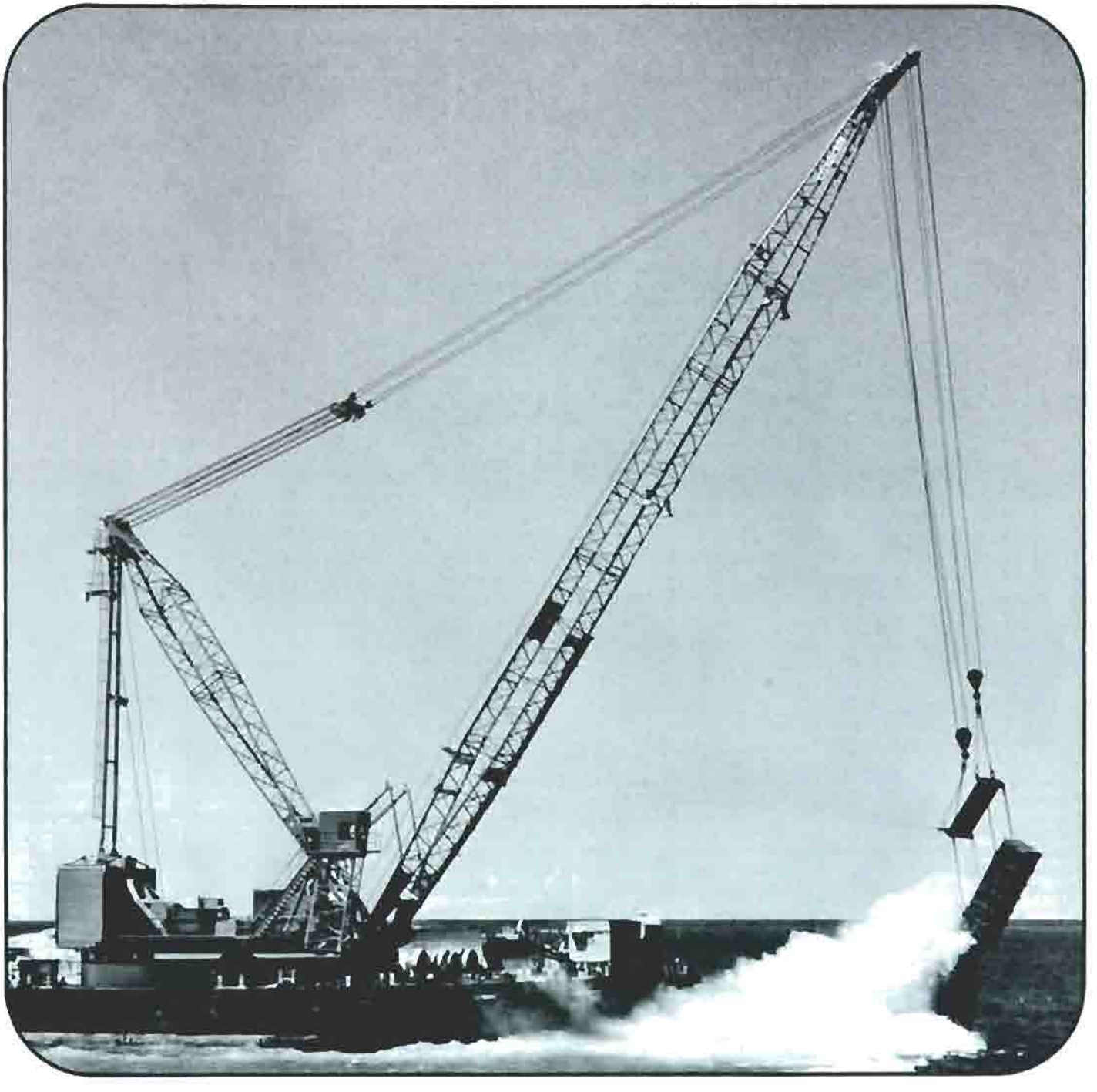
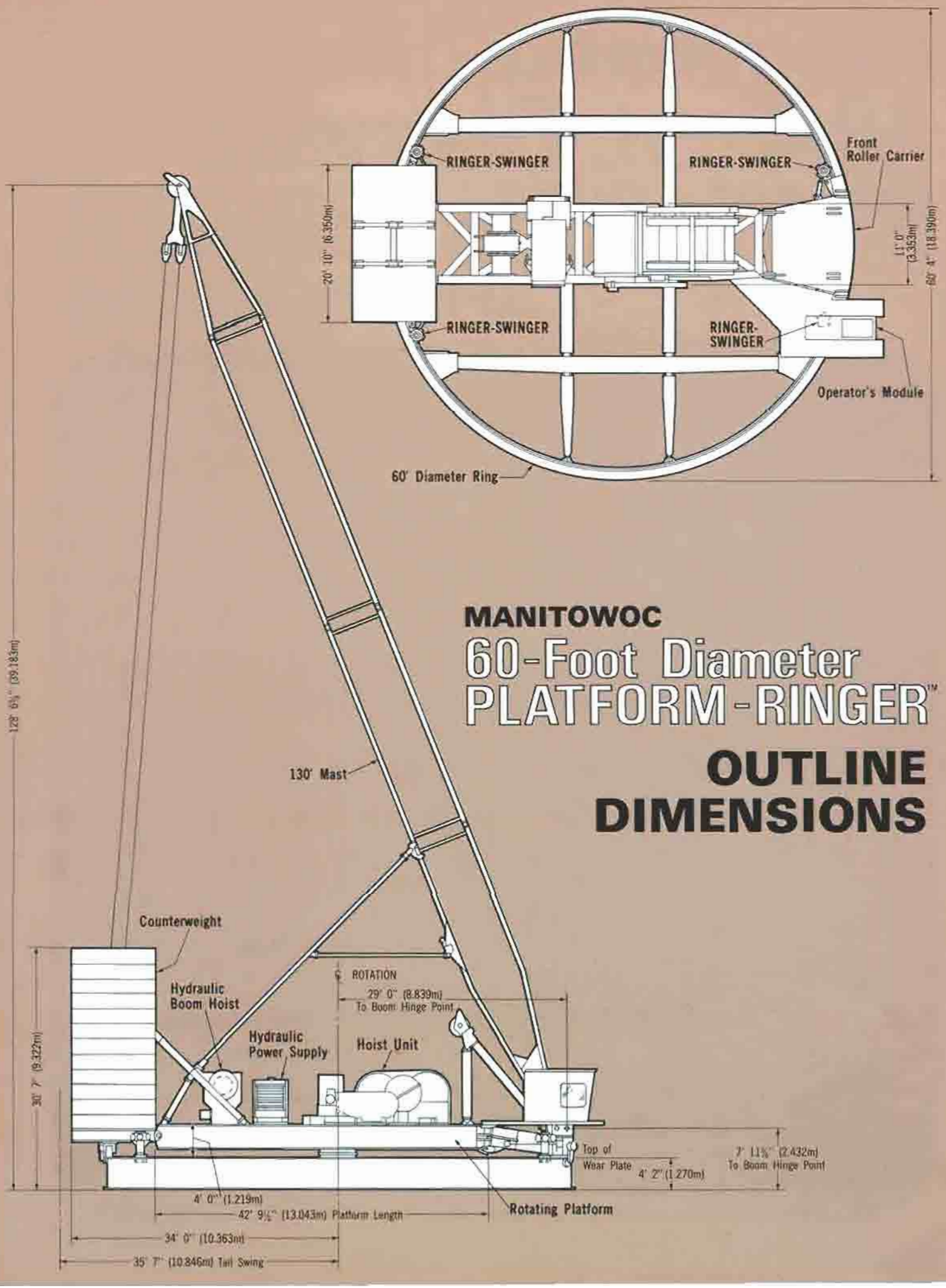
MANITOWOC

60-Foot Diameter PLATFORM-RINGER™

(U.S. and Foreign Patents Applied For.)

SPECIFICATIONS





MANITOWOC

60-Foot Diameter PLATFORM-RINGER™

OUTLINE DIMENSIONS

WEIGHTS

	POUNDS*
60' DIAMETER RING, 4 segments with wear plates (each 30,945)	123,780
RING SIDE BEAMS, 2 beams (each 30,000)	60,000
INTERMEDIATE SUPPORT BEAMS, 4 beams (each 7,800)	31,200
FRONT ROLLER CARRIER, with 6 house rollers and 4 hook rollers	25,000
ROTATING PLATFORM, with 2-drum 560 Hoist and hydraulic boom hoist	110,500
RINGER-SWINGER ATTACHMENTS, with positioners (each 1,500)	6,000
COUNTERWEIGHT CARRIER	42,100
REMOVABLE COUNTERWEIGHT (29-PC)	
Left Stack (12 boxes, each 40,000)	480,000
Center Stack (5 boxes, each 40,000)	200,000
Right Stack (12 boxes, each 40,000)	480,000
Total	1,160,000

	POUNDS*
GUIDE SHEAVE SUPPORT AND TELESCOPIC BOOM STOPS	16,100
MAST AND BACKHITCH, 130' No. 27B mast with pendant backhitch	47,500
OPERATOR'S MODULE, complete with all operating controls, mounting bracket and catwalk	6,000
BOOM NO. 38	
BOOM BUTT: (less wire rope and pendants)	18,910
BOOM TOP: (equipped with ten sheave lower boom point)	29,675
Add for 10' integral single sheave upper boom point	3,260
Total	32,935
BOOM INSERTS:	
Insert—20' (with pendants & wire rope guide)	7,150
Insert—40' (with pendants & wire rope guides)	12,165

** Weights are approximate and may vary between machines as a result of design changes and component variations.*

60-FOOT DIAMETER RING ASSEMBLY

RING SEGMENTS: Fabricated, reinforced I-beam construction. Four ring segments (front, rear and two sides) are bolt-connected for fast installation and removal.

WEAR PLATES: Twelve ¾" abrasion resistant plates cut to fit on top of ring segments to protect them from wear. Attached to ring by retainer plates designed to clear hook roller hanger assembly.

RING SIDE BEAMS: Two fabricated deep section beams pin-connected to ring and king pin support structure. Four hydraulic jacks mounted on ends of side beams.

INTERMEDIATE SUPPORT BEAMS: Four fabricated beams pin-connected to ring and side beams.

RING GEAR: Sixteen segments bolt-connected to ring.

ROTATING STRUCTURE

ROTATING PLATFORM: Fabricated deep box section side rails with lattice-type supports form a mounting platform for machinery components. Catwalks and railings provided along both sides of platform. Platform is centered on king pin support frame through king pin.

KING PIN SUPPORT FRAME: Fabricated frame pin-connected to ring side beams provides support for king pin. King pin provides concentricity between rotating platform and 60' diameter ring. King pin takes horizontal load only, no uplift. Support frame is sized to fit on top of 6000W transporter for pin connecting to transporter's transverse beams.

FRONT ROLLER CARRIER: Fabricated deep box section construction with 6 house rollers and 4 hook rollers, all antifriction bearing mounted. Provides lugs for boom and mast hinge pins and guide sheave supports. Pin-connected to front end of rotating platform.

OPERATOR'S MODULE: Steel construction, independently mounted on front roller carrier, fully enclosed and insulated. Includes operating controls for load hoist, boom hoist and swing; safety glass windows, cab heater, windshield wiper, horn, defogging fan and catwalks and railings. Optional elevated cab available.

COUNTERWEIGHT CARRIER: Fabricated tray pin-connected to rear of rotating platform. Supports 1,160,000 pounds of counterweight.

COUNTERWEIGHT ROLLERS: Four sets of dual equalized support rollers and two sets of dual hook rollers mounted under counterweight carrier. Rollers are antifriction bearing mounted.

RINGER COUNTERWEIGHT: 1,160,000 pounds. Optional interlocking steel boxes filled with scrapcrete (consisting of 29 boxes weighing 40,000 pounds each). Counterweight boxes can be fabricated and filled by others to Manitowoc Engineering Co. specifications.

MACHINERY COMPONENTS

LOAD HOIST: VICON® (Variable Independent CONtrol — Patented) model 560 Hoist with power plant for load and whip lines. Available with either 1 or 2 drum shafts. Full width front drum and full width or split rear drum provides maximum versatility in meeting specific application requirements. Hoist includes VICON power load lowering, radiator, engine shroud, fully enclosed gears and drive chains, antifriction bearing drum journals, electric starting, instrument panel and air controls in operator's module. Full Width Drums — 28" in diameter x 55" wide with 66" diameter flanges. Split Drums — Right Drum 28" in diameter x 31 3/16" wide with 66" diameter flanges; Left Drum 28" in diameter x 14 3/8" wide with 66" diameter flanges. Dual, air actuated drum brakes are spring set, air released, air applied. Single, air actuated drum clutches.

INDEPENDENT BOOM HOIST: Dual drums driven by alloy steel worm shaft and bronze worm gear through gear and pinion reduction. All rotating shafts antifriction bearing mounted. Boom hoist powered by variable displacement hydraulic motor providing full range speed control. Boom hoist brake, external contracting band-type, spring applied, air released. Auxiliary brake, external contracting band-type, set from operator's module. Ratchet on boom hoist drum flange with pawl mounted on gear housing. Boom hoist pin-connected to rear of rotating platform.

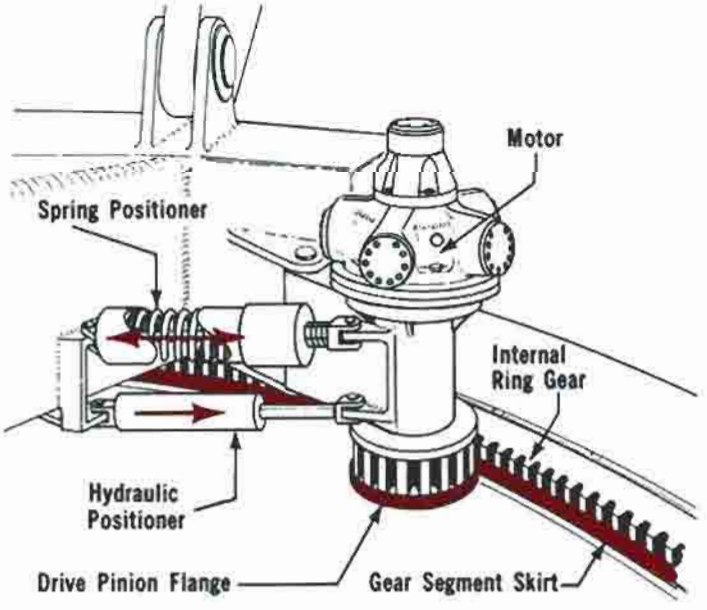
TELESCOPIC BOOM STOPS: Telescoping tubes, air cushioned. Pin-connected to boom butt and top of guide sheave support.

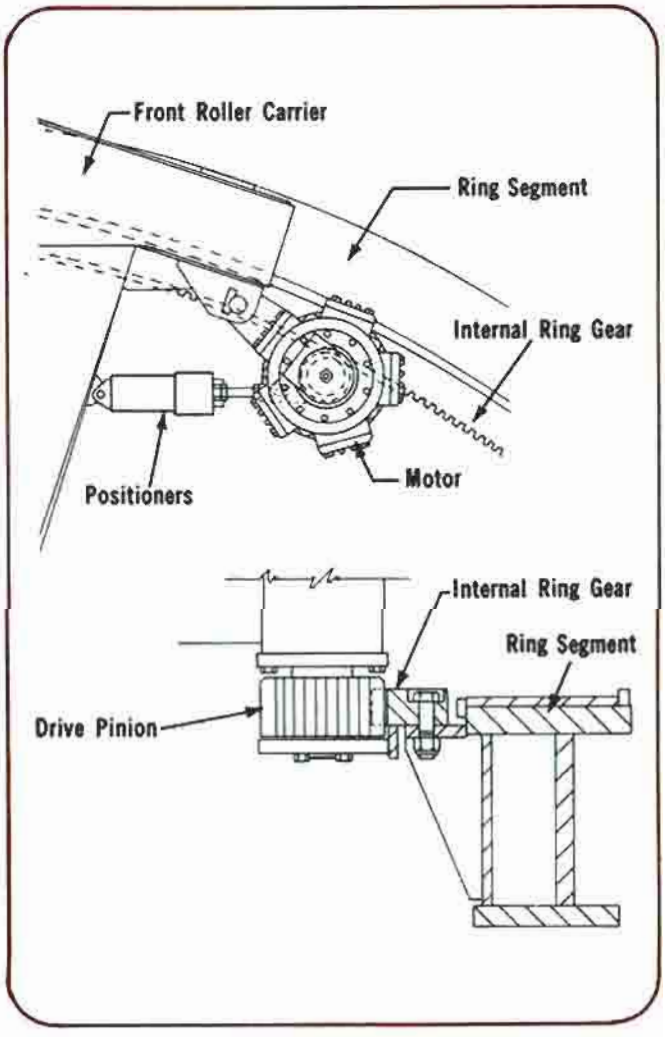
POWER PLANTS: See page 5.

THE RINGER-SWINGER™

The swing function for the 60' diameter PLATFORM-RINGER is performed by Manitowoc's exclusive, patented RINGER-SWINGER system. This fully modulated, hydraulically powered system provides swing acceleration or deceleration in either direction. Operation is controlled by a single lever and full, free-float exists when lever is in neutral position.

The system utilizes four RINGER-SWINGER units. Two RINGER-SWINGERS are mounted one on either side of the front roller carrier with two additional units mounted one on either side of the counterweight carrier. A hydraulic motor powers a direct drive pinion which is held in constant contact against an internal ring gear by hydraulic and spring positioners. A drive pinion flange and gear segment skirt maintains pitch control between pinion and ring gear.





POWER PLANT OPTIONS

MODEL 560 HOIST POWER	Cylinder	Bore	Stroke	Cubic Inch Displacement	Net HP @ RPM (at flywheel)
Cummins KT-1150-C450	6	6.25"	6.25"	1,150	450 @ 2,000
Caterpillar 3408 PC-TA	8	5.40"	6.00"	1,099	460 @ 2,000
G.M. 12V-71N	12	4.25"	5.00"	852	410 @ 2,000
HYDRAULIC POWER					
Cummins KT-1150-C450	6	6.25"	6.25"	1,150	450 @ 2,000
Caterpillar 3408 DIT	8	5.40"	6.00"	1,099	390 @ 2,000
G.M. 12V-71N	12	4.25"	5.00"	852	410 @ 2,000
Combined Fuel Tank Capacity: 900 Gallons.					

DRUMS AND LAGGINGS

Model 560 Hoist

Application	Drum	Diameter	Drum Width	Type of Lagging	Diameter of Flange
2-DRUM HOIST					
LIFTCRANE					
Hoist	Front	28.0"	55.0"	Plain	66.0"
Whip	Rear	28.0"	55.0"	Plain	66.0"
OPTIONAL 3-DRUM HOIST					
LIFTCRANE					
Hoist	Front	28.0"	55.0"	Plain	66.0"
Whip	Right Rear	28.0"	31.8125"	Plain	66.0"
Auxiliary	Left Rear	28.0"	14.625"	Plain	66.0"

NOTE: Drum diameters are root diameters.

FRONT END EQUIPMENT

NO. 38 BOOM: 50' boom butt, 50' open throat top, 20' and 40' inserts. All welded construction. Triangular boom with box section chords and tubular lacings; 100,000 PSI yield steel. Lower boom point equipped with ten 47" OD antifriction bearing mounted sheaves. Basic boom length 140'; maximum boom length 300'.

FIXED MAST: Consists of 130' No. 27B boom components including 40' butt, 30' insert, 40' insert and 20' mast top.

BACKSTAY STRUT: Two-piece, box section construction. Supports mast when boom hoist lines are slack.

MAST BACKSTAY PENDANTS: Four swaged 2⅝" structural strand pendants.

BOOM RIGGING: Eighteen-part line reeved between fixed mast and boom equalizer. Controls boom angle by single line continuously reeved from dual independent boom hoist drums which power boom up and down. Two sets of four 1⅜" pendants connect equalizer to boom point.

EQUALIZER: Steel fabrication. Eight vertical sheaves antifriction bearing mounted.

WIRE ROPE GUIDE: Mounted on boom. Two vertical sheaves bronze bearing mounted.

WIRE ROPE ROLLER GUIDE: Mounted inside boom on bottom chord members. Induction hardened tubing. Antifriction bearing mounted.

UPPER BOOM POINT: Optional. 10' integral upper boom point pin-connected to open throat top. Single 32" OD sheave, antifriction bearing mounted. 25-ton maximum capacity with one-part line; 50-ton maximum capacity with two-part line.

FOR CAPACITY CHARTS AND INFORMATION, CONSULT FACTORY.

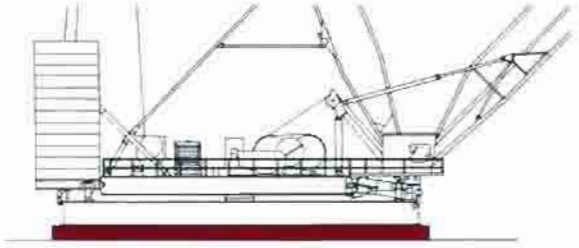
NO. 27 AB JIB: Optional. 264-ton maximum capacity. 80' length extendible to 120' with 20' inserts. Jib offset angle fixed at 6 degrees. Top section equipped with eight 32" OD roller bearing sheaves. Wire rope guide and anchor for multiple part line.

CONSULT JIB LIFTING CAPACITY CHARTS FOR SPECIFIC CAPACITY WHEN USED ON VARIOUS BOOM LENGTHS.

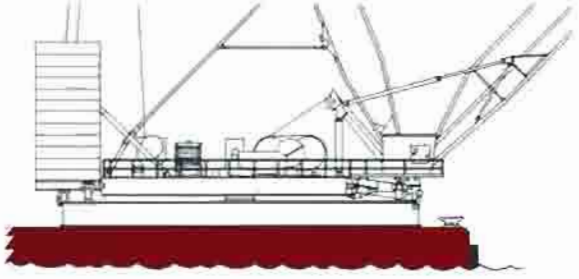
FIXED MOUNT

Manitowoc's 60' diameter PLATFORM-RINGER is adaptable to provide high capacity lifting capability for barge, pedestal or gantry applications. The fixed mount eliminates the need for ring side beams. Only a king pin support is required.

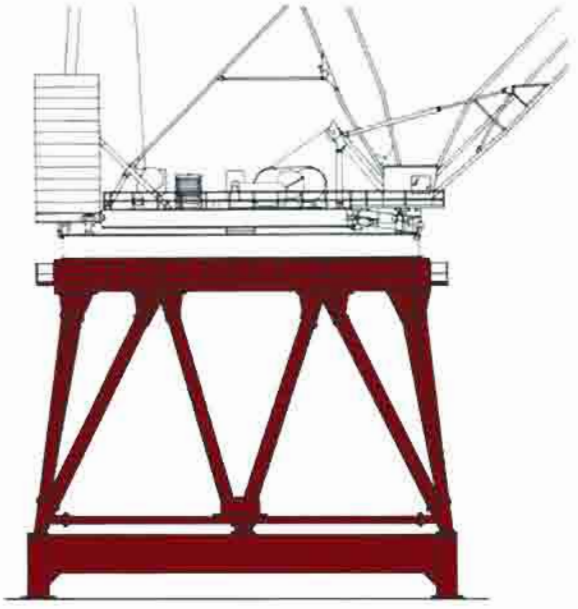
The 60' diameter ring can be directly mounted on top of its support structure and secured by a clamp arrangement. The ring can also be supported on blocking or steel pedestals that are equally spaced under the ring and at its four segment joints.



PEDESTAL MOUNT



BARGE MOUNT

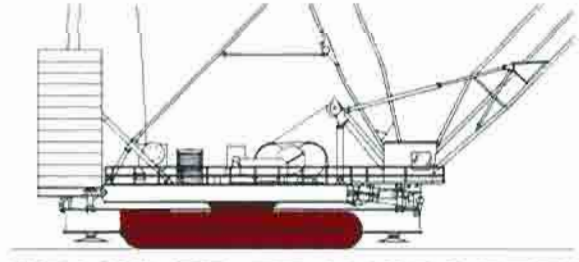


GANTRY MOUNT

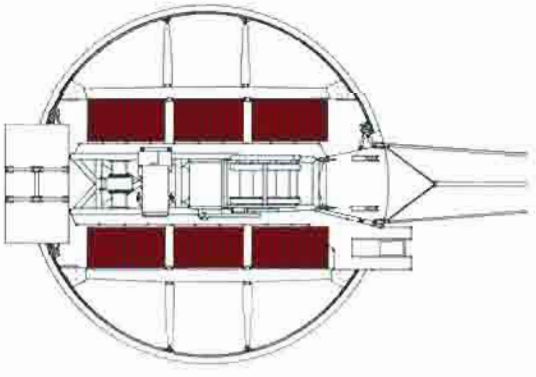
MOBILE MOUNT

For even greater versatility, Manitowoc's 60' diameter PLATFORM-RINGER can be crawler-transporter mounted to provide the mobility needed to move the PLATFORM-RINGER from lift to lift. The crawler-transporter can then be removed and utilized as a 600-ton capacity transporter while the PLATFORM-RINGER remains available for lift work.

This method of mounting requires two ring side beams and a king pin support frame that is sized to fit on top of the transporter's transverse beams. The ring is supported in a conventional manner using blocking or steel pedestals.



CRAWLER-TRANSPORTER



Because of a program of continuing improvements, Manitowoc Engineering Co. reserves the right to change this description at any time, without notice

MANITOWOC ENGINEERING CO.
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Manitowoc, Wisconsin 54220

Form No. 7702

MO/5M—Litho in U.S.A.