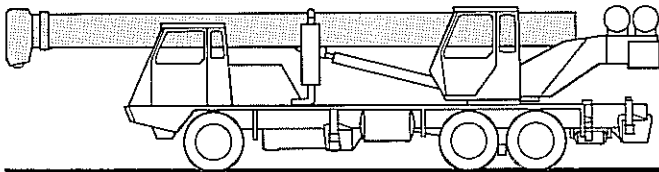


# LORAIN<sup>®</sup> MCH 300D SERIES

carrier-mounted hydraulic crane  
specifications



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## STANDARD BOOM EQUIPMENT

### BOOM

32-81 ft. (9.75-24.69 m), three section, full power, self-proportioning boom. Single lever control. High-strength, four plate construction with sideplate holes providing reduced weight. Anti-friction slide pads. Dual boom hoist cylinders. All cylinders equipped with integral hold valves.

### BOOM HEAD

Welded to third section of boom. Three or four metallic sheaves and two idler sheaves mounted on heavy duty, anti-friction bearings. Quick reeving boom head eliminates need to remove wedge and socket from rope. Provision made for side-stow jib mounting.

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## OPTIONAL BOOM EQUIPMENT

### JIBS

32 ft. (9.75 m) side stow swing-on one-piece lattice type jib. Single metallic sheave mounted on anti-friction bearing. Installs to main boom only.

32-49 ft. (9.75-14.94 m) side stow swing-on lattice type jib. Single sheave mounted on anti-friction bearing. Jib is extendible to 49 ft. (14.94 m) by means of a 17 ft. (5.18 m) manual pull-out tip section, roller supported for ease of extension. Installs to main boom only.

### AUXILIARY BOOM HEAD

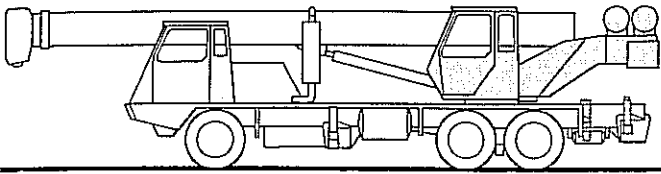
Removable auxiliary boom head has single metallic sheave mounted on an anti-friction bearing. Removable pin-type rope guard for quick reeving. Installs to main boom peak only.

### HOOK BLOCK

Three or four metallic sheaves and hook latch. Quick reeving design.

### HOOK & BALL

6.25 ton (5.7 mt) top swivel ball with hook and hook latch.



## STANDARD UPPERSTRUCTURE EQUIPMENT

### UPPERSTRUCTURE FRAME

All welded one-piece structure fabricated with high tensile strength alloy steel. Counterweight is bolted to frame.

### TURNTABLE CONNECTION

Swing bearing is single row, ball-type, with internal teeth. The swing gear is bolted to revolving upperstructure and to carrier frame.

### SWING

A hydraulic motor drives a double planetary reduction gear for precise and smooth swing function. Swing speed (no load) is 3.0 rpm.

### SWING BRAKE

Heavy duty, multiple disc swing brake is mechanically actuated from operator's cab by foot pedal. Brake may be operated to hold upperstructure at any desired degree of rotation. Brake is released by hand.

### ANTI-TWO BLOCK SYSTEM

Anti-two block system with audio/visual warning and automatic function disconnects.

### OPERATOR'S CAB

Environmental cab with all steel construction, optimum visibility, safety glass throughout and rubber floor matting is mounted on vibration absorbing pads. The cab has a sliding door on the left side, sliding windows on the right side, hinged tinted Lexan® skylight and removable front windshield. Acoustical foam padding insulates against sound and weather. The deluxe six-way adjustable operator's seat includes head and arm rests.

### CONTROLS

All control levers and pedals are positioned for efficient operation. Hand-operated control levers include swing, boom telescope, boom hoist, single lever two-speed main winch, and hand throttle. Foot control pedals include boom raise, boom lower, accelerator and swing brake.

### INSTRUMENTATION AND ACCESSORIES

In cab gauges include bubble level, engine oil pressure, fuel, engine temperature, voltmeter. Switches include ignition, engine stop, master and outrigger controls. Indicators include instrument warning light and buzzer, low coolant warning light and buzzer, and two-block visual and audio warning monitor. Accessories include fire extinguisher, windshield washer/wiper, dash light, seat belt, and quick disconnect and adapter.

### HYDRAULIC CONTROL VALVES

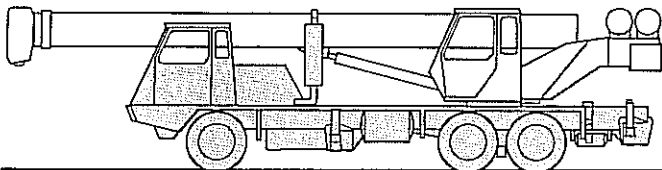
Valves are mounted at the rear of the upperstructure and are easily accessible. Valves include one four-spool main valve for boom hoist, telescope, main winch, and main winch boost and one single spool valve for swing.

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### OPTIONAL EQUIPMENT

Auxiliary Winch • Winch Cable Rollers • Drum Rotation Indicators • 360° House Lock • Heater/Defroster • Air Conditioner • Tinted Safety Glass • Vandal and Scratch Resistant Glass • Tinted Vandal and Scratch Resistant Glass • Torsion Bar Suspension for Bucket Seat • Roof Window Electric Wiper • Tachometer • Work Lights • Load Moment Indicators • Dome Light.

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## STANDARD CARRIER EQUIPMENT

### CARRIER CHASSIS

Chassis is Lorain designed and built with a 6x4 drive. Frame is fabricated of high strength torsional resistant steel. Outrigger boxes are welded as part of the frame. Two position boom rack; high or travel position and low or clearance position.

### AXLES AND SUSPENSION

Front Axle - 20,000 lb. (9072 kg) capacity. Leaf spring, heavy duty suspension.

Rear Axles - 40,000 lb. (18 144 kg) capacity with inter-axle differential with lockout. Suspension is bogie type, solid beam with rubber bushings.

### TIRES

Front: Two 16.5 x 22.5-16 P.R. transport type tubeless

Rear: Eight 9.00 x 20-10 P.R. transport type with tubes

### BRAKES

Full air brakes on all wheels with air dryer, split circuit system.

Front brakes: 15 x 6 in. (381 x 102 mm)

Rear brakes: 16.5 x 7 in. (419 x 178 mm)

Total brake lining area: 394 in<sup>2</sup> (2542 cm<sup>2</sup>) front, 920 in<sup>2</sup> (5935 cm<sup>2</sup>) rear. Air compressor has automatic air governor. Rear tandem axles have spring-set, air-released parking or emergency brake chambers. Parking brake is applied with valve mounted on dash panel. Emergency brakes apply automatically when air pressure drops below 60 psi (4.2 kg/cm<sup>2</sup>).

### STEERING

Mechanism includes rack and pinion with hydraulically assisted front wheel steer.

Turning radius:

39'-11" (12.17 m) over boom tip

### TRANSMISSION

Transmission has 13 speeds forward and 3 reverse, with neutral safety start. Gear selection is accomplished by single lever shift control and three position air shift range selector.

### OUTRIGGERS

POWRSPAN® out and down fully independent hydraulic outriggers extending 18 ft. (5.49 m) centerline to centerline include easily removable aluminum floats each with an area of 254 in<sup>2</sup> (1639 cm<sup>2</sup>) which are stowable on the carrier frame. Complete controls and sight leveling bubble are located in the operator's cab.

# STANDARD CARRIER EQUIPMENT

(continued)

## CARRIER CAB

One-man all steel cab is mounted on vibration absorbing pads and has optimum visibility, safety glass, acoustical foam padding inside cab for insulating against sound and weather, six-way adjustable suspension seat with seat belt and lockable door.

## CONTROLS

Included are transmission shift, inter-axle differential lock, parking brake, cold weather starting aid, two-speed windshield wiper, windshield washer, heater and defroster, lights, headlight dimmer, dome light, and ignition.

## INSTRUMENTS

Included are speedometer, hour meter, tachometer, voltmeter, fuel gauge, engine oil pressure gauge, water temperature gauge, front brakes air pressure gauge, and rear brakes air pressure gauge. Warning lights include low coolant level, parking brakes on, low air, pumps on, and high beam lights.

## ACCESSORIES

Included are fire extinguisher, right hand and left hand rear view mirrors, electric horn, access steps and grab handles, back-up alarm, two position boom rack, front and rear towing loops.

## LIGHTS

Light package includes dual headlights with foot operated dimmer switch, clearance lights, tail lights, directional signal lights, four-way hazard flasher lights, and back-up lights with audio pulsating back-up alarm.

## MAIN WINCH SPECIFICATIONS

Lorain built hydraulic winch with planetary reduction gearing provides two-speed operation with equal speeds for power up and down. Winch is equipped with an integral automatic brake.

PERFORMANCE	LO-RANGE	HI-RANGE
Max. line speed (no load)		
First layer	185 fpm ( 56 m/min)	320 fpm ( 98 m/min)
Fifth layer	268 fpm ( 82 m/min)	465 fpm (142 m/min)
Max. line pull — First layer	14,000 lbs (6350 kg)	
Permissible line pull	9,500 lbs (4309 kg)	
DRUM DIMENSIONS	DRUM CAPACITY	
10.5 in (267 mm) drum diameter	Max. Storage: 899 ft. (274 m)	
20.9 in (531 mm) length	7th layer not working layer	
19.8 in (503 mm) flange dia.	Max Useable: 738 ft (225 m)*	
Cable: 5/8 in x 500 ft (15.9 mm x 137.2 m)	*Based on minimum flange height above top layer to comply with ANSI B30.5.	
Cable type: 6 x 19 IWRC-XIPS regular lay preformed		

## ENGINE SPECIFICATIONS

Make and Model	Detroit Diesel 8.2L-T (205 hp)	Detroit Diesel 8.2L-T (230 hp)	Caterpillar 3208T
Type	8 cylinder	8 cylinder	8 cylinder
Bore and Stroke	4.25 x 4.41 in (108 x 112 mm)	4.25 x 4.41 in (108 x 112 mm)	4.5 x 5.0 in (114 x 127 mm)
Displacement	500 cu in (8195 cc)	500 cu in (8195 cc)	636 cu in (10 424 cc)
Max. Gross Horsepower	205 hp (153 kw) @ 3000 rpm	230 hp (172 kw) @ 3000 rpm	225 hp (168 kw) @ 2600 rpm
Max. Gross Torque	442 lbs · ft/1700 rpm (61.1 kg · m/1700 rpm)	510 lbs · ft/1700 rpm (70.5 kg · m/1700 rpm)	590 lbs · ft/1400 rpm (81.6 kg · m/1400 rpm)
Net Horsepower	190 hp (142 kw) @ 3000 rpm	215 hp (160 kw) @ 3000 rpm	210 hp (157 kw) @ 2600 rpm
Aspiration	turbocharged	turbocharged	turbocharged
Electrical System	12 volt	12 volt	12 volt
Alternator	61 amp	61 amp	60 amp
Battery	(2) 12V-1160 C.C.A. @ 0° F (-18° C)	(2) 12V-1160 C.C.A. @ 0° F (-18° C)	(3) 12V-1975 C.C.A. @ 0° F (-18° C)
Fuel Tank Capacity	60 gal (227 l)	60 gal (227 l)	60 gal (227 l)

## SPEED AND GRADEABILITY

Engine	Speed Range	Percent Gradeability
Detroit Diesel 8.2L-T (205 hp)	50 mph (80.4 km/h)	35%
Detroit Diesel 8.2L-T (230 hp)	55 mph (88.5 km/h)	37%
Caterpillar 3208T	55 mph (88.5 km/h)	39.8%

## OPTIONAL AUXILIARY WINCH

Lorain hydraulic winch, power up and down, equal speed, planetary reduction with integral automatic brake.

PERFORMANCE	
Max. line speed (no load)	
Fifth layer	352 fpm (107 m/min)
Max. line pull	
First layer	10,100 lbs (4582 kg)
DRUM DIMENSIONS	
10.5 in (267 mm) drum diameter	
16.1 in (409 mm) length	
17.8 in (452 mm) flange diameter	
Cable: 1/2 in. x 500 ft (12.7 mm x 152.4 m)	
Cable type: 6x19 IWRC-XIPS regular lay preformed	
DRUM CAPACITY	
Max. storage: 815 ft (248 m)	

# HYDRAULIC SYSTEM

## HYDRAULIC PUMPS

Triple pumps driven from main transmission PTO with air-shifted disconnect. Combined system capacity is 128 gpm (484 lpm).

Pumps include:

### Main and Optional Auxiliary Winch Pump

62 gpm (204.4 lpm) @ 3500 psi (225.3 kg/cm<sup>2</sup>)

### Boom Hoist and Boom Telescope Pump

45 gpm (170 lpm) @ 2750 psi (193 kg/cm<sup>2</sup>)

Two-speed boom hoist action with boost from boom telescope circuit.

### Outrigger and Swing Pump

21 gpm (79.5 lpm) @ 2500 psi (175 kg/cm<sup>2</sup>)

## HYDRAULIC RESERVOIR

All steel, welded construction with internal baffles and easy access to filters, is equipped with an exterior sight level gauge. Capacity is 130 gallons (541 l).

## FILTRATION

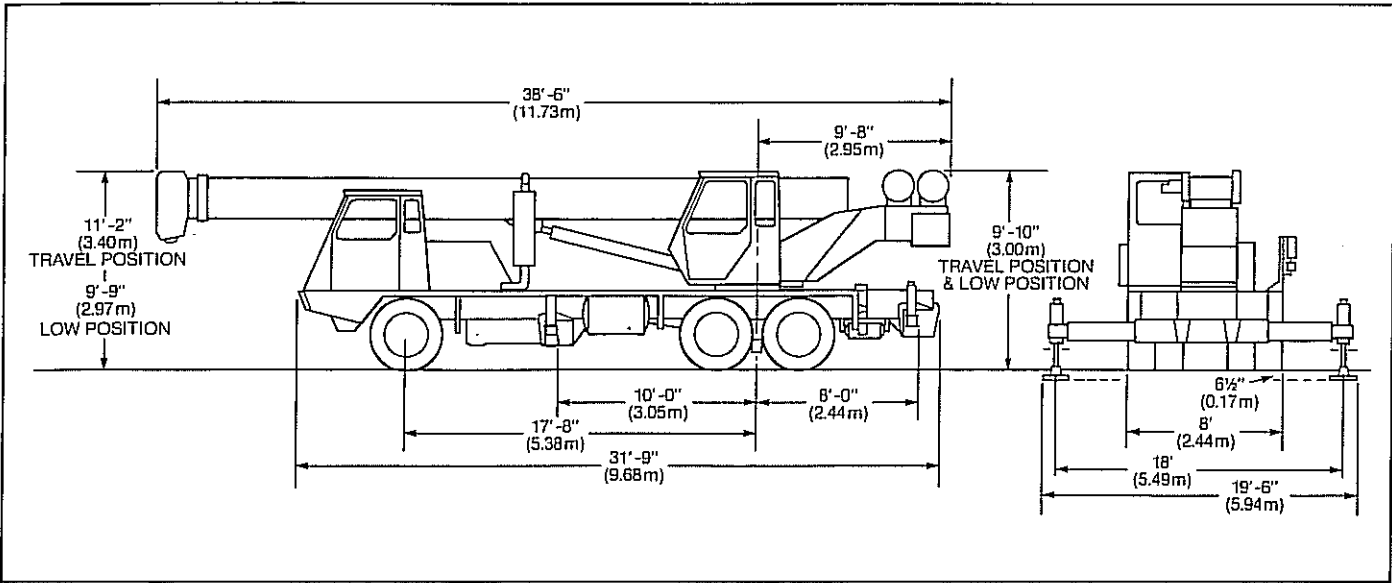
Full flow oil filtration system with bypass protection includes a removable 100 mesh (140 micron) suction screen-type filter and 5 micron replaceable return line filter.

## OPTIONAL EQUIPMENT

10:00 x 20 - 12 P.R. Transport Tires with Tube (Rear Only) • Disc Wheels • Spare Tire with Wheel • Front Hydraulic Outrigger Jack • Immersion Heater • Hydraulic Oil Cooler • Pintle Hook • Heavy Lift Package • Automatic Transmission.

Travel speed based on full load rpm. Gradeability is limited to less than maximum due to engine lubrication system and stability factors.

# GENERAL DIMENSIONS



WEIGHTS & AXLE LOADS	GROSS WEIGHT LBS.	UPPER IN TRAVEL POSITION		GROSS WEIGHT KG.	UPPER IN TRAVEL POSITION	
		FRONT	REAR		FRONT	REAR
Basic Crane with 8.2L-T Engine, 81' (24.69 m) Boom, 1000 lb. (454 kg) Counterweight, 16.5 x 22.5 Front Tires, 9.00 x 20 Rear	45,900	16,300	29,600	20 820	7394	13 427
<b>Add Options:</b> 32' (9.75 m) Swing-on Boom Jib (Stowed)	+ 900	+ 812	+ 88	+ 408	+ 368	+ 40
32'-49' (9.75-14.94 m) Swing-on Jib (Stowed)	+1,200	+ 690	+ 510	+ 544	+ 312	+ 231
Auxiliary Winch with Wire Rope	- 100*	- 15	- 85	- 45*	- 7	- 38
10.00 x 20 Tires (Rear Only) Highway Tread	+ 140	0	+ 140	+ 64	0	+ 64
16.50 x 22.5-18 PR Tires						
5100 lb. (2313 kg) Counterweight on Cab Upper 1850 lb. (839 kg) Counterweight on Front Bumper	+5,950	+ 305	+5,645	+2 705	+140	+2 565
3208T Cat. Engine	+ 310	+ 275	+ 35	+ 140	+125	+ 15
Front Pump Drive	+ 65	+ 195	- 130	+ 30	+ 90	- 60
Front Outrigger Jack (w/Pad)	+ 260	+ 315	- 55	+ 120	+145	- 25
Hydraulic Oil Cooler	+ 190	+ 200	- 10	+ 88	+ 91	- 3
Heater/Defroster (Upper)	+ 50	0	+ 50	+ 23	0	+ 23
360° House Lock	+ 85	0	+ 85	+ 39	0	+ 39
35 ton (31.7 mt) Hook Block	+ 700	+1,015	- 315	+ 320	+460	- 140

\*Requires removing 1000 lb. (454 kg) counterweight.

NOTE: Weights are for Lorain supplied equipment and subject to 2% variation due to manufacturing tolerances.

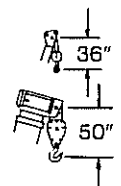
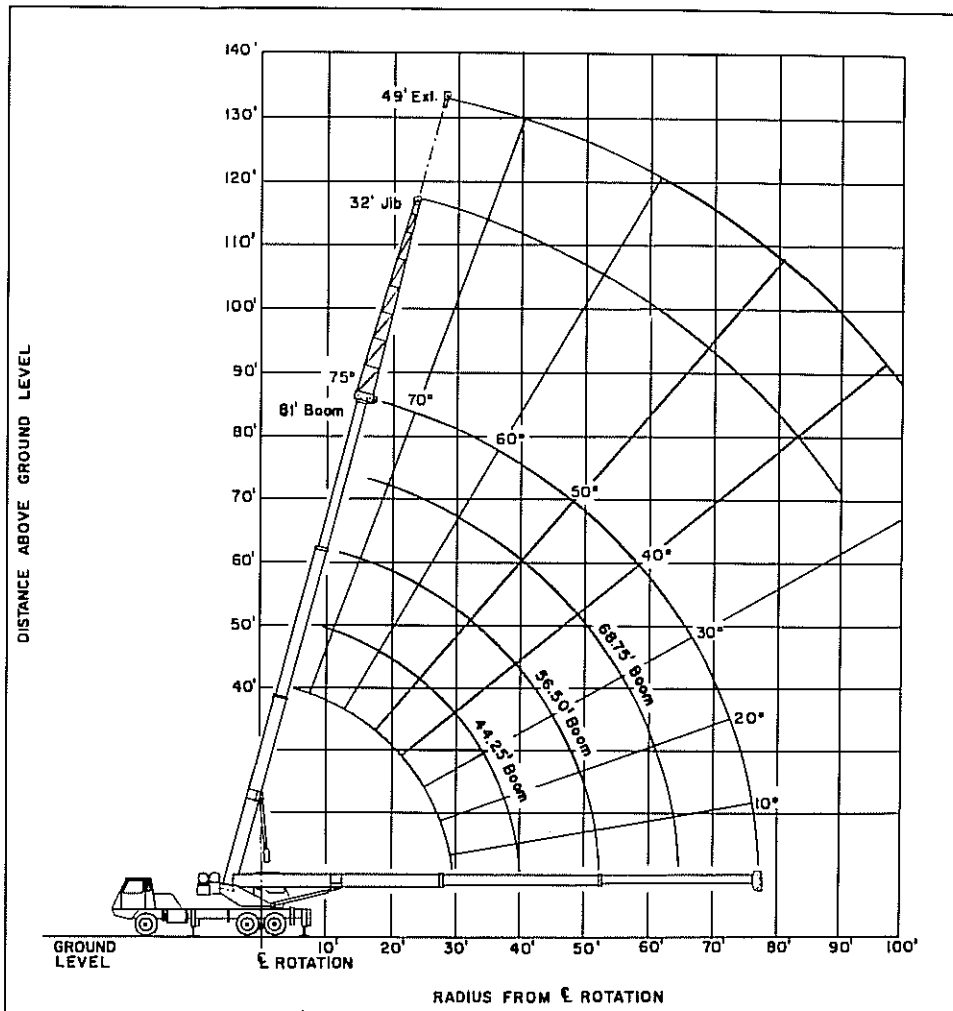
WE RESERVE THE RIGHT TO AMEND THESE SPECIFICATIONS AT ANY TIME WITHOUT NOTICE. THE ONLY WARRANTY APPLICABLE IS OUR STANDARD WRITTEN WARRANTY APPLICABLE TO THE PARTICULAR PRODUCT AND SALE. WE MAKE NO OTHER WARRANTY, EXPRESSED OR IMPLIED.



Koehring Cranes & Excavators  
Waverly, Iowa 50677

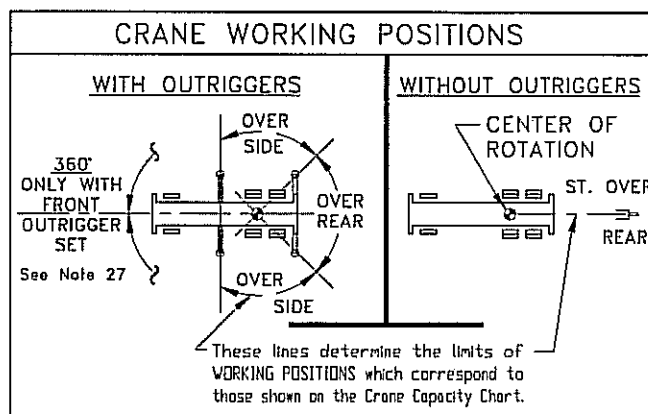
# LORAIN<sup>®</sup> MCH 300D SERIES

carrier-mounted hydraulic crane  
14.5 ton capacity  
range diagram &  
capacity charts



Dimensions are for largest Lorain furnished hook block and hook and ball with anti-two-block activated.

**Range  
Diagram  
(32'-81' boom)**



# Capacity Charts — Pounds (32'-81' boom)

## MCH 300D SERIES

**IMPORTANT:** This specification sheet is not to be used as load rating chart in the machine as data may be subject to change.

CAPACITY: 14.5 TON  
COUNTERWEIGHT  
UPPER STRUCTURE:  
W/AUX. WINCH 0 lb.  
W/O AUX. WINCH 1000 lb.  
BOOM LENGTH 32-81 ft.

OUTRIGGER SPREAD 18 ft.  
STABILITY PCT.  
ON OUTRIGGERS 85%  
ON TIRES 75%  
PCSA CLASS 10-65

### ON OUTRIGGERS

R A D I U S	BOOM LENGTH 32'		BOOM LENGTH 44.25'		BOOM LENGTH 56.50'		BOOM LENGTH 68.75'		BOOM LENGTH 81'		R A D I U S
	REAR	SIDE	REAR	SIDE	REAR	SIDE	REAR	SIDE	REAR	SIDE	
10	65	29,000*	29,000*	73	29,000*	29,000*					10
12	61	29,000*	29,000*	70	29,000*	29,000*	75	29,000*	29,000*		12
15	55	29,000*	29,000*	65	29,000*	29,000*	72	29,000*	29,000*	75	15
20	43	29,000*	26,500	58	29,000*	26,900	66	29,000*	24,100	71	20
25	27	23,800	16,700	50	24,200	17,100	61	24,400	17,300	66	25
30				41	17,600	12,000	55	17,800	12,100	62	30
35				30	13,400	8,800	48	13,600	9,000	57	35
40				9	10,500	6,500	40	10,800	6,800	52	40
45							31	8,700	5,300	46	45
50							19	7,000	4,100	40	50
55										32	55
60										24	60
65											65
70										33	70
75										26	75
										16	75

### SIDE STOW JIB ON OUTRIGGERS

R A D I U S	MAX. BOOM & 18.5' JIB 99.50'		MAX. BOOM & 32' JIB 113'		MAX. BOOM & 49' JIB 130'		R A D I U S
	REAR	SIDE	REAR	SIDE	REAR	SIDE	
25	75	14,400*	14,400*				25
30	72	12,800*	12,800*	75	9,400*	9,400*	30
35	69	11,000*	9,900	72	9,000*	9,000*	35
40	65	10,000*	7,600	70	8,700*	8,400	40
45	62	9,300*	6,000	67	8,100*	6,600	45
50	59	8,200	4,700	64	7,700*	5,300	50
55	55	8,800	3,700	61	6,700	4,200	55
60	52	5,800	2,900	58	5,800	3,400	60
65	48	4,900	2,300	55	5,000	2,700	65
70	44	4,100	1,700	52	4,300	2,100	70
75	39	3,500	1,300	47	3,700	1,600	75
80	34	3,000		44	3,300		80
85	29	2,500		40	2,800		85
90	21	2,100		36	2,400		90
95				31	2,100		95
100						41	100

#### NOTES FOR ON TIRES CAPACITIES

- FOR PICK AND CARRY OPERATIONS, BOOM MUST BE CENTERED OVER THE REAR OF THE CRANE WITH SWING BRAKE LOCKED OR WITH MECHANICAL SWING LOCK ENGAGED. IF SO EQUIPPED, USE MINIMUM BOOM POINT HEIGHT AND KEEP LOAD CLOSE TO GROUND SURFACE.
- THE LOAD SHOULD BE RESTRAINED FROM SWINGING. NO ON TIRE OPERATION WITH JIB ERECTED.
- WITHOUT OUTRIGGERS, NEVER MANEUVER THE BOOM BEYOND LISTED LOAD RADI FOR APPLICABLE TIRES USED TO ENSURE STABILITY.
- CREEP SPEED IS CRANE MOVEMENT OF LESS THAN 200 ft. (61m) IN 30 MINUTES PERIOD AND NOT EXCEEDING 1.0 mph (1.6 Km/H).
- REFER TO GENERAL NOTES FOR ADDITIONAL INFORMATION.

RECOMMENDED TIRE PRESSURE (PSI)	
TIRE SIZE	10.00x20, 14PR
LIFT ON TIRES	95
LOADING	75

#### NOTES FOR JIB CAPACITIES

- FOR ALL BOOM LENGTHS LESS THAN THE MAXIMUM WITH A JIB ERECTED, THE RATED LOADS ARE DETERMINED BY BOOM ANGLE ONLY IN THE APPROPRIATED COLUMN.
- FOR BOOM ANGLE NOT SHOWN, USE THE CAPACITY OF THE NEXT LOWER BOOM ANGLE.
- LISTED RADII ARE FOR FULLY EXTENDED BOOM ONLY.

### ON TIRES STRAIGHT OVER REAR ONLY

R A D I U S	PICK & CARRY MAIN BOOM CAPACITIES	R A D I U S
10	13,900	10
12	10,300	12
15	7,100	15
20	4,000	20
25	2,400	25
30	1,400	30

### REDUCTION IN MAIN BOOM CAPACITY

All Jibs in Stowed Position	0 Lbs.
18.5' SIDE STOW Jib Erected	990 Lbs.
32'-49' Side Stow Jib Erected Stinger Retracted	2440 Lbs.
32'-49' Side Stow Jib Erected Stinger Extended	2810 Lbs.

### HOOK BLOCK WEIGHTS

Hook & Ball	121 Lbs.
Hook Block (3 Sheave)	650 Lbs.
Hook Block (4 Sheave)	700 Lbs.

### MAXIMUM PERMISSIBLE HOIST LINE LOAD

LINE PARTS	1	2	3	4	5	6	7	8
MAIN HOIST	9,700	19,400	29,000	29,000	29,000	-----	-----	-----
AUX. HOIST	7,600	15,200	22,800	29,000	29,000	-----	-----	-----
ROOM HEAD	2	2-0	2-3	1-2-0	1-2-3	-----	-----	-----
HOOK BLOCK	D	2	2-D	1-2	1-2-0	-----	-----	-----

MAIN & OPT. AUX. HOIST LINE	AUX. HOIST LINE
5/8" Dia. 6x19 or 6x37 IWRC, 1PS, Reg Lay Performed Wire Rope Minimum Breaking Strength - 17.9 Tons Max. Permissible Line Pull - 10,228 Lbs.	1/2" Dia. 6x19 or 6x37 IWRC, XIPS, Reg Lay Performed Wire Rope Minimum Breaking Strength - 13.3 Tons Max. Permissible Line Pull - 7,600 Lbs.

# Capacity Charts — Pounds (32'-81' boom)

## MCH 300D SERIES

CAPACITY: 14.5 TON  
COUNTERWEIGHT:  
LOWER CHASSIS: ON FRONT BUMPER  
1850 lb. (SEE NOTE 1)  
UPPER STRUCTURE:  
W/AUX. WINCH 5100 lb.

BOOM LENGTH 81 ft.  
OUTRIGGER SPREAD 18 ft.  
STABILITY PCT.  
ON OUTRIGGERS 85%  
ON TIRES 75%  
PCSA CLASS 10-95

**IMPORTANT: This specification sheet is not to be used as load rating chart in the machine as data may be subject to change.**

### ON OUTRIGGERS

R A D I U S	BOOM LENGTH 32 FT.		BOOM LENGTH 44.25 FT.		BOOM LENGTH 56.50 FT.		BOOM LENGTH 68.75 FT.		BOOM LENGTH 81 FT.		R A D I U S				
	°	REAR	SIDE	°	REAR	SIDE	°	REAR	SIDE	°		REAR	SIDE		
	10	65	29,000*	29,000*	73	29,000*	29,000*							10	
12	61	29,000*	29,000*	70	29,000*	29,000*	75	29,000*	29,000*			12			
15	55	29,000*	29,000*	65	29,000*	29,000*	72	29,000*	29,000*	75	29,000*	29,000*	15		
20	43	29,000*	29,000*	58	29,000*	29,000*	66	29,000*	29,000*	71	25,900*	25,900*	20		
25	27	28,600*	22,500	50	28,900*	22,900	61	29,000*	23,100	66	22,000*	22,000*	25		
30				41	22,700	16,300	55	22,900	16,500	62	19,100*	16,600	30		
35				30	17,600	12,300	48	17,800	12,500	57	16,900*	12,600	35		
40				9	14,000	9,500	40	14,300	9,700	52	14,400	9,800	40		
45							31	11,800	7,700	46	11,900	7,900	45		
50							19	9,800	6,200	40	10,000	6,400	50		
55										32	8,400	5,200	55		
60										24	7,200	4,200	60		
65												33	6,300	3,500	65
70												26	5,400	2,900	70
75												16	4,600	2,300	75

### SIDE STOW JIB ON OUTRIGGERS

R A D I U S	MAX. BOOM & 18.5' JIB 99.50'		MAX. BOOM & 32' JIB 113'		MAX. BOOM & 49' JIB 130'		R A D I U S			
	°	REAR	SIDE	°	REAR	SIDE				
	25	75	14,400*	14,400*					25	
30	72	12,800*	12,800*	75	9,400*	9,400*	30			
35	69	11,000*	11,000*	72	9,000*	9,000*	75	5,300*	5,300*	35
40	65	10,000*	10,000*	70	8,700*	8,600	73	4,900*	4,900*	40
45	62	9,300*	8,200	67	8,100*	7,000	71	4,500*	4,500*	45
50	59	8,800*	6,700	64	7,700*	5,800	68	4,300*	4,300*	50
55	55	8,000*	5,500	61	6,900*	4,800	66	4,000*	4,000*	55
60	52	7,400*	4,600	58	6,300*	4,000	63	3,900*	3,900*	60
65	48	6,600	3,800	55	5,600*	3,400	61	3,600*	3,500	65
70	44	5,700	3,200	52	5,100*	2,900	58	3,400*	3,000	70
75	39	5,000	2,600	47	4,300*	2,400	55	3,200*	2,600	75
80	34	4,300	2,200	44	4,000*	2,000	53	3,100*	2,300	80
85	29	3,700	1,700	40	3,700*	1,700	50	3,000*	2,000	85
90	21	3,200	1,400	36	3,300*	1,400	47	2,800*	1,700	90
95							44	2,700*	1,500	95
100							41	2,600*		100

#### NOTES FOR ON TIRES CAPACITIES

- FOR PICK AND CARRY OPERATIONS, BOOM MUST BE CENTERED OVER THE REAR OF THE CRANE WITH SWING BRAKE LOCKED OR WITH MECHANICAL SWING LOCK ENGAGED, IF SO EQUIPPED. USE MINIMUM BOOM POINT HEIGHT AND KEEP LOAD CLOSE TO GROUND SURFACE.
- THE LOAD SHOULD BE RESTRAINED FROM SWINGING, NO ON TIRE OPERATION WITH JIB ERECTED.
- WITHOUT OUTRIGGERS, NEVER MANUEVER THE BOOM BEYOND LISTED LOAD RADI FOR APPLICABLE TIRES USED TO ENSURE STABILITY.
- CREEP SPEED IS CRANE MOVEMENT OF LESS THAN 200 Ft. (61m) IN 30 MINUTES PERIOD AND NOT EXCEEDING 1.0 mph (1.6 Km/H).
- REFER TO GENERAL NOTES FOR ADDITIONAL INFORMATION.

#### NOTES FOR JIB CAPACITIES

- FOR ALL BOOM LENGTHS LESS THAN THE MAXIMUM WITH A JIB ERECTED, THE RATED LOADS ARE DETERMINED BY BOOM ANGLE ONLY IN THE APPROPRIATED COLUMN.
- FOR BOOM ANGLE NOT SHOWN, USE THE CAPACITY OF THE NEXT LOWER BOOM ANGLE.
- LISTED RADI ARE FOR FULLY EXTENDED BOOM ONLY.
- CATERPILLAR ENGINE (MODEL 320B)  
FRONT PUMP DRIVE  
FRONT OUTRIGGER JACK

RECOMMENDED TIRE PRESSURE (Psi)	
TIRE SIZE	10.00X20,14PR
LIFT ON TIRES	95
LOADING	75

### ON TIRES STRAIGHT OVER REAR ONLY

R A D I U S	PICK & CARRY MAIN BOOM CAPACITIES	R A D I U S
10	21,200	10
12	17,200	12
15	13,100	15
20	8,700	20
25	6,000	25
30	4,200	30
35	3,100	35
40	2,200	40
45	1,500	45

### MAXIMUM PERMISSABLE HOIST LINE LOAD

LINE PARTS	1	2	3	4	5	6	7	8
MAIN HOIST	9,700	19,400	29,000	29,000	29,000	-----	-----	-----
AUX. HOIST	7,600	15,200	22,800	29,000	29,000	-----	-----	-----
BOOM HEAD	2	2-D	2-3	1-2-D	1-2-3	-----	-----	-----
HOOK BLOCK	D	2	2-D	1-2	1-2-D	-----	-----	-----
MAIN & OPT. AUX. HOIST LINE 5/8" Dia. 6x19 or 6x37 IWRC, IPS, Reg Lay Preformed Wire Rope Minimum Breaking Strength - 17.9 Tons Max. Permissible Line Pull - 10,228 Lbs.				AUX. HOIST LINE 1/2" Dia. 6x19 or 6x37 IWRC, XIPS, Reg Lay Preformed Wire Rope Minimum Breaking Strength - 13.3 Tons Max. Permissible Line Pull - 7,600 Lbs.				

### REDUCTION IN MAIN BOOM CAPACITY

All Jibs in Stowed Position 0 Lbs.  
18.5' SIDE STOW  
Jib Erected 990 Lbs.  
32'-49' Side Stow  
Jib Erected  
Stinger Retracted 2440 Lbs.  
32'-49' Side Stow  
Jib Erected  
Stinger Extended 2810 Lbs.

### HOOK BLOCK WEIGHTS

Hook & Ball 121 Lbs.  
Hook Block (3 Sheave) 650 Lbs.  
Hook Block (4 Sheave) 700 Lbs.

# General Notes

## GENERAL

1. Review Operator's Manual prior to operating this crane.
2. Crane load ratings as determined by boom length, radius, and boom angle apply to this crane only as originally manufactured and equipped. THEY ARE MAXIMUM LOAD RATINGS.
3. This crane and its load ratings are in accordance with Power Crane & Shovel Association Standard No. 4, SAE Crane Load Stability Test Code J-765a. SAE Method of Test for Crane Structure J1063 and Safety Code for Cranes, Derricks and Hoists, ANSI B30.5-1982.
4. Improperly operated or maintained equipment can be dangerous. The operator and other personnel should read and fully understand the Operator's Manual furnished by the manufacturer before operating or maintaining this crane. Rules for safe operation of equipment should be adhered to at all times. If either Manuals or a lift chart are missing, these should be ordered by crane serial number through the distributor.
5. Operators and supervisors must fully understand Safety Standards for Mobile Hydraulic Cranes ANSI B30.5 or latest, and be familiar with Federal, State, and local safety regulations.

## SET-UP

6. Crane load ratings are based on the crane being leveled and standing on a firm, uniform supporting surface.
7. Crane load ratings on outriggers are based on all outrigger beams fully extended and the tires raised free of the supporting surface.
8. Crane load ratings on tires depend on appropriate inflation pressure and tire conditions. Caution must be exercised when increasing air pressures in tires. Consult Operator's Manual for precautions.
9. Use of jibs, lattice-type boom extension, or fourth section pullout extended is not permitted for pick and carry operations.
10. Consult appropriate section of the Operator's and Service Manual for more exact description of hoist line reeving.
11. The use of more parts of line than required by the load may result in having insufficient rope to allow the hook block to reach the ground.
12. Properly maintained wire rope is essential to safe crane operation. Consult Operator's Manual for proper maintenance and inspection requirements.
13. When spin-resistant wire rope is used, the allowable rope loading shall be the breaking strength divided by five (5) unless otherwise specified by the wire rope manufacturer.

## OPERATION

14. Crane load ratings must not be exceeded. DO NOT ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS.
15. Crane load ratings are for lift crane service. Applications for other than lift crane (clamshell and magnet) are permitted. Due to significant variation in materials and applications, consult factory for optimum capability.

16. Weight of hooks, hook blocks, slings and all other load handling devices must be considered part of the load to be handled and must be subtracted from the load ratings to obtain the allowable load to be lifted.
17. Crane load ratings are based on freely suspended loads. SIDE LOAD ON BOOM OR JIB IS EXTREMELY DANGEROUS
18. Practical working loads depend on the supporting surface, wind velocity, pendulum action, jerking or sudden stopping of loads, hazardous surroundings, experience of personnel and proper operation, tire inflation, tire condition, traveling with loads, multiple crane lifts, proximity of electrical wires, etc. Appropriate reduction of load ratings must be made for these and any other conditions which may affect practical working loads.
19. Crane load ratings with an asterick (\*) beside them are based on the crane's structure strength. All other ratings are based on stability and do not exceed the specified percentage of tipping load as determined by SAE Crane Stability Test Code J-765a.
20. When either radius or boom length, or both, are between listed values, the smaller of the two load ratings shall be used.
21. Do not operate at longer radii than those listed on the applicable load rating chart as tipping can occur without a load on the hook.
22. Power telescoping boom sections must be extended equally
23. Load ratings are dependent upon the crane being maintained according to manufacturer's specifications.
24. The maximum load which may be telescoped is limited by boom angle, hydraulic pressure, boom lubrication, etc. It is safe to attempt to extend and retract within the limits to the capacity chart.
25. It is recommended that load handling devices, including hooks, and hook blocks, be kept away from boom head at all times.
26. The boom angles shown on the capacity chart give an approximation of the operating radius for a specified boom length. The boom angle, before loading, should be greater to account for boom deflection. It may be necessary to retract the boom if maximum boom angle is insufficient to maintain rated radius
27. For MCH carrier-mounted cranes only: 360° capacities apply only to machine equipped with front outrigger jack with all five (5) outrigger jacks properly set. For 360° lift capacities, use Over Side capacity chart.

## DEFINITIONS

28. Operating Radius: The horizontal distance from the axis of rotation before loading to the center of the vertical hoist line or tackle with a load applied.
29. Freely Suspended Load: Load hanging free with no direct external force applied except by the hoist rope.
30. Side Load: Horizontal force applied to the lifted load either on the ground or in the air.
31. Working Area: Areas measured in a circular arc around the centerline of rotation as shown on the working area diagram.

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



**KOEHRING  
CRANES &  
EXCAVATORS**

Koehring Cranes & Excavators  
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