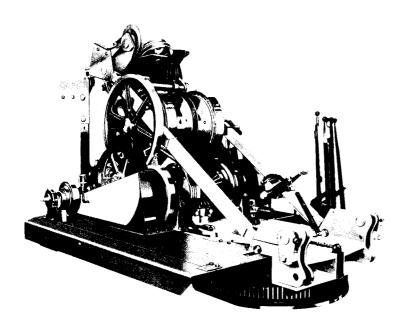


# LORAIN MC-550A friction Moto-Crane



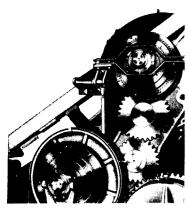


### Specific Advantages

The Lorain MC-550A has been designed and engineered to give the following specific advantages.

An ultra long boom Increased lifting capacities Increased cable capacity Less weight for maximum mobility Simple maintenance Designed dependability

The MC-550A turntable design is a study in simplicity. The components are arranged on the framework to provide direct power to the working end of the machine while utilizing its own machinery to serve as a counterweight. The A-frame design blends power, controls, and operating speeds to produce fast, smooth, operation. The torque converter serves as a cushion for the machinery and cables against shocks. The use of anti-friction bearings on the swing shaft and hoist shaft results in smooth, positive action. Power load lowering permits pin-point accuracy in placing the payload. These features combine to produce a machine capable of dependable, profitable performance.

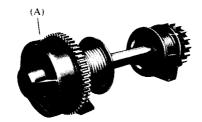


#### **Dual Drum Boom Hoist**

Each end of the boom hoist cable is attached to separate drum sections rotating in unison. This equalizes the pull on the boom tip and increases cable life. Drums are scored for smooth wrapping. The boom hoist brake is spring-loaded for additional safety. 10-part derricking is standard.

## Power and Clutch Control of Independent Boom Action

The boom hoist and lowering mechanism is in constant engagement with the engine when in use. Both are power controlled, independently with a separate multi-plate disc-type clutch that drives the boom hoist shaft through a final enclosed planetary reduction gear (A). This provides precise control through an unlimited range of engine speeds. For maximum security, the ratchet and pawl (controlled from operator's position) are mounted directly on the end of the boom hoist shaft.

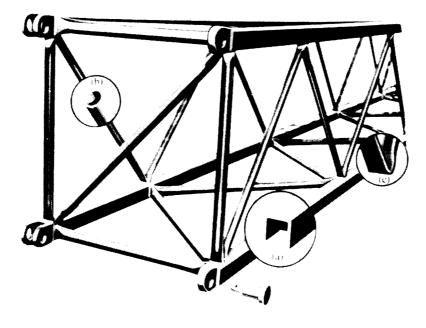




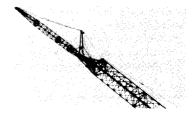
### Shear-Ball®

The "Shear-Ball" acts as a giant, sealed ball bearing. One race is attached to the carrier, the other to the turntable with balls interlocking the two races. It allows the turntable to revolve smoothly. Load-Forces are distributed as compression loads over at least 40% of the balls — not on a few highly stressed rollers. The simplicity of design combined with the experience gained from building thousands of successful "Shear-Ball" connections enables LORAIN to offer an exclusive 10-year written warranty and offers you the following operating advantages:

- A) No Adjustments
- B) Rock Steady Swings
- C) Smooth, Fast Cycles
- D) Reduced Machine Height
- E) Minimum Maintenance







Square-Tubular-Chord Design Designed for strength and durability, the square-tubular-chord boom is engineered for safety and performance. Four main chords of square-tubular cross section (a) are formed of highstrength alloy steel with a minimum yield strength of 130,000 psi. Hermetically sealed square-tube design, plus extra large cross section, provides maximum rigidity for long service life. Continuous, sealed round-tube lacing (b) is specially welded into a flat "maximum-contact" joint (c) at common points on the smooth inner faces of the main chord to provide high torsional resistance. Sections are pin-connected for fast rigging. 47" girth provides easy transportation, and superior strength.

# Offset Boom Tip

The open throat design allows high angle work at close radii . . . load and boom interference is minimized. Tapered pin connections for quick set-up. Maximum boom and jib combination 200' (60.9m.).

## Long Tapered Boom Tip

Designed for best reach and capacity. The tapered boom concept is utilized for weight reduction.

Maximum boom and jib combination 210' (64.0m.).

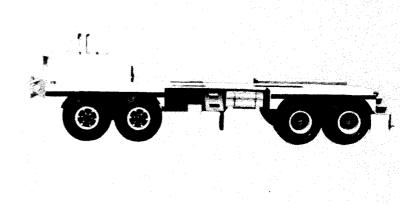
## Fast Jib Set-Up

Jib is pendant-supported from base of boom tip. Eliminates lengthy cables and spreader bar. Two piece jib may be extended with taper pin connected center sections. Pre-sized backstay pendants are available to provide a wide range of jib offsets from 0 to 24 feet. Jib lengths available in 20°, 30°, 40°, 50°.

### Lorain Built Carrier

Lorain has designed and built its own carriers since 1939. Specifically mated to the superstructure, the carrier provides the rugged strength and mobility required for the most effective operation.

Excellent visibility is available from the cab and the comfortable contoured seat eases highway travel. A 13 speed Roadranger® transmission combined with double reduction planetary axles provides easy highway travel and good job-site mobility. Hydraulic steering assist eases operation in job-site conditions. Carrier frame rails are full box type construction of high strength alloy steel. Reinforcements and cross bracing provide a steady, working platform.





The MC-550A is designed for real mobility. It is a rugged 50 ton machine built to handle the big jobs, but it weighs less than most cranes in its class.

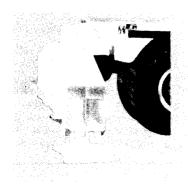
The telescopic mast type gantry permits travel with the basic boom carried in the travel position, without exceeding overall turntable height. The mast type gantry allows maximum boom and jib combination to be erected without outside assistance.

Removal of the outrigger boxes (both front and rear) and counterweight reduces the travel weight for easy mobility.



Booms can be folded easily and quickly for fast highway travel from job to job. In addition, a 50-ft. tip extension can be carried conveniently on a special

hanger. No helper truck needed. Job hopping like this results in a savings of time and money.



# Power-Set® Outriggers

Hydraulically operated Power-Set outriggers provide a stable, dependable base for the MC-550A. Virtually any situation may be overcome due to the ability of the power-sets to operate individually. Positive wedge locks automatically secure outrigger beams, independent of the hydraulic system. The heavier the load—the tighter they become. Floats are self-adjusting according to terrain, and retract flat against the carrier.

Power-Set outriggers contain about half the number of hydraulic components as other outrigger systems for reduced maintenance.

Boxes are pin connected for easy removal and fast weight reduction for travel. Hydraulic lines are removed via quick disconnects.

Power-Set outriggers . . . simple, safe, and secure.

WE RESERVE THE RIGHT TO AMEND THESE SPECIFICATIONS AT ANY TIME WITHOUT NOTICE. THE ONLY WARRANTY APPLICABLE IS OUR STANDARD WRITTEN WARRANTY, WE MAKE NO OTHER WARRANTY, EXPRESSED OR IMPLIED.



Form 0476-1 K

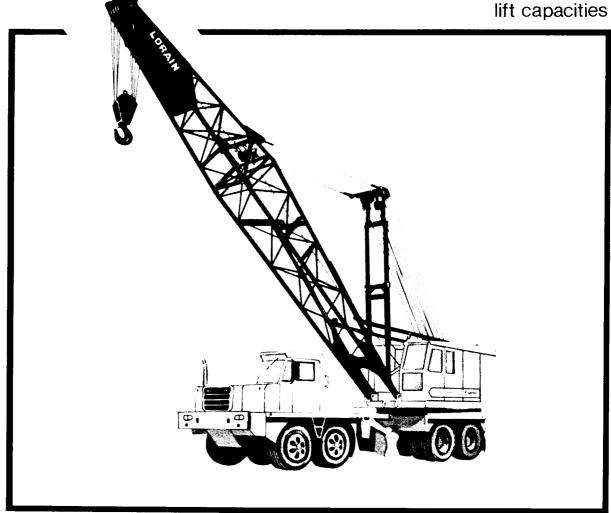
Printed in USA

EYPP-104

# LORAIN MC-550A

MOTO-CRANE®

specifications dimensions work ranges lift capacities



### **FEATURES:**

- Preferred Square Tubular Chord Boom
- Choice of Two Peaks Offset, Tapered
- 210'-Boom and Jib Combination
- · Dual Drum Boom Hoist
- Tower Available

- Enclosed All Gear Drive
- Mechanical Controls
- 10-Year Warranted "Shear-Ball" Turntable Connection
- Performance Matched Lorain-Built Carrier
- Easy Weight Reduction

# MC-550 A MOTO-CRANE®

...... External Gear Shear-Ball®

# **SPECIFICATIONS**

Crane Boom

#### TURNTABLE SPECIFICATIONS .GM 4-71N, 6 Cyl. ....4½ in. x 5 in. ....284 cu. in. ....115 H.P. Diesel Bore and Stroke Displacement Horsepower Power Take-Off Fuel Tank Torque Converter Operating Characteristics Line Pulls and Line Speeds: Main Hoist (15" P.D.) Secondary Hoist (15" P.D.) 17,250 lbs. @ 170 FPM 17,250 lbs. @ 170 FPM 4.0 R.P.M. Manual Mechanical Swing Speed. Controls. Other Equipment Planetary Drive, Dual Drum Telescopic Mast Type, Air Operated 24,900 lbs. Boom Hoist .... Gantry. Counterweight, Removable.....

### MOTO-CRANE SPECIFICATIONS

Turntable Connection

N, 6 cyl. n. x 5 in.
n x5in
.6 cu. in.
.246 H.P.
te Clutch
75 gals.
s Forward
s Reverse
17 M.P.H.
ith Floats
ear Drive
ary wheel
lockout.
gh-drive,'' er beams.

Front Tandem	Two non-driving axles mounted on equalizer beams.
Steering	Centralized, Hydraulic Power Assist
Turning Radius (to Front Corner of	Vehicle) 54 ft. 2 in.
Rear	and Parking)
Tires (Tube)	14:00 x 20, 18 P.R.

#### BOOM EQUIPMENT

Causes Tubular Chard

Design	Square-Tubular-Unord
Type of Connection	Pin-Connected
Basic Length—Offset Peak Boom	.; 25-ft. base, 15-ft. top
Long Tapered Peak Boom 60 ft.	
Number of Hoist Line Sheaves at Boom Head on A	nti-Friction Bearings
Offset Boom	
Long Tapered Boom	2
(Additional Sheaves Available	
Jib	
Two Piece* Pin-Connected Type	10-ft. base, 10-ft. peak
*Extendible with 10-ft. Center Section	s to 50 ft.
Lifting Crane Component	
Laggings	

Litting Grane Component			
Laggings			Two, 15 in. P.D
Floating Harness			. 10 Parts of Line
Boom Lowering	. by	Power,	Clutch Controlled
Boom Stops			Telescopic Type
Swing Brake			Standard
Power Load Lowering (right hand hoist dr	um)		Available
Third Drum			Available

#### APPROXIMATE SHIPPING WEIGHTS

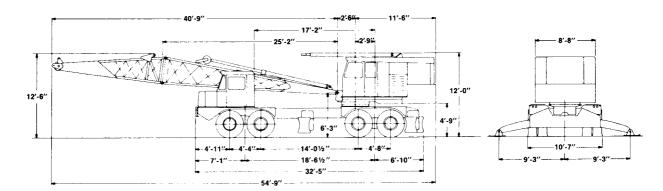
Standard Equipped Machines with Basic Boom

Lifting Crane 102,705 lbs.\*

\*Total weight of unit may be reduced 24,900 lbs. by taking off removable counterweight for road travel. Additional reductions may be made by removal of outrigger boxes and beams.

We reserve the right to amend these specifications at any time without notice. The only warranty applicable is our standard written warranty. We Make No Other Warranty, Expressed Or Implied.

#### GENERAL DIMENSIONS:

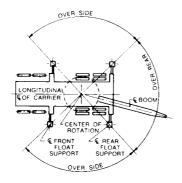


REVIEW THE FOLLOWING NOTES BEFORE USING THIS SPECIFICATION TO DETERMINE ALLOWABLE BOOM LENGTHS. RADIUS AND WEIGHT OF LOAD IN POUNDS PERTAIN TO THIS MACHINE AS ORIGINALLY MANUFACTURED AND EQUIPPED.

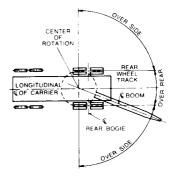
#### NOTES:

- 1. The rated loads as determined by boom length, radius and weight of load apply to this machine as originally manufactured and equipped and as mounted on a Lorain manufactured MC-550A, 8 x 4 carrier. THEY ARE MAXIMUM lifting capacities and comply with standards of the Power Crane & Shovel Association as issued by the U.S. Department of Commerce Commercial Standard CS90-58 and the SAE Crane Load Stability Test Code 1765.
- 1a. DO NOT tip the machine to determine the allowable loads. Rated loads should not be exceeded. Rated loads are based on 85% of stability except where set in bold face type they are based on machinery and structural strength.
- 1b. All rated loads are based on the machine being on a firm, level and uniform supporting surface. Before lifting at, or near, rated loads, the machine should be leveled with a commercial level in two directions. FOR SAFE WORKING LOADS THE USER is expected to make due allowances for his particular job conditions such as: soft or uneven ground, out of level conditions, side loads, pendulum action, jerking or sudden stopping of loads, hazardous conditions,
- experience of personnel, etc. Side pull on boom or jib is extremely dangerous. CAUTION: The operator and other personnel should fully read and acquaint themselves with Operators Manual furnished by the manufacturer BEFORE operating this machine, and Rules for Safe Operation of equipment should be adhered to at all times. Operators and supervisors of equipment should be selves with Standard Safety Codes for Cranes, Derricks and Hoists, ASA-B 30.2-1943 (R-1952).
- 1c. Do not exceed the "over-the-rear" capacities when lifting over a corner.
- 1d. Use blocking under front tires or front part of carrier if boom and/or load is to be moved forward of front outriggers.
- All lifting must be done with mast erected. When working conditions will not permit erected mast, consult Lorain for proper capacity chart.
- 1f. The total weight of bucket plus load must not exceed 80% of the rated "with-out outriggers" lifting capacities up to a maximum of 8000 lbs. for dragline service and 9800 lbs. for clamshell service.

### **CRANE WORKING AREAS:**



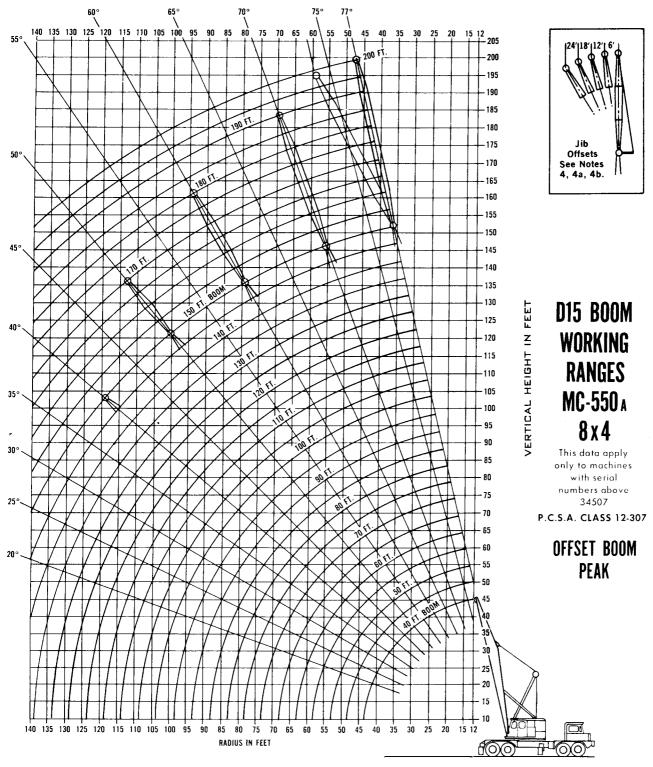
Carrier With Outriggers



Carrier Without Outriggers

# MC-550 A Load Ratings With





# Offset Boom Peak

#### **CAPACITY CHART:**

### Maximum Rated Load In Pounds

				Anı:				,				,	VIA:
				Nith triggers		hout iggers					Vith riggers		hout iggers
Boom Length	Radius	Boom Angle	Over	Over Side	Over Rear	Over Side	Boom Length	Radius	Boom Angle	Over Rear	Over Side	Over Rear	Over Side
40 Ft.	12 15 20 25 30 35 40 12 15 20	76.4 72.5 64.9 58.2 48.4 37.0 21.0 78.9 75.9 70.0	100000 84200 67500 50600 42000 35800 31100 100000 83900 67300	100000 84200 67500 50600 42000 35800 30800 100000 83900 67300	70000 52300 36500 27800 22200 18400 15700 69900 52200 36300	69300 49900 33700 25100 19900 16300 13700 69200 49800 33500	130 Ft.	30 35 40 45 50 60 70 80 90 100 110	78.1 75.9 73.6 71.8 69.3 64.7 59.8 55.7 49.6 43.1 35.5	40100 33900 29200 25300 22100 17500 14300 11900 10000 8500 7300	40100 33900 29200 25100 21600 16600 13300 10900 9100 7600 6500	20800 17000 14200 12100 10400 8000 6200 4900 3900 3200 2500	18600 15000 12400 10400 8900 6600 5100 3900 3000 2300 1800
	25 30 35 40 45 50	64.3 59.0 51.4 43.1 33.0 18.7	50400 41800 35600 30900 27200 24200	50400 41800 35600 30700 26100 22600	27600 22100 18300 15500 13400 11700	25000 19700 16200 13600 11600 10100	140 Ft.	120 130 30 35 40	78.8 76.7 75.1	6300 5500 35000 32900 28500	35000 35000 32900 28500	2000 1500 20700 16900 14100	18400 14800 12200
60 Ft.	15 20 25 30 35 40 45 50 60	78.2 73.4 68.8 63.8 59.0 53.2 46.7 39.1 17.7	83700 67100 50200 41600 35300 30600 27000 24000 19200	83700 67100 50200 41600 35300 30600 25900 22400 17500	52000 36200 27500 21900 18100 15300 13200 11500 9100	49600 33400 24900 19600 16000 13400 11500 9900 7700		45 50 60 70 80 90 110 120 130 140	72.9 71.1 66.9 62.0 59.0 53.2 47.7 41.4 34.2 25.2 11.5	24600 21500 17000 13800 11400 9600 8100 6900 5900 5100 4400	24600 215C0 16500 13100 10700 8900 7500 6400 5400 4700 4000	12000 10300 7800 6100 4800 3800 3800 2400 1800	10300 8700 6500 4900 3800 2900 2200 1600
70 Ft.	15 20 25 30 35 40 45 50 60 70	79 4 75.9 72 0 67 9 63 5 59.0 55.0 49 1 36.1 16.3	83400 66900 50000 41400 35100 30400 26800 23800 19000 15500	83400 66900 50000 41400 35100 30400 25800 22300 17400 14100	51900 36000 27300 21800 18000 15200 13100 11400 8900 7200	49500 33300 24700 19400 15900 13300 11300 9800 7600 6000	150 Ft.	30 35 40 45 50 60 70 80 90	79.2 77.9 75.9 74.4 72.3 68.4 64.3 59.9 56.5	31000 29900 27500 23900 20900 16400 13300 11000 9200	31000 29900 27500 23900 20900 16400 13000 10600 8800	20500 16700 13900 11800 10100 7700 5900 4600 3600	18300 14700 12100 10100 8600 6300 4800 3600 2700
80 Ft.	20 25 30 35 40 45 50 70	77.8 74.5 70.9 67.1 63.3 59.0 55.9 45.8 33.7	66700 49700 41100 34900 30200 26600 23600 18900 15400	66700 49700 41100 34900 30200 25700 22200 17200 13900	35900 27100 21600 17800 15000 12900 11200 8800 7000	33100 24600 19300 15700 13100 11200 9600 7400 5800		110 110 120 130 140 150	51 4 46.0 39.9 33.0 24 3 11.1	7700 6600 5600 4800 4100 3500	7400 6200 5300 4500 3900 3300	2800 2200 1700	2000
-	80	15.3	12800	11500	5700	4700				see Nate		,,,,	
90 Ft.	20 25 30 35 40 45 50 60 70 80	78.8 75.9 72.8 69.5 66.0 62.5 59.0 52.2 43.1 31.7 14.4	66500 49500 40900 34700 30000 26400 23400 18800 15200 12700 10700	49500 49500 40900 34700 30000 25600 22100 17100 13800 11400 9600	35700 27000 21500 17700 14900 12700 11100 8600 6900 5600 4600	33000 24400 19100 15600 13000 11000 9500 7200 5700 4500 3600	160 Ft.	35 40 45 50 60 80 100 120 140 160	78 4 76 6 75.2 73 2 69 6 61.9 54.9 44 5 31 9 10.7	26000 24900 22900 20100 15700 10400 7200 5100 3700 2600	26000 24900 22900 20100 15700 10400 7200 5100 3700 2600	16600 13800 11700 10000 7500 4500 2700 1500	14500 11900 10000 8400 6200 3500 1900
100 Ft.	20 25 30 35 40 45 50 60 70 80	79.5 76.9 74.8 71.9 68.8 65.6 62.4 57.0 49.4 40.7 13.6	66300 49300 40700 34500 29800 26200 23200 18600 15100 10600 9100	66300 49300 40700 34500 29800 25500 22000 17000 13700 9500 8100	35600 26800 21300 17500 14700 12600 10900 8400 6700 4400 3600	32800 24300 19000 15400 12800 10900 9300 7100 5500 3500 2800	170 Ft.	35 40 45 50 60 80 100 120 140 160	78 9 77 7 75 9 74 6 71 2 64 0 57 1 48.1 37.4 22 8	24400 22400 20500 19000 14600 9900 6800 4800 3300 2300	24400 22400 20500 19000 14600 9900 6800 4800 3300 2300	16400 13600 11500 9700 7300 4200 2400	14400 11800 9800 8200 5900 3200 1600
10 Ft.	25 30 35 40 45 50 60 70	78.4 75.9 73.3 71.1 68.2 65.2 59.7 54.6 47.0	49100 40500 34300 29600 25900 23000 18500 14900 12400	49100 40500 34300 29600 25400 21800 16900 13500 11100	26700 21200 17300 14600 12400 10800 8300 6500 5300	24100 18900 15300 12700 10700 9200 6900 5400 4200	180 Ft.	50 60 80 100 120 140	78.2 76.5 75.3 72.1 65.3 59.0 51.2 41.8 30.0	18000 18000 15800 12000 9500 6400 4400 3000 1900	18000 18000 15800 12000 9500 6400 4400 3000 1900	13500 11300 9700 7200 4200 2400	11600 9700 8100 5900 3100 1600
20 Ft.	90 100 110 25	38.8 28.5 13.0 79.0	10500 8900 7700 48900 40300	9300 7900 6800 <b>48900</b> <b>40300</b>	4300 3500 2800 26500	3300 2600 2100 24000	190 Ft.	45 50 60 80	77.0 75.9 72.9 57.1	13000 13000 13000 8000 8000	13000 13000 13000 8000 8000	13000 11200 9500 7000 4000	11500 9500 8000 5700 3000
LU FL	35 40 45 50	76.8 75.0 72.5 69.8 67.7	34100 29400 25700 22800	34100 29400 25300 21700	14400 12300 10600	18700 15100 12500 10600 9000		120 140 160	50.0 54.3 45.4 35.3	6000 4000 2700 1600	6000 4000 2700 1600	2200	
	70 80 90 100 110	62.2 58.2 51.7 44.9 37.0 27.3 12.4	18100 14800 12300 10300 8800 7600 6600	16700 13400 11000 9200 7800 6700 5700	8100 6400 5100 4100 3300 2700 2100	6800 5200 4100 3200 2500 1900	200 Ft.	50 60 80 100 120	78 1 76.4 73.6 58.1 51.8 56 3	10000 10000 6000 6000 5100 3500 2300	10000 10000 6000 6000 5100 3500 2300	10000 9300 6000 3800 2100	9400 /800 5600 2800

#### NOTES:

- 2. Load-handling devices are part of the load. For jibs, see notes 4, 4a and 4b
- 4. Jibs may be used straight or goosenecked  $20\,\rm ft,~\mu b$  is two-piece and may be extended to  $50\,\rm ft$  with center sections. The following data apply:

		Max. Lgth. of	Ma	Maximum Lifting Capacity (Lbs.) Offset from Extended Centerline of Boom					
Jib		Boom Incl.	Offset						
Lgth.	Radius	Jib	0 Ft.	6 Ft.	12 Ft.	18 Ft.	24 Ft.	Backstays	
20 F t	Up thru 50°	170 Ft	26000	19000	16000			1330 lbs	
	Over 50"		20000	17000	14000				
30 F t	Up thru 50'	180 Ft	18000	12600	10000			1650 lbs.	
	Over 501		12000	11000	9000				
40Ft	Up thru 50'	190 Ft	13000	9500	7200	5300		1970 lbs	
	Over 50'		8000	7500	6000	4200			
50Ft	Up thru 50'	200 Ft	10000	7600	6000	5000	4000	2285 lbs	
	Over 50		6000	5500	5000	4000	3000		

- 4a. Capacities for jibs are the same as for the boom length which is equal to the length of main boom plus jib, but in no case may they exceed the capacities shown above
- 4b. With μb installed, lifting as follows
   capacities over main boom head must be reduced as follows

   1556 lbs for 20 ft μb
   2310 lbs for 40 ft μb

   1930 lbs, for 30 ft μb
   2700 lbs, for 50 ft μb

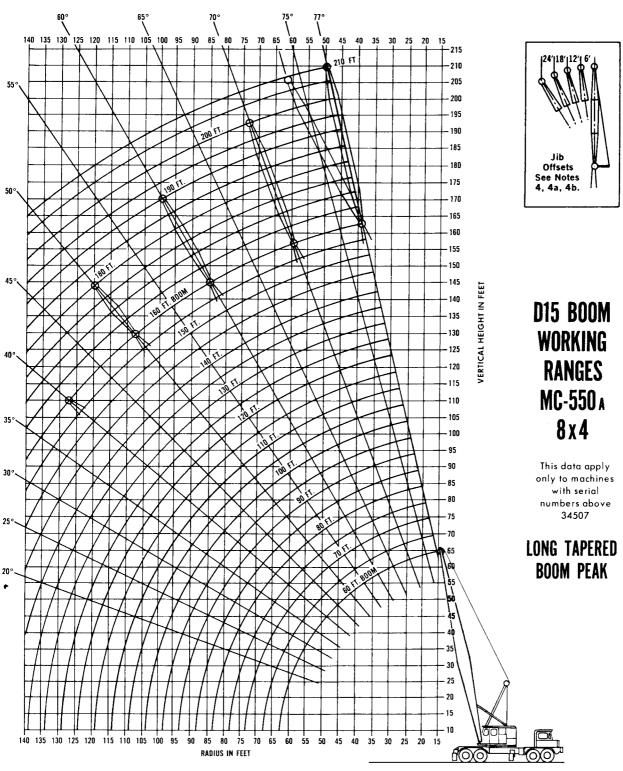
- 5. With mast erected (21ft 6 in overall height) and transmission in low gear, the following maximum boom length may be carried over the rear:
  140 ft boom without jib
  120 ft boom and 30 ft jib
  110 ft boom and 50 ft jib
  "For straight back and forward movement. Remove 10 ft, of boom from that specified for conditions which require maneuverability.

  - With mast retracted (14ft 11 in overall height), the following maximum boom lengthmay be carried over the rear 110 ft boom without jib 80 ft boom plus 30 ft jib 70 ft boom plus 50 ft jib
  - With mast extended, prinned to the base section (12 ft. overall height), the following maximum boom length may be carried over the rear 90 ft. boom without jib 60 ft. boom and 30 ft. jib 70 ft. boom and 20 ft. jib 50 ft. boom and 50 ft. jib
- 6. With outriggers set and mast erected the following boom lengths may be raised nnassisted, from the horizontal over the rear: 150 ft boom without jib 150 ft, boom plus 50 ft, jib
- Minimum number of parts of hoist line to be determined by dividing the load to be lifted by 15000 lbs. for 3/4 in. hoist cable with breaking strength of 25.6 tons.
- 8. To handle rated capacities listed, mast and floating harness required with  $1^{\rm T}{\rm s}$  inch derricking cable with breaking strength of 28.1 tons.

# MC-550 A

# **Load Ratings With**

RADIUS DIAGRAM:



# Long Tapered Boom Peak

#### CAPACITY CHART

EYPP-104

#### kimum Rated Load In Pounds

	AUI	1 1	CHA										1ax
				Vith riggers		thout riggers					Vith riggers		thout riggers
Boom Length	Radius	Boom Angle		Over Side	Over Rear	Over Side	Boom Length	Radiu	Boon Angle	Over	Over Side	Over Rear	Over Side
60 F	t. 20 25 30 35 40 45 50 60	78.2 73.4 68.8 63.8 59.0 53.2 46.7 39.1 17.7	67600 50700 42100 35800	83400 67600 50700 42100 35800 30900 26200 22700 17800	52400 36500 27800 22300 18500 15700 13600 11900 9400	33700 25200 19900 16400	140 Ft.	30	78.7 76.7 75.1 72.9 71.1 66.9 62.0 59.0 53.2 47.7	37000 33100 29100 25100 22000 17400 14200 11800 9900 8500	37000 33100 29100 25100 21600 16600 13300 10900 9100 7700	20800 17000 14300 12100 10400 8000 6200 4900 4000 3200	18600 15000 12400 10400 8900 6600 5100 3900
70 F1	15 20 25 30 35 40 45	79.4 75.9 72.0 67.9 63.5 59.0 55.0	84000 67400 50400 41800 35600 30900 27200	84000 67400 50400 41800 35600 30700 26100	52200 36400 27600 22100 18300 15500 13400	25000	150.51	110 120 130 140	41.4 34.2 25.2 11.5	7300 6300 5400 4700	6500 5600 4800 4200	2500 2000 1500 20700	1800
	50 60 70	49.1 36.1 16.3	24300 19300 15800	22600 17700 14400	11700 9300 7500	10100 7900 6300	150 Ft.	35 40 45 50	77.9 75.9 74.4 72.3	30400 28000 24400 21400	30400 28000 24400 21400	16900 14100 11900 10300	14800 12200 10300 8700
80 Ft	20 25 30 35 40 45 50 60 70 80	77.8 74.5 70.9 67.1 63.3 59.0 55.9 45.8 33.7 15.3	67200 50200 41600 35300 30700 27000 24000 19200 15600 13100	67200 50200 41600 35300 30600 26000 22400 17500 14200 11800	36200 27500 21900 18100 15300 13200 11500 9100 7300 6000	33400 24900 19600 16000 13400 11500 10000 7700 6100 5000		60 70 80 90 100 110 120 130 140 150	68.4 64.3 59.9 56.5 51.4 46.0 39.9 33.0 24.3 11.1	16900 13700 11300 9500 8000 6900 5900 5100 4300 3700	16500 13100 10700 8900 7500 6400 5400 4700 4000 3400	7800 6000 4800 3800 3000 2300 1800	6500 4900 3700 2900 2100 1600
90 Ft.	20 25 30 35 40 45 50 60 70 80 90	78.8 75.9 72.8 69.5 66.0 62.5 59.0 52.2 43.1 31.7 14.4	67000 49900 41300 35100 30400 26700 23800 19000 15500 12900 11000	67000 49900 41300 35100 30400 25800 22300 17400 14000 11700 9900	36000 27300 21800 17900 15200 13000 11400 8900 7100 5900 4900	33200 24700 19400 15800 13300 11300 9800 7500 6000 4800 3900	160 Ft.	30 35 40 45 50 60 80 100 120 140 160	80 1 78.4 76.6 75.2 73.2 69.6 61.9 54.9 44.5 31.9 10.7	30000 27800 25400 23400 20800 16300 10800 7600 5500 4000 2900	30000 27800 25400 23400 20800 16300 10600 7300 5300 3800 2800	20500 16700 13900 11800 10100 7600 4600 2800 1600	18200 14600 12000 10100 8500 6300 3600 2000
100 Ft.	20 25 30	79.5 76.9	66800 49700	66800 49700	35800 27100	33100 24500		C	APACI		.OW INCLI	JDE JIB	L
	30 35 40 45 50 60 70 80 90 100	74.8 71.9 68.8 65.6 62.4 57.0 49.4 40.7 30.0 13.6	41100 34900 30200 26500 23500 18900 15300 12800 10800 9300	41100 34900 30200 25700 22200 17200 13900 11500 9700 8300	21600 17800 15000 12900 11200 8700 7000 5700 4700 3900	19300 15700 13100 11100 9600 7400 5800 4600 3800 3100	170 Ft.	35 40 45 50 60 80 100	75.9 74.6 71.2 64.0 57.1 48.1	25100 23100 21100 19400 14800 10400 7200 5100	25100 23100 21100 19400 14800 10400 7200 5100	16500 13700 11600 9900 7400 4400 2600	14500 11900 9900 8400 6100 3400 1800
110 Ft.	25 30 35	78.4 75.9 73.3	49400 40800 34600	49400 40800 34600	26900 21400 17600	24400 19100 15500		140 160	37.4 22.8	3600 2500	3600 2500		
	40 45 50 60 70 80 90 100 110	71.1 68.2 65.2 59.7 54.6 47.0 38.8 28.5 13.0	29900 26300 23300 18700 15200 12600 10700 9200 8000	29900 25600 22000 17100 13700 11300 9500 8100 7000	14800 12700 11000 8500 6800 5500 4500 3700 3100	12900 11000 9400 7200 5600 4500 3600 2300	180 Ft.	80 100 120 140	76.5	20900 19100 16000 13300 9900 6800 4700 3300 2200	20900 19100 16000 13300 9900 6800 4700 3300 2200	13500 11400 9700 7200 4200 2400	11700 9700 8200 5900 3200 1600
120 Ft.	50 60 70 80 90	76.8 75.0 72.5 69.8 67.7 62.2 58.2 51.7	49200 40600 34400 29700 26000 23100 18500 15000 12400 10500 9000 7800	49200 40600 34400 29700 25400 21900 16900 13600 11200 9400 8000 6900	26700 21200 17400 14600 12500 10800 8300 6600 5300 4300 3500 2900	24200 18900 15300 12700 10800 9200 7000 5400 4300 3400 2700	190 Ft.	45 50 60 80 100 120 140	77.0 75.9	18000 15700 14500 12000 8700 6400 4400 2900 1800	18000 15700 14500 12000 8700 6400 4400 2900 1800	13300 11200 9500 7100 4000 2200	11500 9600 8000 5800 3000
130 Ft.	30 35 40 45 50 60	78.1 75.9 73.6 71.8 69.3 64.7	6800 40300 34100 29400 25800 22600 18000	5900 40300 34100 29400 25300 21800 16800	21000 17200 14400 12300 10600 8200	2100 1600 18700 15200 12600 10600 9100 6800	200 Ft.	50 60 80 100 120 140	78.1 76.4 73.6 68.1 61.8 56.3 48.4 39.5	13000 13000 8000 8000 5400 3600 2500 1500	13000 13000 8000 8000 5400 3600 2500 1500	9400 9400 6900 3800 2100	9400 7800 5600 2800
	70 80 90 100 110 120	59.8  : 55.7  :	14700 12200 10300 8800 7600 6600 5800	13400 11000 9200 7800 6700 5800 5000	6400 5100 4100 3300 2700 2200 1700	5300 4100 3200 2500 1900 1500	210 Ft.	60 80 100 120	76.9 1 74.8 69.1 63.5 58.3 51.0	0000 6000 6000 4400 2800 1700	10000 6000 6000 4400 2800 1700	9200 <b>6000</b> 3700 1900	7700 5400 2700

#### NOTES:

- 2. Load-handling devices are part of the load. For jibs, see notes 4, 4a and 4b
- Jibs may be used straight or goosenecked. 20 ft. jib is two-piece and may be extended to 50 ft. with center sections. The following data apply:

Jib		Max. Lgth. of Boom Incl.	1	Maximum Lifting Capacity (Lbs.) Offset from Extended Centerline of Boom					
Lgth.	Radius	Jib	0 Ft.	6 Ft.	12 Ft.	18 Ft.	24 Ft.	Backstays	
20 Ft.	Up thru 50' Over 50'	180 Ft.	26000 20000	19000 17000	16000 14000			1330 lbs.	
30 Ft.	Up thru 50' Over 50'	190 Ft.	18000 12000	12600 11000	10000 9000			1650 lbs.	
40 Ft.	Up thru 50' Over 50'	200 Ft.	13000 8000	9500 7500	7200 6000	5300 4200		1970 lbs.	
50 Ft.	Up thru 50' Over 50'	210 Ft.	10000 6000	7600 5500	6000 5000	5000 5000	4000 3000	2285 lbs.	

- 4a. Capacities for jibs are the same as for the boom length which is equal to the length of main boom plus jib, but in no case may they exceed the capacities shown above.
- 4b. With jib installed, lifting capacities over main boom head must be reduced as follows:

  150 lbs. for 20 ft. jib
  1930 lbs. for 20 ft. jib
  2310 lbs. for 40 ft. jib
  2700 lbs. for 50 ft. jib

5. With mast erected (21 ft. 6 in. overall height) and transmission in low gear, the following maximum boom length may be carried\* over the rear.

150 ft. boom without jib 120 ft. boom and 30 ft. jib 130 ft. boom and 20 ft. jib 110 ft. boom and 50 ft. jib

\*For straight back and forward movement. Remove 10 ft. of boom from that specified for conditions which require maneuverability.

With mast retracted (14 ft. 11 in. overall height), the following maximum boom length may be carried over the rear: 120 ft. boom without jib 90 ft. boom plus 30 ft. jib 80 ft. boom plus 50 ft. jib

With mast extended, pinned to the base section (12ft. overall height), the following maximum boom length may be carried over the rear: 90 ft. boom without jib 80 ft. boom and 20 ft. jib

60 ft hoom and 50 ft, jih

6. With outriggers set and mast erected the following boom lengths may be raised unassisted, from the horizontal over the rear: 180 ft. boom without jib 160 ft. boom plus 50 ft. jib

- 7. Minimum number of parts of hoist line to be determined by dividing the load to be lifted by 15,000 lbs. for  $^{3}$ 4 in. hoist cable with breaking strength of 25.6 tons.
- 8. To handle rated capacities listed, mast and floating harness required with  $1^1/6^n$  swaged pendants with breaking strength of 65 tons and 10 parts of 3/4 inch derricking cable with breaking strength of 28.1 tons.

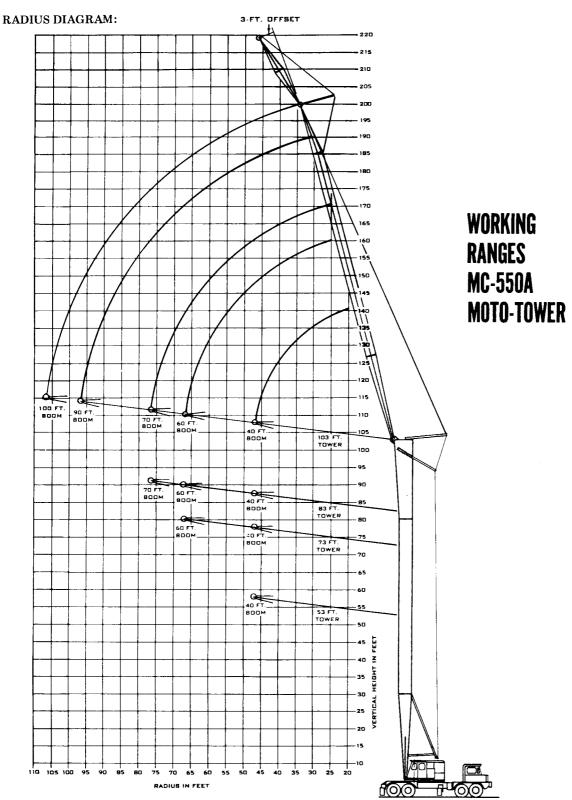
TRUCK CRANES

LORAIN

P. 23.07

# MC-550 A

# Load Ratings With



# **Tower Attachment**

#### CAPACITY CHART:

#### Maximum Rated Load In Pounds

103 FT. TOWER (Effective) 97 FT. TOWER (Pin to Pin)

Radius	Boom	Length i	n Ft.—Ov	er Rear ar	nd Side
in Ft.	40′	60′	70′	90'	100′
25	37000				
30	35500	35000	34000		
35	31000	30600	30400	30000	
40	26400	25900	25700	25300	25000
46	19500	21500	21200	20800	20500
50		19450	19000	18500	18200
60		15200	15000	14600	14300
66		11100	12400	12000	11700
70			11400	10800	10500
76			9000	9200	8900
80				8400	8100
90			]	6800	6500
96			1	6000	5700
100					5400
106					5000

83 FT.	TOWER	(Effective)
77 FT.	TOWER	(Pin to Pin)

Radius	Boom Length in Ft. Over Rear and Side							
in Ft.	40′	60′	70′					
25	37500							
30	36100	35500	35000					
35	31300	30600	30400					
40	26400	25900	25700					
46	19500	21500	21200					
50		19700	19200					
60		15200	15100					
66		11100	12800					
70			11600					
76			9000					
1								
i								

73 FT. TOWER (Effective) 67 FT. TOWER (Pin to Pin)

53	FT.	TOWER	(Effect	ive)
47	FT.	TOWER	(Pin to	Pin)

Boom Length in Ft. Over Rear and Side				Boom Length in Ft. Over Rear and Side			
Radius in Ft.	40′	60′		lius Ft.	40′		
25 30 35 40 46 50 60 66	38000 36500 31500 26400 19500	36000 30700 26000 21500 19700 15200 11100	2: 2 3: 3: 4: 4: 4:	5 0 5	55000 44000 37000 31800 26500 19500		

#### NOTES:

- The rated loads as determined by boom length, radius and weight of load apply
  to this machine as originally manufactured and equipped and as mounted on a
  Thew manufactured MC-550A, 8 x 4 carrier. THEY ARE MAXIMUM lifting capactities and comply with standards of the Power Crane & Shovel Association as
  issued by the U.S. Department of Commerce Commercial Standard CS90-58
  and the SAE Crane Load Stability Test Code J765.
- 1a. Capacities identified by bold face type are based on structural or machinery strength, not stability. When operating within the ranges covered by capacities in bold face type, do not rely upon machine tipping as the capacity limitation.
- Rated loads are based on 75% of stability with the machine being on a firm, level and uniform supporting surface.
- 1c. Before lifting at, or near, rated loads, the machine should be leveled with a commercial level in two directions. FOR SAFE WORKING LOADS THE USER is expected to make due allowances for his particular job conditions such as. Soft or uneven ground, out of level conditions, side loads, pendulum action, jerking or sudden stopping of loads, hazardous conditions, experience of personnel, etc. Side pull on boom or jib is extremely dangerous. CAUTION: The operator and other personnel should fully read and acquaint themselves with Operators Manual furnished by the manufacturer BEFORE operating this machine, and Rules for Safe Operation of equipment should be adhered to at all times. Operators and supervisors should also acquaint themselves with Standard Safety Codes for Cranes, Derricks and Hoists, ASA-B 30.2 · 1943 (R-1952).
- 1d. An Overload-Indicator is installed to supplement the operator's judgment and aperates as follows. CAPACITIES BASED ON STRENGTH. The amber light is an ar-vanced warning that you are approaching the rated lifting capacity. When the latter is reached, the red light and bell warning will respond. Operations must then be stopped and corrections made before proceeding.
- Rated lifting capacities apply only when tower is erected, with outriggers fully extended to 18 ft. 6 in. from center to center.
- The weights of fall blocks, slings, equalizer beams and all similar load-handling devices are considered part of the load lifted and suitable allowances for them should be made.
- 3. Maximum length of tower 103 ft. (from ground): 97 ft. (pin to pin).
- 3a. Maximum length of boom 100
- 4. With turntable in forward mounting position, the maximum tower and boom (see notes 3, 3a) may be carried with tower in erected position and with boom lowered against tower, outriggers sufficiently retracted to give ground clearance.

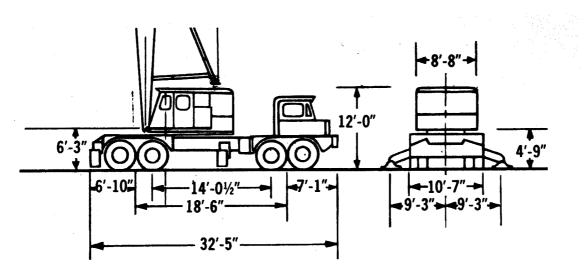
- A 47 ft. tower and 40 ft. boom combination may be travelled over the rear unsupported at speeds not to exceed 5 M.P.H. All other combinations must be supported.
- 6. With turntable in forward mounting position and with outriggers set, the maximum length of tower and boom that may be raised over the rear unassisted is 97 ft, tower (pin to pin) and 90 ft, boom or 100 ft, boom less 15 ft, peak.
- 7. Minimum number of parts of hoist line required is determined by dividing the loads to be lifted by 10,200 lbs, for standard 5/6" hoist cable, or 14,600 lbs, for standard 3/4" hoist cable, with power load lowering Without power load lowering with pline) single line pulli limited to 5,000 lbs. 3/4" cable with minimum part of line gives highest hoist speed. 5/6" cable with maximum part of line gives lowest hoist speed and best load control.
- The load indicator cams are not interchangeable, and will function properly only if used with tower and boom combination, or tower, boom and jib combination that is stamped on the cams.
- The 20 ft. jib with 3 ft. offset only is applicable to 97 ft. tower and 100 ft. boom combination.

Radius in Ft.	Capacity Over Rear and Side	Radius in Ft.	Capacity Over Rear and Side
45	17000	90	5700
50	14500	100	4700
60	11600	110	4000
70	9300	120	3275
80	7100		

- 9a. With load on jib, do not combine simultaneous load hoisting or lowering with boom hoisting or lowering.
- 9b. Load should be lifted at 12 throttle
- 9c. Minimum radius 45 ft.
- 9d. Maximum radius 120 ft.
- 9e. When 20 ft. jib is installed, lifting capacities for 97 ft. tower and 100 ft. boom over the boom head must be reduced by 1.525 lbs

# MC-550 A MOTO-TOWER®

### GENERAL DIMENSIONS:



#### SPECIFICATIONS:

TURNTABLE SPECIFICATIONS							
Power         GAS         GM 4-71N, 6 cyl.           Bore and Stroke         4½ in, x 5 in.           Displacement         284 Cu, in.           Horsepower         115 H.P.           Power Take-Off         Torque Converter           Fuel Tank         50 gals.							
Operating Characteristics       Line Pulls and Line Speeds:     17,250 lbs. © 170 F.P.M.       Main Hoist (15" P.D.)     17,250 lbs. © 170 F.P.M.       Secondary Hoist (15" P.D.)     17,250 lbs. © 170 F.P.M.       Swing Speed     4.0 R.P.M.       Controls     Manual Mechanical							
Other Equipment     Planetary Drive, Dual Drum       Boom Hoist     Planetary Drive, Dual Drum       Gantry     Telescopic Mast Type, Air Operated       Counterweight, Removable     24,900 lbs.       Turntable Connection     External Gear Shear-Ball®							
MOTO-CRANE SPECIFICATIONS							
Power         Gas         GM 6-71N, 6 cyl.           Bore and Stroke         4½ in. x 5 in.           Displacement         425.6 cu. in.           Horsepower         246 H.P.           Power Take-Off         Plate Clutch           Fuel Tank         80 gals.							
Transmissions         5 Speeds           Main Transmission         4 Speeds           Auxiliary Transmission         20           Iotal Speeds Forward         20           Total Speeds in Reverse         4							

Front Tandem
on equalizer beams.
Steering
Brakes (Spring Set for Emergency and Parking)AirRear4 Brakes; 17¼ in. dia. x 5½ in. wideFront4 Brakes; 17¼ in. dia. x 4 in. wide
Tires (Tube)
BOOM EQUIPMENT
Crane Boom
Design Square-Tubular-Chords Type of Connection Pin Connected Basic Length See Range Diagram Number of Hoist Line Sheaves at Boom Head on anti-friction bearings 4
Jib
Two-Piece Pin-Connected Type
Lifting Crane Component  Laggings Two, 15-inch P.D. Floating Harness 10 parts of line Boom Lowering by Power, Clutch Controlled Boom Stops Cable Type Swing Brake Standard Power Load Lowering (right hand hoist drum) Available Third Drum Available
TOWER EQUIPMENT
Tower       Design     Square-Tubular-Chords       Type of Connection     Pin Connected       Tower Height     See Range Diagram       Top Section     Includes 2 pendants, 2 boom masts       Boom Position Indicator     Standard       Overload-Indicator     Available
APPROXIMATE SHIPPING WEIGHTS*
Standard Machine Equipped as, 53-ft. Tower with 40-ft. Boom 117,705 lbs. 103-ft. Tower with 100-ft. Boom 126,200 lbs. *Removable counterweight can reduce weight 24,900 lbs. Additional reduction may be made by removing outrigger boxes and beams.

Outriggers Power-Set®, Hydraulically Operated.

Axies (Planetary)

First reduction thru hypoid gears; final reduction thru planetary wheel hubs; high-traction differentials. Interaxle differential with lockout. Mounting—Two axles in tandem, with "through-drive", mounted on equalizer beams.

Rear Bogie

# MC-550 A MOTO-CRANE®

### LOAD DISTRIBUTION:

			Turntable		Turntable	
		Gross Weight	Facing Front		Facing Rear	
			Front	Rear	Front	Rear
	omplete Basic Crane. Mast Down. Boom In Travel					
	osition. Hoist and Whip Cables On Drums. Fuel Tanks	99190	15735	83455	37675	61515
F	ıll. 175 # Man In Truck Cab	99190	15735	63433	3/0/3	01313
2. (a	) Add Power Load Lowering	+1225	+50	+1175	+250	+975
(b	) Add P.L.L. When 3rd. Drum is Installed	+170	0	+170	+45	+125
3 (a	) <b>Add</b> 3rd. Drum Only	+1295	+65	+1230	+250	+1045
•	) Add 3rd. Drum when P.L.L. is Installed	+240	+10	+230	+45	+195
<b>4</b> .	Add Cummins V-504-C w/Torque Converter	+210	-40	+250	+95	+115
5.	Add Cummins NHC-250 to Carrier	+735	+835	-100	+835	-100
<b>3</b> .	Add 50 Ton 4-Sheave Block to Boom Peak	+850	+2075	-1225	-1840	+2690
7.	Add 50 Ton 4-Sheave Block to Front Bumper	+850	+1210	-360	-	_
3.	Remove Counterweight	-24900	+8970	-33870	-16355	-8545
€.	Remove Rear Outrigger Box and Beams	-4170	+1240	-5410	+1240	-5410
<b>)</b> .	Remove Front Outrigger Box and Beams	-4170	-2190	-1980	-2190	-1980
١.	Remove 15' Boom Peak and Pendants	-1520	-2890	+1370	+2440	-3960
2. (a	Remove Complete 40' D15-4 Boom, Pendants,					
	Mast Harness and Telescoping Mast	-5665	-6585	+920	+4905	-10570
(b	Remove Boom Stops	-400	-105	-295	0	-400
3.	Adjustment Counterweight Carried Behind Carrier Cab	0	+25325	-25325	0	0