

MANITOWOC

4100W TOWER CRANE



NO. 22A TOWER — NO. 23 BOOM SPECIFICATIONS

The No. 22A Tower in 183' length (from tower hinge to boom hinge) and the No. 23 Boom in 110' length are basic for the Model 4100W Tower Liftcrane. See chart with TOWER RANGE DIAGRAM for other possible combinations of tower and boom lengths. Tower constructed of inverted angle chord members with tubular lacing; box section 95" wide x 95" deep at the pin-connected joints. Boom constructed of tubular chord members and lacing; box section 58 $\frac{3}{4}$ " wide x 48 $\frac{3}{4}$ " deep at the pin-connected joints.

TOWER COMPONENTS: 30' butt section; three 40' inserts (one, with wire rope guide and equalizer tie down rail, must be placed next to butt section; one, with rubber bumpers for tower cap boom carrier, must be placed next to tower cap); one 10' insert; one 20' insert and tower cap. Wire rope roller guides are mounted on inserts.

TOWER PENDANT RIGGING: Between equalizer and struts. For basic tower set of four 1 $\frac{1}{2}$ " diameter wire rope pendants. For optional tower heights pendants are matched to total additional length.

BOOM COMPONENTS: 27' butt section, one 20' insert, one 40' insert with wire rope guide, and 23' top section with one antifriction bearing sheave and rope guard.

Boom lengths of 130', 150' and 170', using 20' and 40' inserts, are optional. Wire rope roller guides are mounted on inserts. Intermediate boom suspension is required for boom lengths of 130' and over.

BOOM PENDANT RIGGING: For basic boom set of two, single-piece 1 $\frac{1}{2}$ " diameter wire rope pendants. For optional boom lengths pendants are matched to total additional length.

INTERMEDIATE FALL: The intermediate fall permits reeving an alternate load line through sheaves located in an intermediate position on the tower boom (illustrated on Range Drawing, page 3). This enables machine to handle loads at a close radius. Intermediate suspension is required. Consult factory for capacities.

GANTRY: Universal gantry with telescopic link-type back hitch straps pinned in the up position for raising or lowering tower, and down position for operation. Antifriction bearings in vertical gantry sheaves.

EQUALIZER: Equalizer assembly for 12-part boom hoist rigging, with antifriction bearing sheaves.

TOWER HOLD BACK ASSEMBLY: A device which assists boom hoist in raising or lowering tower, by easing tower into vertical position or pulling tower forward of vertical. This device consists of wire rope running from a drum to a sheave mounted forward of the rotating bed and attached to the tower, so a tensile force may be applied to forward side of tower during raising and lowering.

TOWER BOOM LATCH: A spring loaded latch, manually released, holds boom to the front of tower, for raising or lowering of tower.

TOWER BACKSTAY: 26'-0- $\frac{5}{8}$ " long (to pin centers). Consists of two box section struts, pinned from the cab rear to the butt section at the insert joint. Establishes vertical position of tower.

TOWER CAP: Provides hinge point for boom carrier and struts and is pinned to top of tower. Antifriction bearing sheave provides passage for load line over cap. Wire rope boom stop pendants limit maximum boom angle.

BOOM CARRIER: Becomes part of the tower cap when assembled. Function is to center the boom hinge pin on the tower cap when boom reaches working position, for even distribution of load to tower. When boom reaches working position, butt section is locked to tower cap to insure boom stability. Wire rope roller guide is provided in the boom carrier to prevent fouling of the hoist line when boom is folded to front of tower.

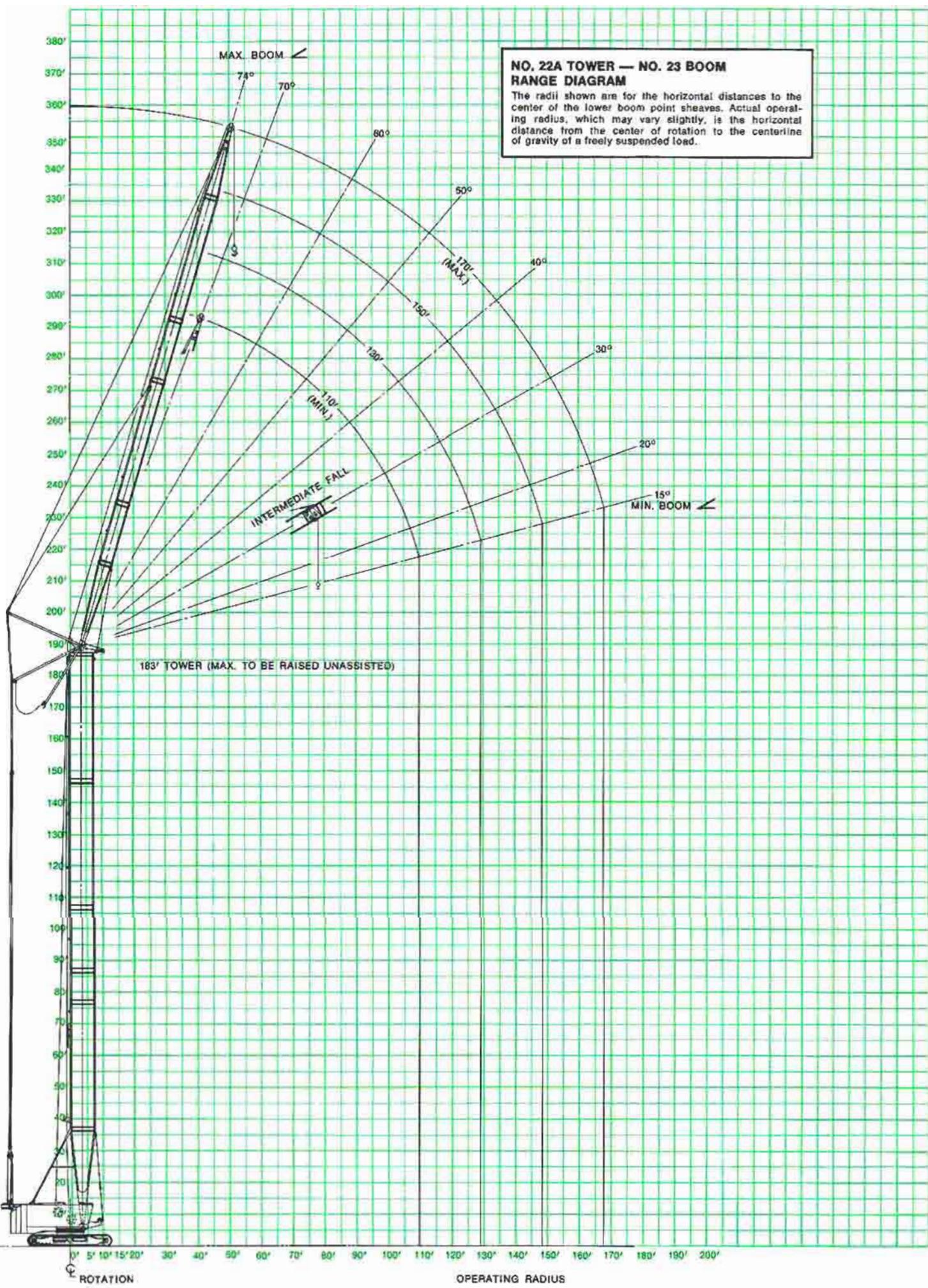
STRUTS: An arrangement of three struts is pinned at the tower cap, and linked to the tower and boom pendants to hold boom in working position.

		BOOM LENGTHS						
		110'	120'	130'	140'	150'	160'	170'
TOWER LENGTHS	123'							
	133'							
	143'							
	153'							
	163'							
	173'							
183'								

For additional Tower lengths (requiring outside erection assist), or other combinations, please consult factory.

**NO. 22A TOWER — NO. 23 BOOM
RANGE DIAGRAM**

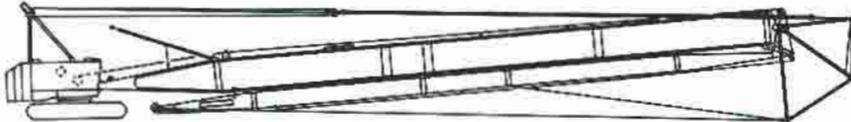
The radii shown are for the horizontal distances to the center of the lower boom point sheaves. Actual operating radius, which may vary slightly, is the horizontal distance from the center of rotation to the centerline of gravity of a freely suspended load.



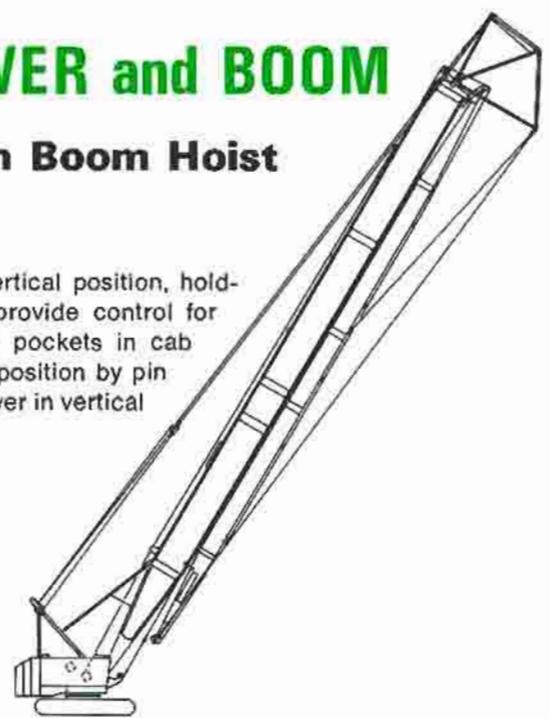
FAST, SELF-ERECTING TOWER and BOOM

...with the 4100W's Dual-Drum Boom Hoist

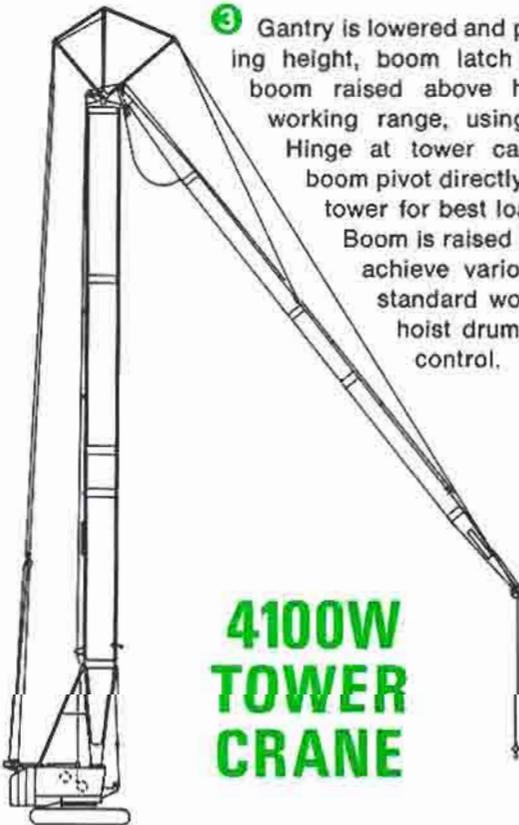
① Gantry raised and pinned. Provides proper bridle angle for boom hoist to raise tower and boom. Tower boom latch holds boom securely to tower during raising.



② As tower approaches vertical position, hold-back wire rope is used to provide control for seating backstay struts into pockets in cab rear. Struts are locked into position by pin connections and hold the tower in vertical position.

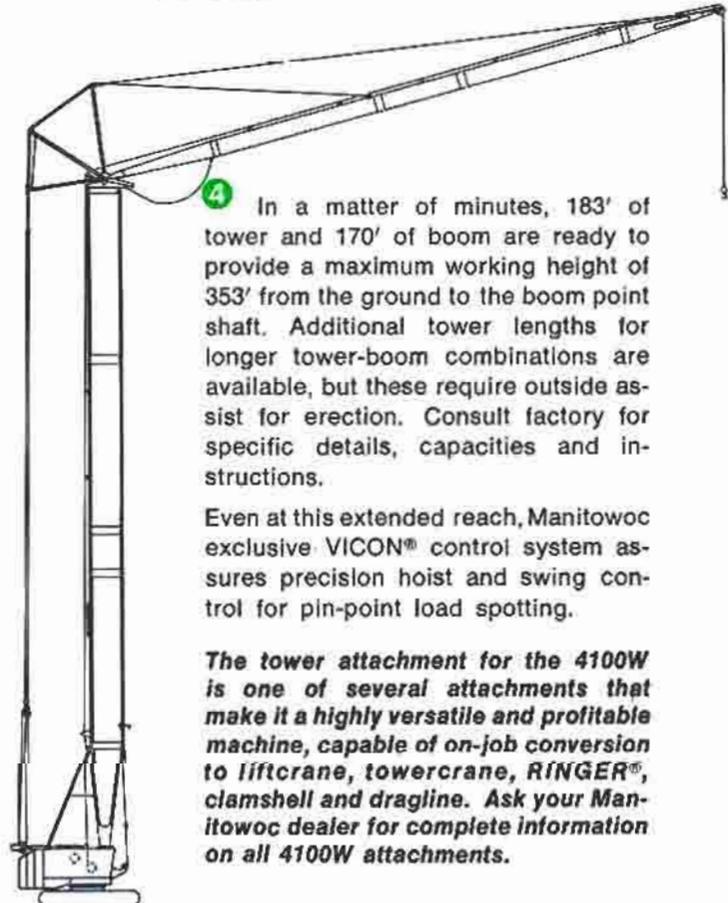


③ Gantry is lowered and pinned at working height, boom latch released and boom raised above horizontal into working range, using boom hoist. Hinge at tower cap now places boom pivot directly over center of tower for best load distribution. Boom is raised and lowered to achieve various radii using standard worm drive boom hoist drums for precision control.



**4100W
TOWER
CRANE**

④ In a matter of minutes, 183' of tower and 170' of boom are ready to provide a maximum working height of 353' from the ground to the boom point shaft. Additional tower lengths for longer tower-boom combinations are available, but these require outside assist for erection. Consult factory for specific details, capacities and instructions.



Even at this extended reach, Manitowoc exclusive VICON® control system assures precision hoist and swing control for pin-point load spotting.

The tower attachment for the 4100W is one of several attachments that make it a highly versatile and profitable machine, capable of on-job conversion to liftcrane, towercrane, RINGER®, clamshell and dragline. Ask your Manitowoc dealer for complete information on all 4100W attachments.

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

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