MANITOWOC M-65W

75-Ton Liftcrane ■ 15,000-Lb. Clamshell ■ 13,500-Lb. Dragline

MORE FEATURES THAN ANY OTHER CRANE IN ITS CLASS

- Compact design
- 135,630-pound overall weight
- 11'5¾" transportation width
- Three-truck shipability with maximum boom
- Boom lengths to 190'
- Jib lengths to 60'
- Boom & jib combinations to 230'
- Efficient hydrostatic transmission
- Independent, variable-speed operation of all functions
- Permanently-sealed crawler drive bearings
- Spooling capacities to 728' of ¾" wire rope per drum
- Full-power and free-fall drum controls
- 18" wide tandem drums
- Rated line pulls to 15,000 pounds
- Line speeds to 510 FPM
- Swing speeds to 3.50 RPM
- Travel speeds to 1.0 MPH
- 30% gradeability
- Ergonomic control consoles
- Electro-hydraulic controls
- X-SPANDER® capacity enhancement device

LOWERWORKS

CARBODY: Single-piece steel fabrication. Integral turret provides rigid mounting for inner race of turntable bearing. Wings on carbody mate with pockets in crawler frames.

CRAWLER ASSEMBLIES: Two reinforced steel fabrications, each supporting a front idler roller, 12 intermediate rollers, hydraulic drive motor, fully enclosed travel planetary, crawler tumbler, and tread. Abrasion-resistant steel slide rails along crawler frame top. Overall crawler length 22'3⅜" (6.80M). Crawlers extend to 16'8½" (5.09M), retract to 11'5¾" (3.5M).

FRONT IDLER ROLLER: Double-flanged, 33" (838mm) diameter, fabricated steel roller is mounted on stationary shaft supported at both ends by crawler frame. Roller revolves on sealed bearings for minimized maintenance.

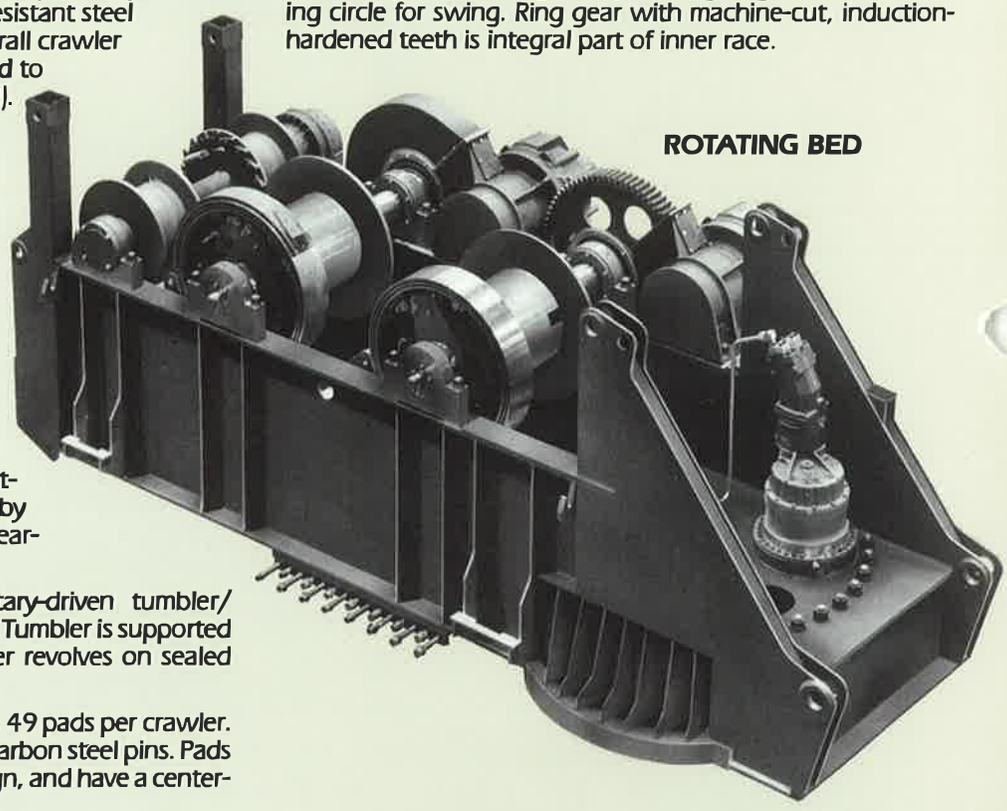
INTERMEDIATE ROLLERS: Double-flanged, 12" (305mm) diameter rollers are mounted along underside of crawler frame. Each roller is mounted on a 2¾" (70mm) diameter stationary shaft whose ends are supported by welded frames and held in place by keeper bars. Rollers revolve on sealed bearings for minimized maintenance.

CRAWLER DRIVE TUMBLER: Planetary-driven tumbler/sprocket transmits drive torque to tread. Tumbler is supported at both ends by crawler frame. Tumbler revolves on sealed bearings for minimized maintenance.

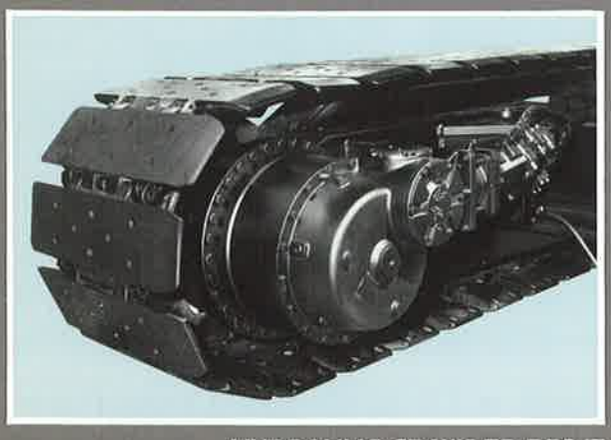
CRAWLER TREADS: 36" (914mm) wide, 49 pads per crawler. Adjacent pads connected by two high-carbon steel pins. Pads are cast alloy steel, feature a closed design, and have a centering lug.

INDEPENDENT TRAVEL POWER: Two pressure-compensated, variable-displacement hydraulic motors, one driving each crawler. System enables each crawler to be rotated independently in either direction at variable speed.

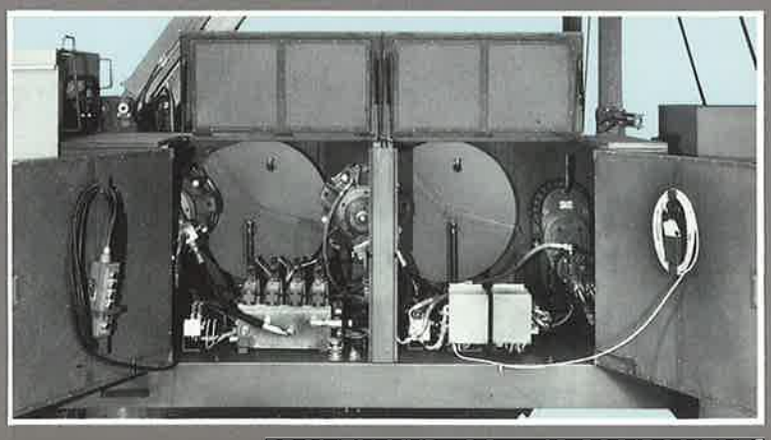
TURNTABLE BEARING: 64¾" (1.64M) diameter bearing bolts to carbody and rotating bed, providing single-row ball bearing circle for swing. Ring gear with machine-cut, induction-hardened teeth is integral part of inner race.



ROTATING BED



HYDRAULIC CRAWLER DRIVE



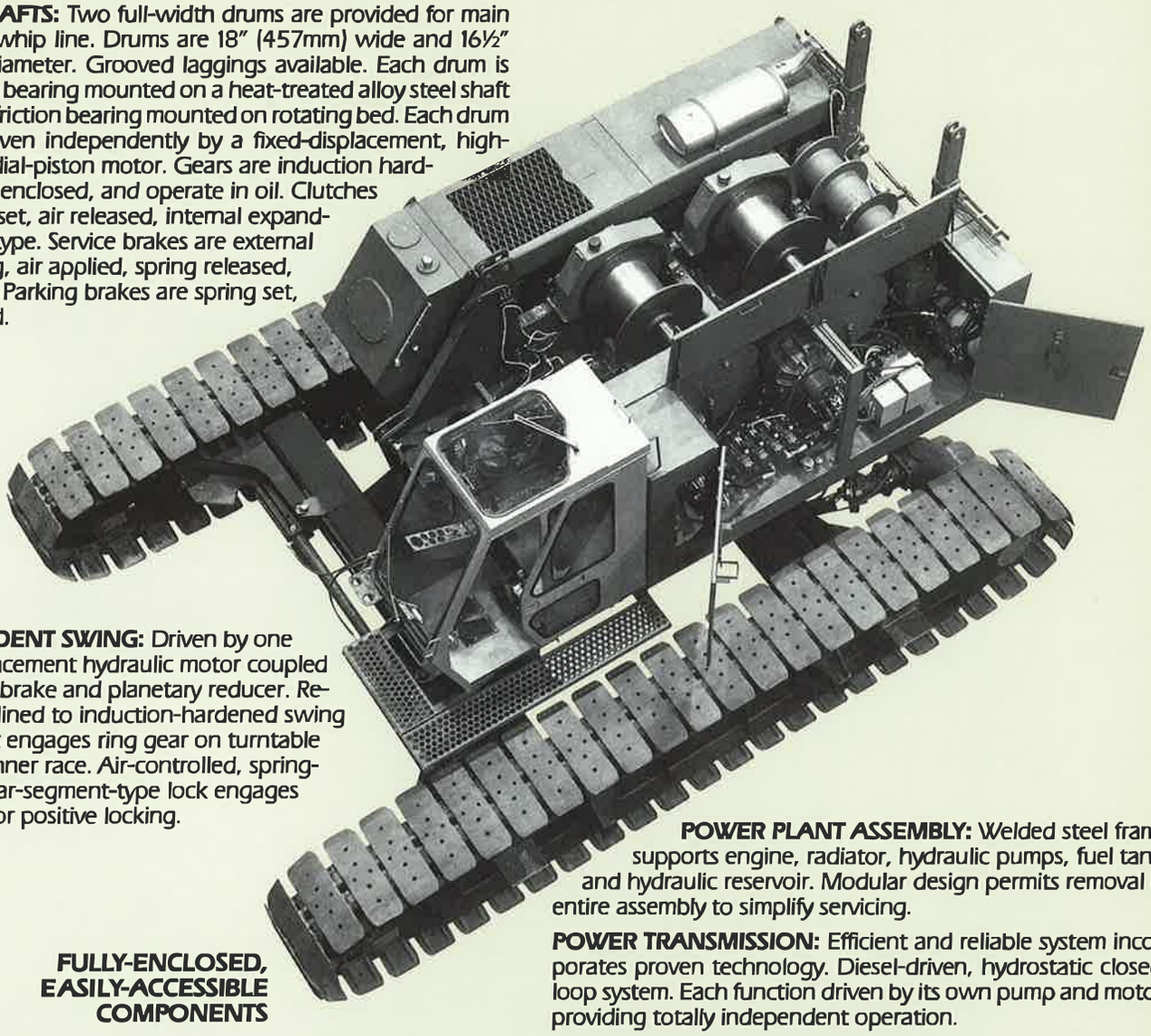
PROVEN HYDROSTATIC COMPONENTS

UPPERWORKS

ROTATING BED: Single-piece, deep-section, steel fabrication with vertical side frames and internal framing provides support for mounting all other upperworks components. Bed rotates on 64¾" (1.64M) diameter turntable bearing. Complete upperworks can be mounted on carbody or truck chassis.

DRUM SHAFTS: Two full-width drums are provided for main hoist and whip line. Drums are 18" (457mm) wide and 16½" (419mm) diameter. Grooved laggings available. Each drum is antifriction bearing mounted on a heat-treated alloy steel shaft that is antifriction bearing mounted on rotating bed. Each drum shaft is driven independently by a fixed-displacement, high-torque, radial-piston motor. Gears are induction hardened, fully enclosed, and operate in oil. Clutches are spring set, air released, internal expanding, band type. Service brakes are external contracting, air applied, spring released, band type. Parking brakes are spring set, air released.

INDEPENDENT BOOM HOIST: Dual, grooved drums antifriction bearing mounted on rear of rotating bed. Boom hoist drum shaft driven independently by variable-displacement hydraulic motor coupled to internal brake and planetary reducer. Ratchet and pawl standard.



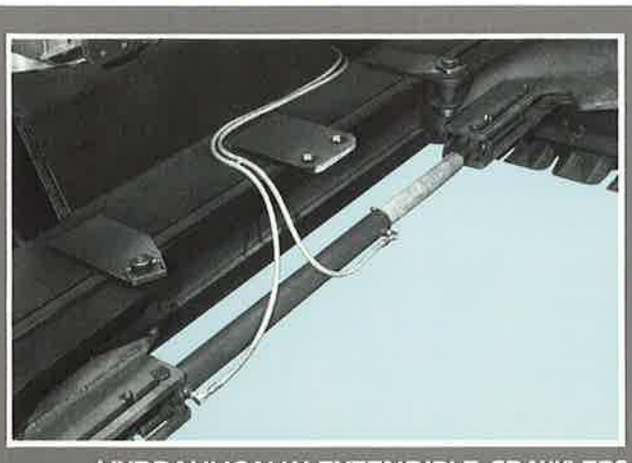
INDEPENDENT SWING: Driven by one fixed-displacement hydraulic motor coupled to internal brake and planetary reducer. Reducer is splined to induction-hardened swing pinion that engages ring gear on turntable bearing's inner race. Air-controlled, spring-loaded, gear-segment-type lock engages ring gear for positive locking.

FULLY-ENCLOSED, EASILY-ACCESSIBLE COMPONENTS

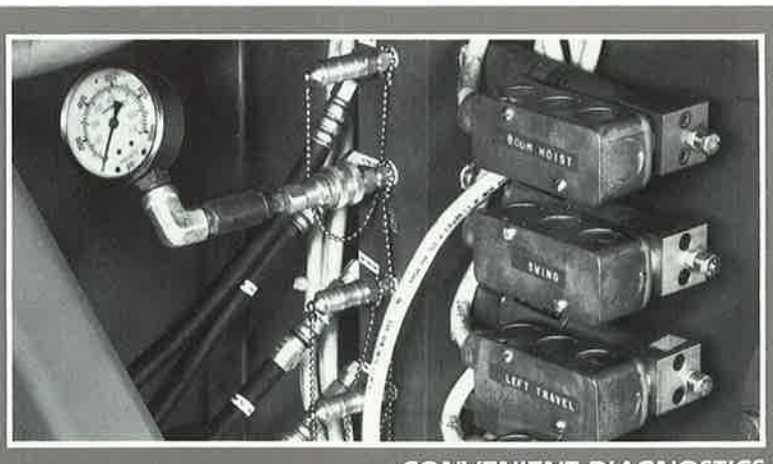
POWER PLANT ASSEMBLY: Welded steel frame supports engine, radiator, hydraulic pumps, fuel tank, and hydraulic reservoir. Modular design permits removal of entire assembly to simplify servicing.

POWER TRANSMISSION: Efficient and reliable system incorporates proven technology. Diesel-driven, hydrostatic closed-loop system. Each function driven by its own pump and motor, providing totally independent operation.

POWER LOWERING: An integral function of system. Pump and motor provide hydraulically-powered rotation in either direction, resulting in loads being hoisted and lowered under power for positive control.



HYDRAULICALLY EXTENDIBLE CRAWLERS



CONVENIENT DIAGNOSTICS

UPPERWORKS

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DRUM SHAFTS: Two full-width drums are provided for main hoist and whip line. Drums are 18" (457mm) wide and 16½" (419mm) diameter. Grooved laggings available. Each drum is antifriction bearing mounted on a heat-treated alloy steel shaft that is antifriction bearing mounted on rotating bed. Each drum shaft is driven independently by a fixed-displacement, high-torque, radial-piston motor. Gears are induction hardened, fully enclosed, and operate in oil. Clutches are spring set, air released, internal expanding, band type. Service brakes are external contracting, air applied, spring released, band type. Parking brakes are spring set, air released.

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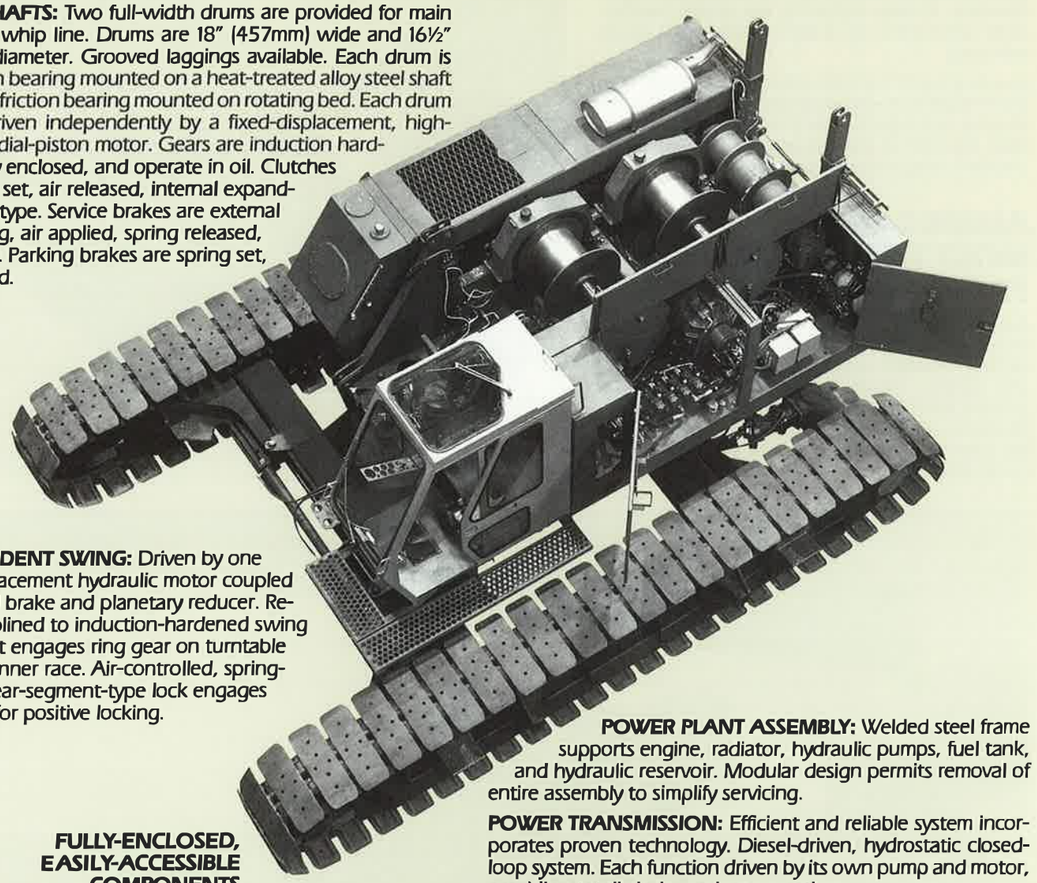


FULLY-ENCLOSED, EASILY-ACCESSIBLE COMPONENTS

POWER PLANT ASSEMBLY: Welded steel frame supports engine, radiator, hydraulic pumps, fuel tank, and hydraulic reservoir. Modular design permits removal of entire assembly to simplify servicing.

POWER TRANSMISSION: Efficient and reliable system incorporates proven technology. Diesel-driven, hydrostatic closed-loop system. Each function driven by its own pump and motor, providing totally independent operation.

POWER LOWERING: An integral function of system. Pump and motor provide hydraulically-powered rotation in either direction, resulting in loads being hoisted and lowered under power for positive control.

FRONT END ATTACHMENTS

NO. 46 BOOM: 21' (6.40M) butt; 10' (3.05M), 20' (6.10M), and 30' (9.15M) inserts; 19' (5.80M) open throat top. Rectangular box-section design. All-welded construction with tubular chords and lacings. All boom sections are 47" (1.19M) wide x 47" (1.19M) deep at pin-connected joints. Each insert matched with two 1⅛" (28mm) diameter, single-length pendants. Lower boom point equipped with five 20" (508mm) diameter sheaves. Optional detachable upper boom point has one 20" (508mm) diameter sheave. All sheaves are antifriction bearing mounted. Basic boom length 40' (12.20M); maximum length 190' (57.90M).

BOOM RIGGING: Single line reeved from boom hoist drums through sheaves on gantry and equalizer forms 10-part rigging. Equalizer is connected to boom point by two 1⅛" (28mm) diameter pendants.

GANTRY AND BACKHITCH: Gantry is fabricated plate with parallel box section legs. Supported on pins by rotating bed. Telescoping, link-type backhitch pin-connects to gantry and rotating bed. Gantry sheaves are antifriction bearing mounted. Grease lines piped to bottom of gantry simplify sheave lubrication.

EQUALIZER: Fabricated steel frame supports four vertical sheaves and two horizontal sheaves, all antifriction-bearing mounted.

AUTOMATIC BOOM STOP: Boom contacts push rod, stopping boom hoist operation when boom angle reaches 82° from horizontal.

TELESCOPIC BOOM STOP: Air-cushioned telescoping tubes pinned to boom and rotating bed start cushioning at 75° boom angle and provide positive physical stop at 85° from horizontal. Standard on liftcrane.

WIRE ROPE GUIDE: Two antifriction-bearing sheaves mounted in steel frame on upper side of boom top.

NO. 130 JIB: Optional. 7.5-ton (6.80-metric ton) maximum capacity. 30' (9.15M) basic length extendible to 40' (12.20M), 50' (15.25M), or 60' (18.30M) with 10' (3.05M) inserts and matching pendants.

Jib offset angle adjustable to 3, 15, or 30 degrees. All-welded construction with tubular chords and lacings. Rectangular box-section 27" (686mm) wide x 22" (559mm) deep at pin-connected joints. Jib point has 19¹¹⁄₁₆" (500mm) OD antifriction-bearing mounted sheave. Maximum boom-and-jib combination, 170' (51.82M) + 60' (18.29M) or 180' (54.86M) + 50' (15.24M).

GENERAL

MACHINERY ENCLOSURES: Steel housings along sides of crane protect engine and hydraulic components. Enclosures swing open to permit access for service.

OPERATOR'S STATION: Fully enclosed and insulated steel module mounted at left front corner of rotating bed on vibration absorbing rubber cushions. Large rubber-mounted safety glass windows on all sides and in ceiling provide clear, wide-angle view. Sliding door on left side. Conveniently located controls. Electric signal horn, heater, windshield wiper, dome light, and circulating fan standard.

SAFETY EQUIPMENT: Load moment indicator, over-hoist limit switch, and audible swing alarm optional.

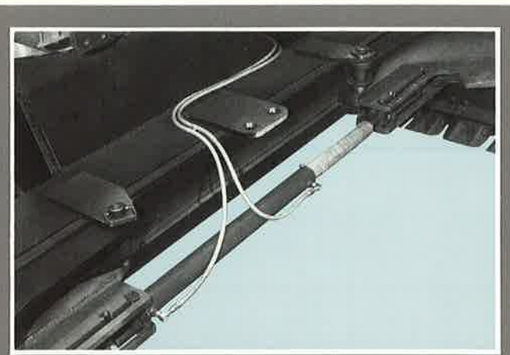
CONTROLS: All functions operated by electro-hydraulic controls, with speed directly proportional to control lever movement. First movement of boom hoist and travel controls releases parking brake; further movement increases speed. Movement of swing control lever immediately regulates power, and free swing exists when lever is in neutral position. Swing parking brake applied by separate switch.

Controls for load drums can be operated in "full-power" (liftcrane) or "free-fall" (excavator) modes as applications require. Operator selects mode by positioning switch on control console. In full-power (liftcrane) mode, drum clutches always remain fully applied and loads are powered down using hydraulic system. In free-fall (excavator) mode, drum clutches release automatically when the control levers are in neutral position, and all lowering is controlled by pedal-operated service brakes. Additionally, mode-selector switch offers a "clamshell" setting that permits both drums to be controlled simultaneously with one lever. Drum speeds can be doubled by engaging selector switches that divert flow from travel pumps to drum motors.

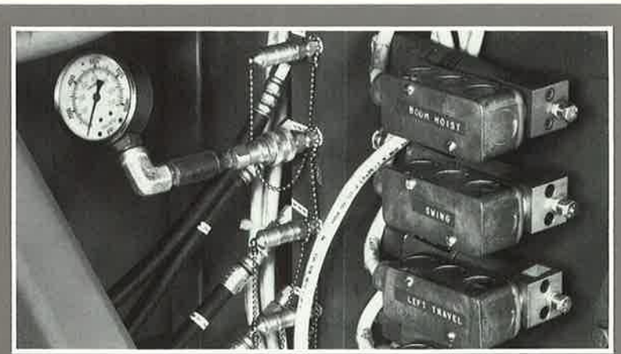
SWING SPEED: Variable, 3.5 RPM maximum.

TRAVEL SPEED: Variable, 1.0 MPH (1.61 KPH) maximum.

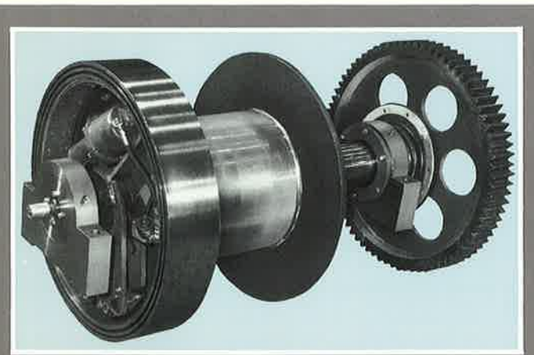
GRADEABILITY: 30%.



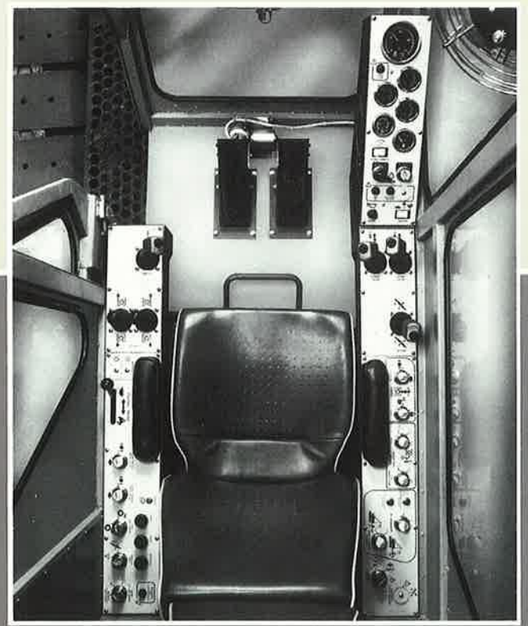
HYDRAULICALLY EXTENDIBLE CRAWLERS



CONVENIENT DIAGNOSTICS



FULL-POWER/FREE-FALL DRUM



ERGONOMIC CONTROLS

MGSW

OUTLINE DIMENSIONS

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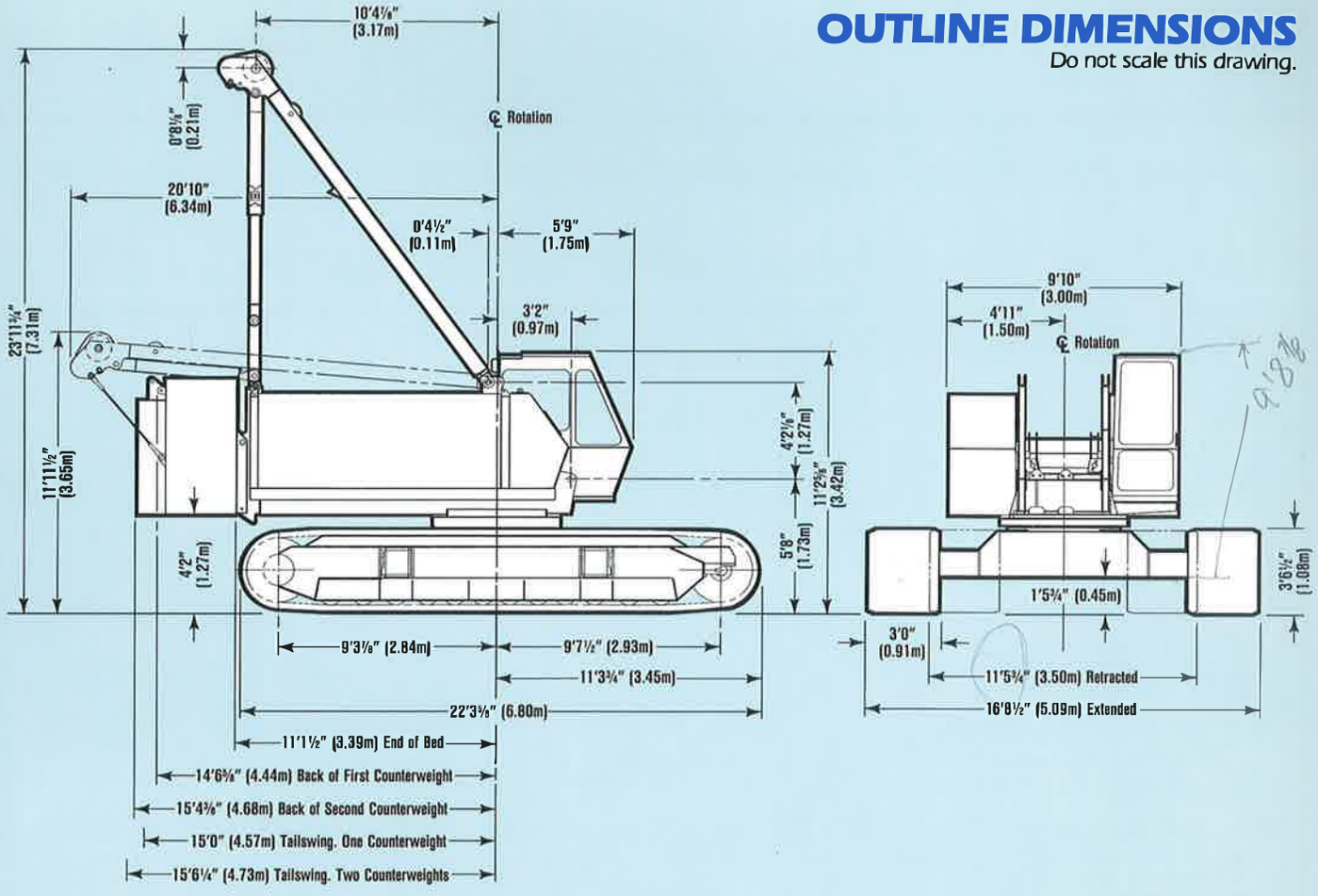


WEIGHTS

	Pounds	Kilograms
LIFTCRANE, complete with 40' (12.20M) No. 46 boom, gantry and backhitch, boom hoist rigging and pendants, front and rear drums with load lines, swing machinery, telescopic boom stop, 22'3⅜" (6.80M) long crawlers, 36" (914mm) wide treads, counterweight, and 75-U.S.-ton (68MT) capacity hook block	135,630	61,510
REMOVABLE COUNTERWEIGHT, (2-piece)		
Inner	35,000	15,875
Outer	7,000	3,175
Total	42,000	19,050

	Pounds	Kilograms
LOWERWORKS & UPPERWORKS, (combined) complete with crawlers, front and rear drums with load lines, boom hoist wire rope, power plant, gantry, equalizer, boom butt, and telescopic boom stop	89,195	40,451
BOOM NO. 46		
Butt, 21' (6.40M)	1,480	671
Top, 19' (5.79M) with lower point and wire rope guide	2,000	907
Inserts:		
10' (3.05M)	570	259
20' (6.10M)	970	440
30' (9.15M)	1,375	624

POWER PLANT

	Model	Cylinder	Bore	Stroke	Cubic Inch Displacement	Net HP @ RPM (at flywheel)
BASIC	Cummins 6 CT 8.3	6	4.49" (114mm)	5.31" (135mm)	504.6 (8,270cc)	210 @ 2,200

DRUMS

Liftcrane	Clamshell	Dragline	Drum	Drum Diameter	Drum Width	Type of Drum	Wire Rope Size	Spooling Capacity		
								1st Layer[1]	Layers[2]	Maximum[2]
Hoist	Closing	Drag	Front	16½"[3] (419mm)	18" (457mm)	Plain[3]	¾" (19mm)	99' (30.2M)	6	728' (222M)
Whip	Holding	Hoist	Rear	16½"[3] (419mm)	18" (457mm)	Plain[3]	¾" (19mm)	99' (30.2M)	6	728' (222M)

[1] Liftcrane, clamshell, and dragline. [2] Liftcrane only. [3] Grooved lagging for clamshell and dragline.

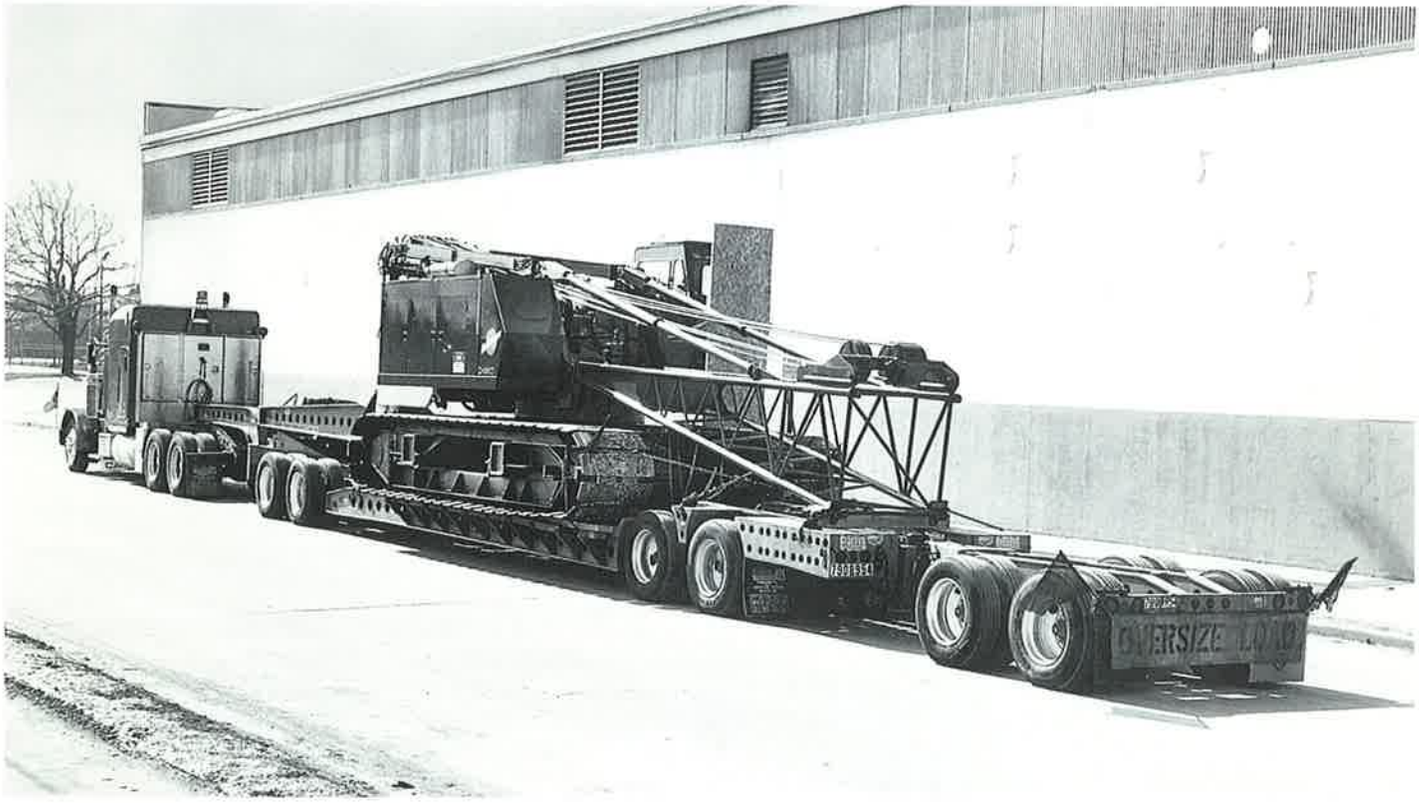
X-SPANDER ATTACHMENT

To enhance the M-65W's versatility, Manitowoc's optional X-SPANDER® attachment boosts the crane's capacity by 30 to 100%. When deployed, the X-SPANDER extends the crane's counterweight rearward, thereby increasing the crane's stability while maintaining its ability to swing and travel with load.

Stored conveniently in the crane's rotating bed, the X-SPANDER is always available. It's also fully self-erecting, so no assist crane is required. Deployment takes less than 10 minutes and can be handled by one man using a remote control.

AMERICA'S MOST TRANSPORTABLE 75-TON CRAWLER CRANE

A compact, efficient design enables the M-65W to be trucked in most areas of the United States with carbody, crawlers, upperworks, gantry, boom butt, and equalizer intact. The entire crane, including X-SPANDER® attachment and maximum boom and jib, can be carried on just three trucks. Erection takes less than three hours, and can be completed without an assist crane.



Manitowoc **M-Series**

...the new generation of liftcrane performance!

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Form 6499

M/MO, Litho in U.S.A.