOOM CAPACITY. DO NOT PICK AND CARRY WITH LOADS ON BOOM EXTENSION. EXCEEDING CAPACITY RATINGS OR APPLYING SIDE LOADS TO THE BOOM OR BOOM EXTENSION IS MISUSE, IS HAZARDOUS, AND VOIDS WARRANTY.

CAUTION: BOOM EXTENSION LOADS MUST NOT EXCEED MAIN BOOM CAPACITY. DO NOT PICK AND CARRY WITH LOADS ON BOOM EXTENSION. EXCEEDING CAPACITY RATINGS OR APPLYING SIDE LOADS TO THE BOOM OR BOOM EXTENSION IS MISUSE, IS HAZARDOUS, AND VOIDS WARRANTY.

DECK CAPACITY 17000 LBS. WITH EMPTY BOOM RETRACTED OVER FRONT. DECK LOADS MUST BE CENTERED BEHIND FRONT AXLE. SPEED MUST BE LESS THAN 2 MPH. MAXIMUM TRAVEL 200 FT. IN 30 MINUTES ON SMOOTH PAVEMENT.

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

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

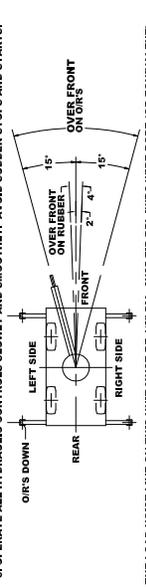
MAXIMUM HYDRAULIC PRESSURE 2600 PSI.

BOOM EXTENSION DEDUCT: 400 LBS. WHEN STOWED ON MAIN BOOM.

ENSURE ANTI-TWO-BLOCK SWITCH IS FUNCTIONAL AFTER DEPLOYING OR STOWING BOOM EXTENSION.

OPERATION:

1. READ AND UNDERSTAND OPERATION MANUAL BEFORE OPERATING CRANE.
2. CHECK LEVEL OF HYDRAULIC OIL AND ENGINE OIL DAILY.
3. CHECK UNIT FOR VISIBLE DEFECTS AND LOOSE PARTS.
4. SET VEHICLE PARK BRAKE SECURELY.
5. SEND OUTRIGGERS TO SOLID FOOTING AND LEVEL CRANE.
6. OPERATE ALL HYDRAULIC CONTROLS SLOWLY AND SMOOTHLY. AVOID SUDDEN STOPS AND STARTS.



THE HOIST LINE ON THIS UNIT MUST BE 1/2" DIA. 6X25 EP-RM-LWRC WIRE ROPE (OR EQUIVALENT) WITH A MINIMUM BREAKING STRENGTH OF 26,250 LBS 231 FEET LONG.

APPROVED TRESSES: 38565022.5, 16 PLY - 120 PSI

TORSION WHEEL NUTS TO 500 FT. LBS. THESE CONDITIONS MUST BE MAINTAINED TO HANDLE RATED LOADS ON THIS CRANE.

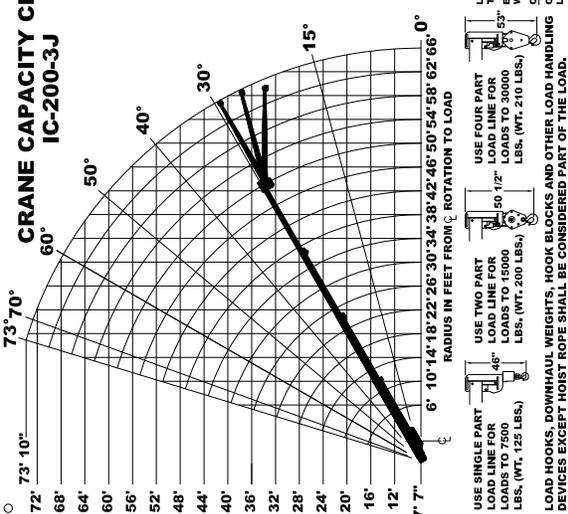
MODEL NO. SERIAL NO. DATE OF MFR.

**IC-200-2J**

**BRODERSON MANUFACTURING CORP.**  
LENEXA, KANSAS

65400972

### CRANE CAPACITY CHART IC-200-3J



USE SINGLE PART LOAD LINE FOR LOADS TO 7500 LBS. (WT. 124 LBS.)

USE TWO PART LOAD LINE FOR LOADS TO 15000 LBS. (WT. 210 LBS.)

USE FOUR PART LOAD LINE FOR LOADS TO 30000 LBS. (WT. 210 LBS.)

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

LOAD RADIUS FEET	CAPACITIES APPLY TO OPERATION ON FIRM LEVEL SURFACE		CAPACITIES ON RUBBER TIRE		CAPACITIES ON OUTRIGGERS	
	360° ROTATION	OVER FRONT	ON RUBBER	ON OUTRIGGERS	ON RUBBER	ON OUTRIGGERS
6	16200	30000	30000	17000	30000	30000
8	13200	24000	13800	11500	24000	24000
10	10500	19800	11500	9600	19800	19800
12	7800	16100	9600	7900	16100	16100
14	6100	13500	7900	6300	13500	13500
16	4900	11200	6300	5100	11200	11200
18	4000	10000	5100	4300	10000	10000
20	3300	7700	4300	3600	7700	7700
22	2800	6600	3600	3000	6600	6600
24	2350	5750	3000	2500	5750	5750
26	1950	5150	2500	2100	5150	5150
28	1600	4650	2100	1800	4650	4650
30	1400	4200	1800	1550	4200	4200
32	1150	3400	1500	1250	3400	3400
34	900	3050	1250	1050	3050	3050
36	850	2800	1050	950	2800	2800
38	850	2600	950	850	2600	2600
40	850	2400	850	750	2400	2400
42	850	2200	750	650	2200	2200
44	850	2000	650	550	2000	2000
46	850	1800	550	450	1800	1800
48	850	1600	450	350	1600	1600
50	850	1400	350	250	1400	1400
52	850	1200	250	150	1200	1200
54	850	1000	150	100	1000	1000
56	850	800	100	75	800	800
58	850	600	75	50	600	600
60	850	400	50	30	400	400
62	850	200	30	15	200	200
64	850	100	15	0	100	100
66	850	0	0	0	0	0
68	850	0	0	0	0	0
70	850	0	0	0	0	0
72	850	0	0	0	0	0

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

CAUTION: BOOM EXTENSION LOADS MUST NOT EXCEED MAIN BOOM CAPACITY. DO NOT PICK AND CARRY WITH LOADS ON BOOM EXTENSION. EXCEEDING CAPACITY RATINGS OR APPLYING SIDE LOADS TO THE BOOM OR BOOM EXTENSION IS MISUSE, IS HAZARDOUS, AND VOIDS WARRANTY.

CAUTION: BOOM EXTENSION LOADS MUST NOT EXCEED MAIN BOOM CAPACITY. DO NOT PICK AND CARRY WITH LOADS ON BOOM EXTENSION. EXCEEDING CAPACITY RATINGS OR APPLYING SIDE LOADS TO THE BOOM OR BOOM EXTENSION IS MISUSE, IS HAZARDOUS, AND VOIDS WARRANTY.

DECK CAPACITY 17000 LBS. WITH EMPTY BOOM RETRACTED OVER FRONT. DECK LOADS MUST BE CENTERED BEHIND FRONT AXLE. SPEED MUST BE LESS THAN 2 MPH. MAXIMUM TRAVEL 200 FT. IN 30 MINUTES ON SMOOTH PAVEMENT.

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

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

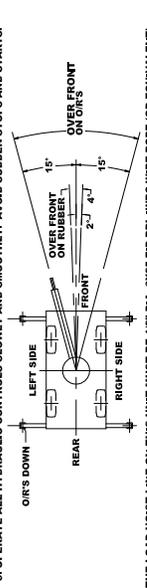
MAXIMUM HYDRAULIC PRESSURE 3000 PSI.

BOOM EXTENSION DEDUCT: 400 LBS. WHEN STOWED ON MAIN BOOM.

ENSURE ANTI-TWO-BLOCK SWITCH IS FUNCTIONAL AFTER DEPLOYING OR STOWING BOOM EXTENSION.

OPERATION:

1. READ AND UNDERSTAND OPERATION MANUAL BEFORE OPERATING CRANE.
2. CHECK LEVEL OF HYDRAULIC OIL AND ENGINE OIL DAILY.
3. CHECK UNIT FOR VISIBLE DEFECTS AND LOOSE PARTS.
4. SET VEHICLE PARK BRAKE SECURELY.
5. SEND OUTRIGGERS TO SOLID FOOTING AND LEVEL CRANE.
6. OPERATE ALL HYDRAULIC CONTROLS SLOWLY AND SMOOTHLY. AVOID SUDDEN STOPS AND STARTS.



THE HOIST LINE ON THIS UNIT MUST BE 1/2" DIA. 6X25 EP-RM-LWRC WIRE ROPE (OR EQUIVALENT) WITH A MINIMUM BREAKING STRENGTH OF 26,250 LBS 282 FEET LONG.

APPROVED TRESSES: 38565022.5, 16 PLY - 120 PSI

TORSION WHEEL NUTS TO 500 FT. LBS. THESE CONDITIONS MUST BE MAINTAINED TO HANDLE RATED LOADS ON THIS CRANE.

MODEL NO. SERIAL NO. DATE OF MFR.

**IC-200-3J**

**BRODERSON MANUFACTURING CORP.**  
LENEXA, KANSAS

65400978



### **CAUTION**

A capacity load may be carried on the boom, or a capacity load may be carried on the deck, but not at the same time. The total of the percent of deck load and the percent of boom load must not exceed 100%. For example, if the boom load is 100% of its capacity at its current load radius, the deck load capacity is 0%. If the boom load is 60% of the load rating for its load radius, the deck load capacity is 40% of maximum.

### **CAUTION**

The ON OUTRIGGER capacities of this crane are based on all outriggers being FULLY EXTENDED to a FIRM, LEVEL surface with no load on the tires. The crane may tip at less than capacity loads if operated in the following manner:

- A. Outriggers only partially extended and resting on curbing, shoring, etc. If the outriggers are not all the way DOWN, they are not all the way OUT.
- B. Crane operated on a hill or sloping surface. Crane will tip at less than rated capacity when load is lifted on downhill side.
- C. Outriggers extended to a surface that appears to be firm, but is unable to support the outrigger pad at full rated loads. Examples of this type of surface are:
  1. Thin or cracked blacktop or concrete.
  2. Dirt that appears dry and firm on top but is moist or unpacked beneath the surface.
  3. Dirt with a frozen but thin crust.

### **CAPACITY EXAMPLE (See Boom Extension Capacity Example Page 2-22)**

Refer to the IC-200-J capacity chart on the preceding page. A load 5' X 5' X 5' (1.5 m x 1.5 m x 1.5 m) and weighing 14,000 pounds (6350 kg) is to be lifted onto the deck of the crane for transport to a new location. We see on the chart that 7500 pounds (3400 kg) is the maximum load on one-part line, so the sheave block is required. The charts show the weight of the standard sheave block to be 210 pounds (96 kg). The rigger says that two slings are required, weighing a total of 50 pounds (23 kg). The total load is  $14,000+210+50=14,260$  (6350 + 96 + 23 = 6469 kg).

Looking at the 360° ROTATION, ON RUBBER column we see that we can lift 16,000 pounds (7250 kg) at a 6-foot (1.8 m) load radius. However, this radius is less than the distance from the center of rotation to the center of the load, with the crane parked next to the load, so the load cannot be lifted this way. This leaves the ON OUTRIGGERS columns. The outriggers should always be used whenever possible anyway. We see that we can lift up to 18,500 pounds (8520 kg) at a 10-foot (3.0 m) load radius, either over the front or over the side. If possible, position the crane to lift the load over the front. This is the best position for stability. Checking the chart again, we see that the load is within the deck load limit of 17,000 pounds (7700 kg) and that the travel speed with the load must be limited to creep speed. Creep speed is less than 2 MPH (3 km/h) and not to exceed 200 feet (60 m) in a 30 minute period. This is an approved relationship between load, tire pressure and speed.

### **CAUTION**

**REMEMBER THAT AS THE BOOM IS LOADED, DEFLECTION OF THE BOOM, TIRES, ETC. WILL INCREASE THE LOAD RADIUS. SO BE CONSERVATIVE IN YOUR CAPACITY ESTIMATE.**