

TW-20110



MAXIMUM LIFTING CAPACITY: 40,000 lbs  
EXTENDED LENGTH: 110'

**Reach New Heights with the longest boom  
available in a 20 ton boom truck**

# TM-20110 (20 ton) crane specifications

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## MAXIMUM LIFTING CAPACITY

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40,000 lbs. @ 5' (6-part lines)

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## BOOM

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5-sectioned, fully powered synchronized telescoping boom of pentagonal box construction

Retracted length	27.3'
Extended length	110'
Extended speed	82.7' / 73 s
Elevation	Elevated by double-acting hydraulic cylinder
Elevation speed	-5° to 80° / 23 s

NOTE: Extended speed and elevation speed are calculated under the condition that the flow is 25 GPM

Boom point 2 sheaves

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## WINCH

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Hydraulic motor driven, planetary gear speed reduction, provided with automatic break

Single line pull	7,200 lbs. *9,700lbs (Winch capacity of permissible line pull at 1st layer)
Single line speed	280 FPM (@ 3rd layer)

NOTE: Single line speed is calculated under the condition that the flow is 57 GPM

Wire rope

Diameter x length	9/16" x 315'
Breaking strength	30,100 lbs.

Hook block

Swivel hook with safety latch for single line use  
-7,200 lbs. capacity (Standard)  
\*Johnson Downhaul hook block weight; 162 lbs. with 7 tons capacity

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## SWING

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Hydraulic motor driven, planetary gear speed reduction

Non-Continuous 375° rotation on ball bearing slew ring (Standard)

Swing speed 375° / 38 s

Continuous 360° full circle swing (Optional)

Swing speed 360° / 37 s

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## OUTRIGGERS

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<CAB BACK MOUNTED>

Outriggers (Out & Down type)

Hydraulically extended sliders and hydraulically extended jacks, integral with crane frame

Extend width	Min. 7.15'
	Mid. 13.1'
	Max. 18.7'

Rear stabilizers (Out & Down type)

Hydraulically extended sliders and hydraulically extended jacks, integral with chassis frame

Extend width	Min. 7.38'
	Max. 11.48'

Single front stabilizer

Hydraulic extended jack in front of bumper for 360° lifting operations

<REAR MOUNTED>

Rear outriggers (Out & Down type)

Hydraulically extended sliders and hydraulically extended jacks, integral with crane frame

Extend width	Min. 7.15'
	Mid. 13.1'
	Max. 18.7'

Front outriggers (Out & Down type)

Hydraulically extended sliders and hydraulically extended jacks, integral with chassis frame

Extend width	Min. 7.15'
	Mid. 13.1'
	Max. 18.7'

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**HYDRAULIC**

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Hydraulic motor	For winch and swing
Control valves	Multiple control valves with integral safety valve
Hydraulic pump	3-section gear pump Winch system: 32GPM (3,000PSI) Boom and outriggers system: 25GPM (3,060PSI) Swing system: 6.6GPM (1,750PSI)
Reserve tank	78 Gallons capacity *PTO/Mounting not included

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**ELECTRICAL SYSTEM**

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Power supply	DC12V
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**SAFETY DEVICE**

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Anti-two block with alarm
Hook safety latch
Level gauge
Hydraulic safety valves, check valves and holding valves
Overload shutoff with load indicator (TADANO's exclusive "AMA" system) Load / Boom angle indication Audible warning External warning lamps

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**BOOM REST**

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Removable

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**TORSION BOX**

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<CAB BACK MOUNTED>

The weight of 22' standard torsion box is approx. 4,000 lbs.

<REAR MOUNTED>

The weight of 14' standard torsion box is approx. 3,100 lbs.

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**CRANE WEIGHT**

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Approx. 15,300 lbs. (bare)

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**OPTIONS AND ACCESSORIES**

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+Radio Remote Controls

Model: RCS-F (Approved by FCC/IC)

Control function of boom telescoping, hoisting up and down, boom elevating, swing, acceleration, speed mode selection, emergency stop, engine start and vehicle horn

Frequency 40 frequencies in 429 MHz band

Operating power supply

Transmitter 6V DC, dry battery (AA) x 4

Control unit 12V DC, vehicle battery

Transmitter weight Approx. 1.26 lbs. (includes batteries)

+Continuous 360° full circle swing

Swing speed 360° / 37 s

+Short outriggers

For low profile mounting

+40,000 lbs. capacity hook block

3 sheaves, swivel type hook with safety latch

+28,800 lbs. capacity hook block

2 sheaves, swivel type hook with safety latch

+14,400 lbs. capacity hook block

1 sheaves, swivel type hook with safety latch

+Boom angle alarm

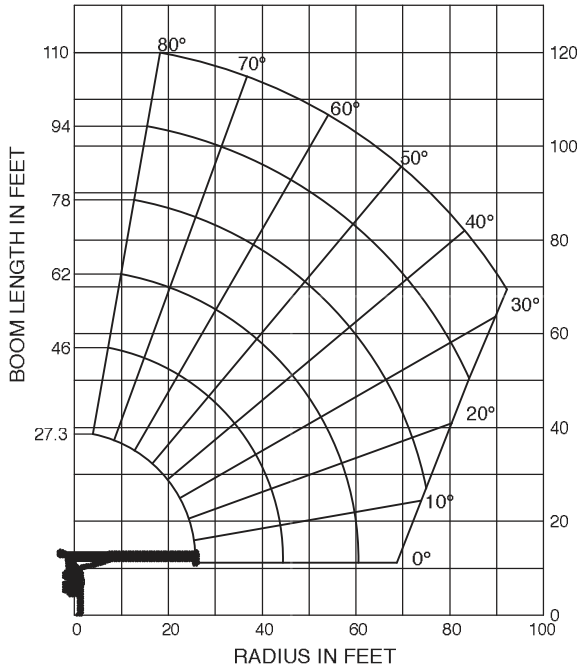
+Two person basket

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# TM-20110 (20 ton) crane capacity

## WORKING RANGE



The above lifting heights and boom angles are based on a straight (unladen) boom, and allowance should be made for boom deflection obtained under laden condition.

### NOTE:

- 1) Rated lifting capacities on the below chart show maximum allowable loads with all outriggers and stabilizers (ex. rear mounted) properly extended on a firm surface and the crane leveled and mounted on a factory recommended truck.
- 2) The rated lifting capacities with bold blue numbers are based on crane strength and others, on its stabilities (not exceeded 85% of tipping).
- 3) The weight of handling devices such as hook block, slings, etc., must be considered part of the load and must be deducted from the rated lifting capacities.
- 4) Weight of any accessories attached to the boom or load line must be deducted from the rated lifting capacities.
- 5) The operator must reduce loads to allow for such factors as wind, ground conditions, operating speed and the effects of freely suspended loads such as boom deflection.
- 6) For full capacity 360° around the truck, the chassis requires the front stabilizer (ex. rear mounted) and additional counterweight in the underside of the bed.
- 7) When marking lifts at a load radius not shown, use next longer radius to determine allowable capacity. When boom length is between values listed, refer the rated lifting capacities next longer and next shorter booms for same radius. Lesser of the two rated lifting capacities be used.
- 8) For boom lengths longer than 46 ft., extend outriggers to the Max. or Mid. extended.
- 9) For boom lengths longer than 78 ft., extend outriggers to the Max. extended.
- 10) Keep at least 3 wraps of load line on winch drum.
- 11) 46 ft. boom means 1st marks on 2nd boom section side plate is half visible.  
62 ft. boom means 2nd marks on 2nd boom section side plate is half visible.  
78 ft. boom means 3rd marks on 2nd boom section side plate is half visible.  
94 ft. boom means 4th marks on 2nd boom section side plate is half visible.
- 12) Part of lines are;

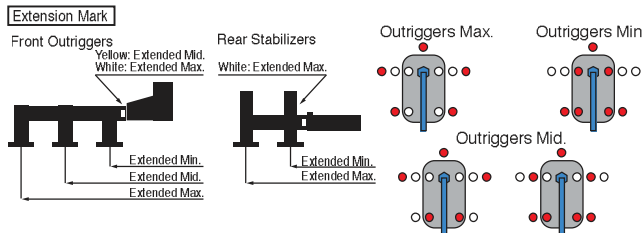
No. of part lines	1	2	4	6
Max. of load	7,200lbs.	14,400lbs.	28,800lbs.	40,000lbs.

## RATED LIFTING CAPACITY (IN POUNDS)

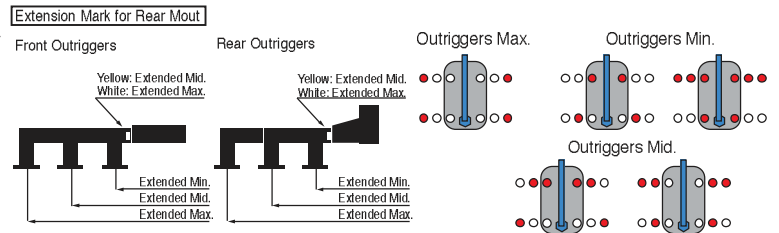
Load radius (ft.)	27.3 ft. Boom			46 ft. Boom			62 ft. Boom		78 ft. Boom		94 ft. Boom		110 ft. Boom		Load radius (ft.)				
	Loaded Boom Angle	Outriggers Extended			Loaded Boom Angle	Outriggers Extended			Loaded Boom Angle	Outriggers Extended		Loaded Boom Angle	Outriggers Extended						
		Max.	Mid.	Min.		Max.	Mid.	Min.		Max.	Mid.		Max.	Mid.					
5	79°	<b>40,000</b>	<b>28,000</b>	<b>20,000</b>											5				
8	73°	<b>26,000</b>	<b>26,000</b>	15,000											8				
10	68°	<b>21,800</b>	<b>21,800</b>	10,150	78°	<b>18,000</b>	<b>18,000</b>	9,600							10				
12	63°	<b>19,000</b>	<b>19,000</b>	7,300	76°	<b>18,000</b>	<b>18,000</b>	7,100							12				
14	58°	<b>16,600</b>	16,450	5,550	73°	<b>16,000</b>	<b>16,000</b>	5,500	78°	<b>14,400</b>	<b>14,400</b>				14				
16	53°	<b>14,600</b>	12,550	4,350	70°	<b>14,200</b>	12,600	4,400	76°	<b>13,000</b>	12,000				16				
20	41°	<b>11,400</b>	8,150	2,700	65°	<b>11,200</b>	8,400	2,900	73°	<b>10,400</b>	8,000	77°	<b>9,500</b>	8,300	80°	<b>5,300</b>		20	
25	17°	<b>7,900</b>	5,200	1,450	58°	<b>8,800</b>	5,600	1,850	68°	<b>8,000</b>	5,600	73°	<b>7,550</b>	5,650	77°	<b>5,300</b>	79°	<b>3,750</b>	25
30					49°	<b>6,800</b>	3,950	1,100	62°	<b>6,300</b>	4,050	69°	<b>6,100</b>	4,050	74°	<b>5,300</b>	77°	<b>3,750</b>	30
35					40°	<b>5,200</b>	2,850	500	57°	<b>5,300</b>	2,950	65°	<b>5,100</b>	3,000	70°	<b>5,000</b>	74°	<b>3,750</b>	35
40					28°	<b>4,000</b>	2,050		51°	<b>4,400</b>	2,200	61°	<b>4,500</b>	2,250	67°	<b>4,300</b>	71°	<b>3,300</b>	40
45									44°	<b>3,600</b>	1,600	56°	<b>3,700</b>	1,700	64°	<b>3,700</b>	69°	<b>3,000</b>	45
50									37°	<b>2,900</b>	1,150	52°	<b>3,100</b>	1,250	60°	<b>3,150</b>	66°	<b>2,650</b>	50
55									27°	<b>2,300</b>		47°	<b>2,550</b>	900	56°	<b>2,650</b>	63°	<b>2,350</b>	55
60									10°	<b>1,600</b>		41°	<b>2,100</b>	600	52°	<b>2,150</b>	60°	<b>2,000</b>	60
65												35°	<b>1,700</b>		48°	<b>1,800</b>	56°	<b>1,800</b>	65
70												27°	<b>1,300</b>		44°	<b>1,450</b>	53°	<b>1,450</b>	70
75												14°	<b>850</b>		39°	<b>1,150</b>	50°	<b>1,200</b>	75
80															33°	<b>850</b>	46°	<b>900</b>	80
85															26°	<b>600</b>	42°	<b>650</b>	85
90																	38°	<b>450</b>	90
	0°	<b>5,800</b>	<b>4,800</b>	1,250	0°	<b>2,200</b>	<b>1,450</b>		0°	<b>600</b>									
		(25.85ft.)				(44.52ft.)				(60.52ft.)									

Notice: The chart is only for reference and should not be used for operation.  
 Maintain a clearances at least 10 feet between any part of the crane, load line or load and any electrical line carrying up to 50,000 volts.  
 One-foot additional clearance is required for every additional 30,000 volts or less.

### <CAB BACK MOUNTED>

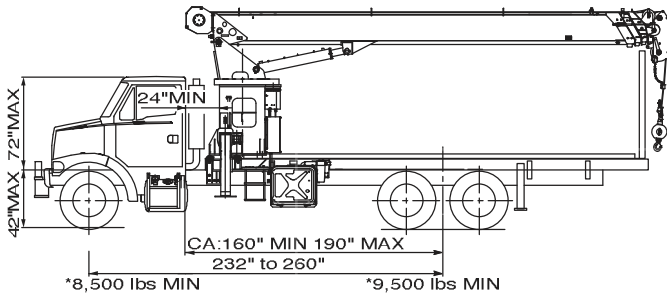


### <REAR MOUNTED>



## TM-20110 (20 ton) crane configurations

### <CAB BACK MOUNTED>



Gross Axle Weight Rating(GAWR), front	approx. 16,000 lbs.
Gross Axle Weight Rating(GAWR), rear	approx. 34,000 lbs.
Gross Vehicle Weight Rating	approx. 50,000 lbs.
Wheelbase(WB)	232" to 260"
Cab to axle(CA)	160" to 190"
Stability weight, front	* 8,500 lbs. Min.
Stability weight, rear	* 9,500 lbs. Min.
Frame Section Module(SM) under crane, 110,000PSI steel	20 in <sup>3</sup> Min. per rail
Frame Section Module(SM) at the front stabilizer attachment point, 110,000PSI steel	2 in <sup>3</sup> Min. per rail
Frame Section Module(SM) over rear stabilizers, 110,000PSI steel	13 in <sup>3</sup> Min. per rail
PTO torque	approx. 290 ft-lbs Min.
PTO revolution	approx. 550 to 2,400 rpm
Width for crane mounting	approx. 4' 7" Min.
Frame width(outside)	approx. 3' Max.
Frame height(ground to frame top)	approx. 3' 6" Max.

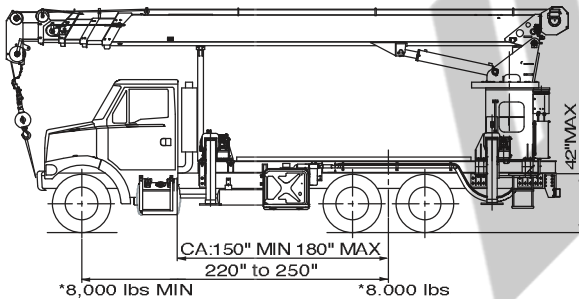
\* Estimated axle scale weights prior to installation of crane, stabilizers and torsion box for 85% stability. Include counterweight.

This mount requires front stabilizer, rear stabilizers, torsion resisting box and additional counterweight in the underside of the bed for full capacity 360° around the truck.

You must select a torsion box according to the length of the flatbed and have it installed. The weight of standard torsion box for 22' flat bed: approx. 4,000 lbs. The complete unit must be installed in accordance with factory requirements and a test performed to determine actual stability and counterweight requirements for variety of trucks.

CAB BACK MOUNTED product cannot convert to REAR MOUNTED configuration.

### <REAR MOUNTED>



Gross Axle Weight Rating(GAWR), front	approx. 14,000 lbs.
Gross Axle Weight Rating(GAWR), rear	approx. 34,000 lbs.
Gross Vehicle Weight Rating	approx. 48,000 lbs.
Wheelbase(WB)	220" to 250"
Cab to axle(CA)	150" to 180"
Stability weight, front	* 8,000 lbs. Min.
Stability weight, rear	* 8,000 lbs. Min.
Frame Section Module(SM) under crane, 110,000PSI steel	20 in <sup>3</sup> Min. per rail
Frame Section Module(SM) over rear outriggers, 110,000PSI steel	20 in <sup>3</sup> Min. per rail
PTO torque	approx. 290 ft-lbs Min.
PTO revolution	approx. 550 to 2,400 rpm
Width for crane mounting	approx. 4' 7" Min.
Frame width(outside)	approx. 3' Max.
Frame height(ground to frame top)	approx. 3' 6" Max.

\* Estimated axle scale weights prior to installation of crane, stabilizers and torsion box for 85% stability. Include counterweight.

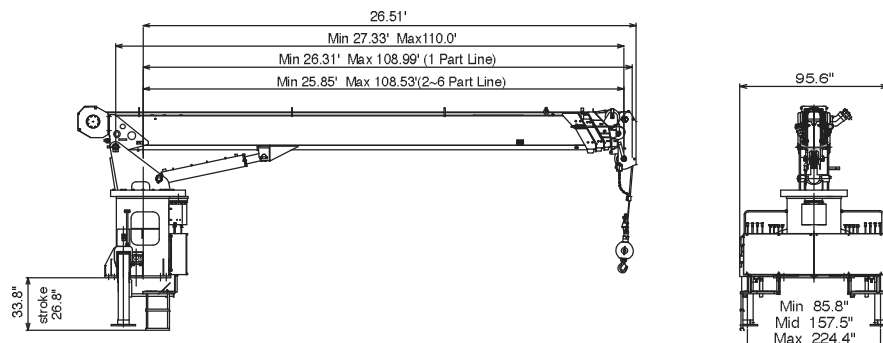
This mount requires front outriggers, torsion resisting box and additional counterweight in the underside of the bed for full capacity 360° around the truck.

You must select a torsion box according to the length of the flatbed and have it installed. The weight of standard torsion box for 14' flat bed: approx. 3,100 lbs.

The complete unit must be installed in accordance with factory requirements and a test performed to determine actual stability and counterweight requirements for variety of trucks.

REAR MOUNTED configuration cannot convert to CAB BACK MOUNTED configuration.

## TM-20110 (20 ton) crane dimensional specifications



Introducing the TADANO TM-20110, the TADANO Straight Truck Mount is available in behind the cab as well as rear mounts. TADANO has over 50 years of experience in manufacturing high quality cranes featuring innovative ideas and leading edge technology. The TM-20110 answers a real need for a true Boom Truck in North America. This is the crane that everyone has been looking for and we have delivered a crane packed with great features and superior performance.

With its long reach and high lift, we believe the TM-20110 is one of our most desirable cranes. TADANO builds a vast range of cranes from 0.5 ton to 600 tons. No matter what your reach or lift requirements are, TADANO can provide you with a great solution. Put one to work for you now. Call today or visit our web site for more information.

### **Features:**

**Exceptional Reach without a Jib:** 110 ft. Full Power Boom

**Self-Aligning Pentagonal Shaped Boom:** reducing maintenance cost

**Light Weight:** increases payload

**Out & Down Mainframe Outriggers:** complete level ability

**Multiple Outrigger Span:** easy to set up in various job sites

**Faster Function Speeds:** increase productivity

**Superior Winch Performance:** up to 280 FPM increase productivity

**Shear Plate Mounting:** more secure "no creep mount"

**Large Hydraulic Reservoir:** superior cooling capabilities

**Operator Friendly:** dual control stations with exceptional job site viewing

**Complete Load Monitoring:** TADANO's exclusive "AMA" system



*Highest Quality Boom Trucks on the Planet*



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