



TRUCK CRANE

TL-200M

TL

JAPANESE SPECIFICATIONS

CARRIER MODEL	OUTLINE	SPEC. NO.
NISSAN DIESEL W-KW450MN	4-section Boom 1-staged swingaround boom extension which stores below boom base section	TL-200M-4-10101
mitsubishi W-KV208M		TL-200M-4-20101

Control No. JA-01



TL-200M-4-10101
TL-200M-4-20101

TL-200M

CRANE SPECIFICATIONS

CRANE CAPACITY

9.8m Boom	20,000kg	at 3.5m	(7 part-line)
13.3m Boom	17,500kg	at 4.0m	(7 part-line)
16.9m Boom	14,500kg	at 4.5m	(7 part-line)
20.4m Boom	9,500kg	at 6.5m	(4 part-line)
23.9m Boom	7,500kg	at 7.5m	(4 part-line)
27.5m Boom	6,500kg	at 7.5m	(4 part-line)
31.0m Boom	6,000kg	at 7.5m	(4 part-line)
8.0m Jib	2,750kg	at 75°	(1 part-line)
Single top	3,000kg		(1 part-line)

MAX. LIFTING HEIGHT

Boom	30.9m
Jib	38.7m

MAX. WORKING RADIUS

Boom	29.4m
Jib	32.7m

BOOM LENGTH

9.8m – 31.0m

BOOM EXTENSION

21.2m

BOOM EXTENSION SPEED

21.2m / 95s

JIB LENGTH

8.0m

MAIN WINCH SINGLE LINE SPEED

High range:	118m/min	(4th layer)
Low range:	59m/min	(4th layer)

MAIN WINCH HOOK SPEED

High range:	16.8m/min	(7 part-line)
Low range:	8.4m/min	(7 part-line)

AUXILIARY WINCH SINGLE LINE SPEED

High range:	100m/min	(2nd layer)
Low range:	50m/min	(2nd layer)

AUXILIARY WINCH HOOK SPEED

High range:	100m/min	(1 part-line)
Low range:	50m/min	(1 part-line)

BOOM ELEVATION ANGLE

-3° – 80°

BOOM ELEVATION SPEED

-3° – 80° / 48s

SWING ANGLE

360° continue

SWING SPEED

2.4rpm

WIRE ROPE

Main Winch

16mm × 170m (Diameter×Length)
7×7+6×WS(31)
Spin-resistant wire rope

Auxiliary Winch

16mm × 85m (Diameter×Length)
7×7+6×WS(31)
Spin-resistant wire rope

BOOM

4-section hydraulically telescoping boom of box construction.
(stage 2: sequential; stages 3,4: synchronized)

BOOM EXTENSION

2 double-acting hydraulic cylinder
1 wire rope type telescoping device

JIB

1-staged swingaround boom extension which stores below boom base section.
Dual offset (5°, 30°) type.

SINGLE TOP

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

HOIST

Hydraulic motor driven planetary gear reducer
With free-fall device.
Automatic brake (with foot brake for free-fall device)
2 single winches

BOOM ELEVATION

1 double-acting hydraulic cylinders

SWING

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

OUTRIGGERS

Fully hydraulic H-type (floats mounted integrally)
Slides and jacks each provided with independent operation device.
Full extended width 6.1m
Middle extended width 4.0m

FRONT JACK

Hydraulic operated type

MAX. OUTRIGGER LOAD

25.0t

HYDRAULIC PUMPS

3 gear pumps

HYDRAULIC OIL TANK CAPACITY

306 liters

SAFETY DEVICES

Automatic moment limiter (AML)
With working range limiting function
Working area control device
Outrigger extension width detector
Over-winding cutout
Level gauge
Hook safety latch
Winch drum lock
Swing lock
Hydraulic safety valve
Telescopic counterbalance valve
Elevation counterbalance valve
Jack pilot check valve
Front jack over load alarm
Front jack ground contact detector

EQUIPMENTS

Boom angle indicator
Oil cooler
Crane cab heater
Radio
Fan
Block



CARRIER SPECIFICATIONS

MANUFACTURER

NISSAN DIESEL MOTOR CO., LTD

CARRIER MODEL

W-KW450MN

ENGINE

Model PF6

Type 4-cycle, in-line 6-cylinder, direct-injection water-cooled diesel engine

Piston displacement 12,503cc

Max. output 235PS at 2,100rpm

Max. torque 85kg·m at 1,300rpm

CLUTCH

Dry single-plate coil spring type

TRANSMISSION

6-forward and 1-reverse speeds

Constant-mesh gear (1st speed, reverse)

Synchronized-mesh gear (2nd – 6th speeds)

REDUCER

Hypoid gear type

FRONT AXLE

Reverse Elliot-type steel pipe cross section

REAR AXLE

Full floating, cast torque rods

SUSPENSION

Front Laminated leaf spring type

Rear Equalizer and torque rods

STEERING

Recirculating ball screw type with linkage power assistance

BRAKE SYSTEM

Service Brake

2-circuit hydro-pneumatic type, 6-wheels internal expanding brake

Parking Brake

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

Auxiliary Brake

Electro-pneumatic operated exhaust brake

ELECTRIC SYSTEM

24 V DC. 2 batteries of 12V (120Ah)

FUEL TANK CAPACITY

200 liters

CAB

Two-man type

TIRES

Front 11.00-20-16PR

Rear 10.00-20-14PR

STANDARD EQUIPMENTS

Car heater

Car radio

GENERAL DATA

DIMENSIONS

Overall length 11,800mm

Overall width 2,490mm

Overall height 3,300mm

Wheel base 4,050mm + 1,300mm = 5,350mm

Tread Front 2,025mm

Rear 1,860mm

WEIGHTS

Gross vehicle weight

Total 23,590kg

Front 6,550kg

Rear 17,040kg

PERFORMANCE

Max. traveling speed 65km/h

Gradeability (tan θ) 0.35

Min. turning radius 8.5m



TL-200M-4-20101

CARRIER SPECIFICATIONS

MANUFACTURER

MITSUBISHI MOTOR CORPORATION

CARRIER MODEL

W-KV208M

ENGINE

Model 6D22

Type 4-cycle, in-line 6-cylinder, direct-injection water-cooled diesel engine

Piston displacement 11,149cc

Max. output 225PS at 2,200rpm

Max. torque 78kg·m at 1,400rpm

CLUTCH

Dry single-plate type, hydraulic control with clutch booster

TRANSMISSION

6-forward and 1-reverse speeds

Constant-mesh gear (1st speed, reverse)

Synchronized-mesh gear (2nd – 6th speeds)

REDUCER

1-stage speed reduction type

Hypoid gear type

FRONT AXLE

Reverse-elliot type steering knuckles

REAR AXLE

Full-floating type, cast-steel housing, Sheet-metal housing

SUSPENSION

Front Laminated semi-elliptical leaf spring type
With shock absorber

Rear Equalizer beam and torque rod type

STEERING

Recirculating ball screw type

Integral power steering

BRAKE SYSTEM

Service Brake

Foot operated full air brake on all wheels, air over hydraulic type, internal expanding leading and trailing shoe type, 2-circuit type

Parking Brake

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

Auxiliary Brake

Exhaust brake

ELECTRIC SYSTEM

24 V DC. 2 batteries of 12V (120Ah)

FUEL TANK CAPACITY

200 liters

CAB

Two-man type

TIRES

Front 11.00-20-16PR

Rear 10.00-20-14PR

STANDARD EQUIPMENTS

Car heater

Car radio

GENERAL DATA

DIMENSIONS

Overall length 11,800mm

Overall width 2,490mm

Overall height 3,300mm

Wheel base 4,050mm + 1,300mm = 5,350mm

Tread Front 2,040mm

Rear 1,845mm

WEIGHTS

Gross vehicle weight

Total 23,590kg

Front 6,555kg

Rear 17,035kg

PERFORMANCE

Max. traveling speed 70km/h

Gradeability (tan θ) 0.35

Min. turning radius 9.5m



TOTAL RATED LOADS

(1)

Unit:ton

· Outriggers fully extended + Front jack (360°) · Outriggers fully extended (Over the Rear · Over the Sides)										
<div><div>A</div><div>B (m)</div></div>	9.8 m	13.3 m	16.9 m	20.4 m	23.9 m	27.5m	31.0m	<div><div>C</div><div>D</div><div>E (°)</div></div>	8.0 m	
								5°	30°	
3.0	20.00	17.50	14.50	9.50				80	2.75	1.35
3.5	20.00	17.50	14.50	9.50				75	2.75	1.35
4.0	18.00	17.50	14.50	9.50	7.50	6.50		70	2.30	1.30
4.5	16.30	15.80	14.50	9.50	7.50	6.50		65	2.00	1.25
5.0	14.85	14.40	13.25	9.50	7.50	6.50	6.00	60	1.60	1.20
5.5	13.65	13.25	12.20	9.50	7.50	6.50	6.00	55	1.25	1.00
6.0	12.30	12.20	11.30	9.50	7.50	6.50	6.00	50	0.90	0.80
6.5	11.20	11.00	10.50	9.50	7.50	6.50	6.00	45	0.60	0.60
7.0	10.25	10.00	9.80	8.85	7.50	6.50	6.00	40	0.40	0.40
7.5	9.40	9.20	9.10	8.35	7.50	6.50	6.00	35	0.25	0.25
8.0	8.65	8.45	8.35	7.90	7.20	6.25	5.70	<div>A = Boom length B = Working radius C = Jib length D = Jib offset E = Boom angle</div>		
9.0		7.05	7.10	7.00	6.65	5.75	5.20			
10.0		6.05	5.90	6.30	6.20	5.30	4.75			
12.0			4.05	4.45	4.65	4.50	4.00			
14.0			2.90	3.25	3.45	3.55	3.50			
16.0				2.40	2.60	2.75	2.85			
18.0				1.75	2.00	2.10	2.20			
20.0					1.50	1.65	1.75			
22.0					1.05	1.25	1.35			
24.0						0.90	1.05			
26.0							0.75			
28.0							0.55			
29.4							0.40			

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

TL-200M-4-10101
TL-200M-4-20101

(2)

Unit:ton

• Outriggers middle extended (360°) • Outriggers fully extended (Over the Front)									
<div> <div>A</div> <div>B (m)</div> </div>	9.8 m	13.3 m	16.9 m	20.4 m	23.9 m	27.5 m	31.0 m	<div> <div>C</div> <div>D</div> </div>	8.0 m
								E (°)	5° 30°
3.0	20.00	17.50	14.50	9.50				80	2.75 1.35
3.5	17.80	17.50	14.50	9.50				78	2.75 1.35
4.0	15.70	15.40	14.50	9.50	7.50	6.50		77	2.65 1.35
4.5	13.45	13.10	12.90	9.50	7.50	6.50		75	2.15 1.35
5.0	10.30	10.05	9.85	9.50	7.50	6.50	6.00	70	1.15 0.90
6.0	6.70	6.50	6.35	6.85	7.15	6.50	6.00	65	0.55 0.45
7.0	4.75	4.55	4.40	4.85	5.15	5.30	5.45		
8.0	3.45	3.30	3.15	3.60	3.80	4.00	4.10		
9.0		2.45	2.30	2.70	2.90	3.10	3.20		
10.0		1.80	1.65	2.05	2.25	2.45	2.55		
12.0			0.85	1.15	1.35	1.50	1.60		
14.0				0.55	0.75	0.90	1.00		
15.0					0.55	0.65	0.75		

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

NOTES:

- 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.
- The weights of the slings and hooks (main winch hook: 230kg, auxiliary winch hook: 60kg) are included in the total rated loads shown.
- The total rated load is based on the actual working radius including the deflection of the boom.
- The chart below shows the standard number of part lines for each boom length. The load per line should not exceed 2.9t for the main winch and 3.0t for the auxiliary winch.

A	9.8 m	13.3 m	16.9 m	20.4 m	23.9 m	27.5 m	31.0 m	J
H	7	7	7	4	4	4	4	1

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

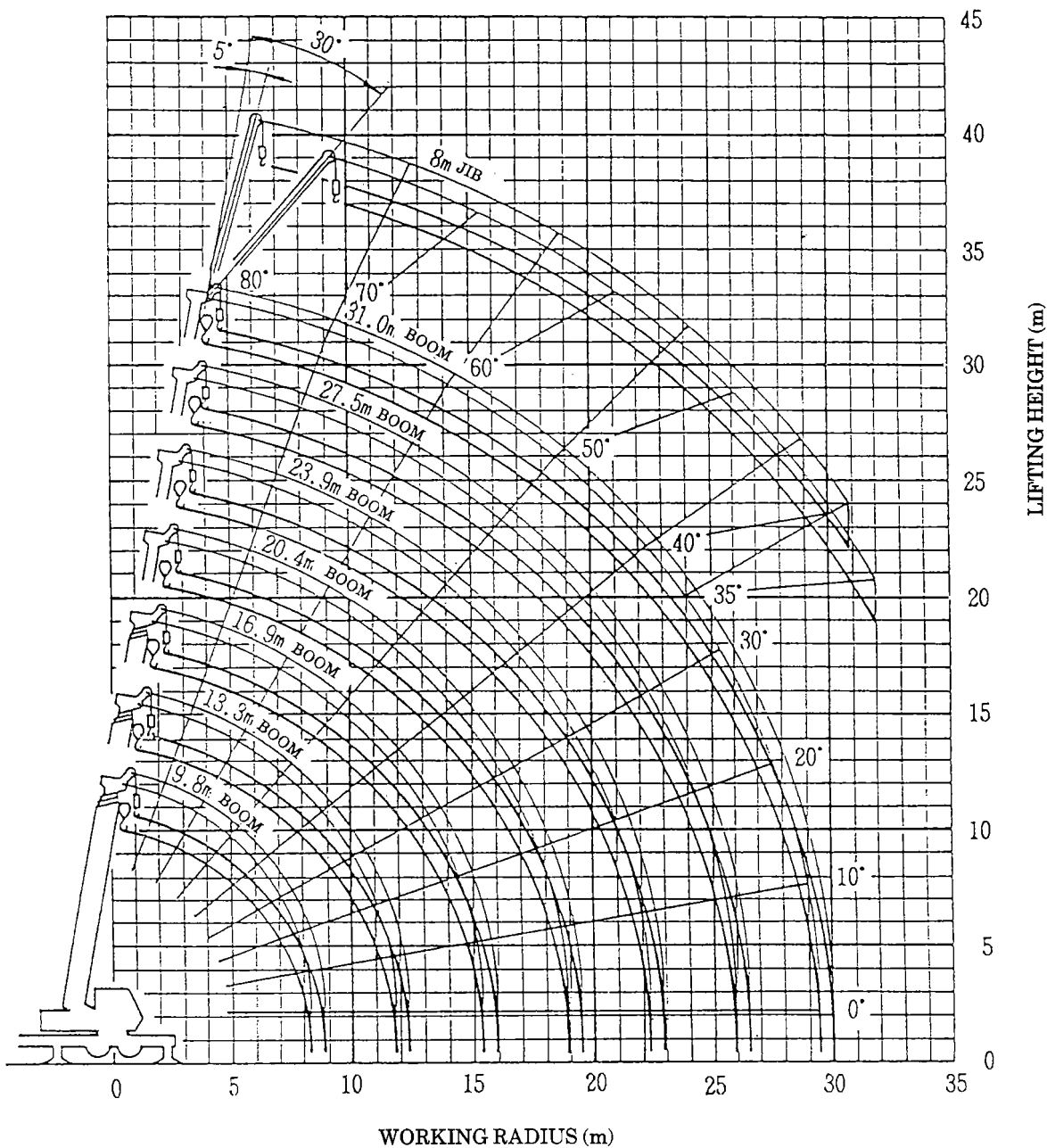
- As a rule, free-fall operations should be performed only when lowering the hook alone. If a hoisted load must be lowered by free-fall operation, the load must be kept below 1/5th of the total rated load (the load per line must be 0.6t or less) and sudden braking operations must be avoided.
- The total rated loads for the single top are obtained by subtracting the corresponding values below from the total rated load of the boom and must not exceed 3.0t.

A	9.8 m	13.3 m	16.9 m	20.4 m	23.9 m	27.5 m	31.0 m
Q	0kg	50kg	50kg	150kg	150kg	200kg	200kg

A = Boom length Q = Subtracted load



WORKING RADIUS - LIFTING HEIGHT



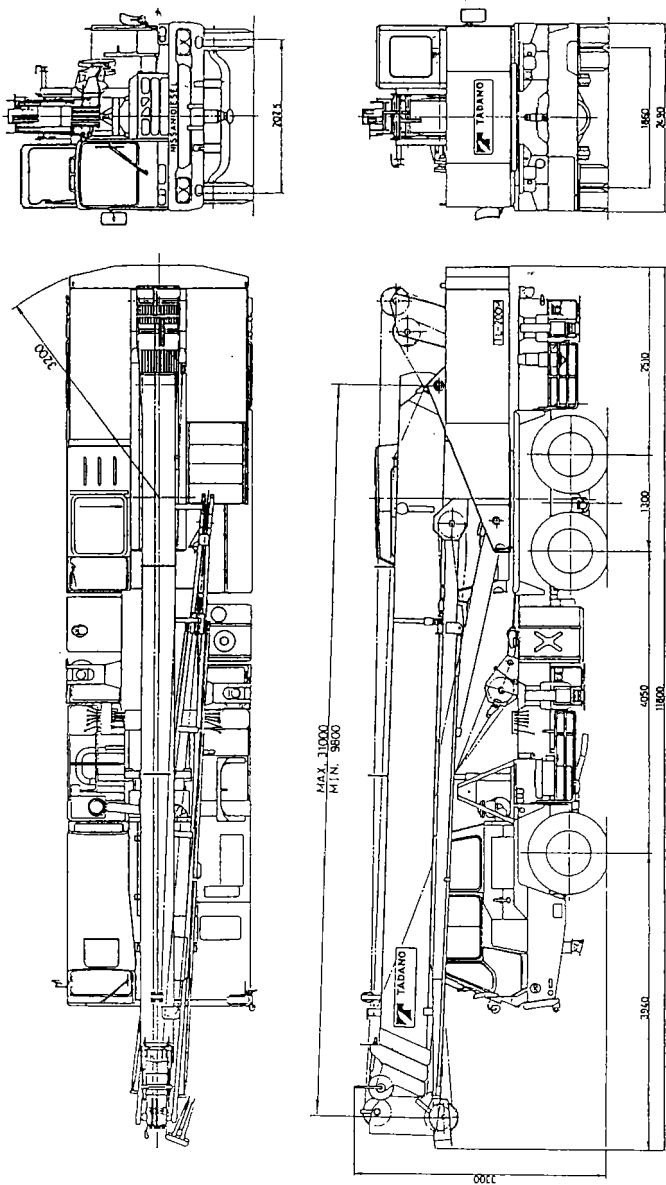
NOTES:

- 1. The deflection of the boom is not incorporated in the figure above.
- 2. The above chart is for the case where the outriggers are fully extended and where the front jack are used (over 360°).



TL-200M-4-10101

DIMENSIONS (1/100)
W-KW 450 MN

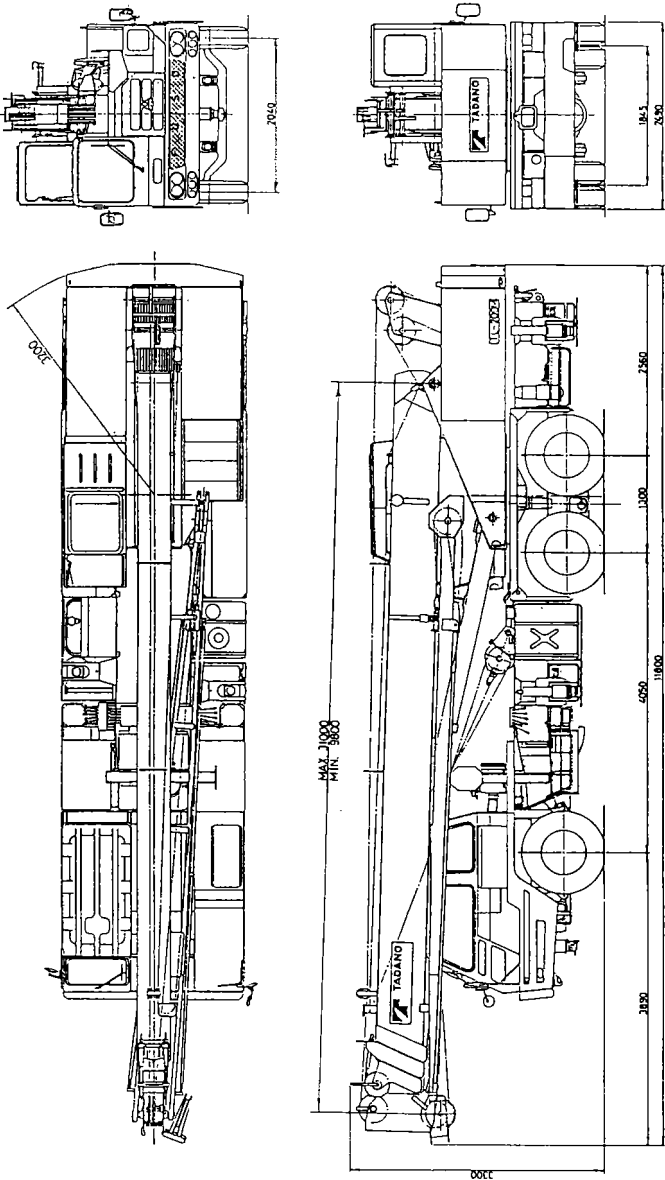




DIMENSIONS

(1/100)

W-KV 208 M





◆ MEMO ◆

Handwriting practice lines consisting of 25 horizontal dashed lines.