

60 TON HYDRAULIC TRUCK CRANE

UPPER WORKS

Revolving Frame:

All welded, reinforced alloy steel plate construction with all primary structural members boxed, for maximum rigidity.

Engine:

Diesel engine with 12 volt electric starting system and alternator. Fuel tank capacity 50 gallons.

Hydraulic Pumps:

Two multi stage, gear type, tandem mounted, direct driven. Total flow, 212 GPM at 2412 RPM pump speed. Master clutch standard.

Hydraulic Valves:

Pressure compensating for hoist unit and swing functions and low effort for boom functions.

Hydraulic Reservoir:

Open type, with integral baffles and return line diffuser. System capacity 200 gallons.

Filter System:

Return line type with replaceable 10 micron elements and filter condition indicator.

Swing:

Hydraulic vane type motor driving a precision double reduction planetary swing unit with integral disc brake. Brake is spring set with hydraulic release. Hydraulic disc type glide brake and mechanical type houselock optional. Maximum swing speed is 3 RPM.

Chassis:

Specially designed and built to Bucyrus-Erie Company specifications. Equipment includes front and rear fenders, top frame decking, towing eyes at front, steps, and grab handles. A 60 gallon fuel tank is mounted on side of the frame. Standard carrier has 224 in. wheelbase and 9 ft. 0 in. overall width.

Outriggers:

Hydraulically powered, double box type welded to frame, front and rear. Two stage telescoping beams extend to 24 ft. 6 in. centerline to centerline of vertical jacks and retract to 9 ft. overall width. High strength alloy steel is used throughout. Vertical cylinders are equipped with double lock valves designed to prevent drift either up or down. Alloy steel floats.

Outrigger controls located on both sides of carrier frame near rear outriggers are standard. Biaxial levels located at outrigger controls.

Axles:

Front Axles: Non-driving type. 88 in. track. Dynamic capacity of tandem is 40,000 pounds.

Rear Axles: Rockwell Standard SSHD with interaxle differential. Dynamic capacity of tandem, 44,000 pounds. 77½ inch track. 6.14 ratio standard.

Suspension:

Front: Spring suspension with shock absorbers. Rear: Tandem walking beams.

Wheels:

Steel spoke type.

Tires:

Front: (Four) 16.5 x 22.5 — 16 ply, highway tread standard.

Swing Circle:

Precision ball bearing swing circle, designed and built by Bucyrus-Erie Company.

Counterweight:

Optional 7500 lb. removable.

Boom:

42 ft. 6 in. to 104 ft. long three sections, full power with synchronized, single lever, extension and retraction. 32 ft. swing-around lattice extension for total boom length of 136 ft. Lattice jibs 24 and 39 ft. optional. Integral holding valves on both of telescoping cylinders. Boom extend time is 70 seconds (minimum) and boom retract time is 91 seconds (minimum). Boom length decals are standard.

Boom Elevation:

Twin double acting hydraulic cylinders with integral holding valves. Elevation from minus 3 degrees to 80 degrees. Combination control lever provides for hand or foot operation. Boom elevation times are 71 seconds (minimum) raising and 65 seconds (minimum) lowering. Boom angle indicator is standard.

Operator's Compartment:

Independent of machinery cab with windows on four sides and overhead for full visibility. Constructed of Tri-armor for strength and sound insulation. Sliding door window and hinged front window panel. With front and glareproof overhead panels hinged open, the operator has unrestricted visibility. Operator's controls include hand and foot throttle with full length

control levers. Bucket seat, windshield wiper horn, and door and window locks are standard. Heater, defroster, and air conditioner are optional.

Main Hoist Drum:

Precision, high speed, planetary hoist unit is custom designed and built by Bucyrus-Erie Company. Hydraulic motor driven with power up and down. Drum 22 inches wide 16 inch pitch diameter. 576 feet rope capacity, four layers (¾ inch rope). Maximum line pull 19,200 lbs., first layer. Maximum line speed 495 fpm fourth layer. Integral automatic brake is designed to prevent load creep. Two speed control is standard on main drum, low and high range. Controlled free fall optional, allows high speed lowering under full control of foot pedal operated mechanical brake.

High speed lagging optional. Lagging fits over reeved drum. Line required for operation is unspooled from top layers of drum. Lagging installed, then respoiled. Unused line is stored under high speed lagging.

Auxiliary Hoist Drum:

A second hoist drum that mounts ahead of main drum is optional. Drum 16 inches wide 10½ inch pitch diameter. 347 feet rope capacity, four layers (¾ in. rope). Maximum line pull 9,500 lbs. first layer. Maximum line speed 525 fpm, fourth layer. It is a Bucyrus-Erie Company designed and built unit and includes same features as main drum. Controlled free fall and high speed lagging are available as options.

CARRIER

Rear: (Eight) 11 x 20 — 14 non-directional standard.

Brakes:

Service Brakes: Air brakes on both front and both rear axles.

Front: 17¼ in. x 4 in.
Rear: 16½ in. x 7 in.

Parking Brakes: Maxi spring loaded brake chambers on both rear axles with reserve (emergency release) air tank.

Steering:

Hydraulic power assist type is standard.

Power Plant:

General Motors 6-71N diesel engine, 6 cylinder, 426 cu. in. displacement is standard. Rating is 238 HP (SAE gross) at 2100 RPM. 12 volt electric starting system. Cummins NTCC-230 and NTCC-290 optional.

Clutch:

14 in. diameter, two plate.

Transmission:

Fuller RTO-613 with 13 speeds forward and 3 reverse. Roadranger type with single shift lever. Fuller RTO-958LL with 10 speeds forward and 3-reverse optional with Cummins engine.

Ratios:

Forward	Std.	Opt.	Std.	Opt.
1st	—14.50:1	—13.10	8th	— 2.65:1 — 1.34
2nd	—11.31:1	— 8.77	9th	— 2.11:1 — 1.00
3rd	— 8.83:1	— 5.85	10th	— 1.65:1 — .74
4th	— 6.96:1	— 4.29	11th	— 1.29:1
5th	— 5.43:1	— 3.20	12th	— 1.00:1
6th	— 4.24:1	— 2.37	13th	— .80:1
7th	— 3.29:1	— 1.83		

	Std.	Opt.
Reverse	— 15.30:1	— 13.69
Low	— 7.35:1	— 9.17
Dir.	— 2.23:1	— 2.86

Cab:

One-man type semi low profile Tri-armor cab offset to left side of carrier. West Coast type mirrors. Bostrom Viking T-bar seat is standard.

Instruments:

Speedometer, voltmeter, tachometer, oil pressure indicator, fuel gauge, water temperature indicator, air pressure gauge, and low air pressure warning device.

Accessories:

Standard equipment includes: sealed beam headlights, tail and stop lights, dome light, front and rear directional signals, clearance lights and reflectors, electric horn, windshield washer and wiper, and heater and defroster. Optional equipment includes: Spare tire and rim, air horn, hourmeter, low oil pressure warning device, back-up alarm, Jacobs engine brake, air conditioning, and hook block storage box.

Geared Speed:

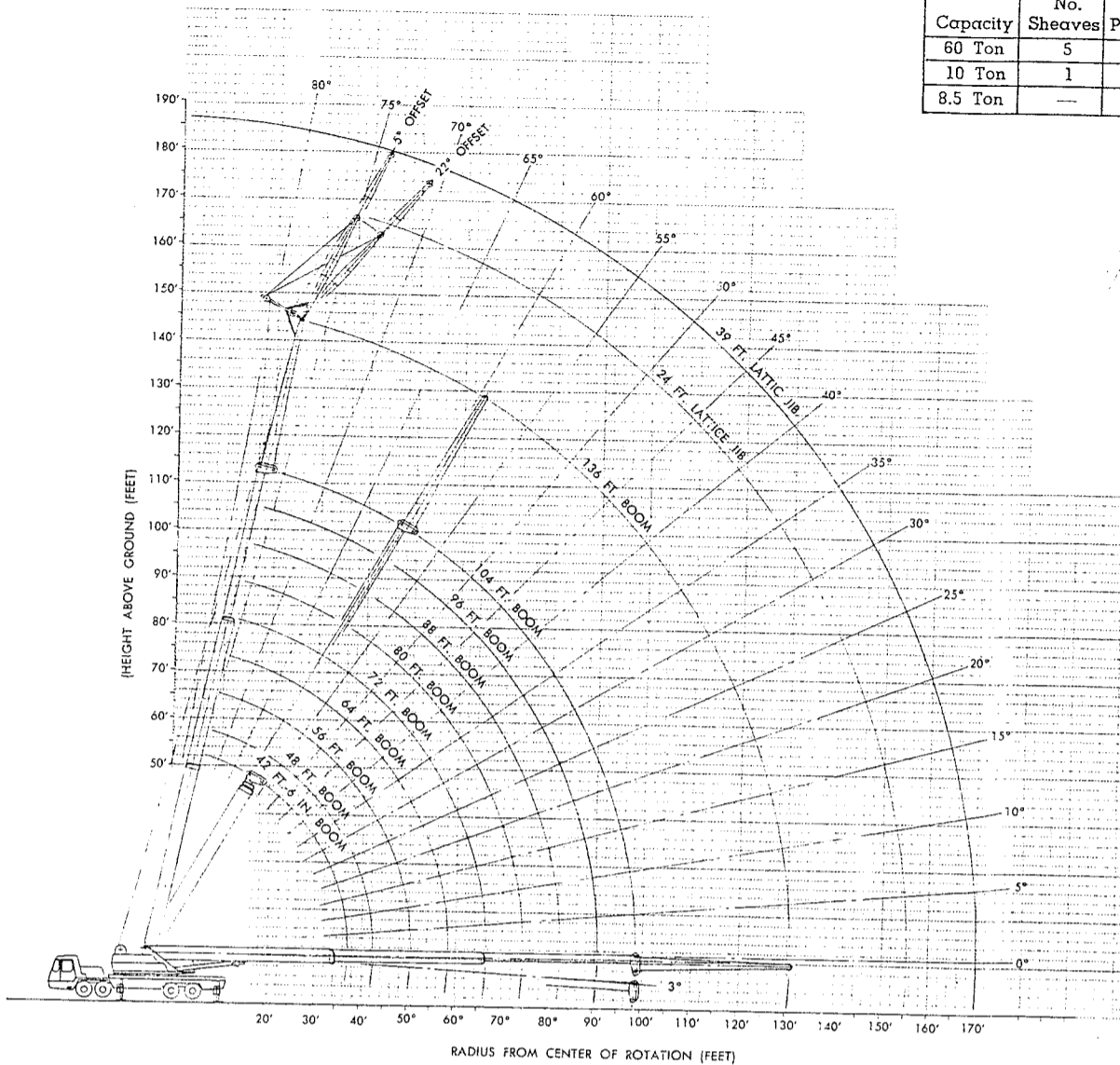
With standard engine at governed speed (MPH): Maximum 50

Miscellaneous:

GVW Rating (pounds)	84,000
Turning Radius	38 ft.
Clearance Radius	44 ft.

60-XC HYDROCRANE® 60 TON HYDRAULIC TRUCK CRANE

HOOK BLOCKS			
Capacity	No. Sheaves	No. Parts Line	"Y" Dim.
60 Ton	5	1-10	66 In.
10 Ton	1	1-3	65 in.
8.5 Ton	—	1	45 In.



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LIMITATIONS

Main Hoist Unit: Hoist Tackle

Loads over	13,000	26,000	39,000	52,000	65,000	78,000
Parts of line	2	3	4	5	6	7
				8	9	10

Aux. Hoist Unit: Hoist Tackle

Loads over	7,000	14,000	21,000	28,000	35,000	42,000
Parts of line	2	3	4	5	6	7
				8	9	10

Swing-Around Hoist Tackle

For loads over 13,000 pounds use 2 parts of line.

Boom Telescope

Maximum Allowable Load which may be telescoped is limited by boom angle, hydraulic pressure, and boom lubrication. Boom sections must be extended equally at all times.

LOAD RATING DEDUCT DATA

Weight of hooks, hook blocks, slings, jibs, and all other load handling devices, except the hoist rope, shall be considered part of the load.

Maximum Allowable Loads on main boom sheaves of machine without counterweight must be reduced 1,300 lbs. when lifting over main boom with swing-around attached to boom point.

Jibs — Maximum Allowable Loads must be reduced as follows:

JIB:	When Lifting Over Main Boom With Swing Around and Jib Attached	When Lifting Over Swing Around With Jib Attached
24 Foot	3150 lbs.	1400 lbs.
39 Foot	3600 lbs.	1700 lbs.

When hook block is suspended on boom point sheave, the load over the jib point sheave must be reduced as follows:

24 ft. Jib	650 lbs.
39 ft. Jib	600 lbs.

When hook block is suspended on manual swing-around extension point sheave, the load over the jib point sheave must be reduced as follows:

24 ft. Jib	850 lbs.
39 ft. Jib	800 lbs.

60-XC HYDROCRANE®

60 TON HYDRAULIC TRUCK CRANE

PCSA CLASS 10-245

MAXIMUM ALLOWABLE LOADS — CRANE SERVICE* WITH COUNTERWEIGHT																
WEIGHT OF HOOKS, HOOK BLOCKS, SLINGS, JIBS, AND ALL OTHER LOAD HANDLING DEVICES, EXCEPT THE HOIST ROPE, SHALL BE CONSIDERED PART OF THE LOAD.																
BOOM LENGTH IN FEET																
	42.5			56			72			88			104			
Lead Radius In Feet	Boom Angle In Degrees	Boom Point Pin Height (Ft.-In.)	Out-riggers Set* Load In Pounds	Boom Angle In Degrees	Boom Point Pin Height (Ft.-In.)	Out-riggers Set* Load In Pounds	Boom Angle In Degrees	Boom Point Pin Height (Ft.-In.)	Out-riggers Set* Load In Pounds	Boom Angle In Degrees	Boom Point Pin Height (Ft.-In.)	Out-riggers Set* Load In Pounds	Boom Angle In Degrees	Boom Point Pin Height (Ft.-In.)	Out-riggers Set* Load In Pounds	
10	74	50-5	120,000													
12	71	49-7	108,300													
15	67	48-2	87,900	73	89-11	72,000	76	79-6	63,800							
20	59	45-1	66,100	67	60-9	66,600	73	78-1	54,000	76	94-10	43,800				
25	50	40-11	52,300	61	58-0	52,800	68	76-1	46,400	73	93-4	36,900	75	110-0	26,900	
30	39	35-0	39,700	55	54-5	40,600	64	73-7	40,800	69	91-4	31,400	72	108-6	26,500	
35	25	25-5	30,100	48	49-11	30,900	59	72-6	33,700	65	89-0	27,300	70	106-7	23,100	
40				40	44-2	24,500	54	66-11	26,700	62	86-4	24,300	67	104-5	20,200	
50				15	21-8	16,400	43	58-4	17,000	54	79-9	17,100	61	99-4	15,900	
60							28	41-10	11,700	46	70-10	12,300	54	92-4	13,000	
70										35	57-11	9,100	47	83-5	8,300	
80										19	36-2	6,700	38	71-8	7,100	
90													27	54-8	5,100	
100																

CAUTION: DO NOT LIFT LOADS, EXTEND BOOM, OR SWING MACHINE WITHOUT OUTRIGGERS SET.

CAUTION: LONG CANTILEVER BOOMS CAN CREATE A TIPPING CONDITION WHEN IN EXTENDED AND LOWERED POSITION WHERE NO LOAD IS SHOWN ON THE LOAD RATING CHART. AT A GIVEN RADIUS, TIPPING CONDITIONS SHALL BE ASSUMED TO EXIST.

CAUTION: USE OF JIB IS LIMITED TO MACHINES WITH COUNTERWEIGHT PROPERLY ATTACHED TO REAR OF CRANE.

“OUTRIGGERS SET”

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See quadrant diagram “OUTRIGGERS SET”. These are the Maximum Allowable Loads which can be lifted Over the Side or Over the Rear. This machine must always be operated with the outriggers fully extended and set to a distance of 24 feet 6 inches between centerlines of the float connections with all tires clear of the ground.

DO NOT lift or swing loads within the quadrant designated Over Front.

Maximum Allowable Loads shown in shaded area limited by factors other than tipping.

Crane Loads do not exceed 35% of the tipping loads with the machine leveled and standing on a firm, uniform supporting surface.

MAXIMUM ALLOWABLE LOADS CRANE SERVICE* WITH COUNTERWEIGHT		
BOOM WITH SWING AROUND EXTENSION MAXIMUM LENGTH 136' ***		
WEIGHT OF HOOKS, HOOK BLOCKS, SLINGS, JIBS, AND ALL OTHER LOAD HANDLING DEVICES, EXCEPT THE HOIST ROPE, SHALL BE CONSIDERED PART OF THE LOAD.		
Boom Angle In Degrees	Boom Point Pin Height (Ft.-In.)	Out-riggers Set* Load In Pounds
75	141-3	14,200
74	140-3	14,100
72	138-8	13,900
67	134-8	13,600
62	129-9	11,300
57	123-9	9,100
52	116-5	6,500
47	107-7	6,400
40	96-9	5,000
33	83-1	3,800
24	64-5	2,900
10	30-6	2,100

***SWING AROUND EXTENSION 835961-4

MAXIMUM ALLOWABLE LOADS WHEN LIFTING OVER SWING AROUND EXTENSION ARE DETERMINED BY BOOM ANGLE ONLY. BOOM ANGLES NOT SHOWN, USE RATING OF NEXT LOWER BOOM ANGLE SHOWN.

WARNING: The information contained in this specification is to be used only as a guide in evaluating the performance of a machine. For operation of a machine always refer to the capacity plate on the machine (since this specification may apply to a different model or series).

MAXIMUM ALLOWABLE LOADS — JIB SERVICE WITH COUNTERWEIGHT				
WEIGHT OF HOOKS, HOOK BLOCKS, SLINGS, AND ALL OTHER LOAD HANDLING DEVICES, EXCEPT THE HOIST ROPE, SHALL BE CONSIDERED PART OF THE LOAD.				
OUTRIGGERS SET* — LOAD IN POUNDS				
Boom Angle In Degrees	Jib Length In Feet			
	24		39	
	5° Offset**	22° Offset**	5° Offset**	22° Offset**
80	7500	7450	6350	6250
75	7300	7200	6150	6100
70	7100	6900	6000	5700
65	7000	6600	5850	5400
60	6900	5000	5750	5100
55	5750	4900	4800	4300
50	5050	4900	4200	3850
45	3850	3700	3200	3050
40	3000	2800	2450	2300
35	2300	2100	1850	1700
30	1800	1600	1350	1200

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“OFFSET”

Angular offset from centerline of boom to centerline of jib.

CAUTION: DO NOT OPERATE MACHINE WITH JIB ON BOOM POINT UNLESS THE MACHINE IS LEVELED AND STANDING ON A FIRM, UNIFORM SUPPORTING SURFACE WITH THE “OUTRIGGERS SET”.

Limitations:

Required length of boom for lattice jib service is 136 feet. The boom must be fully extended, with manual swing-around extension locked into working position on the boom point sheave pins.

60-XC HYDROCRANE®

60 TON HYDRAULIC TRUCK CRANE

PCSA CLASS 10-207

MAXIMUM ALLOWABLE LOADS — CRANE SERVICE* WITHOUT COUNTERWEIGHT															
WEIGHT OF HOOKS, HOOK BLOCKS, SLINGS, JIBS, AND ALL OTHER LOAD HANDLING DEVICES, EXCEPT THE HOIST ROPE, SHALL BE CONSIDERED PART OF THE LOAD.															
BOOM LENGTH IN FEET															
	42.5			56			72			88			104		
Load Radius In Feet	Boom Angle In Degrees	Boom Point Pin Height (Ft.-In.)	Out-riggers Set* Load In Pounds	Boom Angle In Degrees	Boom Point Pin Height (Ft.-In.)	Out-riggers Set* Load In Pounds	Boom Angle In Degrees	Boom Point Pin Height (Ft.-In.)	Out-riggers Set* Load In Pounds	Boom Angle In Degrees	Boom Point Pin Height (Ft.-In.)	Out-riggers Set* Load In Pounds	Boom Angle In Degrees	Boom Point Pin Height (Ft.-In.)	Out-riggers Set* Load In Pounds
10	74	50- 5	120,000												
12	71	49- 7	105,000												
15	67	48- 2	85,700	73	69-11	72,000	76	79- 6	63,800						
20	59	45- 1	64,400	67	60- 9	64,900	73	78- 1	54,100	76	94-10	43,800			
25	50	40-11	48,300	61	58- 0	49,300	68	76- 1	46,400	73	93- 4	36,900	75	110- 0	26,900
30	39	35- 0	34,100	55	54- 5	35,000	64	73- 7	35,500	69	91- 4	31,400	72	108- 6	26,500
35	25	25- 5	25,500	48	49-11	26,400	59	70- 6	26,900	65	89- 0	27,200	70	106- 7	23,100
40				40	44- 2	20,700	54	66-11	21,200	62	86- 4	21,500	67	104- 5	20,300
50				15	21- 8	13,600	43	53- 4	14,100	54	79- 9	14,300	61	99- 4	14,500
60							28	41-10	9,500	46	70-10	9,700	54	92- 4	10,000
70										35	57-11	6,400	47	83- 5	6,700
80										19	36- 2	4,300	38	71- 8	4,600
90													27	54- 8	3,300
100															

CAUTION: DO NOT LIFT LOADS, EXTEND BOOM, OR SWING MACHINE WITHOUT OUTRIGGERS SET.*

CAUTION: LONG CANTILEVER BOOMS CAN CREATE A TIPPING CONDITION WHEN IN EXTENDED AND LOWERED POSITION WHERE NO LOAD IS SHOWN ON THE LOAD RATING CHART. AT A GIVEN RADIUS, TIPPING CONDITIONS SHALL BE ASSUMED TO EXIST.

CAUTION: JIB MUST NOT BE USED ON 60-XC WITHOUT COUNTERWEIGHT.

"OUTRIGGERS SET"

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See quadrant diagram "OUTRIGGERS SET". These are the Maximum Allowable Loads which can be lifted Over the Side or Over the Rear. This machine must always be operated with the outriggers fully extended and set to a distance of 24 feet 6 inches between centerlines of the float connections with all tires clear of the ground.

DO NOT lift or swing loads within the quadrant designated Over Front.

Maximum Allowable Loads shown in shaded area limited by factors other than tipping.

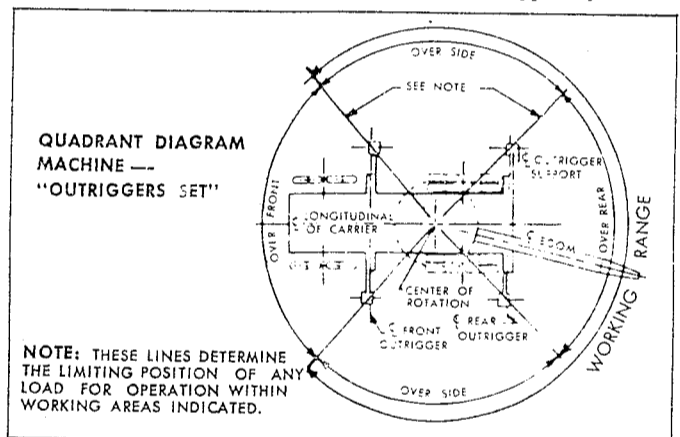
Crane Loads do not exceed 85% of the tipping loads with the machine leveled and standing on a firm, uniform supporting surface.

MAXIMUM ALLOWABLE LOADS CRANE SERVICE* WITHOUT COUNTERWEIGHT		
BOOM WITH SWING AROUND EXTENSION MAXIMUM LENGTH 136' ***		
WEIGHT OF HOOKS, HOOK BLOCKS, SLINGS, JIBS, AND ALL OTHER LOAD HANDLING DEVICES, EXCEPT THE HOIST ROPE, SHALL BE CONSIDERED PART OF THE LOAD.		
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52	116-5	6,100
47	107-7	4,400
40	96-9	3,000
33	83-1	2,000
24	64-5	1,300
10	30-6	900

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*****SWING AROUND EXTENSION**

MAXIMUM ALLOWABLE LOADS WHEN LIFTING OVER SWING AROUND EXTENSION ARE DETERMINED BY BOOM ANGLE ONLY. FOR BOOM ANGLES NOT SHOWN, USE RATING OF NEXT LOWER BOOM ANGLE SHOWN.



CRANE AND JIB SERVICE

Maximum Allowable Loads shown apply only to machines with all components in first class condition built or recommended by Bucyrus-Erie Company.

Maximum Allowable Loads are based on freely suspended loads with the machine leveled and standing on a firm, uniform supporting surface. Practical working loads depend on supporting ground, the effect of shock or side loading, wind, and other factors affecting stability, hazardous surroundings, experience of personnel and proper handling, all of which must be taken into account by the operator.

Maximum Allowable Loads are based on components and conditions shown under "LIMITATIONS" and "MACHINE EQUIPMENT".

Maximum Allowable Loads are in accordance with P.C.S.A. Standard #2.

Load Radius is the horizontal distance from the axis of rotation before loading to the center of the vertical hoist line or tackle with load applied.