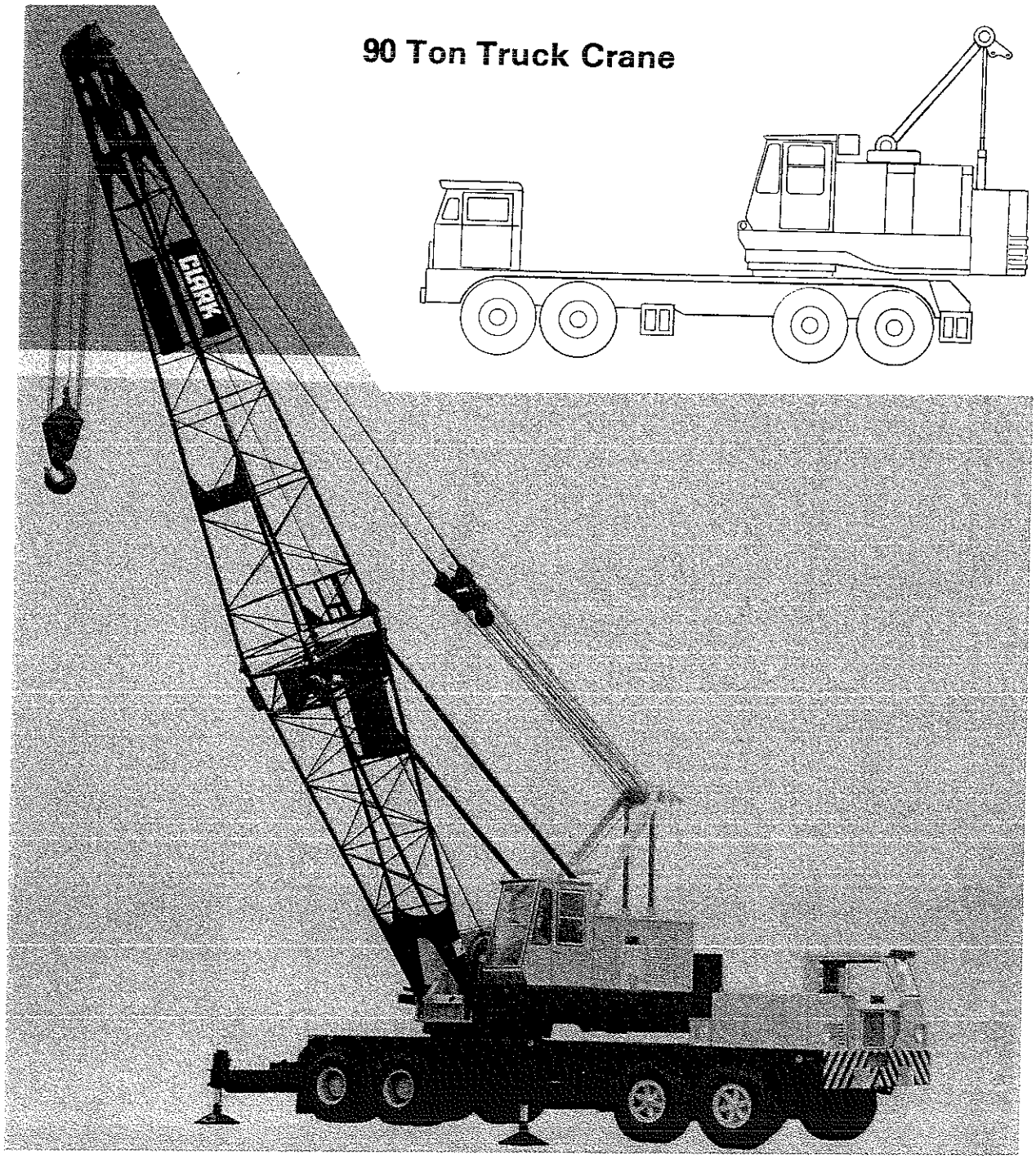
CLARK Lima Division 990-TC Specification

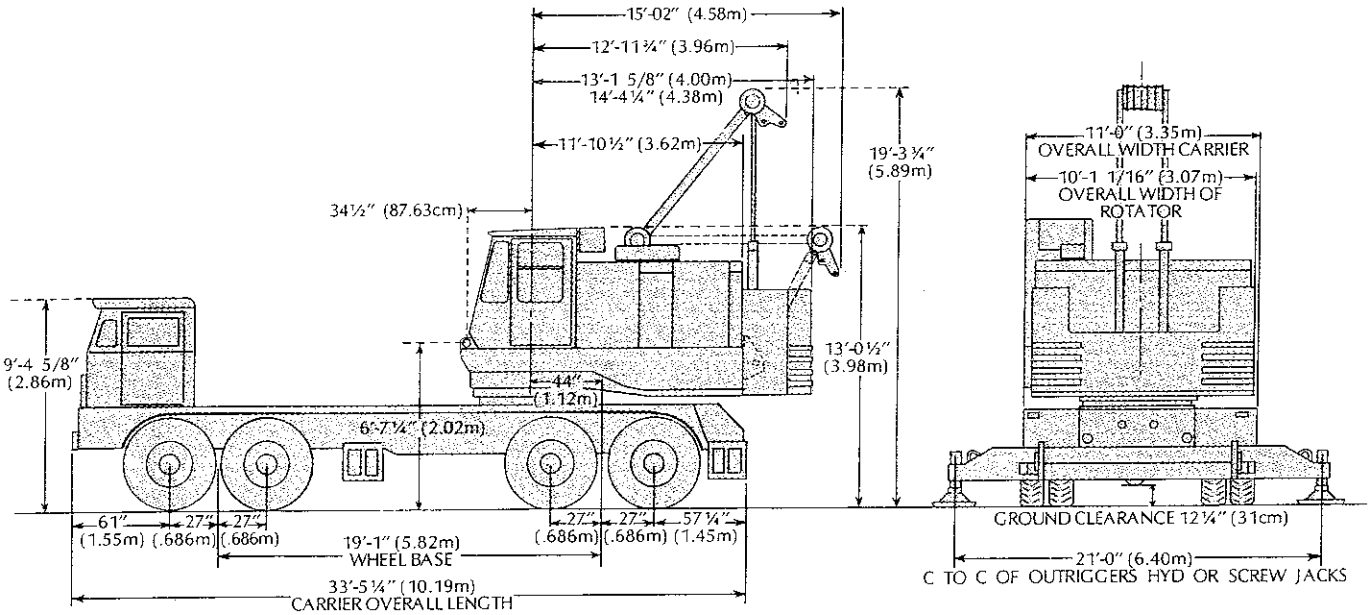
90 Ton Truck Crane



Reproductions Distributed by Equipment Guide-Book Company, Palo Alto, California 94303

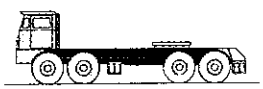
Courtesy of Crane.Market

CLEARANCE AND DIMENSIONS



WEIGHTS OF COMPONENT PARTS

CARRIER
T-1



Total Weight of Carrier with Standard Diesel Engine and Hydraulic Outriggers

57,955lbs.* (26,288kg)

ROTATOR
R-1

Total Weight of Rotating Assembly With Standard Diesel Engine with Torque Converter and 30,930 lbs (14,030kg.) Counterweight.

60,760lbs.* (27,560kg.)

CRANE ATTACHMENT
A-2

Total Weight of Crane Attachment with 50' (15.2m) pin connected tubular boom 60-¼" (153.0cm.) x 65-¼" (165.7cm.) (5 point sheaves) with rope guards; 12 part boom hoist crossover and swaged type pendants for basic boom: 16" (40.6cm) rear drum (smooth laggings); swing snubber; boom angle indicator; telescopic boom-stop with air shutoff and necessary wire ropes. Meets or exceeds OSHA, and B-30.5

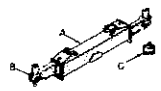
8,810 lbs.* (3,996kg.)

MISCELLANEOUS

Hook Block 1,625lbs. (737kg.)
Boom Stop 610lbs. (277kg.)
Ball & Hook 8½ Ton (7.72 Ton) . . 340lbs. (154kg.)

Crossover and Basic Pendants—
12 Part Line 950lbs. (431kg.)
Mid-Point Suspension
160'(48.77m) thru 180' (54.86m) Boom 565lbs. (256kg.)
190' (57.9m) thru 200' (60.96m) Boom 660lbs. (299kg.)

OUTRIGGER BOXES, BEAMS AND FLOATS

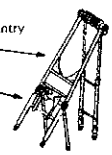


HYDRAULIC OUTRIGGERS:
A-Outrigger Box (2) . . . . 2,820lbs. (1,279kg.) Ea
B-Outrigger Beams (4). . . . 1,800lbs. (816kg.) Ea
C-Floats (4) . . . . . 110lbs. (50kg.) Ea.

BUMPER CWT.
13,415lbs. (6,085kg.)

For Third Drum (Subtract) . . . 150lbs. (68kg.)

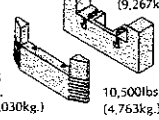
GANTRIES:
Telescopic Back-Hitch Gantry 2,445 lbs (1,109kg.)
Basic Gantry 825lbs (374kg.)



Note: Weight of Basic Gantry is Included In Rotating Assembly

20,430 lbs. (9,267kg.)

COMPLETE ROTATING REAR CWT.
30,930lbs. (14,030kg.)



10,500lbs. (4,763kg.)

BOOM AND BOOM EXTENSIONS

30' (9.14m) Point Section . . . 2,710lbs. (1,229kg.)
20' (6.10m) Base Section 2,175lbs. (987kg.)
10' (3.05m) Extension 815lbs. (370kg.)
20' (6.10m) Extension 1,285lbs. (583kg.)
30' (9.14m) Extension 1,655lbs. (751kg.)
40' (12.19m) Extension 2,205lbs. (1,000kg.)

*Main Sheave and Guidesheaves Included in Point Section Weight All Extension weights, Include Pendants.

JIB

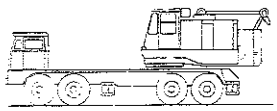
20' (6.10m) Basic Jib Assembly . 1,780lbs. (807kg.)
10' (3.05m) Jib Extension 420lbs. (191kg.)
20' (6.10m) Jib Extension 690lbs. (313kg.)
Maximum Jib Length 60ft. (18.29m)

Operating Wire Ropes	Basic Weight	For Each Additional 10 ft. of boom—Add
Crane (Main Hoist)	1020lbs. (463kg.)	—
Crane (Aux. Hoist)	540lbs. (245kg.)	20lbs. (9.1kg.)
Dragline	210lbs. (95kg.)	25lbs. (11kg.)
Clamshell	190lbs. (86kg.)	20lbs. (9.1kg.)
Boom Hoist	490lbs. (222kg.)	—

A-3 Dragline Attachment (Less Bucket)
Tubular Boom 6,145lbs. (2,787kg.)
Deck Mounted Fairlead. 745lbs. (338kg.)
Additional Rotating Parts . . . 660lbs. (299kg.)
Total Attachment Wt. . . . 7,550lbs. (3,425kg.)

A-4 Clamshell Attachment (Less Bucket)
Tubular Boom 6,265lbs. (2,842kg.)
Tagline Winder 355lbs. (161kg.)
Additional Rotating Parts . . . 660lbs. (299kg.)
Total Attachment Wt. . . . 7,280lbs. (3,302kg.)

*Per Current Price List Description



TOTAL WEIGHT OF T-1, R-1 & A-2 = 127,525lbs. (57,845kg.)
TOTAL WEIGHT OF T-1 & R-1 = 118,715lbs. (53,849kg.)

WORKING WEIGHTS (Approximate in pounds)

	HYDRAULIC OUTRIGGERS
LIFTING CRANE	127,525lbs. (57,845kg.)
CLAMSHELL (Less Bucket)	126,080lbs. (57,190kg.)
DRAGLINE (Less Bucket)	126,350lbs. (57,312kg.)

Reproductions Distributed by Equipment Guide-Book Company, Palo Alto, California 94303

Courtesy of Crane.Market

AXLE LOADING AND WEIGHTS

EQUIPPED AS FOLLOWS: Truck: Cummings NTC-290 with Jacob brakes, hydraulic outriggers, boom rest and 14:00" x 20" (35.6cmx50.8cm) 20 ply tires. UPPER: Cummins N-855-P-160 power plant with 3 stage converter; includes 50 ft. (15.24M tubular boom; full width front drum with power load lowering; rear drum with power load lowering; boom stops, cables and Sprague clutch. Does not include hook block or ball hook.

		WITH HYDRAULIC OUTRIGGERS & FLOATS		
WEIGHT COMBINATIONS	BOOM POSITION	FRONT	REAR	TOTAL
COMPLETE MACHINE (CRANE)	F	21,225lbs. (9,627kg.)	106,300lbs. (48,218kg.)	127,525lbs. (57,845kg.)
	R	53,775lbs. (24,392kg.)	73,750lbs. (33,453kg.)	127,525lbs. (57,845kg.)
MACHINE LESS COUNTERWEIGHT	F	35,320lbs. (16,021kg.)	61,275lbs. (27.794kg.)	96,595lbs. (43,815kg.)
	R	27,795lbs. (12,608kg.)	68,800lbs. (31,207kg.)	96,595lbs. (43,815kg.)
MACHINE LESS COUNTERWEIGHT,	F	32,640lbs. (14,806kg.)	50,675lbs. (22,986kg.)	83,315lbs. (37,792kg.)
BOXES, BEAMS & FLOATS	R	25,115lbs. (11,392kg.)	58,200lbs. (26,400kg.)	83,315lbs. (37,792kg.)
MACHINE LESS COUNTERWEIGHT,	F	23,985lbs. (10,880kg.)	56,290lbs. (25,533kg.)	80,275lbs. (36,413kg.)
BOXES, BEAMS, FLOATS & POINT SECTION	R	32,605lbs. (14,790kg.)	47,670lbs. (21,623kg.)	80,275lbs. (36,413kg.)
MACHINE LESS COUNTERWEIGHT, BOXES	F	19,760lbs (8,963kg.)	55,055lbs. (24,973kg.)	74,815lbs. (33,936kg.)
BEAMS, FLOATS & COMPLETE BOOM	R	34,730lbs (15,753kg.)	40,085lbs. (18,183kg.)	74,815lbs. (33,936kg.)

F—DENOTES BOOM EXTENDED FORWARD
R—DENOTES BOOM EXTENDED REARWARD
NOTE: Any deviation from the equipment listed above will affect the weights shown proportionately and compensation must be made accordingly.

POWER PLANT DATA (CARRIER)

	MAKE	MODEL	FUEL	CYL.	BORE & STROKE	RATED H.P.
TRUCK CARRIER	Cummins	NTC-290	Diesel	6	5½" (140mm) x 6" (152mm)	290 @ 2,100
	GM	8V-71	Diesel	8	4½" (108mm) x 5" (127mm)	318 @ 2,100

PERFORMANCE DATA (CARRIER)

Number of Travel Speeds Standard—15 Forward and 3 Reverse
Turning Radius — 49Ft. (On Center Outside Front Tire)

ENGINE MAKE & MODEL	CARRIER EQUIPPED WITH 5 SPEED MAIN & 4 SPEED AUXILIARY TRANS.			
	LOW RANGE*		HIGH RANGE**	
	GRADE	SPEED	GRADE	SPEED
Cummings NTC-290	40.0	1.4MPH (2.25KmPH)	1.0	44.7MPH (71.92KmPH)
GM 8V-71	40.0	1.3MPH (2.09KmPH)	1.3	44.7MPH (71.92KmPH)

NOTE: The above is based on a machine equipped with a 5 speed Fuller main transmission and a Spicer (4) speed auxiliary transmission and 14.00" x 20" (35.6cm x 50.8cm) tires.

Maximum engine torque & machine weighing 127,525 lbs. (57,845kg.)
Maximum engine speed & machine weighing 74,815 lbs. (33,936kg.)
} These weights apply to a standard equipped machine.

Reproductions Distributed by Equipment Guide-Book Company, Palo Alto, California 94303

Courtesy of Crane.Market

DESCRIPTIVE DATA (CARRIER)

Basic, Standard and Optional Components

FRAME: Carrier frame of heavy-duty, all welded construction. Two main members, each of deep box section, are joined together by bumper and box section cross members. 100,000 P.S.I. (7,030kg/cm2) steel is used in higher stressed members of frame. Tow hooks, front and rear.

SWING CIRCLE: A large diameter, single row, antifriction bearing assembly with integral swing gear. Bearing is well sealed with close fitting races, eliminating rocking motion of rotating assembly on carrier.

OUTRIGGER BOXES: The two outrigger boxes are fabricated from steel plates. Boxes are of the pin-on design for ease of removal.

OUTRIGGER BEAMS: four, box section extensible beams mounted two in each outrigger box are fabricated of 100,000 P.S.I. (7,030kg/cm2) steel.

HYDRAULIC OUTRIGGERS: Independent control valves for extending each beam and for lowering each hydraulic jack with T-1 steel floats provide precise leveling of truck. Control valve station on carrier at ground level.

REMOTE CONTROLLED CARRIER: Controls provided in cab of rotating assembly that can start, steer, brake, clutch, shift transmission (low and reverse) and control throttle is available.

FRONT TANDEM SUSPENSION: Front tandem axles are suspended by two alloy steel underslung equalizers, direct-connected to chassis frame. Two radius rods on each axle maintain proper positioning of axles.

FRONT AXLES: Two tubular-high clearance type, rating 27,400# (12,429kg.) each. Wheels are mounted on roller bearings.

REAR AXLES: Planetary drive with inter-axle differential. No spin differential is available.

REAR TANDEM SUSPENSION: Rear tandem axles are suspended by two alloy steel underslung equalizers, direct-connected to chassis frame. One torque rod on each axle maintains proper positioning of axles.

WHEELS: Heavy-duty 20" (50.8cm) x 10.0" (25.4cm) rims, four singles in front, four duals in rear, making a total of twelve wheels.

TIRES: Twelve 14.00" (35.6cm) x 20" (50.8cm) 20 ply rating.

FUEL CAPACITY: 85 Gal. (322 Liters)

FENDERS: Fenders are of the combination fender-deck design, providing a flat full width-full length walkway.

SERVICE BRAKES: Air brakes on all wheels. Front brake shoes are 17¼" (44.0cm) diameter x 4" (10.2cm) wide. Rear brake shoes are 16½" (41.9cm.) diameter x 7" (17.8cm.) wide. The carrier engine is equipped with a Jacobs engine brake as standard equipment.

SAFETY BRAKES: Spring set, air released brake cylinders on rear axles lock brakes in case of air loss or for parking. An auxiliary air reservoir and controls allow brakes to be released and reapplied several times after loss of regular air supply.

OPERATING BRAKE: A hand-operated air valve applies the service brakes when required for holding the machine when operating.

STEERING: Hydraulic steering with Ross roller mounted cam and twin lever type steering gear powered by engine driven pump, double acting cylinder and hydraulic control valve built into draglink.

MAIN TRANSMISSION: Fuller with five speeds forward and one reverse.

AUXILIARY TRANSMISSION: Spicer with four speeds giving 20 speeds forward and three reverse.

CLUTCH: Lipe Rollway 14" (35.6cm.) 2-DLB.

CAB: One-man type, with visor type top. All steel construction, amply ventilated for summer or winter. Adjustable seat. Instrument cluster contains speedometer, odometer, ammeter, oil pressure gauge, water temperature gauge, fuel gauge and pilot light. Instrument panel contains air gauge, light switches, ignition and starter switch.

BUMPER COUNTERWEIGHT: One piece, required when using long boom or boom and jib combination. See "boom and jib data."

MISCELLANEOUS ACCESSORIES: Inflating hose and tire pressure gauge, boom rest, rear view mirrors, two beam headlights, stop and tail light, front, middle and rear marker lights and parking lights, electric directional signals, spare wheel with or without tire, air or electric windshield wipers, air and electric dual horns, fender flaps, heater and defrosters.

Reproductions Distributed by Equipment Guide-Book Company, Palo Alto, California 94303

Courtesy of Crane.Market

POWER PLANT DATA (ROTATOR)

ROTATING ASSEMBLY		
MAKE	CUMMINS	G.M.
MODEL	N855-P160	4081
FUEL	Diesel	Diesel
CYL.	6	4
BORE & STROKE	5-1/2" (140mm) x 6" (152mm)	4¼" (108mm) x 5" (127mm)
GROSS RATED HP	160 @ 1800	150 @ 2300
TORQUE CONV. HP @ GOVERNED R.P.M.	135 @ 1800	130 @ 1800

LINE PULL	LINE SPEED*	
	1st Layer on Drum 16" (40.6cm) Pitch Dia.	6th Layer On Drum 23½" (59.7cm) Pitch Dia.
16,800lbs. (7,620kg)	177fpm (54mpm)	175fpm (53mpm)
13,500lbs. (6,124kg)	205fpm (62mpm)	220fpm (67mpm)
10,000lbs. (4,536kg)	237fpm (72mpm)	265fpm (81mpm)
6,000lbs. (2,722kg)	279fpm (85mpm)	367fpm (112mpm)
2,000lbs. (907kg)	323fpm (98mpm)	456fpm (139mpm)

*—Third Drum Speeds Are Approximately 88% of the speeds indicated in the Chart.

CLUTCH AND BRAKE DATA

FUNCTION	CLUTCHES				BRAKES			
	Type	Width	Diameter	Area	Type	Width	Diameter	Area
Main Hoist	Band	5" (12.7cm)	24" (61.0cm)	337 Sq. In. (2,174 Sq. cm)	Band	4½" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)
Auxiliary Hoist	Band	5" (12.7cm)	24" (61.0cm)	337 Sq. In. (2,174 Sq. cm)	Band	4½" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)
3rd Drum Hoist	Band	5" (12.7cm)	24" (61.0cm)	337 Sq. In. (2,174 Sq. cm)	Band	4½" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)
Boom Hoist	Band	5" (12.7cm)	24" (61.0cm)	337 Sq. In. (2,174 Sq. cm)	Band	4½" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)
Swing	2 Shoe	4½" (11.4cm)	24" (61.0cm)	290 Sq. In. (1,871 Sq. cm)	Band	4½" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)
Boom Lowering	Band	4½" (11.4cm)	20" (50.8cm)	248 Sq. In. (1,600 Sq. cm)				
Load Lowering	Band	4½" (11.4cm)	20" (50.8cm)	248 Sq. In. (1,600 Sq. cm)	Band	4" (10.2cm)	26" (66.0cm)	240 Sq. In. (1,548 Sq. cm)
*Front Drum	Band	5" (12.7cm)	24" (61.0cm)	337 Sq. In. (2,174 Sq. cm)	Band	4½" (11.4cm)	30" (76.2cm)	338 Sq. In. (2,181 Sq. cm)

Full width front drum with planetary load lowering.

LAGGING DATA

Lagging Location	Usage	Lagging P.D.	Lagging Width	Type of Lagging	Eff. Capy. 1st Layer	Maximum Capy. & Layers	Wire Rope Size
L.H. Front	Third Drum	14" (35.6cm)	11" (27.9cm)	Smooth	45' (13.7m)	464' (141.4m) In 7	3/4" (19.1mm)
R.H. Front	Crane Auxiliary Hoist	16" (40.6cm)	14-1/2" (36.8cm)	Smooth	71' (21.6m)	569' (173.4m) In 6	3/4" (19.1mm)
R.H. Front	Dragline Drag	16-1/8" (41.0cm)	14-1/2" (36.8cm)	Grooved	49' (14.9m)	—	7/8" (22.2mm)
L.H. Rear	Dragline Hoist	16" (40.6cm)	14-1/2" (36.8cm)	Grooved	48' (14.6m)	—	3/4" (19.1mm)
L.H. Rear	Main Hoist	16" (40.6cm)	14-1/2" (36.8cm)	Smooth	71' (21.6m)	569' (173.4m) In 6	3/4" (19.1mm)
L.H. Rear	Clamshell Closing	16" (40.6cm)	14-1/2" (36.8cm)	Grooved	48' (14.6m)	—	3/4" (19.1mm)
R.H. Front	Clamshell Holding	16" (40.6cm)	14-1/2" (36.8cm)	Grooved	48' (14.6m)	—	3/4" (19.1mm)
R.H. Rear	Boom Hoist	12" (30.5cm)	8-1/2" (21.6cm)	Smooth	28' (8.5m)	372' (113.4m) In 8	3/4" (19.1mm)
Full Width Front Drum	Main or Aux. Hoist	16" (40.6cm)	24-1/8" (61.3cm)	Smooth	123' (37.5m)	959' (292.3m) In 6	3/4" (19.1mm)

MISCELLANEOUS DATA (ROTATOR)

Swing Speed	3.4 RPM	Fuel Capacity 210 Gallons (795 Liters)

Reproductions Distributed by Equipment Guide-Book Company, Palo Alto, California 94303

Courtesy of Crane.Market

DESCRIPTIVE DATA (ROTATING ASSEMBLY)

Basic Standard and Optional Components

ROTATING BASE: Fabricated with integral machinery frames. Fuel tank built in rear.

SHAFTING: All shafting heat treated alloy steel ground to size. Involute splines used extensively.

VERTICAL SWING SHAFT: The vertical swing shaft and pinion is one piece, mounted on anti-friction bearings.

HORIZONTAL SWING SHAFT: This shaft is mounted on anti-friction bearings, geared to the front and rear drum shafts. It supplies power to the vertical swing shaft through a bevel pinion.

SWING BRAKE: A swing brake operates on the outside of the front swing clutch housing for use as a lock brake.

SWING BRAKE WITH SNUBBER: Same as swing brake except an additional control valve on swing lever provided for momentarily holding while setting loads.

JACK SHAFT: This shaft is mounted on ball bearings, and supplies power through a pinion gear to the power lowering shaft. Lube oil pump is belt driven from right hand end of jack shaft.

FRONT DRUM SHAFT: Supported by self-aligning anti-friction bearings and ball bearings. Mounted on the right hand end of this shaft is a swing clutch geared to the horizontal swing shaft. The right hand drum is a split lagging design, either smooth or grooved. All drums are mounted on ball bearings. Refer to "lagging data" table for specifications.

REAR DRUM SHAFT: Supported by self-aligning anti-friction and ball bearings. Mounted on the right hand end of this shaft is a swing clutch geared to the horizontal swing shaft. The right hand or boom hoist drum is solid-type design. The left hand drum is a split lagging design, either smooth or grooved. All drums are mounted on ball bearings. Refer to "lagging data" table for specifications.

HOIST BRAKES: Are external contracting friction band type, mechanically operated by pedals mounted on anti-friction bearings for maximum ease of operation. Hoist brakes have a foot-controlled lock.

CLUTCHES: All clutches are air actuated. All clutches are of the internal expanding friction band type with the exception of the swing clutches which are of the internal two shoe design.

BOOM HOIST: The boom hoist located on the rear drum shaft is of the spur gear and chain design with power up and power down control. Hoisting control is through and air actuated clutch with a spring set, air released holding brake. The brake automatically releases when hoisting or lowering. The lowering is controlled through an air actuated clutch mounted on the power lowering shaft and chain connected to the boom hoist drum. Lowering speed is reduced considerably resulting in a very smooth, precision, lowering operation. A ratchet and pawl device is supplied for added safety.

BOOMS AND JIBS: Extensible type with tubular chords—refer to boom and jib data.

BOOM STOP: Telescopic with or without automatic air cut-off of boom hoist clutch.

FAIRLEAD: Deck mounted, full revolving.

BOOM SUSPENSION: Crossover with 12 parts of line and 12 parts with mid-point suspension depending on boom length.

THIRD DRUM: One piece high capacity lagging running on ball bearings, located at left hand side of front drum shaft. Actuated by air operated clutch and brake. Refer to "lagging data" table for specifications.

FULL WIDTH FRONT DRUM: High capacity drum located on the front shaft, mounted on ball bearings and equipped with planetary controlled load lowering. Refer to "lagging data" table for specifications. (Third drum not available with this equipment.)

POWER LOWERING SHAFT: This shaft is located behind the rear hoist drum shaft and accommodates the power boom lowering and power load lowering.

POWER LOAD LOWERING: The power load lowering, air actuated clutch is chain connected to the left hand rear main hoist drum. The load lowering speed is reduced considerably, resulting in a very smooth precision, lowering operation.

COUNTERWEIGHT: Two piece counterweight mounted at rear of rotating frame. Readily removable for weight reduction of machine for transporting.

COUNTERWEIGHT REMOVAL EQUIPMENT: Includes sheaves in base section of boom, lifting slings, and boom stop. Hoist cable over sheaves in boom base is used to load or unload counterweight from auxiliary truck. Gantry power up and down feature is used to position counterweight with slings provided.

GANTRY: The gantry consists of a basic low gantry to which is attached a high gantry having telescopic back legs with three set positions. Gantry can be (1) pinned in low position at cab height for traveling with low clearance, (2) pinned in mid-position for traveling with boom suspended over rear of carrier, and (3), raised to full height for machine operation.

CONTROLS: All controls are air except hoist brakes which are mechanical.

OPERATOR'S CAB: Machine equipped with enviromental operator's cab lined with sound barrier and deadening material, cuts noise level by an estimated 50 percent. Cab can be heated or air conditioned. Controls are grouped for maximum operator convenience, comfort and efficiency. Side and front windows slide up and down for ventilation. Numerous hatches and doors are provided for access to machinery and power plant. Hoist drums are not covered.

GEARING AND CHAIN DRIVES: All gearing, except rotating pinion and gear, is fully enclosed, running in oil with pump circulation for positive lubrication. The four chain sprockets for boom hoist and load lowering device require hand lubrication. Power take-off chain drive is fully enclosed, running in an oil bath.

MISCELLANEOUS ACCESSORIES: Ball and hook, hook block, electric signal horn, running board (short hook on type).

POWER TAKE-OFF: Disconnect clutch, precision roller chain.

Reproductions Distributed by Equipment Guide-Book Company, Palo Alto, California 94303

Courtesy of Crane.Market

MAXIMUM LENGTH BOOM OR BOOM AND JIB COMBINATION THAT CAN BE HANDLED HORIZONTALLY WITH OR WITHOUT BUMPER COUNTERWEIGHT AS INDICATED

20,430lbs. [9,267kg] Counterweight			
Over Rear With OR.		Over Side With OR.	
L/B CWT.	W/B CWT.	L/B CWT.	W/B CWT.
200' (61.0m)	200' (61.0m)	190' (57.9m)	200' (61.0m)
170' (51.8m) + 20' (6.1m)	200' (61.0m) + 20' (6.1m)	170' (51.8m) + 20' (6.1m)	170' (51.8m) + 20' (6.1m)
170' (51.8m) + 30' (9.1m)	190' (57.9m) + 30' (9.1m)	160' (48.8m) + 30' (9.1m)	170' (51.8m) + 30' (9.1m)
160' (48.8m) + 40' (12.2m)	190' (57.9m) + 40' (12.2m)	160' (48.8m) + 40' (12.2m)	160' (48.8m) + 40' (12.2m)
160' (48.8m) + 50' (15.2m)	180' (54.9m) + 50' (15.2m)	150' (45.7m) + 50' (15.2m)	160' (48.8m) + 50' (15.2m)
150' (45.7m) + 60' (18.3m)	180' (54.9m) + 60' (18.3m)	150' (45.7m) + 60' (18.3m)	150' (45.7m) + 60' (18.3m)
Over Rear Less OR.		Over Side Less OR.	
L/B CWT.	W/B CWT.	L/B CWT.	W/B CWT.
150' (45.7m)	170' (51.8m)	130' (39.6m)	140' (42.7m)
120' (36.6m) + 20' (6.1m)	150' (45.7m) + 20' (6.1m)	100' (30.5m) + 20' (6.1m)	110' (33.5m) + 20' (6.1m)
120' (36.6m) + 30' (9.1m)	140' (42.7m) + 30' (9.1m)	100' (30.5m) + 30' (9.1m)	100' (30.5m) + 30' (9.1m)
110' (33.5m) + 40' (12.2m)	140' (42.7m) + 40' (12.2m)	100' (30.5m) + 40' (12.2m)	100' (30.5m) + 40' (12.2m)
110' (33.5m) + 50' (15.2m)	130' (39.6m) + 50' (15.2m)	90' (27.4m) + 50' (15.2m)	100' (30.5m) + 50' (15.2m)
100' (30.5m) + 60' (18.3m)	130' (39.6m) + 60' (18.3m)	90' (27.4m) + 60' (18.3m)	90' (27.4m) + 60' (18.3m)
With 30,930lbs. [14,030kg] Counterweight			
Over Rear With OR.		Over Side With OR.	
L/B CWT.	W/B CWT.	L/B CWT.	W/B CWT.
200' (61.0m)	200' (61.0m)	200' (61.0m)	200' (61.0m)
190' (57.9m) + 20' (6.1m)	200' (61.0m) + 20' (6.1m)	180' (54.9m) + 20' (6.1m)	190' (57.9m) + 20' (6.1m)
180' (54.9m) + 30' (9.1m)	200' (61.0m) + 30' (9.1m)	180' (54.9m) + 30' (9.1m)	180' (54.9m) + 30' (9.1m)
180' (54.9m) + 40' (12.2m)	200' (61.0m) + 40' (12.2m)	170' (51.8m) + 40' (12.2m)	180' (54.9m) + 40' (12.2m)
170' (51.8m) + 50' (15.2m)	200' (61.0m) + 50' (15.2m)	170' (51.8m) + 50' (15.2m)	180' (54.9m) + 50' (15.2m)
170' (51.8m) + 60' (18.3m)	190' (57.9m) + 60' (18.3m)	160' (48.8m) + 60' (18.3m)	170' (51.8m) + 60' (18.3m)

OR. - Outriggers
L/B CWT. - Less Bumper Counterweight
W/B CWT - With Bumper Counterweight

BOOM AND JIB DATA

Boom, Tubular Pin Connected	
Type Service	Crane - Drag - Clamshell
Suspension	Cross Over and Pendants
Gantry	High Back Hitch (Telescoping Type)
Quan. Sheaves at Point Shaft	5
Convertibility	Crane - Dragline - Clamshell
Dia. Point Sheaves	15¾"(40.0cm) P.D. - ¾" (19.1mm) Cable
Basic Boom Length	50' (15.2m)
Type Chords	3¼" (83mm) O.D. 100,000 P.S.I. (7,030kg/cm2) Steel
Extensions	10' (3.05m), 20' (6.1m), 30' (9.1m) and 40' (12.2m) straight 60¼" (153cm) x 65¼" (166cm) sec.
Max. Boom Length	Crane 200' (61.0m) Drag. & Clam 60' (18.3m)

Jib, Tubular Pin Connected	
Basic Length	20' [25½" (64.8cm) x 34½" (87.6cm sec)]
Max. Length	60' (18.3m)
Chord Size	2½" (64mm) O.D.
Chord Material	100,000 P.S.I. (7,030kg/cm2) Yield
Quan. Sheaves at Point	One (1)
P.D. Point Sheave	15¼" (40cm) P.D. [¾" (19.1mm) Cable]
Capacity — 20'-0" (6.1m)	13 Ton (11.8 Ton)
30'-0" (9.1m)	10 Ton (9.1 Ton)
40'-0" (12.2m)	7 Ton (6.4 Ton)
50'-0" (15.2m)	5 Ton (4.5 Ton)
60'-0" (18.3m)	4 Ton (3.6 Ton)

BOOM HOIST SUSPENSION DATA

*Boom Length	Reeving Required	Mid-Point Suspension Location
Up thru 150' (45.7m)	12 Part Crossover	None
160' (48.8m) thru 180' (54.9m)	12 Part w/Mid-Point Suspension	90' (27.4m) From Boom Foot Pin
190' (57.9m) & 200' (61.0m)	12 Part w/Mid-Point Suspension	100' (30.5m) From Boom Foot Pin

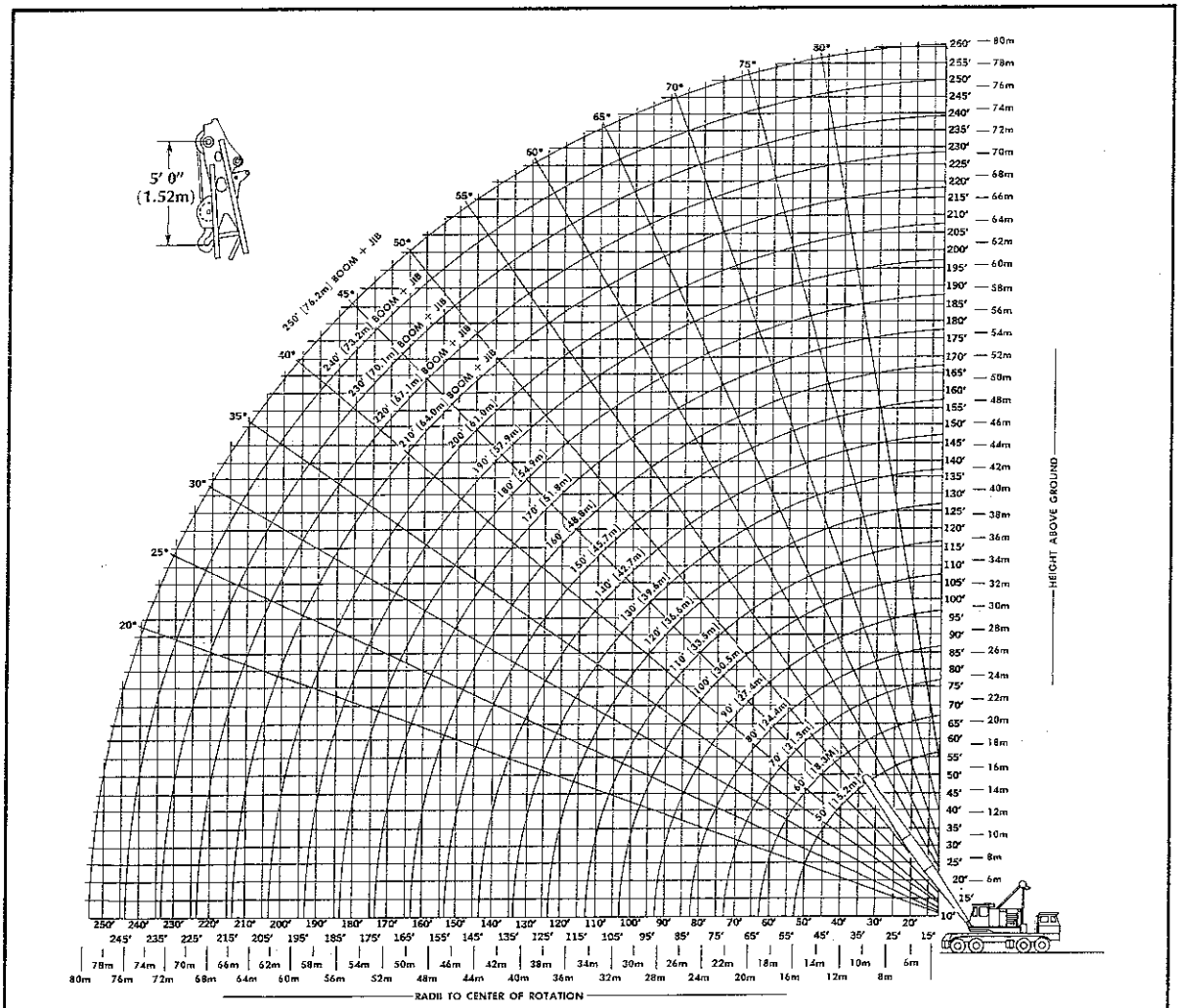
*Boom length determines suspension required. Jib Does not affect requirement.

Time Required to Raise Or Lower A 50' (15.2m) Boom From 20° Above Horizontal To 70° Above Horizontal With 12 Part Boom Hoist Reeving	to Raise	To Lower
	55 Sec.	88 Sec.

Reproductions Distributed by Equipment Guide-Book Company, Palo Alto, California 94303

Courtesy of Crane.Market

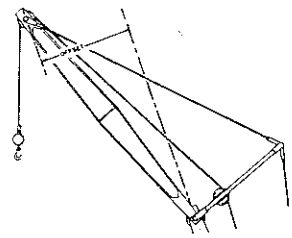
CRANE WORKING RANGES



For Boom or jib specifications, descriptions, maximum lengths and applications, refer to boom and jib Data Chart.

Recommended Wire Rope Reeving For Hook Blocks	
Load in Pounds	**No. Part Line**
Over 16,800lbs. (7,620kg)	2
Over 33,600lbs. (15,240kg)	3
Over 50,400lbs. (22,860kg)	4
Over 67,200lbs. (30,480kg)	5
Over 84,000lbs. (38,100kg)	6
Over 100,800lbs. (45,720kg)	7
Over 117,600lbs. (53,340kg)	8
Over 134,400lbs. (60,960kg)	9
Over 151,200lbs. (68,580kg)	10
Over 168,000lbs. (76,200kg)	11

Based upon ¾" dia. wire rope with a minimum breaking strength of 58,800 lbs.



Heavy Duty Jib 25½" (64.8cm) x 34½" (87.6cm) Sec.			
Jib Length	**Rating**	**Offset**	**Effective Weight**
20' (6.1m)	13 Ton (11.8 Ton)	6'-2" (1.88m)	2,055lbs. (932kg.)
30' (9.1m)	10 Ton (9.1 Ton)	11'-3" (3.43m)	2,650lbs. (1,202kg.)
40' (12.2m)	7 Ton (6.4 Ton)	16'-2" (4.93m)	3,360lbs. (1,524kg.)
50' (15.2m)	5 Ton (4.5 Ton)	21'-1" (6.43m)	4,010lbs. (1,819kg.)
60' (18.3m)	4 Ton (3.6 Ton)	26'-0" (7.93m)	4,865lbs. (2,207kg.)

Jib capacities are approximately the same as Boom capacities at any given radius, but not to exceed the rating listed above. Effective Jib weight to be subtracted from Boom capacity chart if load is raised on Boom point when Jib is assembled on Boom.

Reproductions Distributed by Equipment Guide-Book Company, Palo Alto, California 94303

Courtesy of Crane.Market

CRANE LIFTING CAPACITIES (METRIC)

81.6 Tons
Class 4.6-224

Maximum Counterweight: Outriggers Extended and set ..... 14,030 kg.
On rubber tires ..... 9,265 kg.

Boom Length	Boom Radius	Boom Height	Boom Angle	Outriggers Extended And Set ‡Side/Rear	On Tires ‡Side	On Tires Rear
15.24	4.6	16.8	75.9	*81,650	29,380	33,720
	6	16.4	70.4	*58,960	20,100	23,600
	8	15.5	62.1	42,475	13,625	16,275
	10	14.2	53.2	29,525	10,150	12,275
	12	12.4	43.1	22,475	7,950	9,725
	14	9.8	30.6	18,025	6,450	7,975
	15	7.7	22.1	*15,795	5,900	7,295
18.29	4.6	19.9	78.3	*77,110	29,240	33,635
	6	19.6	73.7	*58,500	20,025	23,500
	8	18.9	67.1	42,450	13,575	16,200
	10	17.9	60.2	29,500	10,075	12,200
	12	16.5	52.5	22,450	7,875	9,650
	14	14.8	44.2	18,000	6,375	7,900
	16	12.3	34.2	14,925	5,300	6,625
	18	8.4	20.6	*12,235	4,475	5,650
21.34	6	22.7	76.1	*55,430	19,975	23,450
	8	22.1	70.5	*42,045	13,500	16,125
	10	21.3	64.7	29,475	9,975	12,100
	12	20.2	58.6	22,400	7,775	9,550
	14	18.8	52.1	17,925	6,275	7,800
	16	17.1	44.9	14,850	5,175	6,500
	19	13.3	31.9	11,700	4,000	5,125
	21	9.1	19.4	10,175	3,425	4,425
24.38	6	25.9	77.9	*55,385	19,950	23,425
	8	25.3	73.0	*42,015	13,450	16,100
	10	24.6	68.0	29,450	9,950	12,050
	12	23.7	62.9	22,375	7,750	9,500
	14	22.6	57.4	17,900	6,225	7,750
	16	21.1	51.7	14,825	5,125	6,450
	19	18.3	42.0	11,650	3,950	5,075
	22	14.2	30.0	9,500	3,125	4,075
	24	9.7	18.5	8,425	2,675	3,550
27.43	6	29.0	79.2	*53,340	19,925	23,375
	8	28.5	75.0	*41,975	13,400	16,025
	10	27.9	70.6	29,425	9,850	11,975
	12	27.1	66.1	22,350	7,650	9,400
	14	26.1	61.4	17,850	6,125	7,650
	16	24.9	56.5	14,750	5,025	6,350
	19	22.6	48.6	11,575	3,850	4,950
	22	19.5	39.6	9,400	3,000	3,950
	25	15.1	28.4	7,850	2,375	3,200
	27	10.4	17.8	7,025	2,025	2,800
30.48	7	31.9	78.4	*40,765	16,025	19,000
	8	31.7	76.5	*38,985	13,325	15,950
	10	31.1	72.6	29,400	9,800	11,900
	12	30.4	68.6	22,300	7,575	9,325
	14	29.5	64.5	17,775	6,050	7,550
	16	28.5	60.3	14,675	4,950	6,275
	19	26.5	53.5	11,500	3,750	4,875
	22	24.0	46.1	9,325	2,925	3,875
	25	20.6	37.7	7,775	2,275	3,125
	28	15.9	27.1	6,575	1,800	2,550
	30	11.0	17.2	5,925	1,525	2,225
33.53	7	35.0	79.5	*40,755	15,975	18,950
	8	34.8	77.7	*38,070	13,250	15,875
	10	34.3	74.2	29,375	9,700	11,800
	12	33.6	70.6	22,250	7,475	9,225
	14	32.9	67.0	17,725	5,950	7,450
	16	31.9	63.2	14,600	4,850	6,150
	19	30.2	57.3	11,425	3,650	4,750
	22	28.1	51.0	9,250	2,800	3,750
	25	25.3	44.0	7,675	2,175	3,000
	28	21.7	36.0	6,475	1,675	2,425
	31	16.7	26.1	5,550	1,275	1,950
	33	11.6	16.7	5,025	1,075	1,700
36.58	8	37.9	78.8	*38,945	13,225	15,850
	10	37.4	75.6	*29,350	9,675	11,775
	12	36.9	72.3	22,225	7,450	9,200
	14	36.2	69.0	17,700	5,925	7,425
	16	35.3	65.6	14,575	4,825	6,125
	19	33.8	60.3	11,400	3,625	4,725
	22	31.9	54.7	9,225	2,775	3,725
	25	29.5	48.7	7,650	2,150	2,975
	28	26.6	42.1	6,450	1,650	2,400
	31	22.8	34.6	5,525	1,250	1,925
	34	17.5	25.1	4,750	925	1,575
	36	12.2	16.2	4,350	750	1,350
39.62	8	41.0	79.6	*13,775	13,150	15,775
	10	40.6	76.7	*26,775	9,600	11,700
	12	40.0	73.7	*22,105	7,375	9,125
	14	39.4	70.7	17,650	5,850	7,325
	16	38.6	67.6	14,525	4,725	6,025
	19	37.3	62.8	11,325	3,525	4,625
	22	35.5	57.8	9,150	2,675	3,625
	25	33.4	52.5	7,575	2,050	2,875
	28	30.9	46.8	6,375	1,550	2,300
	31	27.8	40.5	5,425	1,150	1,825
	34	23.8	33.3	4,675	825	1,450
	37	24.3	24.3	4,050		1,150
	39	12.8	15.8	3,700		950
42.67	9	43.9	79.0	*29,265	11,075	13,400
	10	43.7	77.7	*26,765	9,525	11,625
	12	43.2	74.9	*22,050	7,300	9,025
	14	42.6	72.1	17,575	5,750	7,250
	16	41.9	69.2	14,450	4,650	5,950
	19	40.6	64.9	11,250	3,450	4,550
	22	39.1	60.3	9,075	2,600	3,550
	25	37.2	55.6	7,500	1,950	2,800
	28	35.0	50.5	6,300	1,475	2,200
	31	32.2	45.1	5,350	1,075	1,750
	34	28.9	39.1	4,600	700	1,375
	37	24.7	32.2	3,975		1,050
	40	19.1	23.5	3,450		750
	42	13.4	15.5	3,150		
45.72	9	47.0	79.8	*29,255	11,000	13,325
	10	46.8	78.5	*26,755	9,450	11,525
	12	46.4	75.9	22,045	7,200	8,950
	14	45.8	73.3	17,525	5,675	7,150
	16	45.2	70.7	14,400	4,550	5,850
	19	44.0	66.7	11,175	3,350	4,425
	22	42.6	62.5	8,975	2,475	3,425
	25	40.9	58.2	7,400	1,850	2,675
	28	38.8	53.6	6,200	1,350	2,100
	31	36.4	48.8	5,250	925	1,625
	34	33.5	43.6	4,475		1,250
	37	30.0	37.8	3,850		900
	40	25.7	31.2	3,325		
	43	19.8	22.9	2,900		
	45	14.0	15.2	*2,370		
48.77	10	49.9	79.2	*23,990		
	12	49.5	76.8	*20,540		
	14	49.0	74.4	17,500		
	16	48.4	71.9	14,325		
	19	47.3	68.2	11,100		
	22	46.0	64.3	8,900		
	25	44.4	60.4	7,300		
	28	42.6	56.2	6,100		
	31	40.4	51.9	5,150		
	34	37.8	47.2	4,375		
	37	34.8	42.2	3,750		
	40	31.1	36.7	3,225		
	43	26.6	30.3	2,775		
	46	20.5	22.3	2,400		
	48	14.6	14.9	*1,905		
51.82	10	53.0	79.9	*23,980		
	12	52.6	77.6	*20,530		
	14	52.1	75.3	17,400		
	16	51.6	73.0	14,250		
	19	50.6	69.5	11,000		
	22	49.3	65.9	8,800		
	25	47.9	62.3	7,200		
	28	46.2	58.4	5,975		
	31	44.2	54.5	5,025		
	34	41.9	50.3	4,275		
	37	39.2	45.8	3,625		
	40	36.0	41.0	3,100		
	43	32.2	35.6	2,650		
	46	27.5	29.5	2,275		
	49	21.2	21.8	1,950		
	51	15.2	14.7	*1,402		
54.86	11	55.9	79.4	*22,245		
	12	55.7	78.3	*20,515		
	14	55.3	76.2	17,350		
	16	54.8	74.0	14,175		
	19	53.8	70.7	10,925		
	22	52.6	67.4	8,725		
	25	51.3	63.9	7,125		
	28	49.7	60.4	5,900		
	31	47.9	56.7	4,950		
	34	45.8	52.9	4,175		
	37	43.3	48.8	3,550		
	40	40.5	44.5	3,025		
	43	37.2	39.8	2,575		
	46	33.2	34.7	2,175		
	49	28.4	28.7	1,850		
	52	21.9	21.3	1,550		
	53	19.1	18.2	*1,020		
57.91	11	59.0	79.9	*21,125		
	12	58.9	78.9	*19,545		
	14	58.4	76.9	*16,390		
	16	57.9	74.9	14,100		
	19	57.0	71.8	10,850		
	22	55.9	68.6	8,625		
	25	54.7	65.4	7,025		
	28	53.2	62.1	5,800		
	31	51.5	58.7	4,850		
	34	49.5	55.1	4,075		
	37	47.3	51.4	3,450		
	40	44.7	47.5	2,900		
	43	41.8	43.3	2,450		
	46	38.3	38.8	2,075		
	49	34.2	33.8	1,750		
	52	29.2	28.0	1,450		
	55	22.6	20.8	1,150		
	57	16.3	14.3	975		
60.96	12	62.0	79.5	*19,535		
	14	61.5	77.6	*16,380		
	16	61.1	75.6	*13,665		
	19	60.2	72.7	10,725		
	22	59.2	69.7	8,500		
	25	58.0	66.7	6,900		
	28	56.6	63.6	5,675		
	31	55.0	60.4	4,725		
	34	53.2	57.1	3,975		
	37	51.1	53.7	3,325		
	40	48.8	50.1	2,800		
	43	46.1	46.3	2,350		
	46	43.0	42.3	1,975		
	49	39.4	37.9	1,625		
	52	35.2	33.0	1,325		
	55	30.1	27.4	1,025		
	58	23.3	20.4	775		

THIS CHART IS BASED UPON:

1. Loads marked by * are the maximum loads permitted by the structural strength of the parts and are not based upon the stability of the machine.
2. All other loads are based upon the stability of the machine, and do not exceed 85% of the tipping loads in the least stable direction.
3. Machine to be level on firm solid support; shock and side loads are to be prevented.
4. All hook blocks; lifting tackle, and jib attachments are considered a part of the load to be lifted.
5. Loads must not be lifted or handled over the front of the Machine — See Diagram.
6. "On Tires" capacities are not recommended for traveling (Refer to Lima for travel load ratings).
7. Exceeding the capacities shown on this chart or altering the counter-weight nullifies all warranties.
8. When the machine is equipped with the 14,030 kg. counterweight and resting on rubber tires, the counter-weight must never be swung over side or rear of the machine — the centerline of the rotating unit and the centerline of the truck must be parallel.
9. The load ratings shown on this chart make no allowance for such factors as the effect of side loads, wind, ground conditions, inflation of rubber tires, and operating speeds. The operator shall therefore reduce load ratings to take these factors into account.

Capacities Below Include Jib — See Jib Data

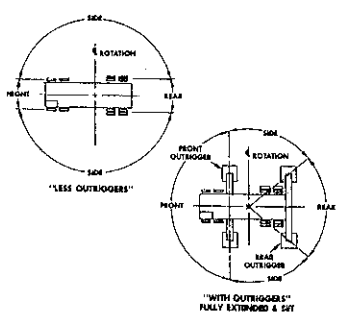
Boom Plus Jib Length	Boom Plus Jib Load Radius	Outriggers Extended And Set ‡Side/Rear
64.01 (57.91+ 6.10)	16	11,790
	19	10,700
	22	8,475
	25	6,675
	28	5,650
	31	4,650
	34	3,825
	37	3,175
	40	2,625
	43	2,150
	46	1,750
	49	1,375
	52	1,025
	55	725
67.06 (60.96+ 6.10)	16	11,785
	19	10,675
	22	8,450
	25	6,825
	28	5,550
	31	4,550
	34	3,725
	37	3,075
	40	2,500
	43	2,025
	46	1,625
	49	1,250
	52	900

Capacities Below Include Jib — See Jib Data

Boom Pluss Jib Length	Boom Pluss Jib Load Radius	Outriggers Extended And Set ‡Side/Rear
70.10 (60.96+ 9.14)	19	9,070
	22	8,425
	25	6,815
	28	5,540
	31	4,540
	34	3,715
	37	3,065
	40	2,490
	43	2,015
	46	1,615
	49	1,240
	52	890
73.15 (60.96+ 12.19)	22	6,350
	25	6,350
	28	5,530
	31	4,530
	34	3,705
	37	3,055
	40	2,480
	43	2,005
	46	1,605
	49	1,230
	52	880
76.20 (60.96+ 15.24)	22	4,535
	25	4,535
	28	4,535
	31	4,535
	34	3,695
	37	3,045
	40	2,470
	43	1,995
	46	1,595
	49	1,220
	52	870

‡-Indicates that side is the least stable charted direction.

DIAGRAMMATIC DEFINITION OF "SIDE", "REAR", OR "FRONT" AS USED ON CAPACITY CHARTS.



NOTE:

All capacities are in kilograms.
all lengths, heights, and radii are in meters.

Capacities per SAE Code J765
Class Desgnation per U.S. Department of Commerce Standards.

Courtesy of Crane.Market

CRANE LIFTING CAPACITIES

90 Ton
Class 15-484

Boom				Outriggers Extended and Set	On Tires	
Length	Radius	Height	Angle	‡Side/Rear	‡Side	Rear
50′	15′	55.1′	76.0	*180,000	65,175	74,950
	20′	53.6′	70.0	*130,000	43,375	50,950
	25′	51.4′	63.7	102,000	32,100	38,200
	30′	48.6′	57.2	75,000	25,175	30,300
	35′	44.9′	50.0	59,000	20,525	24,925
	40′	40.1′	42.1	48,400	17,175	21,025
	45′	33.5′	32.6	40,900	14,650	18,075
	50′	23.3′	19.5	* 34,825	12,675	15,750
60′	15′	65.4′	78.3	*170,000	65,025	74,775
	20′	61.4′	73.4	*129,000	43,225	50,775
	25′	62.4′	68.4	101,975	31,925	38,025
	30′	60.1′	63.1	74,975	25,025	30,125
	35′	57.3′	57.6	58,975	20,375	24,750
	40′	53.7′	51.8	48,350	17,025	20,850
	45′	49.3′	45.4	40,825	14,500	17,900
	50′	43.7′	38.2	35,200	12,525	15,575
	60′	25.0′	17.8	* 26,975	9,625	12,175
70′	20′	74.5′	75.8	*122,200	43,125	50,650
	25′	73.0′	71.6	* 98,600	31,775	37,875
	30′	71.1′	67.2	74,950	24,850	29,950
	35′	68.8′	62.7	58,900	20,175	24,550
	40′	66.0′	58.0	48,250	16,800	20,625
	45′	62.5′	53.0	40,700	14,250	17,650
	50′	58.4′	47.7	35,050	12,275	15,325
	60′	47.1′	35.3	27,175	9,375	11,925
	70′	26.5′	16.5	21,975	7,350	9,525
80′	20′	84.8′	77.6	*122,100	43,075	50,600
	25′	83.5′	73.9	* 98,500	31,700	37,800
	30′	81.9′	70.2	74,925	24,775	29,850
	35′	79.9′	66.3	58,875	20,075	24,450
	40′	77.5′	62.4	48,225	16,700	20,525
	45′	74.6′	58.2	40,650	14,150	17,550
	50′	71.3′	53.9	35,000	12,175	15,225
	60′	62.6′	44.4	27,100	9,250	11,800
	70′	50.1′	33.0	21,875	7,250	9,425
	80′	27.9′	15.4	18,150	5,750	7,650
90′	20′	95.0′	79.0	*122,000	43,000	50,500
	25′	93.8′	75.8	* 98,400	31,575	37,650
	30′	92.4′	72.5	74,900	24,600	29,675
	35′	90.7′	69.1	58,825	19,900	24,250
	40′	88.6′	65.6	48,125	16,500	20,300
	45′	86.1′	62.1	40,525	13,950	17,325
	50′	83.3′	58.4	34,850	11,950	15,000
	60′	76.2′	50.6	26,925	9,025	11,550
	70′	66.6′	41.8	21,675	7,000	9,150
	80′	53.0′	31.0	17,925	5,500	7,400
	90′	29.2′	14.5	15,125	4,350	6,025
100′	25′	104.1′	77.2	* 89,875	31,425	37,475
	30′	102.9′	74.3	* 74,100	24,450	29,500
	35′	101.3′	71.3	58,750	19,725	24,075
	40′	99.5′	68.2	48,025	16,325	20,125
	45′	97.3′	65.1	40,400	13,775	17,150
	50′	94.8′	61.9	34,700	11,775	14,800
	60′	88.7′	55.2	26,775	8,825	11,375
	70′	80.7′	47.8	21,525	6,800	8,975
	80′	70.3′	39.5	17,775	5,300	7,200
	90′	55.7′	29.4	14,950	4,150	5,850
	100′	30.4′	13.8	12,775	3,250	4,775
110′	25′	114.4′	78.4	* 89,850	31,300	37,325
	30′	113.2′	75.7	* 74,050	24,275	29,325
	35′	111.8′	73.0	58,675	19,525	23,875
	40′	110.2′	70.3	47,900	16,125	19,925
	45′	108.2′	67.5	40,275	13,550	16,925
	50′	106.0′	64.6	34,550	11,525	14,575
	60′	100.6′	58.7	26,600	8,600	11,125
	70′	93.8′	52.4	21,300	6,550	8,725
	80′	85.0′	45.5	17,550	5,050	6,950
	90′	73.8′	37.6	14,725	3,900	5,575
	100′	58.3′	28.0	12,550	2,975	4,500
	110′	31.6′	13.1	10,800	2,250	3,625

Boom				Outriggers Extended And Set	On Tires	
Length	Radius	Height	Angle	‡Side/Rear	‡Side	Rear
120′	25′	124.6′	79.4	*89,800	31,250	37,275
	30′	123.5′	76.9	*74,000	24,225	29,275
	35′	122.2′	74.5	58,650	19,500	23,825
	40′	120.7′	72.0	47,875	16,100	19,875
	45′	119.0′	69.5	40,250	13,525	16,900
	50′	117.0′	66.9	34,525	11,500	14,550
	60′	112.1′	61.6	26,575	8,575	11,100
	70′	106.1′	56.0	21,275	6,525	8,700
	80′	98.5′	50.0	17,525	5,025	6,925
	90′	89.1′	43.3	14,700	3,875	5,550
	100′	77.1′	36.0	12,525	2,950	4,475
	110′	60.7′	26.8	10,775	2,225	3,600
	120′	32.7′	12.6	9,350	1,550	2,875
130′	30′	133.8′	78.0	*63,750	24,050	29,075
	35′	132.6′	75.7	*55,350	19,300	23,625
	40′	131.2′	73.4	47,775	15,875	19,675
	45′	129.6′	71.1	40,125	13,300	16,675
	50′	127.8′	68.8	34,375	11,275	14,325
	60′	123.4′	63.9	26,400	8,350	10,850
	70′	117.9′	58.9	21,100	6,300	8,450
	80′	111.3′	53.6	17,325	4,775	6,675
	90′	103.1′	47.9	14,500	3,625	5,300
	100′	93.0′	41.7	12,300	2,700	4,225
	110′	80.3′	34.5	10,550	1,925	3,350
	120′	63.0′	25.7	9,125		2,600
	130′	33.8′	12.1	7,925		1,950
140′	30′	144.0′	78.8	*63,725	23,900	28,925
	35′	142.9′	76.7	*55,325	19,125	23,450
	40′	141.6′	74.6	47,650	15,700	19,500
	45′	140.1′	72.5	39,975	13,125	16,500
	50′	138.4′	70.3	34,250	11,100	14,125
	60′	134.4′	65.9	26,250	8,150	10,675
	70′	129.5′	61.4	20,925	6,100	8,250
	80′	123.5′	56.6	17,150	4,600	6,475
	90′	116.2′	51.5	14,325	3,425	5,100
	100′	107.4′	46.1	12,125	2,525	4,025
	110′	96.7′	40.1	10,375	1,700	3,150
	120′	83.3′	33.2	8,925		2,400
	130′	65.3′	24.8	7,750		1,725
	140′	34.8′	11.6	6,725		
150′	30′	154.1′	79.6	*63,700	23,725	28,750
	35′	153.1′	77.6	*55,300	18,950	23,275
	40′	151.9′	75.7	47,575	15,500	19,275
	45′	150.6′	73.7	39,850	12,925	16,275
	50′	149.0′	71.7	34,100	10,875	13,900
	60′	145.3′	67.6	26,075	7,925	10,450
	70′	140.8′	63.4	20,750	5,850	8,025
	80′	135.3′	59.1	16,950	4,350	6,225
	90′	128.7′	54.5	14,100	3,175	4,850
	100′	120.9′	49.7	11,900	2,225	3,775
	110′	111.6′	44.4	10,150		2,875
	120′	100.3′	38.7	8,700		2,100
	130′	86.2′	32.1	7,500		
	140′	67.4′	23.9	6,475		
	150′	35.8′	11.2	* 5,225		
160′	35′	163.4′	78.4	*50,350		
	40′	162.2′	76.6	*44,550		
	45′	161.0′	74.7	39,775		
	50′	159.5′	72.9	34,000		
	60′	156.1′	69.1	25,925		
	70′	151.9′	65.2	20,575		
	80′	146.8′	61.1	16,775		
	90′	140.8′	57.0	13,900		
	100′	133.8′	52.6	11,700		
	110′	125.5′	48.0	9,925		
	120′	115.6′	42.9	8,475		
	130′	103.8′	37.4	7,275		
	140′	89.1′	31.0	6,250		
	150′	69.5′	23.1	5,200		
	160′	36.8′	10.9	* 4,200		

Reproductions Distributed by Equipment Guide-Book Company, Palo Alto, California 94303

Courtesy of Crane.Market

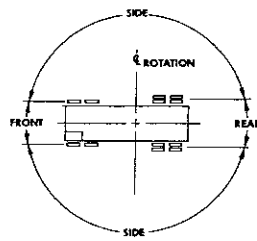
Maximum Counterweight: Outriggers Extended and set ..... 30,930 lbs.
On rubber tires ..... 20,430 lbs.

Boom				Outriggers Extended And Set	On Tires	
Length	Radius	Height	Angle	‡Side/Rear	‡Side	Rear
170′	35′	173.5′	79.1	*50,325		
	40′	172.5′	77.4	*44,525		
	45′	171.3′	75.7	39,600		
	50′	169.9′	73.9	33,800		
	60′	166.7′	70.4	25,700		
	70′	162.8′	66.7	20,350		
	80′	158.1′	63.0	16,525		
	90′	152.6′	59.2	13,650		
	100′	146.1′	55.2	11,425		
	110′	138.6′	50.9	9,650		
	120′	129.8′	46.5	8,200		
	130′	119.5′	41.6	7,000		
	140′	107.1′	36.2	5,975		
	150′	91.8′	30.1	5,100		
	160′	71.5′	22.4	4,175		
	170′	37.7′	10.6	* 3,125		
180′	35′	183.7′	79.7	*50,300		
	40′	182.7′	78.1	*44,500		
	45′	181.6′	76.5	39,475		
	50′	180.3′	74.8	33,650		
	60′	177.3′	71.5	25,550		
	70′	173.6′	68.1	20,175		
	80′	169.3′	64.6	16,350		
	90′	164.1′	61.1	13,475		
	100′	158.2′	57.3	11,250		
	110′	151.3′	53.5	9,450		
	120′	143.3′	49.4	8,000		
	130′	134.0′	45.1	6,800		
	140′	123.2′	40.4	5,775		
	150′	110.3′	35.2	4,900		
	160′	94.4′	29.2	4,125		
	170′	73.5′	21.8	3,100		
	180′	38.7′	10.3	* 2,250		
190′	40′	192.9′	78.7	*42,425		
	45′	191.9′	77.2	*37,125		
	50′	190.7′	75.6	*31,825		
	60′	187.8′	72.5	25,375		
	70′	184.4′	69.3	19,975		
	80′	180.3′	66.1	16,125		
	90′	175.5′	62.7	13,250		
	100′	169.9′	59.3	11,025		
	110′	163.5′	55.7	9,250		
	120′	156.2′	51.9	7,775		
	130′	147.8′	48.0	6,575		
	140′	138.1′	43.8	5,550		
	150′	126.8′	39.3	4,650		
	160′	113.4′	34.2	3,900		
	170′	97.0′	28.4	3,225		
	180′	75.4′	21.2	2,225		
200′	40′	203.1′	79.3	*42,400		
	45′	202.1′	77.8	*37,100		
	50′	201.0′	76.4	*31,800		
	60′	198.3′	73.4	25,100		
	70′	195.0′	70.4	19,700		
	80′	191.1′	67.3	15,875		
	90′	186.6′	64.2	13,000		
	100′	181.4′	61.0	10,775		
	110′	175.5′	57.6	9,000		
	120′	168.7′	54.2	7,525		
	130′	161.0′	50.5	6,325		
	140′	152.2′	46.7	5,300		
	150′	142.1′	42.6	4,425		
	160′	130.4′	38.2	3,650		
	170′	116.5′	33.3	2,975		
	180′	99.5′	27.7	2,200		

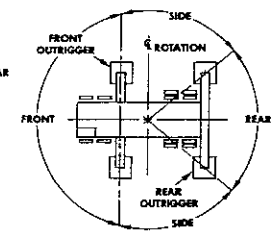
Capacities Below Include Jib — See Jib Data			Capacities Below Include Jib — See Jib Data		
Boom Plus Jib		Outriggers Extended And Set	Boom Plus Jib		Outriggers Extended And Set
Length	Load Radius	‡Side/Rear	Length	Load Radius	‡Side/Rear
210′ (190′ + 20′)	50′	26,000	230′ (200′ + 30′	60′	20,000
	60′	25.075		70′	19,625
	70′	19,675		80′	15,700
	80′	15,850		90′	12,625
	90′	12,950		100′	10,325
	100′	10,600		110′	8,475
	110′	8,725		120′	6,950
	120′	7,200		130′	5,650
	130′	5,925		140′	4,575
	140′	4,850		150′	3,650
	150′	3,925		160′	2,775
	160′	3,100		170′	2,000
	170′	2,300			
	180′	1,625			
220′ (200′ + 20′)	50′	25,975	240′ (200′ + 40′	70′	14,000
	60′	25,050		80′	14,000
	70′	19,650		90′	12,600
	80′	15,725		100′	10,300
	90′	12,700		110′	8,450
	100′	10,350		120′	6,925
	110′	8,500		130′	5,625
	120′	6,950		140′	4,550
	130′	5,675		150′	3,625
	140′	4,600		160′	2,750
	150′	3,675		170′	1,975
	160′	2,800	250′ (200′ + 50′)	70′	10,000
	170′	2,025		80′	10,000
				90′	10,000
				100′	10,000
				110′	8,425
				120′	6,900
				130′	5,600
				140′	4,525
				150′	3,600
				160′	2,725
				170′	1,950

‡-Indicates that side is the least stable charted direction.

DIAGRAMMATIC DEFINITION OF "SIDE", REAR", OR "FRONT" AS USED ON CAPACITY CHARTS.



"LESS OUTRIGGERS"



"WITH OUTRIGGERS" FULLY EXTENDED & SET

Capacities per SAE Code J765
Class Desgnation per U.S. Department of Commerce Standards.

THIS CHART IS BASED UPON:

1. Loads marked by * are the maximum loads permitted by the structural strength of the parts and are not based upon the stability of the machine.
2. All other loads are based upon the stability of the machine, and do not exceed 85% of the tipping loads in the least stable direction.
3. Machine to be level on firm solid support; shock and side loads are to be prevented.
4. All hook blocks; lifting tackle, and jib attachments are considered a part of the load to be lifted.
5. Loads must not be lifted or handled over the front of the machine — See Diagram.
6. "On Tires" capacities are not recommended for traveling (Refer to Lima for travel load ratings).
7. Exceeding the capacities shown on this chart or altering the counterweight nullifies all warranties.
8. Jibs referred to on this chart must be equipped with a 9′-0″ strut.
9. When the machine is equipped with the 30,930 lb. counterweight and resting on rubber tires, the counterweight must never be swung over side or rear of the machine — the centerline of the rotating unit and the centerline of the truck must be parallel.
10. The load ratings shown on this chart make no allowance for such factors as the effect of side loads, wind, ground conditions, inflation of rubber tires, and operating speeds. The operator shall therefore reduce load ratings to take these factors into account.

Reproductions Distributed by Equipment Guide-Book Company, Palo Alto, California 94303

Courtesy of Crane.Market

CRANE CAPACITY CHART
OVER THE REAR ON OUTRIGGERS WITH BUMPER COUNTERWEIGHT
CHART NO. 6012855

Tubular Boom
90 Ton Class 15-556

Maximum Counterweight:
Main Counterweight — 30,930 Lbs.
Bumper Counterweight — 13,000 Lbs.

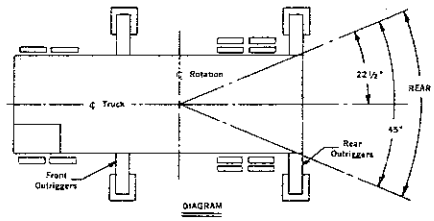
Boom Length	Boom Radius	Boom Height	Boom Angle	Outriggers Extended and Set Over Rear
50'	15'	55.1'	76.0	*180,000
	20'	53.6'	70.0	*130,000
	25'	51.4'	63.7	*112,725
	30'	48.6'	57.2	* 84,400
	35'	44.9'	50.0	* 67,175
	40'	40.1'	42.1	* 55,600
	45'	33.5'	32.6	* 47,275
	50'	23.3'	19.5	* 36,200
60'	15'	65.4'	78.3	*170,000
	20'	61.4'	73.4	*130,000
	25'	62.4'	68.4	*112,700
	30'	60.1'	63.1	* 84,375
	35'	57.3'	57.6	* 67,125
	40'	53.7'	51.8	* 55,525
	45'	49.3'	45.4	* 47,200
	50'	43.7'	38.2	* 40,925
	60'	25.0'	17.8	* 29,975
70'	20'	74.5'	75.8	*122,200
	25'	73.0'	71.6	*104,300
	30'	71.1'	67.2	* 84,325
	35'	68.8'	62.7	* 67,025
	40'	66.0'	58.0	* 55,400
	45'	62.5'	53.0	* 47,050
	50'	58.4'	47.7	* 40,775
	60'	47.1'	35.3	* 31,925
	70'	26.5'	16.5	* 22,775
80'	20'	84.8'	77.6	*122,100
	25'	83.5'	73.9	*104,250
	30'	81.9'	70.2	* 84,300
	35'	79.9'	66.3	* 67,000
	40'	77.5'	62.4	* 55,350
	45'	74.6'	58.2	* 47,000
	50'	71.3'	53.9	* 40,700
	60'	62.6'	44.4	* 31,825
	70'	50.1'	33.0	* 25,900
	80'	27.9'	15.4	* 18,900
90'	20'	95.0'	79.0	*122,000
	25'	93.8'	75.8	*104,000
	30'	92.4'	72.5	* 84,275
	35'	90.7'	69.1	* 66,925
	40'	88.6'	65.6	* 55,225
	45'	86.1'	62.1	* 46,850
	50'	83.3'	58.4	* 40,525
	60'	76.2'	50.6	* 31,650
	70'	66.6'	41.8	* 25,700
	80'	53.0'	31.0	* 21,425
	90'	29.2'	14.5	* 15,800
100'	25'	104.1'	77.2	* 89,875
	30'	102.9'	74.3	* 81,000
	35'	101.3'	71.3	* 66,800
	40'	99.5'	68.2	* 55,125
	45'	97.3'	65.1	* 46,700
	50'	94.8'	61.9	* 40,375
	60'	88.7'	55.2	* 31,500
	70'	80.7'	47.8	* 25,525
	80'	70.3'	39.5	* 21,275
	90'	55.7'	29.4	* 18,050
	100'	30.4'	13.8	* 13,400
110'	25'	114.4'	78.4	* 89,850
	30'	113.2'	75.7	* 80,500
	35'	111.8'	73.0	* 66,725
	40'	110.2'	70.3	* 55,000
	45'	108.2'	67.5	* 46,575
	50'	106.0'	64.6	* 40,225
	60'	100.6'	58.7	* 31,300
	70'	93.8'	52.4	* 25,325
	80'	85.0'	45.5	* 21,050
	90'	73.8'	37.6	* 17,825
	100'	58.3'	28.0	* 15,325
	110'	31.6'	13.1	* 11,375

Boom Length	Boom Radius	Boom Height	Boom Angle	Outriggers Extended and Set Over Rear
120'	25'	124.6'	79.4	* 89,800
	30'	123.5'	76.9	* 88,000
	35'	122.2'	74.5	* 66,700
	40'	120.7'	72.0	* 54,975
	45'	119.0'	69.5	* 46,550
	50'	117.0'	66.9	* 40,200
	60'	112.1'	61.6	* 31,275
	70'	106.1'	56.0	* 25,300
	80'	98.5'	50.0	* 21,025
	90'	89.1'	43.3	* 17,800
	100'	77.1'	36.0	*15,300
	110'	60.7'	26.8	* 13,300
	120'	32.7'	12.6	* 9,900
130'	30'	133.8'	78.0	* 63,750
	35'	132.6'	75.6	* 60,000
	40'	131.2'	73.4	* 52,750
	45'	129.6'	71.1	* 46,400
	50'	127.8'	68.8	* 40,025
	60'	123.4'	63.9	* 31,100
	70'	117.9'	58.9	* 25,100
	80'	111.3'	53.6	* 20,825
	90'	103.1'	47.9	* 17,600
	100'	93.0'	41.7	* 15,075
	110'	80.3'	34.5	* 13,075
	120'	63.0'	25.7	* 11,425
	130'	33.8'	12.1	* 9,425
140'	30'	144.0'	78.8	* 63,725
	35'	142.9'	76.7	* 59,000
	40'	141.6'	74.6	* 52,625
	45'	140.1'	72.5	* 46,250
	50'	138.4'	70.3	* 39,875
	60'	134.4'	65.9	* 30,925
	70'	129.5'	61.4	* 24,925
	80'	123.5'	56.6	* 20,650
	90'	116.2'	51.5	* 17,400
	100'	107.4'	46.1	* 14,900
	110'	96.7'	40.1	* 12,875
	120'	83.1'	32.2	* 11,225
	130'	65.3'	24.8	* 9,850
	140'	34.8'	11.6	* 7,200
150'	30'	154.1'	79.6	* 63,700
	35'	153.1'	77.6	* 58,000
	40'	151.9'	75.7	* 52,500
	45'	150.6'	73.7	* 46,125
	50'	149.0'	71.7	* 39,725
	60'	145.3'	67.6	* 30,750
	70'	140.8'	63.4	* 24,725
	80'	135.3'	59.1	* 20,425
	90'	128.7'	54.5	* 17,175
	100'	120.9'	49.7	* 14,675
	110'	111.6'	44.4	* 12,650
	120'	100.3'	38.7	* 11,000
	130'	86.2'	32.1	* 9,600
	140'	67.4'	23.9	* 8,450
	150'	35.8'	11.2	* 6,050
160'	35'	162.4'	78.4	* 50,350
	40'	162.2'	76.6	* 47,800
	45'	161.0'	74.7	* 43,250
	50'	159.5'	72.9	* 39,600
	60'	156.1'	69.1	* 30,600
	70'	151.9'	65.2	* 24,550
	80'	146.8'	61.1	* 20,225
	90'	140.8'	57.0	* 16,975
	100'	133.8'	52.5	* 14,450
	110'	125.5'	48.0	* 12,425
	120'	115.6'	42.9	* 10,775
	130'	103.8'	37.4	* 9,375
	140'	89.1'	31.0	* 8,200
	150'	69.5'	23.1	* 7,200
	160'	36.8'	10.9	* 6,325

Boom Length	Boom Radius	Boom Height	Boom Angle	Outriggers Extended and Set Over Rear
170'	35'	173.5'	79.1	* 50,325
	40'	172.5'	77.4	* 47,000
	45'	171.3'	75.7	* 43,125
	50'	169.9'	73.9	* 39,400
	60'	166.7'	70.4	* 30,350
	70'	162.8'	66.7	* 24,300
	80'	158.1'	63.0	* 19,975
	90'	152.6'	59.2	* 16,725
	100'	146.1'	55.2	* 14,175
	110'	138.6'	50.9	* 12,150
	120'	129.8'	46.5	* 10,500
	130'	119.5'	41.6	* 9,100
	140'	107.1'	36.2	* 7,925
	150'	91.8'	30.1	* 6,925
	160'	71.5'	22.4	* 6,050
	170'	37.7'	10.6	* 5,275
180'	35'	183.7'	79.7	* 50,300
	40'	182.7'	78.1	* 46,500
	45'	181.6'	76.5	* 43,000
	50'	180.3'	74.8	* 39,250
	60'	177.3'	71.5	* 30,200
	70'	173.6'	68.1	* 24,150
	80'	169.3'	64.6	* 19,800
	90'	164.1'	61.1	* 16,525
	100'	158.2'	57.3	* 14,000
	110'	151.3'	53.5	* 11,950
	120'	143.3'	49.4	* 10,300
	130'	134.0'	45.1	* 8,900
	140'	123.2'	40.4	* 7,725
	150'	110.3'	35.2	* 6,700
	160'	94.4'	29.2	* 5,925
	170'	73.5'	21.8	* 5,075
	180'	38.7'	10.3	* 4,400

Boom Length	Boom Radius	Boom Height	Boom Angle	Outriggers Extended and Set Over Rear
190'	40'	192.9'	78.7	* 42,425
	45'	191.9'	77.2	* 40,000
	50'	190.7'	75.6	* 36,500
	60'	187.8'	72.5	* 30,000
	70'	184.4'	69.3	* 23,925
	80'	180.3'	66.1	* 19,575
	90'	175.5'	62.7	* 16,325
	100'	169.9'	59.3	* 13,775
	110'	163.5'	55.7	* 11,725
	120'	156.2'	51.9	* 10,050
	130'	147.8'	48.0	* 8,675
	140'	138.1'	43.8	* 7,475
	150'	126.8'	39.3	* 6,475
	160'	113.4'	34.2	* 5,600
	170'	97.0'	28.4	* 4,825
	180'	75.4'	21.2	* 4,150
200'	40'	203.1'	79.3	* 42,400
	45'	202.1'	77.8	* 39,000
	50'	201.0'	76.4	* 36,250
	60'	198.3'	73.4	* 29,725
	70'	195.0'	70.4	* 23,675
	80'	191.1'	67.3	* 19,325
	90'	186.6'	64.2	* 16,075
	100'	181.4'	61.0	* 13,525
	110'	175.5'	57.6	* 11,475
	120'	168.7'	54.2	* 9,825
	130'	161.0'	50.5	* 8,425
	140'	152.2'	46.7	* 7,250
	150'	142.1'	42.6	* 6,225
	160'	130.4'	38.2	* 5,350
	170'	116.5'	33.3	* 4,600
	180'	99.5'	27.7	* 3,925

NOTE.
This chart is a supplement to the Standard Crane Chart. All instructions, restrictions, notes, and warnings on the Standard Crane Capacity Chart therefore apply to this chart. (See Note #7 on this chart for exceptions.)



DIAGRAM

This Chart is Based Upon:

1. Loads marked by * are the maximum allowable loads permitted by the structural strength of the parts and are not based on the stability of the machine
2. Machine shall be leveled on a firm solid support and all rubber tires shall be free of the ground
3. Side and shock loads shall be prevented
4. All hook blocks, lifting tackle, and jib attachments shall be considered a part of the load to be lifted
5. Exceeding the capacities shown on this chart or altering the counterweight nullifies all warranties
6. Boom suspension pendants shall be 1-3/8" dia. with a minimum breaking strength of 231,000 lbs
7. Capacities on this chart apply to loads handled on the boom point only. When boom plus jib combinations are used and loads are handled on the jib, the capacities on the standard "Over The Side and Rear" chart shall apply
8. The capacities on this chart apply to "Over The Rear" as indicated by the boundary sector shown on the diagram.
9. The jibs referred to on this chart shall be equipped with a 9'0" strut

Rope Reeving For Hook Blocks			
Loads in Pounds	**No. Part Line**	**Loads In Pounds**	**No. Part Line**
To 16,800	1	Over 100,800	7
Over 16,800	2	Over 117,600	8
Over 33,600	3	Over 134,400	9
Over 50,400	4	Over 151,200	10
Over 67,200	5	Over 168,000	11
Over 84,000	6		

Based upon ¾ dia. wire rope with a minimum breaking strength of 58,800 lbs

In accordance with our established policy of constantly improving our products, we reserve the right to change or modify our products or our product specifications at any time without notice.

CLARK Lima Division

LIMA, OHIO 45802

Manufactured and Sold in Conformance with U.S. Department of Commerce Commercial Standard CS90-58.

Reproductions Distributed by Equipment Guide-Book Company, Palo Alto, California 94303

Courtesy of Crane.Market