# TADANO

# **HYDRAULIC TRUCK CRANE**

SPEC. SHEET NO. TL-300E-3-00107/EX-141

# **TL-300E**

CARRIER: TC-4230

# **GENERAL DATA**

CRANE CAPACITY 30,000 kg at 3.0 m
BOOM 4-section, 10.5m - 33.0m
DIMENSION

Overall length approx. 12,670 mm
Overall width approx. 2,490 mm
Overall height approx. 3,450 mm

**MASS** 

Gross vehicle mass approx. 29,400 kg
- front approx. 10,200 kg

- rear approx. 19,200 kg

**PERFORMANCE** 

Max. travelling speed computed 64 km/h Gradeability (tan ) computed 35 %

# CRANE SPECIFICATIONS

### **MODEL**

TL-300E

### **CAPACITY**

30,000 kg at 3.0 m

### BOOM

4-section full length power telescoping boom of box construction with 5-sheaves at boom head. 3rd boom and top boom telescope synchronously by means of a double-acting cylinder, an extension cable and a retraction cable. Hydraulic cylinders fitted with holding valves.

Fully retracted length......10.5 m
Fully extended length.....33.0 m
Extension speed......22.5 m in 125 s

### JIB

2-staged extension type. Triple offset (5°/25°/45°) type. Stored under base boom section. Single sheave at jib head.

Length ......8.7 m and 14.5 m

# **SINGLE TOP (AUXILIARY BOOM SHEAVE)**

Single sheave. Mounted to main boom head for single line work.

### **ELEVATION**

By a double-acting hydraulic cylinder, fitted with holding valve.

Elevation speed......-3° to 80° in 70 s

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### **HOIST - Main winch**

2-speed type with grooved drum driven by hydraulic axial piston motor through planetary winch speed reducer. Power load lowering and hoisting.

Equipped with automatic fail-safe brake with free-fall device by foot brake operation and counterbalance valve.

Hoist lever is fitted with a high-speed switch.

Controlled independently of auxiliary winch.

Single line pull ......32.8 kN { 3,350 kgf }

Single line speed

High range......110 m/min. (at the 4th layer) Normal range ......59 m/min. (at the 4th layer)

Wire rope.....Spin-resistant type
Diameter × length.......16 mm X 180 m

### **HOIST - Auxiliary winch**

2-speed type with grooved drum driven by hydraulic axial piston motor through planetary winch speed reducer. Power load lowering and hoisting.

Equipped with automatic fail-safe brake with free-fall device by foot brake operation and counterbalance valve.

Hoist lever is fitted with a high-speed switch.

Controlled independently of main winch.

Single line pull ......33.3 kN { 3,400 kgf }

Single line speed

High range .......95 m/min. (at the 2nd layer) Normal range ......50 m/min. (at the 2nd layer)

Wire rope......Spin-resistant type
Diameter x length .......16 mm x 105 m

### SWING

Hydraulic axial piston motor driven through planetary swing speed reducer. Continuous 360° full circle swing on ball bearing slew ring. TADANO Twin Swing System enable to select power-controlled or free swing. Swing lever is fitted with a horn switch. Equipped with hand-operated swing brake.

Swing speed......2.5 min<sup>-1</sup> {rpm}

### **HYDRAULIC SYSTEM**

Pumps	Quadruple gear pump driven by
·	carrier engine through P.T.O.
Control valves	Multiple valves actuated by hand
	levers with integral pressure relief
	valves.
Circuit	Equipped with air cooled type oil
	cooler.
Hydraulic oil tank capacity.	approx. 430 liters
Filters	Return line filter

### **CRANE CONTROL**

By 5 control levers based on ISO standard layout.

### CAB

Steel construction with sliding door access and safety glass windows opening at sides, rear and roof. Cloth covered reclining seat with headrest is height-adjustable and back-and-forth adjustable.

# TADANO Automatic Moment Limiter (Model: AML-L)

Main unit in crane cab gives audible and visual warning of approach to overload. Automatically cuts out crane motions before overload. With working range limit function. Working area for each outrigger position is given separately.

Nine functions are displayed.

Digital liquid crystal display:

Either Boom angle or moment %

Either boom length or potential hook height

Either Actual working radius or swing angle

Actual hook load

Permissible load

Either jib offset angle or number of parts line of rope

Boom position indicator

Outrigger position indicator

Bar graphical display:

Either moment as percentage or main hydraulic pressure and accumulator pressure (Display changes by alternation key.)

### **OUTRIGGERS**

4 hydraulically operated outriggers. Each outrigger controlled simultaneously or independently from either side of carrier. Equipped with sight level gauges.

Floats mounted integrally with the jacks retract to within vehicle width. All cylinders fitted with pilot check valves.

Extended width

Fully	6,100 mm
Middle	4,000 mm
Minimum	
Float size (Diameter) .	400 mm

### **FRONT JACK**

A fifth hydraulically operated outrigger jack. Mounted to the front frame of carrier to permit 360° lifting capabilities. Hydraulic cylinder fitted with pilot check valve.

Float size (Diameter) ......260 mm

### COUNTERWEIGHT

Integral with swing frame.

Mass ......3,400 kg

### NOTE

Each crane motion speed is based on unladen conditions.

### **MANUFACTURER**

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### MODEL

TC-4230(Left hand steering, 8 X 4)

NISSAN PE6T
cycle, 6 cylinder in line, direct injection,
vater cooled diesel engine with tur-
oocharger.
11,670 cm <sup>3</sup>
133 mm X 140 mm
202 kW{ 275 PS }
at 2,300 min <sup>-1</sup> {rpm}
961 N·m{ 98 kgf·m }

at 1,200 min<sup>-1</sup> {rpm}

Dry single plate, hydraulically operated clutch release mechanism with air assisted booster.

### **TRANSMISSION**

6 forward and 1 reverse speeds, synchromesh on 2nd - 6th gears, and constant-mesh on 1st and reverse gears.

### **AXLES**

Front	Reverse-elliot type, I-beam.
Rear	Full floating type.

### SUSPENSION

Front	Semi-elliptic leaf springs.
Rear	Equalizer beams and torque rods.

### **STEERING**

Recirculating ball screw type with linkage power assistance.

### **BRAKE SYSTEM**

JIVAINE STOTEIN	
Service	Foot operated full air brake on all wheels,
	dual air line system, internal expanding
	leading and trailing shoe type.
Parking	Mechanically operated by hand brake
	lever.
	Internal expanding duo-servo shoe type
	acting on drum at transmission case rear.
Auxiliary	
	brake.
Emergency	Pneumatically controlled spring brake,
	acting on all rear axles.

### **TIRES**

Front	11R22.5 1	148 / 145L,	Single X 4
Rear	11R22.5 1	148 / 145L,	Dual X 4
Spare	11R22.5 1	148 / 145L,	X 1

### CAB

Steel construction,	one sided 2-man type.	
Driver's seat	Adjustable suspension	type.

### **ELECTRIC SYSTEM**

24 V DC. 2 batteries of	12 V (JIS) 1	15F51, 96 A	Ah at 5-hour	rate
Alternator	.24 V-50 A			

### **FUEL TANK CAPACITY**

300 liters

### **TURN RADIUS**

Min. turning radius	
(at center of extreme outer tire)	10.5 m

# **EQUIPMENT** -

### **FOR CRANE**

### **Standard Equipment**

30 t capacity, hook block (4 sheaves) 3.4 t capacity, hook block (swivel hook)

Control pedals for telescoping and auxiliary winch

3 working lights External lamp (AML)

Winch drum mirror Sun visor

Cab floor mat

# **Optional Equipment**

☐ Winch drum rotation indicator for main and auxiliary winch ☐ Cable follower

☐ Electric fan

☐ Cab heater (Diesel fuel type) ☐ Cab cooler (Refrigerant: R134a)

### **FOR CARRIER**

### Standard Equipment

Fan clutch: Viscous-type

Intake air heater

Overheating warning buzzer

Cooling water level warning buzzer Engine over-run alarm

PTO hour meter

Seat belt: 3 point type for driver, 2 point type for passen-

Passenger seat

Tilting-telescoping steering wheel

Windshield wiper (with intermittent wiping) and washer Window glass: Tinted, Infrared and Ultraviolet rays absorption

**Tachometer** 

Low air pressure warning buzzer

AM/FM radio

Car heater (Hot water type) with defroster

Third differential gear lock Speedometer (with odometer)

Sun visor

Spare tire carrier with lock key Tool box with lock key

Fuel tank cap with lock key

Back-up light Back-up alarm

Air filter warning light (Instrument cluster)

Towing hooks (Front, Eye type and Rear, hook type)

Ashtray

Cigarette lighter Owner's tool set

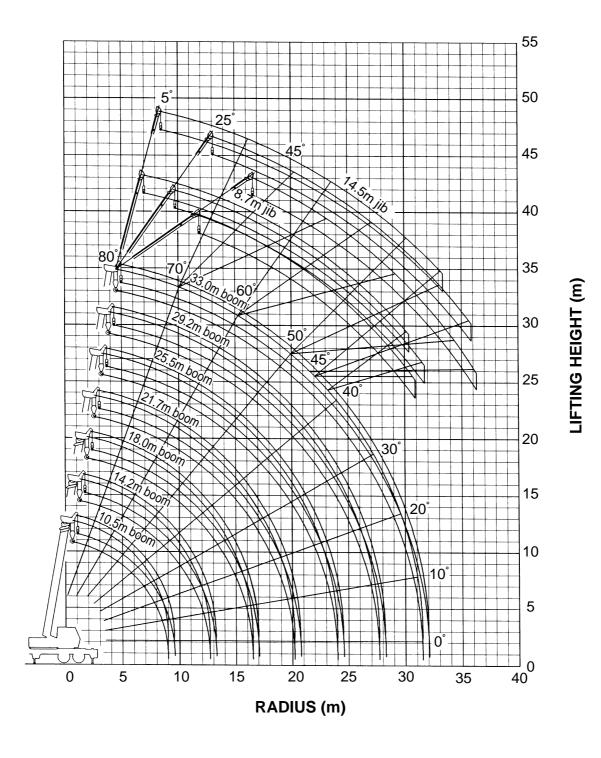
Cab floor mat

Front fog lamp

### **Optional Equipment**

☐ Car cooler (Refrigerant:R134a)

☐ Tire inflator



# NOTE:

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

Unit: kg

							Offic . Kg
	Outriggers fully extended 6.1m						
	Front jack extended (360°) Front jack not extended (Over sides and rear)						
ВАВ	10.5	14.2	18.0	21.7	25.5	29.2	33.0
3.0	30,000	20,000	16,000				
3.5	25,400	20,000	16,000	12,000			
4.0	22,900	20,000	16,000	12,000	11,500		
4.5	21,000	20,000	16,000	12,000	11,500		
5.0	19,400	18,400	16,000	12,000	11,500	9,000	
5.5	17,700	16,800	14,750	12,000	11,500	9,000	7,000
6.0	16,200	15,300	13,700	12,000	11,500	9,000	7,000
7.0	13,700	12,650	11,950	11,000	10,000	9,000	7,000
8.0	11,400	11,000	10,550	10,200	8,900	8,200	7,000
9.0		9,000	9,000	9,200	8,050	7,450	6,250
10.0		7,300	7,300	7,700	7,300	6,750	5,700
12.0		5,050	5,050	5,450	5,700	5,650	4,800
14.0			3,600	4,000	4,250	4,400	4,100
16.0			2,550	2,950	3,200	3,400	3,450
18.0				2,200	2,450	2,650	2,800
20.0				1,550	1,850	2,050	2,200
22.0					1,350	1,550	1,750
24.0						1,200	1,350
26.0						850	1,000
28.0							700
30.0							500

Unit: kg

Outriggers fully extended 6.1m						
Front jack extended (360°) Front jack not extended (Over sides and rear)						
		8.7 m jib			14.5 m jib	
С	5° offset	25° offset	45° offset	5° offset	25° offset	45° offset
80°	3,000	1,700	1,000	2,000	900	600
77°	3,000	1,700	1,000	2,000	900	600
76°	3,000	1,700	1,000	1,850	900	600
75°	3,000	1,670	960	1,740	870	570
70°	2,200	1,440	860	1,350	800	530
65°	1,750	1,250	800	1,100	720	490
60°	1,400	1,100	750	900	640	460
55°	1,100	950	700	730	560	430
50°	700	650	600	550	450	400
46°	450	450	400	350	300	250
45°	400	400	350	300	250	
42°	250	250				

A: Boom length (m)
B: Load radius (m)
C: Boom angle

Unit: kg

							•
Outriggers fully extended 6.1m (Over front) Outriggers extended to middle 4.0m (360°)							
A B	10.5	14.2	18.0	21.7	25.5	29.2	33.0
3.0	27,000	20,000	16,000				
3.5	23,000	20,000	16,000	12,000			
4.0	19,500	20,000	16,000	12,000	11,500		
4.5	16,600	17,100	16,000	12,000	11,500		
5.0	14,250	14,200	13,800	12,000	11,500	9,000	
5.5	11,900	11,800	11,600	12,000	11,500	9,000	7,000
6.0	10,100	10,000	9,900	10,300	10,300	9,000	7,000
6.5	8,650	8,600	8,450	8,950	9,200	9,000	7,000
7.0	7,400	7,300	7,150	7,700	8,050	8,100	7,000
7.5	6,350	6,250	6,150	6,650	7,000	7,200	7,000
8.0	5,500	5,400	5,300	5,800	6,100	6,300	6,400
9.0		4,100	4,000	4,450	4,700	4,900	5,050
10.0		3,200	3,050	3,500	3,750	3,950	4,050
12.0		1,850	1,750	2,150	2,400	2,600	2,700
14.0			900	1,300	1,550	1,750	1,850
15.0				1,000	1,200	1,400	1,500
16.0					900	1,100	1,250
17.0						900	1,000
18.0							750

Unit: kg

Outriggers fully extended 6.1m (Over front) Outriggers extended to middle 4.0m (360°)							
	8.7 m jib			14.5 m jib			
С	5° offset	25° offset	45° offset	5° offset	25° offset	45° offset	
80°	3,000	1,700	1,000	2,000	900	600	
77°	3,000	1,700	1,000	2,000	900	600	
76°	3,000	1,700	1,000	1,850	900	600	
75°	2,650	1,670	960	1,740	870	570	
70°	1,450	1,150	860	1,100	800	530	
66°	800	650	600	600	450	350	
65°	650	550	500	500			

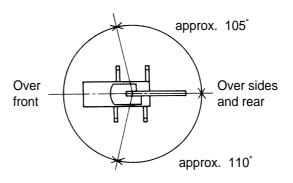
A : Boom length (m)
B : Load radius (m)
C : Boom angle

Unit: kg

Outriggers extended to minimum 2.08 m (360°)					
B A	10.5				
3.0	7,000				
3.5	5,300				
4.0	4,200				
4.5	3,500				
5.0	2,900				
5.5	2,400				
6.0	2,000				
6.5	1,700				
7.0	1,400				
7.5	1,200				
8.0	1,000				

A: Boom length (m) B: Load radius (m)

### **WORKING AREA**

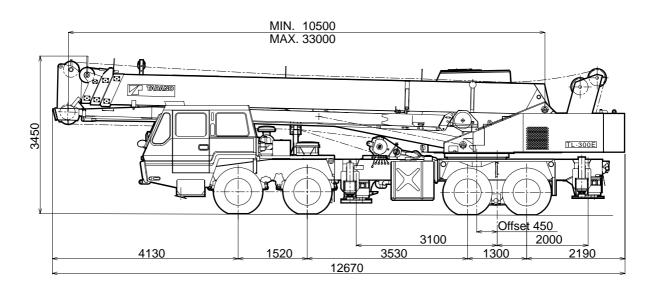


### NOTES:

- 1. Rated lifting capacities shown in the table are based on condition that crane is set on firm ground horizontally. Those above bold lines are based on crane strength and those below, on its stability.
- 2. Rated lifting capacities below bold lines do not exceed 75 % of tipping load.
- 3. Each rated lifting capacity includes mass of the hook (280 kg for 30 ton capacity, 70 kg for 3.4 ton capacity), and slings.
- 4. Without front jack extended, when the boom is within the Over-front, rated lifting capacities are different from those for the boom in the Over-side and Over-rear.
- 5. Standard number of part line for each boom length is as shown below. Load per line should not surpass 32.8 kN { 3,350 kgf } for main winch and 33.3 kN { 3,400 kgf } for auxiliary winch.

Boom length (m)	10.5m	14.2m	18.0m	21.7m	25.5m	29.2m	33.0m	Jib/Single top
No. of part line	9	7	6	4	4	4	4	1

- 6. For rated lifting capacity of single top, reduce the main hook mass from the relevant boom rated lifting capacity. Rated lifting capacity of single top should not exceed 3,400 kg.
- 7. Free-fall operation should be performed without any load on the hook.



Overall width	2,490 mm
Tail swing radius	3,350 mm
Tread (track) - Front	2,050 mm
- Rear	1,860 mm

Specifications are subject to change without notice.



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