



# LIFT RINGER®... with SAME CRANE! TOWER

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

**MANITOWOC ENGINEERING CO.**  
(A division of The Manitowoc Company, Inc.)  
Manitowoc, Wisconsin 54220

Only Manitowoc offers this on-job versatility...  
providing lower initial investment, greater equip-  
ment utilization, and increased profit.

**HAWKINS EQUIPMENT CO.**  
1475 THOMAS STREET  
PHONE 901-525-5747  
MEMPHIS, TENNESSEE 38107



**Manitowoc**

LIFT CRANE  
DRAGLINE  
CLAMSHELL

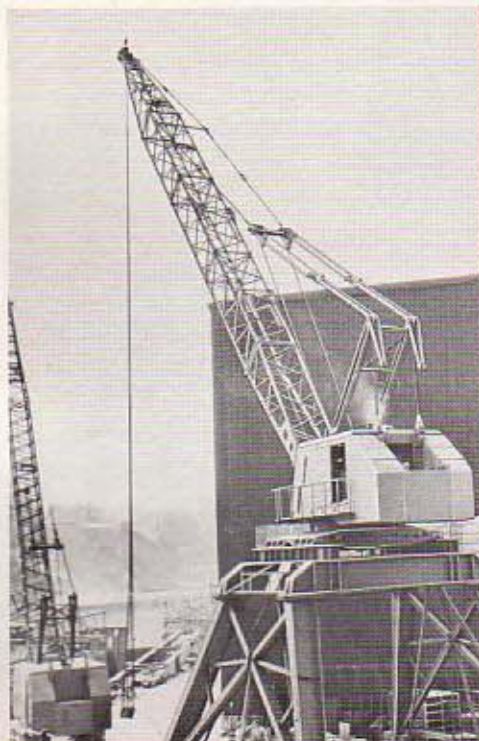
MODEL

**4000W**



# Manitowoc Model 4000W

PROVES ITS CAPABILITIES ON OTHER BIG, TOUGH JOBS



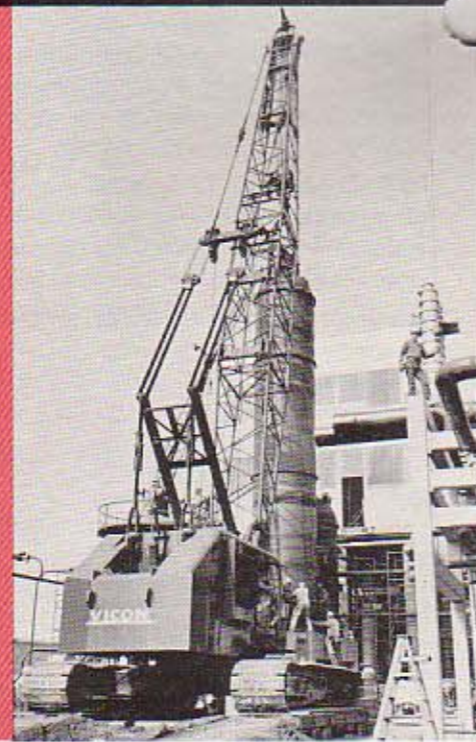
**CONVERSION FROM CRAWLER TO GANTRY OPERATION.** Picture (at left), taken at Manitowoc plant, shows how a conventional Manitowoc crawler crane can be utilized as a gantry crane for specialized applications. Conversion from one mounting to another is simplified by such Manitowoc features as direct mounting of the one-piece carbody on the crawler frames, self-removing counterweights, outside crawler drive, etc. A special conversion kit for gantry mounting is available.

**100,000 CU. YDS. OF CONCRETE** were poured by a Manitowoc VICON® crane on an Indiana dam project. The crane handled 11 tons — a loaded bucket weighing 20,000 lbs. plus a 2,000 lb. hook — with 140' of boom at a 90° radius. Project Manager reports, "We've cut our pour time 25% with Vicon!"



**UNLOADING A 32-TON GIRDER @ 40' RADIUS** is a Manitowoc 4000W VICON®. Girder is one of 371 to be used on Sacramento River Viaduct project. While largest girders weigh 88 tons, the average beam weighs 50 tons and is 235 feet long.

**109-TON CHEMICAL REACTOR** is set in place by a Model 4000W VICON® operating with an 80' boom at a radius of 19 feet. After "pick" was made, the Manitowoc machine swung the heavy reactor 19' and placed it immediately adjacent to a smaller 30-ton unit the crane had erected earlier.



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## crane booms

### *Efficient booming at all angles with rugged 15' retractile gantry*

This high retractile gantry provides a better working angle for boom hoist lines. You get fast, efficient booming at all angles . . . can self-erect long boom/jib combinations without excessive compression factors. Sheaves for boom hoist, equalizer and backhitch are mounted on anti-friction bearings for smooth, non-binding boom hoisting. To reduce overall height for travel, the gantry is lowered quickly and easily . . . folds snugly on the cab roof.

### *Optional "Low-Clearance Gantry" reduces overall height another 15"*

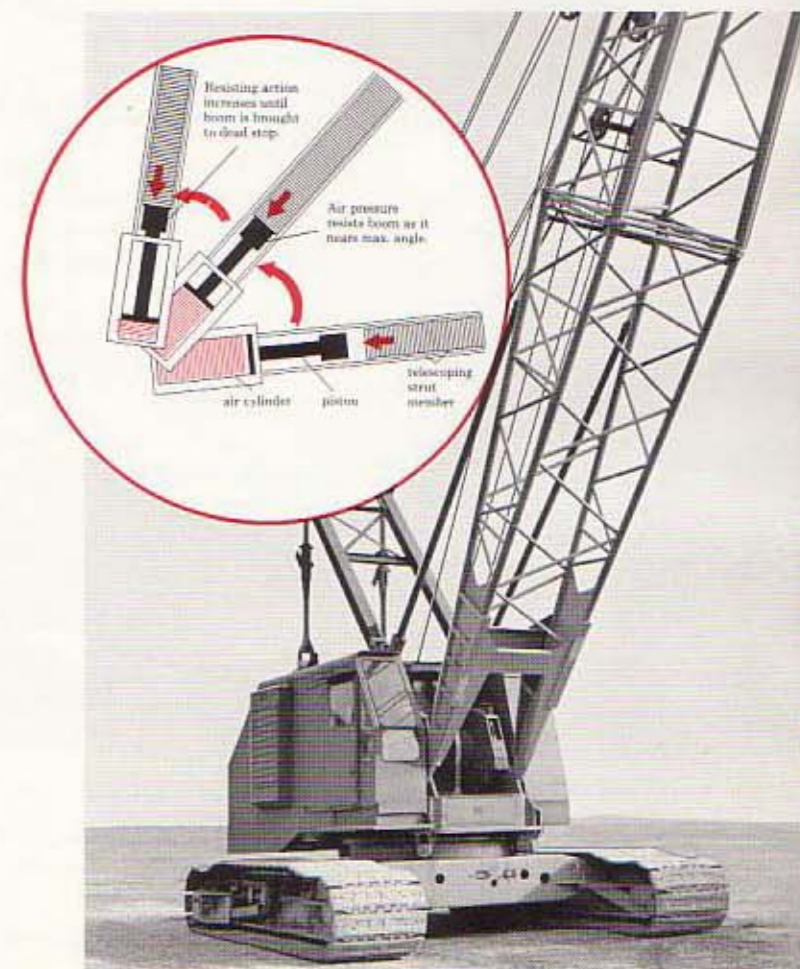
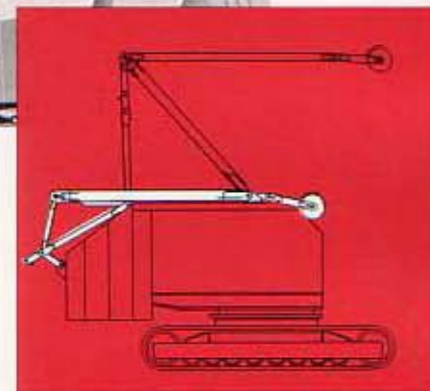
Low overhead obstacles on certain types of jobs, e.g., oil refinery and building construction, bridge maintenance or construction, industrial plant operations, etc., may restrict crane maneuverability. To solve unusual clearance problems, the Model 4000W can be equipped with an optional "Low Clearance Gantry" which, when lowered, reduces overall machine height by a full 15".

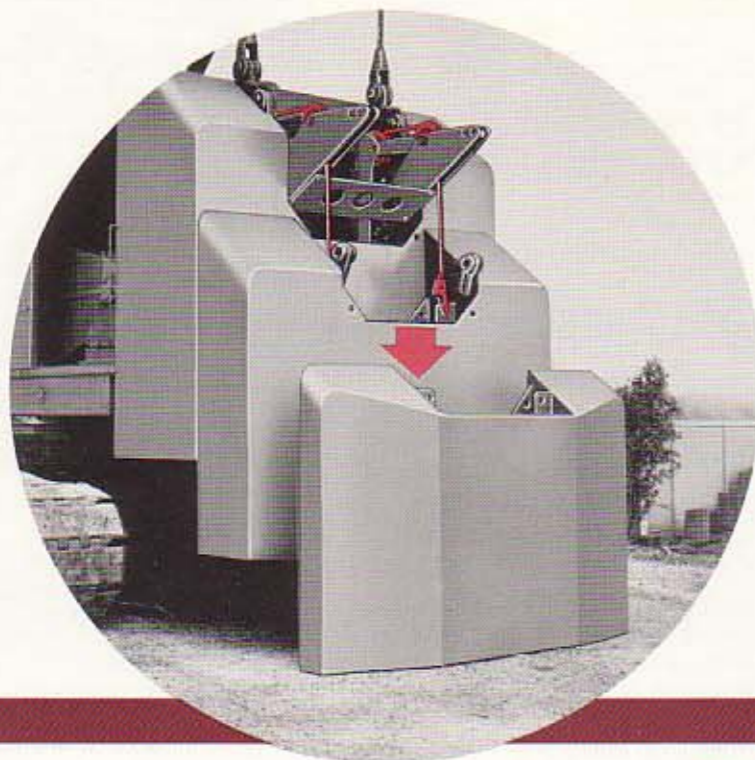
All 4000W booms can be used with this gantry. To move under low overhead obstructions, the boom is simply lowered to a horizontal position. The maximum length of boom that can be carried when traveling varies with the machine and type of boom. For details, consult the factory or your Manitowoc field representative.

### *Smooth air-cushioned telescopic boom stop*

The standard automatic clutch throw-out boom stop is supplemented by pantograph or telescopic boom stops. The air-cushioned telescopic boom stop is available as optional equipment and represents a new idea in boom stop design.

In this design a shock-absorbing cushion of air is used to slow down and stop the boom — smoothly, progressively. As the boom nears maximum angle, air pressure within the cylinders exerts progressively greater resistance until the boom is brought to a full stop. Impact stresses, characteristic of physical stops, are reduced. There is no resistance against the boom at working angles — the air cylinders remain neutral at this point. There is enough air pressure in the system to move boom off dead center should it become static at the maximum angle. A continuous supply of air is maintained in the system.





## Removes counterweight without help

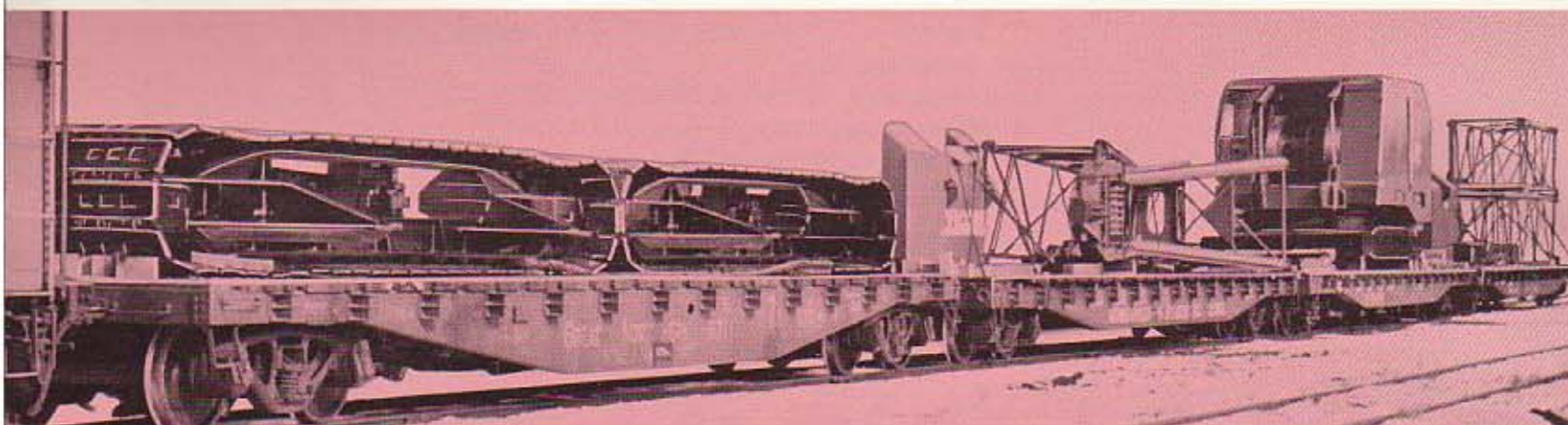
When counterweight is to be removed for between-job shipment, the three box sections are handled individually by the crane itself — without jacks, blocking, or other cranes. The removal procedure is simple. Cables are rigged from the counterweight section over elbow bracket sheaves to connections on the boom hoist drums. When the

suspension cables are set, retaining pins and tie bolts are withdrawn and the counterweight section is lowered with the boom hoist providing the hoist power. Boom hoist cables need not be disturbed to perform this function. (Optional pendant-type backhitch is shown above.)

### *Ships on four Standard Flat Cars*

Breakdown for shipment is simple for a machine of this capacity. Only the crawlers, boom and counterweight need be removed to meet ordinary rail clearances. When loaded for shipment, the

entire machine occupies four standard flat cars. Stripdown and re-assembly are simplified by such features as outside crawler drive and Manitowoc's self-handling counterweight arrangement.



**CRAWLERS AND FRAMES** are removed as single units, and are loaded on one car. Since the drive chains are mounted outside the crawlers, the complete crawler assembly is removed intact without breaking either the drive chains or tread belts.

A second car carries the upperworks and carbody. Machine's boom, counterweights and crawlers have been removed. Boom sections, counterweights and other accessories are carried on the third and fourth cars.

## Accessory Equipment

### TO MATCH MACHINE TO YOUR JOB NEEDS

In addition to the equipment described on previous pages of this catalog, you have a wide choice of other accessories that permit "custom tailoring" this machine to your exact job requirements. Among the

accessories are: several choices of power plants, various control options, several different third drum arrangements, an elevated operator's cab, and various wiring and light plant options.

**THIRD DRUM (optional)**, with 25,000 lbs. line pull, supplements the main load drums for handling pile driving work or similar jobs. The third drum can also be adapted for a rapid "live" boom with power up, and lowering against an automatic brake. Unit has spring-applied double brakes with manual release for positive control. Shaft and drum are roller bearing mounted. Ratchet and pawl control are included.

An auxiliary third drum is also offered for mounting at front of machine's rotating frame. This unit has a 5,000 lb. line pull . . . may be fitted with a winch head.

**REVOLVING FAIRLEAD** is standard dragline equipment . . . consists of two large diameter sheaves, two rope guide rollers, and a swivel frame mounted on tapered roller bearings. The least contact of drag rope with fairlead guide rollers swings sheave into plane of rope pull, extending cable life. A dragline dirt guard is also provided. Hinge-type fairlead is available for booms over 80' in length.

**ELEVATED OPERATOR'S CAB (optional)** is available for jobs where visibility is a critical factor . . . provides operator with full view of the work area. Cab is mounted on a rugged framework alongside the boom . . . is raised and lowered simultaneously with boom. Both the regular operator's cab and the elevated cab have a full set of controls, permitting operation from either location.

**RUD-O-MATIC TAGLINE**, standard clamshell equipment, provides effective and reliable bucket control. Spring-loaded drum automatically maintains proper tension on tagline cable — the bucket is held steady at any boom angle.

**DRUM ROTATION INDICATOR (optional)** tells operator at a glance how far load is being raised or lowered . . . helps him with load placement on "blind" erection jobs or when minute movement of load is needed. Rotation indicator may be fitted to one or both hoist drums.

#### **\*POWER LOAD LOWERING WITH HYDRAULIC RETARDER PROVIDES OUTSTANDING BRAKING ACTION ON MOVING LOAD**

Manitowoc's exclusive Power Load Lowering device (optional) is a valuable addition on any conventionally-powered Model 4000W that is used consistently to lower heavy loads substantial distances. Mechanism provides added braking action, with the following plus advantages:

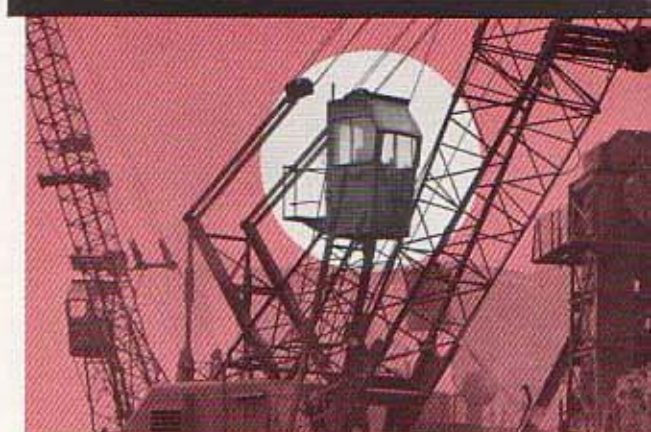
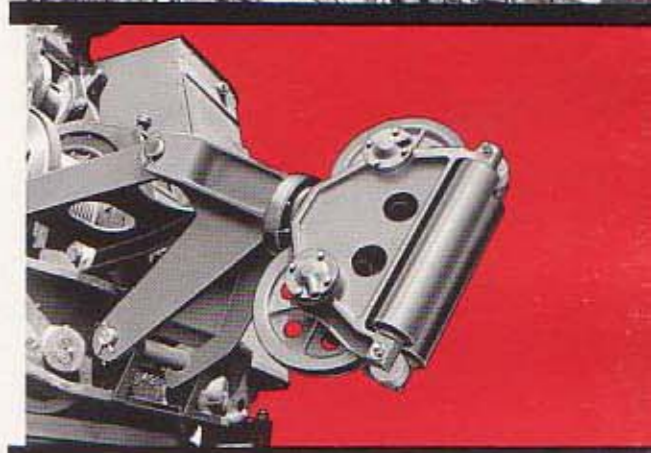
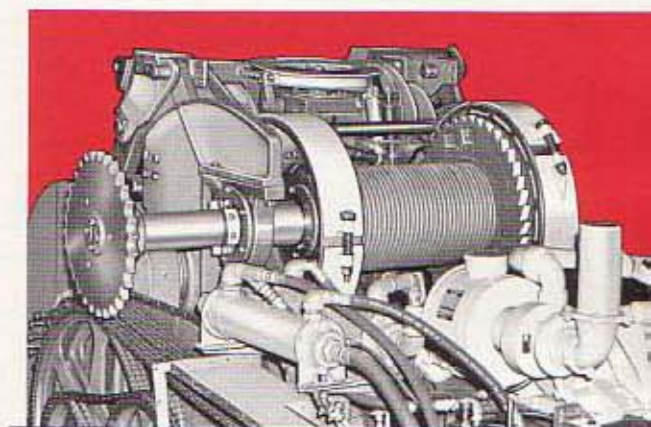
Load lowering speeds are comparable to hoisting speeds.

An adequate system is provided for heat dissipation. Friction wear is drastically reduced.

Smoother operation is possible than is the case with conventional systems — not subject to brake "fading".

System does not depend on engine "drag" to control the load.

**Here's How The System Works:** A chain drive interlocks the main drum with a "reversing mechanism" on the main drive shaft. This is similar in concept to conventional power lowering systems, but here the similarity ends. With the Manitowoc system, a proven hydraulic "retarder"



with heat exchanger, *not the engine*, absorbs load energy. When desired, clutch can be disengaged to lower a load rapidly, without first stopping machinery train.

**\*NOTE:** Not necessary on VICON® equipped machines. Power load control is part of the VICON® system of power transmission.