

## TADANO CARGO CRANE

MODEL : **TM-ZE554MH**

## CRANE SPECIFICATIONS

<u>CRANE CAPACITY</u>	5,050 kg at 2.5 m (5-part line)
<u>BOOM</u>	Four-sectioned, fully powered partly synchronized telescoping boom of heptagonal box construction Fully retracted length ----- 3.55 m Fully extended length ----- 10.8 m Extending speed ----- 7.25 m in 21 s Elevation ----- Elevated by a double-acting hydraulic cylinder Raising speed ----- 1° to 78° in 12 s Boom point ----- 3 sheaves
<u>WINCH</u>	Hydraulic motor driven    Spur gear speed reduction, provided with mechanical brake and cable follower Single line pull ----- 9.90 kN {1,010 kgf} Single line speed ----- 66 m/min (at 4th layer) Wire rope Diameter x length ----- 8 mm x 82 m Breaking strength ----- 50.1 kN {5.1 tf} Construction ----- 7 x 7 + 6 x WS(26) Hook block ----- 2 sheaves
<u>HOOK BLOCK STOWING DEVICE</u>	Hook-in (Mechanically stowed beneath boom top portion)
<u>SLEWING</u>	Hydraulic motor driven    Worm gear speed reduction Continuous 360° full circle slewing on ball bearing slew ring Automatic slewing lock Slewing speed ----- 2.5 min <sup>-1</sup> {rpm}

Specifications are subject to change without notice.

OUTRIGGERS

Manually operated beams and hydraulically operated jacks

Integral with crane frame

Extended width ----- Min. 2,200 mm center to center  
 (2,360 mm outer to outer)  
 Mid. 3,000 mm center to center  
 (3,160 mm outer to outer)  
 Max. 3,800 mm center to center  
 (3,960 mm outer to outer)

HYDRAULIC SYSTEM

Hydraulic pump ----- Single gear pump  
 Hydraulic motors ----- Axial piston type for winch  
 Axial piston type for slewing  
 Control valves ----- Multiple control valves with integral  
 safety valve  
 Oil tank capacity ----- Approx. 57.6 L

SAFETY DEVICES

Anti-two-block device  
 Boom angle indicator  
 Load indicator  
 Load meter  
 Hook safety latch  
 Spirit level  
 Hydraulic safety valves, check valves and holding valves

OPTIONAL EQUIPMENT

Outrigger pads  
 Oil cooler  
 Rear outriggers (outrigger beam non-extension type)  
 Large capacity oil tank

CRANE MASS

Approx. 1,640 kg  
 (Except crane options and mounting parts.)


NOTE : Each operating speeds show the value when there is no load conditions and the pump delivery is the following conditions.

- 36 L/min (Slewing speed)
- 60 L/min (BOOM : Extending speed, Raising speed WINCH : Single line speed)

## RATED LIFTING CAPACITIES (kg)

### Crane Strength Rated Capacities

LOAD RADIUS	3.55 m BOOM	LOAD RADIUS	5.99 m BOOM	LOAD RADIUS	8.39 m BOOM	LOAD RADIUS	10.8 m BOOM
2.5 m and below	5,050	2.6 m and below	4,050	2.6 m and below	3,130	3.5 m and below	2,130
2.9 m	4,050	2.9 m	4,050	3.0 m	3,130	4.5 m	2,130
3.33 m	3,550	3.7 m	3,130	3.7 m	3,130	5.0 m	2,030
		4.0 m	2,930	4.0 m	2,930	6.0 m	1,780
		4.5 m	2,580	4.5 m	2,580	7.0 m	1,530
		5.0 m	2,330	5.0 m	2,330	8.0 m	1,380
		5.77 m	2,030	5.5 m	2,080	9.0 m	1,200
				6.0 m	1,930	10.0 m	1,050
				6.5 m	1,780	10.58 m	1,000
				7.0 m	1,630		
				7.5 m	1,480		
				8.17 m	1,380		

- NOTE :
1. The above numerical values of total rated loads are based on crane strength only. The total rated loads based on stability may lower than those in the above table depending on the loading conditions and the types of the chassis.
  2. This value includes the mass of lifting devices such as hook block (45kg).
  3. This load radius shows actual load radius which includes boom deflection.
  4. If the boom length exceeds the table value even a little, the performance is limited to the performance of the next boom length.
  5. When the boom length is 8.39 m, a half of the  mark on lateral face of the 3rd boom section is exposed out of 2nd boom section.

Empty Chassis Rated Capacities

Table A

LOAD RADIUS	3.55 m BOOM		LOAD RADIUS	5.99 m BOOM		LOAD RADIUS	8.39 m BOOM		LOAD RADIUS	10.8 m BOOM	
	extension width of outriggers			extension width of outriggers			extension width of outriggers			extension width of outriggers	
	MAX.	MIN.		MAX.	MIN.		MAX.	MIN.		MAX.	MIN.
2.5 m and below	5,050	2,480	2.5 m and below	4,050	2,480	2.6 m and below	3,130	2,480	3.5 m and below	2,130	1,480
2.8 m	4,050	2,130	2.8 m	4,050	2,130	3.0 m	3,130	1,880	4.0 m	2,130	1,180
3.33 m	3,250	1,630	3.6 m	2,930	1,430	3.6 m	2,930	1,430	4.5 m	1,980	930
			4.0 m	2,430	1,180	4.0 m	2,430	1,180	5.0 m	1,630	780
			4.5 m	1,980	930	4.5 m	1,980	930	6.0 m	1,180	580
			5.0 m	1,680	830	5.0 m	1,680	830	7.0 m	1,000	450
			5.77 m	1,330	680	5.5 m	1,430	680	8.0 m	800	380
						6.0 m	1,180	580	9.0 m	680	330
						6.5 m	1,130	550	10.0 m	580	280
						7.0 m	1,000	480	10.58 m	550	250
						7.5 m	900	430			
						8.17 m	780	380			

Table B

LOAD RADIUS	3.55 m BOOM		LOAD RADIUS	5.99 m BOOM		LOAD RADIUS	8.39 m BOOM		LOAD RADIUS	10.8 m BOOM	
	extension width of outriggers			extension width of outriggers			extension width of outriggers			extension width of outriggers	
	MAX.	MIN.		MAX.	MIN.		MAX.	MIN.		MAX.	MIN.
2.5 m and below	5,050	2,730	2.3 m and below	4,050	3,130	2.3 m and below	3,130	3,130	3.5 m and below	2,130	1,730
2.9 m	4,050	2,380	2.9 m	4,050	2,380	3.0 m	3,130	2,280	4.0 m	2,130	1,430
3.33 m	3,550	1,930	3.7 m	3,130	1,580	3.7 m	3,130	1,580	4.5 m	2,130	1,180
			4.0 m	2,930	1,430	4.0 m	2,930	1,430	5.0 m	1,980	930
			4.5 m	2,430	1,180	4.5 m	2,430	1,180	6.0 m	1,480	730
			5.0 m	2,030	980	5.0 m	2,030	980	7.0 m	1,180	580
			5.77 m	1,630	780	5.5 m	1,730	830	8.0 m	950	480
						6.0 m	1,480	730	9.0 m	880	430
						6.5 m	1,380	680	10.0 m	730	350
						7.0 m	1,230	630	10.58 m	680	330
						7.5 m	1,080	530			
						8.17 m	980	480			

Table C

LOAD RADIUS	3.55 m BOOM		LOAD RADIUS	5.99 m BOOM		LOAD RADIUS	8.39 m BOOM		LOAD RADIUS	10.8 m BOOM	
	extension width of outriggers			extension width of outriggers			extension width of outriggers			extension width of outriggers	
	MAX.	MIN.		MAX.	MIN.		MAX.	MIN.		MAX.	MIN.
2.5 m and below	5,050	3,130	2.6 m and below	4,050	3,130	2.5 m and below	3,130	3,130	3.5 m and below	2,130	1,930
2.9 m	4,050	2,680	2.9 m	4,050	2,680	3.0 m	3,130	2,630	4.5 m	2,130	1,330
3.33 m	3,550	2,230	3.7 m	3,130	1,870	3.7 m	3,130	1,870	5.0 m	2,030	1,080
			4.0 m	2,930	1,630	4.0 m	2,930	1,630	6.0 m	1,780	780
			4.5 m	2,580	1,380	4.5 m	2,580	1,380	7.0 m	1,480	730
			5.0 m	2,330	1,130	5.0 m	2,330	1,130	8.0 m	1,200	550
			5.77 m	2,030	930	5.5 m	2,030	930	9.0 m	1,030	500
						6.0 m	1,830	830	10.0 m	900	430
						6.5 m	1,650	780	10.58 m	830	380
						7.0 m	1,480	730			
						7.5 m	1,350	650			
						8.17 m	1,180	550			

Table D

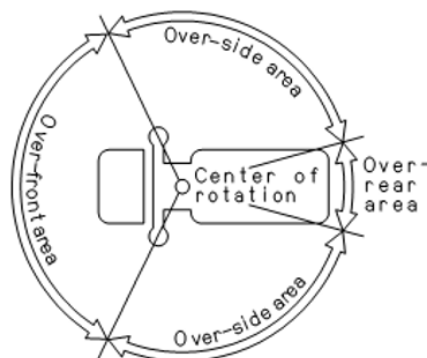
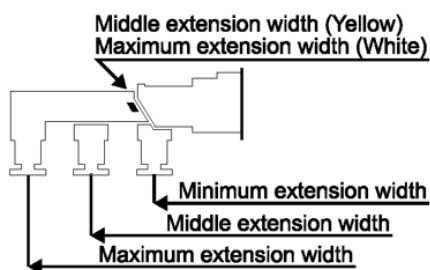
LOAD RADIUS	3.55 m BOOM		LOAD RADIUS	5.99 m BOOM		LOAD RADIUS	8.39 m BOOM		LOAD RADIUS	10.8 m BOOM	
	extension width of outriggers			extension width of outriggers			extension width of outriggers			extension width of outriggers	
	MAX.	MIN.		MAX.	MIN.		MAX.	MIN.		MAX.	MIN.
2.5 m and below	5,050	3,380	2.5 m and below	4,050	3,380	2.5 m and below	3,130	3,130	3.5 m and below	2,130	1,930
2.9 m	4,050	2,680	2.9 m	4,050	2,680	3.0 m	3,130	2,630	4.5 m	2,130	1,330
3.33 m	3,550	2,230	3.7 m	3,130	1,870	3.7 m	3,130	1,870	5.0 m	2,030	1,080
			4.0 m	2,930	1,630	4.0 m	2,930	1,630	6.0 m	1,780	780
			4.5 m	2,580	1,380	4.5 m	2,580	1,380	7.0 m	1,530	730
			5.0 m	2,330	1,130	5.0 m	2,330	1,130	8.0 m	1,380	550
			5.77 m	2,030	930	5.5 m	2,080	930	9.0 m	1,200	500
						6.0 m	1,930	830	10.0 m	1,050	430
						6.5 m	1,780	780	10.58 m	1,000	380
						7.0 m	1,630	730			
						7.5 m	1,480	650			
						8.17 m	1,380	550			

- NOTE :
1. Empty Chassis Rated Capacities in these tables depend on condition that crane is set level on firm level ground.
  2. This value includes the mass of lifting devices such as hook block (45kg).
  3. When the outriggers are extended to the middle width, read the capacities rated for the minimum extension width.
  4. This load radius shows actual load radius which includes boom deflection.
  5. If the boom length exceeds the table value even a little, the performance is limited to the performance of the next boom length.
  6. When the boom length is 8.39 m, a half of the  $\square$  mark on lateral face of the 3rd boom section is exposed out of 2nd boom section.
  7. Empty chassis rated lifting capacity varies according to the working area.
    - <over-side, over-rear area> : 100%
    - <over-front area> : 25%
  8. Empty Chassis Rated Capacities table A, B, C and D depend on the types of chassis. (The following table shows guidelines for bodywork vehicles that can achieve the rated lifting capacity tables A, B, C and D for vehicles. Be sure to carry out a stability inspection to determine which performance to apply.)

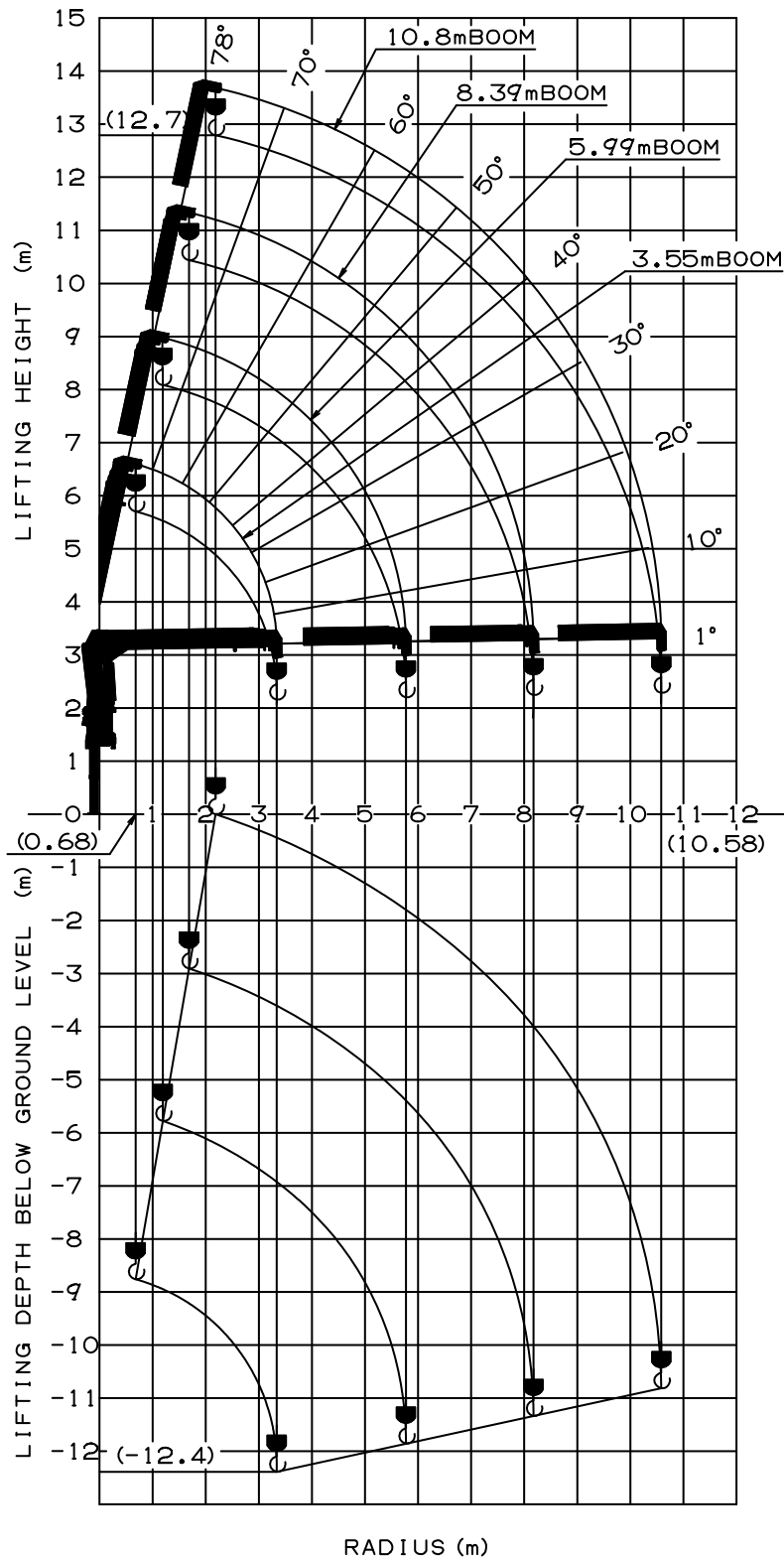
A	14.6 t ≤ GVW < 20 t
B	15 t ≤ GVW < 20 t, 3.8 t ≤ CAWf (*1)
C	20 t ≤ GVW < 25 t, 3.8 t ≤ CAWf (*1)

\*1 : Chassis front axle weight (excluding crane and mounting parts mass).

**Extension mark**

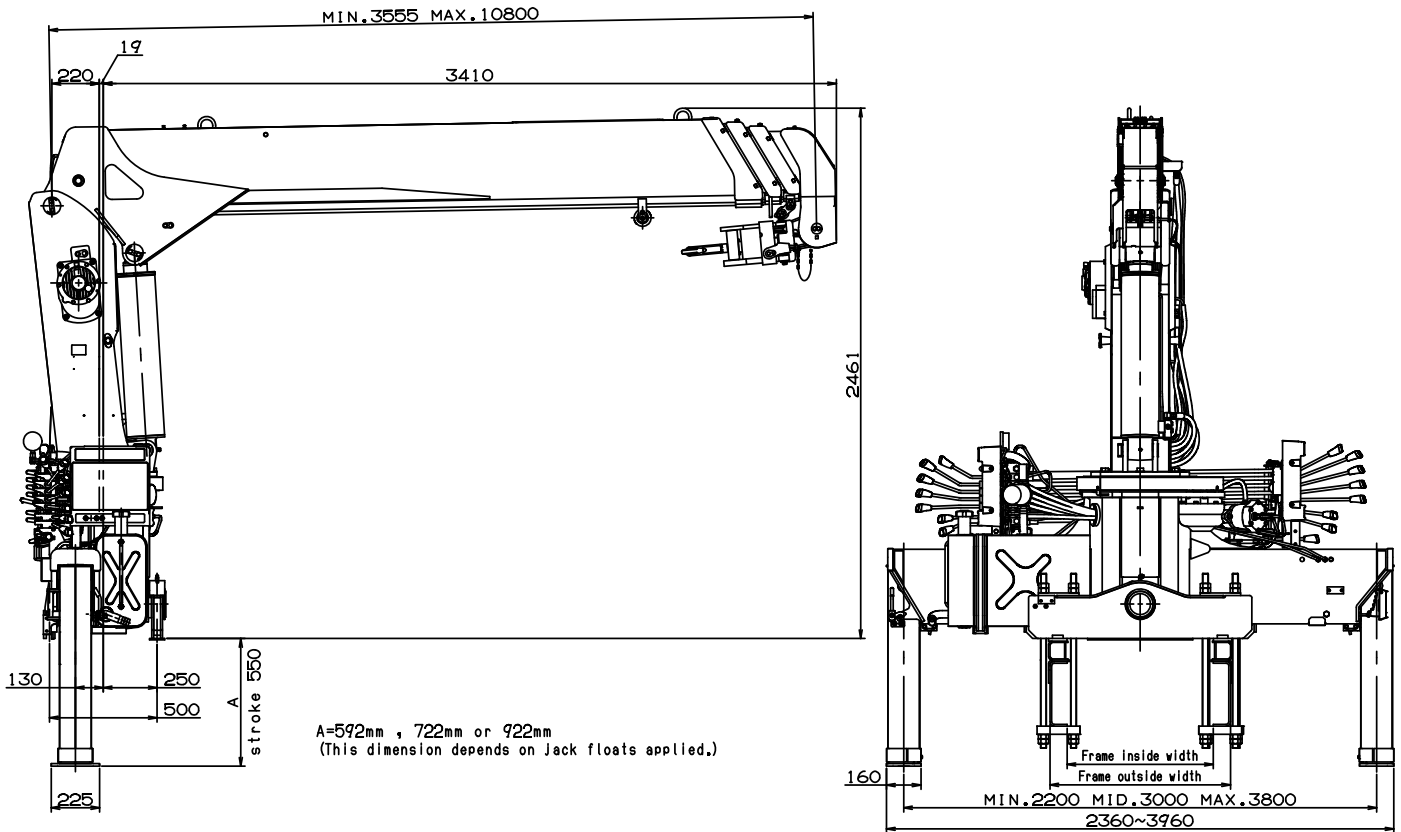


### WORKING RANGE



NOTE: 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 conditions.

## DIMENSIONS



## GENERAL DATA FOR SUITABLE TRUCKS

Gross vehicle weight	15,000 to 25,000 kg
P.T.O. torque	190 N·m {19.4 kgf·m} min.
P.T.O. revolution range of use (min. to max.)	Approx. 350 to 1,300 min <sup>-1</sup> {rpm}
Width for crane mounting	Approx. 750 mm min.
Frame	Weight distribution and frame strength should be calculated for each truck
Frame width range (inside to outside)	Approx. 610 to 960 mm
Frame height (ground to chassis frame top) (*1)	Approx. 700 to 1,445 mm
Chassis frame section modulus (*2)	485 cm <sup>3</sup> min.

\*1 Height of crane mounting surface is changed by crane bases.

\*2 The chassis frame material must meet the following conditions at the crane mounting location.

—Yield point : 392 N/mm<sup>2</sup>

—Tensile strength : 540 N/mm<sup>2</sup>