

# TRUCK CRANE

## TG-350M

TG

### *JAPANESE SPECIFICATIONS*

CARRIER MODEL	OUTLINE	SPEC. NO.
NISSAN DIESEL K-KG51T	4-section Boom, 2-stage Jib	TG-350M-1-10101

Control No. JA-01

# TG-350M

## CRANE SPECIFICATIONS

### MAXIMUM TOTAL RATED LOAD

Boom	10.4m	35,000kg
	17.6m	23,500kg
	24.8m	15,000kg
	32.0m	10,000kg
Jib	9.0m	4,000kg
	14.5m	2,700kg
Single top	0.7m	4,000kg

### MAX. LIFTING HEIGHT

Boom	31.5m
Jib	46.0m
Single top	32.0m

### MAX. WORKING RADIUS

Boom	29.0m
Jib	36.0m
Single top	30.0m

### BOOM LENGTH

10.4m – 32.0m

### BOOM EXTENSION

21.6m

### BOOM EXTENSION SPEED

21.6m / 110s

### JIB LENGTH

9.0m, 14.5m

### MAIN WINCH SINGLE LINE SPEED

High range:	113m/min	(3rd layer)
Low range:	64m/min	(3rd layer)

### MAIN WINCH HOOK SPEED

(9 part-line)

High range:	12.5m/min	(3rd layer)
Low range:	7.1m/min	(3rd layer)

### AUXILIARY WINCH SINGLE LINE SPEED

106m/min (2nd layer)

### AUXILIARY WINCH HOOK SPEED

(1 part-line) 106m/min (2nd layer)

### BOOM ELEVATION ANGLE

-3° – 81°

### BOOM ELEVATION SPEED

-3° – 81° / 65s

### SWING ANGLE

360° continue

### SWING SPEED

2.2 rpm

### WIRE ROPE

Main Winch

IWRC 6×F(29)  
Class C (Spin-resistant type)  
18mm × 175m (Diameter×Length)  
Breaking strength 24.3t

Auxiliary Winch

IWRC 6×F(29)  
Class C (Spin-resistant type)  
18mm × 100m (Diameter×Length)  
Breaking strength 24.3t

### BOOM

4-section fully hydraulically synchronized telescoping boom of box construction.

### BOOM EXTENSION

3 double-acting hydraulic cylinder

### JIB

2-staged swingaround boom extensions.  
(2nd stage: pull-out type)  
Dual (5°, 30°) offset

### SINGLE TOP

Single sheave. Mounted to main boom head for single line work. (attached with a 15° tilt)

### HOIST

Driven by hydraulic motor and via spur gear speed reducer.  
Power load lowering / free-fall lowering type  
2 single winches

### BOOM ELEVATION

2 double-acting hydraulic cylinders

### SWING

Hydraulic motor driven planetary gear reducer  
Swing bearing  
Hand brake  
Swing free/lock changeover type

### OUTRIGGERS

Fully hydraulic H-type (floats mounted integrally)  
Slides and jacks each provided with independent operation device.

Full extended width 6.3m

Middle extended width 4.0m

### MAX. OUTRIGGER LOAD

38.0t

### HYDRAULIC PUMPS

Type 3 gear pumps  
Pressure 210kg/cm<sup>2</sup>, 210kg/cm<sup>2</sup>, 210kg/cm<sup>2</sup>

### HYDRAULIC OIL TANK CAPACITY

602.5 liters (when oil temperature is 20°C)

### SAFETY DEVICES

Automatic moment limiter

- Moment display
- Load display
- Total rated load display
- Boom angle display
- Boom length display
- Max. lifting height display
- Working radius display

Over-winding cutout

Level gauge

Over front area control device

Hook safety latch

Winch drum lock

Swing brake

Hydraulic safety valve

Elevation counterbalance valve

Telescopic counterbalance valve

Jack pilot check valve

### EQUIPMENTS

Oil cooler

Hydraulic oil temperature gauge

Boom angle indicator

Crane cab heater 1,400Kcal/H

## CARRIER SPECIFICATIONS

### MANUFACTURER

NISSAN DIESEL MOTOR CO., LTD

### CARRIER MODEL

K-KG51T

### ENGINE

Model RD8

Type 4-cycle, vertical 8-cylinder, direct-injection water-cooled diesel engine

Piston displacement 14,313cc

Max. output 300PS at 2,500rpm

Max. torque 100kg-m at 1,400rpm

### CLUTCH

Dry single-plate coil spring type

### TRANSMISSION

Type Synchronized-mesh gear

Gear ratios 1st speed 6.833 2nd speed 4.134

3rd speed 2.530 4th speed 1.550

5th speed 1.000 Reverse 6.865

### AUXILIARY TRANSMISSION

Type Directly coupled to synchromesh transmission

Gear ratios High range 1.000 Low range 1.277

### REDUCER

Type Hypoid gear type

Final drive 6.833

### FRONT AXLE

Reverse Elliot-type steel pipe cross section

### REAR AXLE

Full-floating type, cast-steel housing

### SUSPENSION

Front Laminated leaf spring type

Rear Equalizer and torque rods

### STEERING

Recirculating screw type

### BRAKE SYSTEM

Service Brake

2-circuit air brake

Parking Brake

Mechanically operated, duo-servo shoe type acting on drum at transmission case rear.

Auxiliary Brake

Electro-pneumatic operated exhaust brake

### FRAME

Lattice type, box type, all-welded structure

### ELECTRIC SYSTEM

2 batteries of 12V (120Ah)

### FUEL TANK CAPACITY

300 liters

### CAB

Two-man type

### TIRES

Front 12.00-20-18PR

Rear 11.00-20-14PR

### STANDARD EQUIPMENTS

Car heater

Car radio

## GENERAL DATA

### DIMENSIONS

Overall length 13,230mm

Overall width 2,750mm

Overall height 3,600mm

Wheel base 1,470mm + 3,780mm + 1,400mm = 6,650mm

Tread Front 2,215mm

Rear 2,110mm

### WEIGHTS

Vehicle weight

Total 34,490kg

Front 12,860kg

Rear 21,630kg

Gross vehicle weight

Total 34,600kg

Front 13,000kg

Rear 21,600kg

### PERFORMANCE

Max. traveling speed 70km/h

Gradeability (tan  $\theta$ ) 0.29

Min. turning radius (Outermost wheel) 11.8m

**TOTAL RATED LOADS**

Unit : ton

Outriggers fully extended (Over rear · Over sides)									
B (m) \ A					E (°) \ C	9.0 m		14.5 m	
	10.4 m	17.6 m	24.8 m	32.0 m		D 5°	30°	5°	30°
3.0	35.00	23.50			80.0	4.00	2.00	2.70	1.20
3.5	32.50	23.50			78.0	4.00	2.00	2.70	1.20
4.0	30.00	23.50			75.0	4.00	2.00	2.23	1.20
4.5	27.60	23.50			72.0	3.37	2.00	1.98	1.20
5.0	25.20	21.80	15.00		71.0	3.22	2.00	1.90	1.16
5.5	23.20	20.30	15.00		70.0	3.08	1.94	1.82	1.13
6.0	21.60	18.90	15.00	10.00	68.0	2.85	1.84	1.68	1.06
6.5	18.60	17.70	14.60	10.00	65.0	2.53	1.69	1.48	1.00
7.0	16.40	16.60	14.30	10.00	62.0	2.30	1.57	1.34	0.97
7.5	14.50	14.80	13.50	10.00	60.0	2.15	1.50	1.23	0.95
8.0	13.00	13.30	12.80	10.00	58.0	1.85	1.45	1.15	0.94
9.0	10.60	11.10	11.30	9.15	55.0	1.40	1.30	1.04	0.92
10.0		9.40	9.50	8.30	52.0	1.10	1.00	0.90	0.75
11.0		8.00	8.10	7.60	50.0	0.90	0.80	0.75	0.60
12.0		6.80	7.00	6.95	48.0	0.70	0.60	0.60	0.45
14.0		5.20	5.30	5.40	45.0	0.50	0.40	0.40	0.30
16.0		3.90	4.10	4.20					
18.0			3.20	3.30					
20.0			2.45	2.60					
22.0			1.90	2.00					
23.0			1.60	1.70					
24.0				1.50					
26.0				1.10					
28.0				0.70					
29.0				0.50					

- A = Boom length
- B = Working radius
- C = Jib length
- D = Jib offset
- E = Boom angle

**NOTES:**

1. The total rated loads shown are for the case when the outriggers are set horizontally on firm ground. The values are based on the crane strength.
2. The weights of slings and hooks (350kg for a 35 ton capacity hook and 100kg for a 4 ton capacity hook) are included in the total rated loads shown.
3. The total rated load is based on the actual working radius including the deflection of the boom.
4. The number of part lines for each boom length should not exceed the values below. The load per line should not exceed 4 tons for both the main winch and the auxiliary winch.

A	10.4 m	17.6 m	24.8 m	32.0 m	J
H	9	6	4	4	1

A = Boom length H = No. of part-line J = Jib / Single top

5. The total rated loads for free-fall operations is 1/5 of the total rated loads given above. The load per line should not exceed 0.8 ton for both the main winch and the auxiliary winch.
6. The total rated load for the single top is the same as that of the main boom and must not exceed 4 tons. However, when hooks, slings, etc. are mounted on the main boom, one should work with the total rated load obtained by subtracting the weights of the hooks, slings, etc. mounted on the main boom from the total rated load of the main boom.

Unit : ton

B (m) \ A	Outriggers middle extended (Over front)				Without outriggers (Over rear) 10.4 m BOOM
	10.4m	17.6m	24.8m	32.0m	
3.0	24.00	16.00			8.00
3.5	24.00	16.00			6.40
4.0	24.00	16.00			5.10
4.5	19.30	16.00			4.20
5.0	15.60	16.00	11.00		3.40
5.5	13.00	13.70	11.00		2.80
6.0	10.90	11.60	11.00	7.00	2.30
6.5	9.40	10.00	10.00	7.00	1.90
7.0	8.10	8.70	8.90	7.00	1.60
7.5	7.10	7.70	7.90	7.00	1.25
8.0	6.20	6.80	7.00	7.00	1.00
9.0	4.80	5.40	5.60	5.70	
10.0		4.30	4.50	4.70	
11.0		3.50	3.70	3.80	
12.0		2.90	3.10	3.20	
14.0		1.90	2.10	2.20	
16.0		1.10	1.40	1.40	
18.0			0.80	0.90	

A = Boom length B = Working radius

**NOTES:**

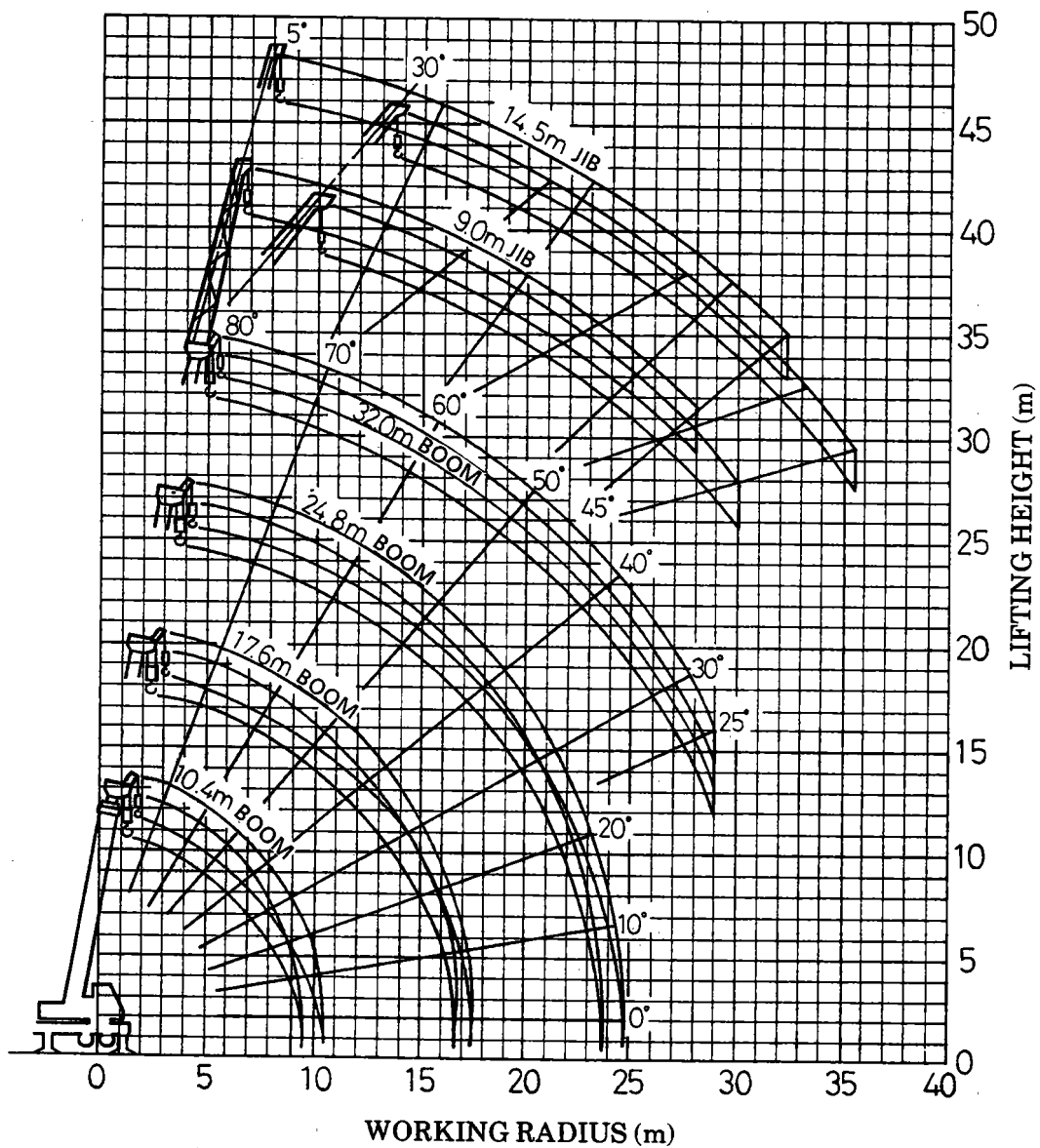
1. The total rated loads shown are for the case when the crane is set horizontally on firm ground. All values are based on the crane stability. The foundation, working conditions, etc. should be taken into consideration adequately when performing crane operations according to the total rated load chart for the case when the outriggers are not used (Over rear).
2. The weights of slings and hooks (350kg for a 35 ton capacity hook and 100kg for a 4 ton capacity hook) are included in the total rated loads shown.
3. The total rated load is based on the actual working radius including the deflection of the boom.
4. The number of part lines for each boom length should not exceed the values below. The load per line should not exceed 4 tons for both the main winch and the auxiliary winch.

A	10.4m	17.6m	24.8m	32.0m	Single top
H	9	6	4	4	1

A = Boom length H = No. of part-line

5. The total rated loads for free-fall operations is 1/5 of the total rated loads given above. The load per line should not exceed 0.8 ton for both the main winch and the auxiliary winch.
6. The total rated load for the single top is the same as that of the main boom and must not exceed 4 tons. However, when hooks, slings, etc. are mounted on the main boom, one should work with the total rated load obtained by subtracting the weights of the hooks, slings, etc. mounted on the main boom from the total rated load of the main boom.

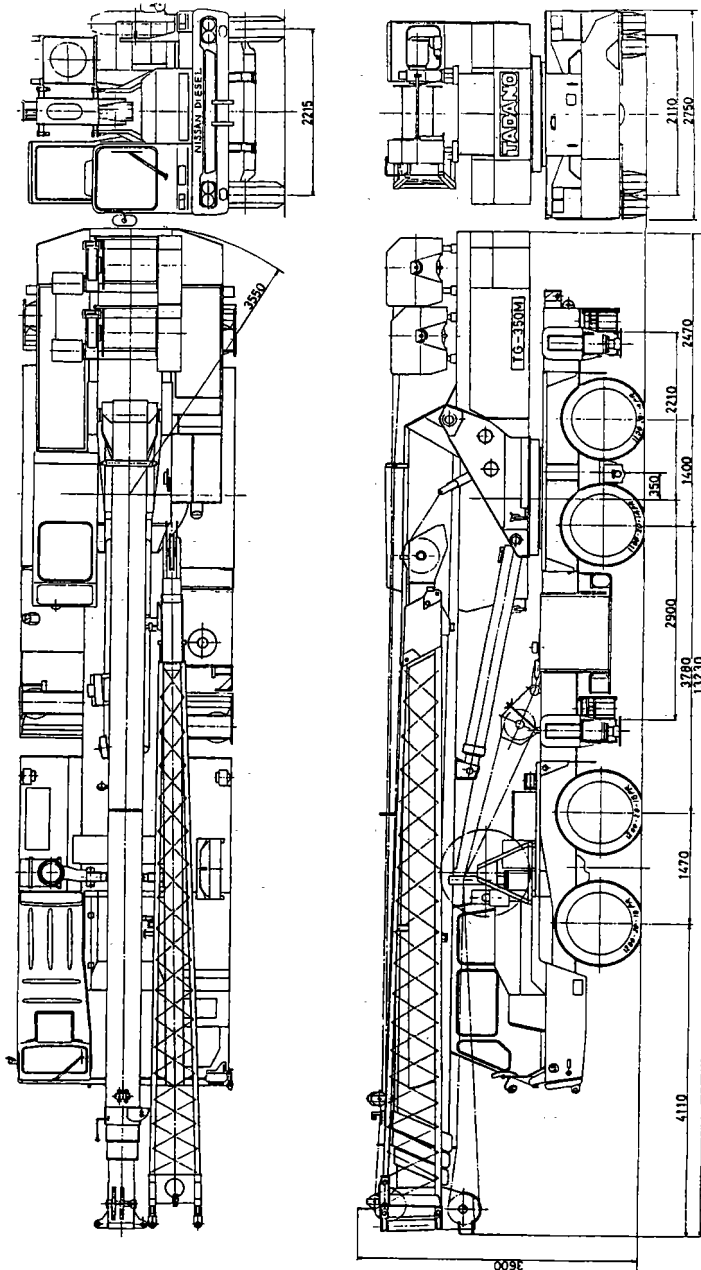
## WORKING RADIUS - LIFTING HEIGHT



**NOTES:**

1. The deflection of the boom is not incorporated in the figure above.
2. The figure above is for the case when the outriggers are fully extended (Over rear or sides of the carrier).

**DIMENSIONS** (1/100)



◆ MEMO ◆

A series of horizontal dashed lines for writing a memo.