

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

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

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)											
A B (m)	9.8 m	13.3 m	16.9 m	20.4 m	23.9 m	27.5m	31.0m	C D E (°)		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				
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

(2)

Unit:ton

· Outriggers middle extended (360°) · Outriggers fully extended (Over the Front)										
A B (m)	9.8 m	13.3 m	16.9 m	20.4 m	23.9 m	27.5 m	31.0 m	C		8.0 m
								D	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:

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 the slings and hooks (main winch hook: 230kg, auxiliary winch hook: 60kg) 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 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 ¹
H	7	7	7	4	4	4	4	1

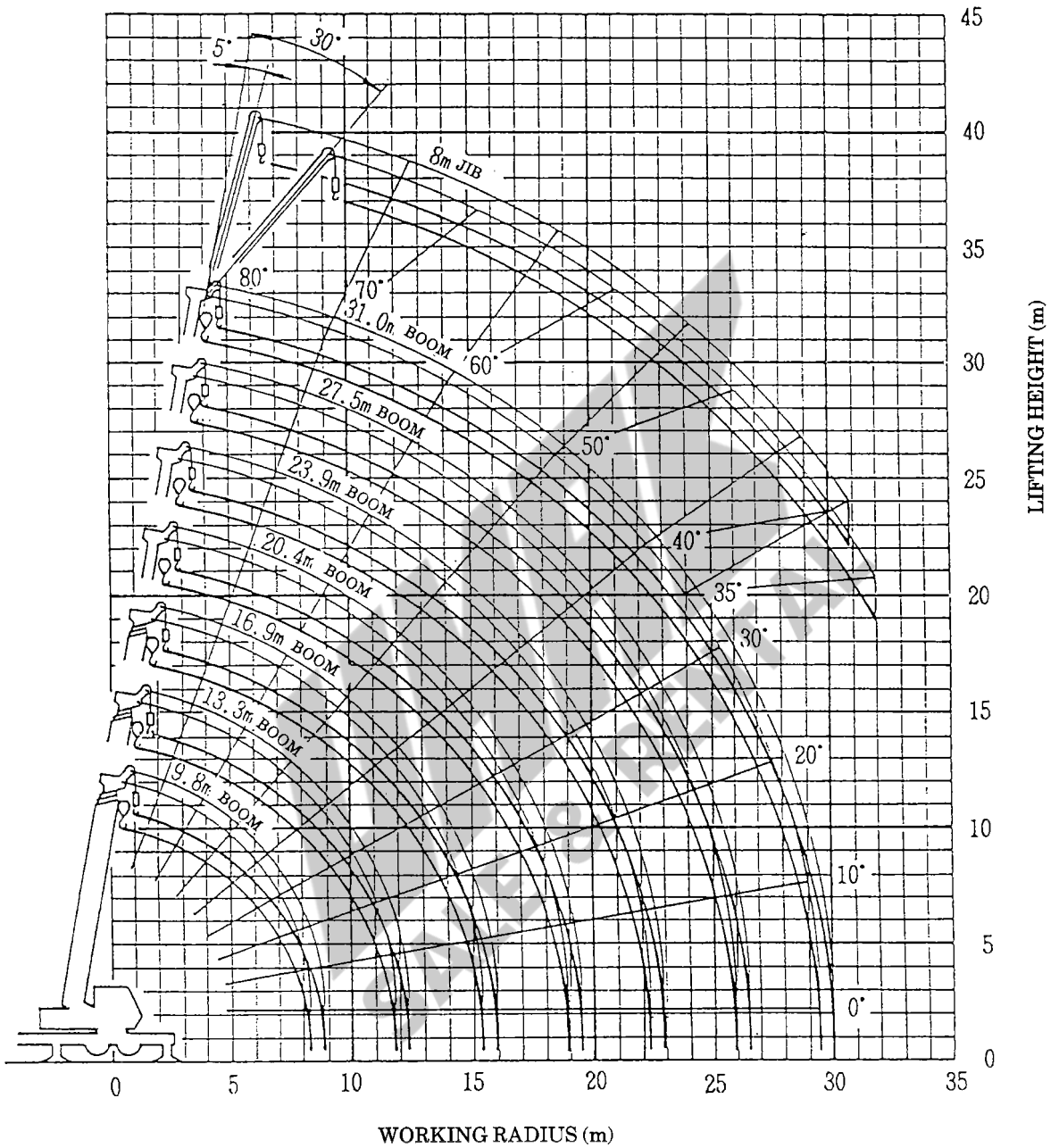
A = Boom length H = No. of part-line J = Jib / Single top

5. 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.
6. 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

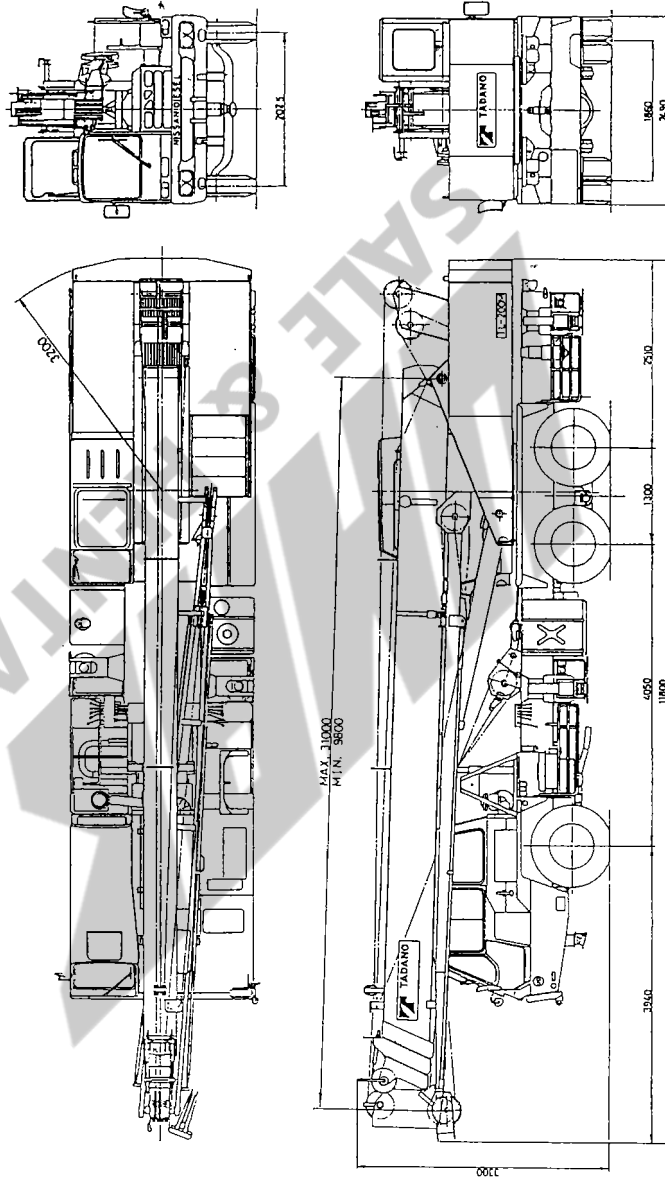


NOTES:

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°).

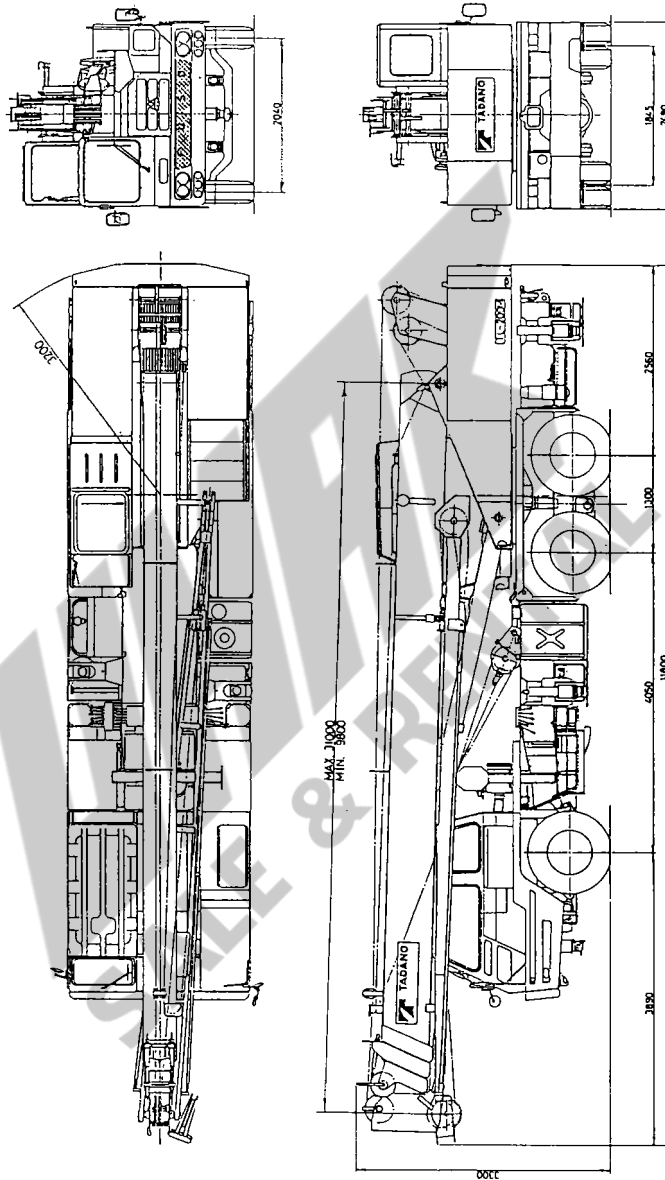
DIMENSIONS (1/100)

W-KW 450 MN

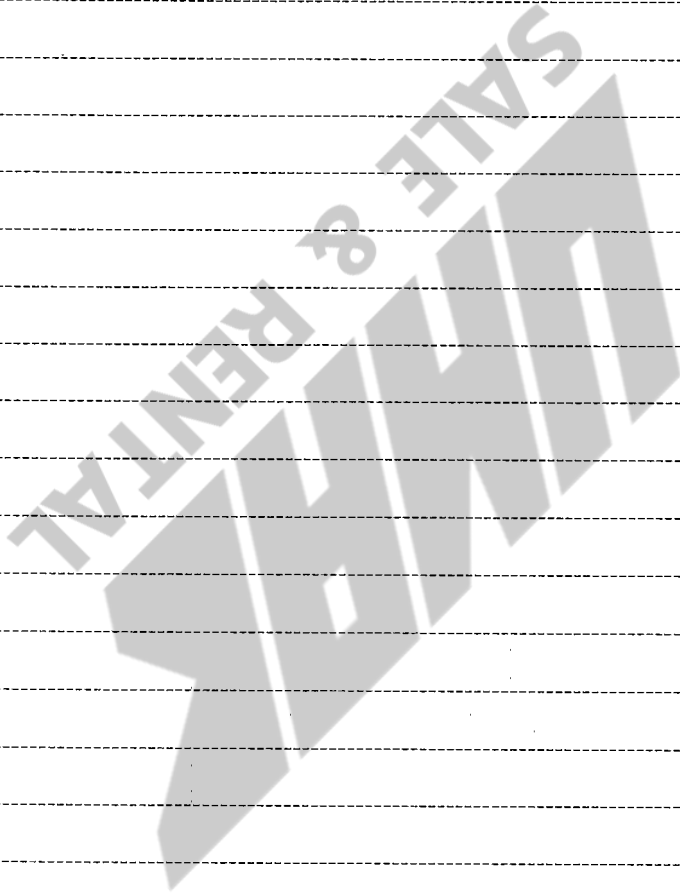


DIMENSIONS (1/100)

W-KV 208 M



◆ MEMO ◆



TRUCK CRANE

TL-200M

JAPANESE SPECIFICATIONS

TL

CARRIER MODEL	OUTLINE	SPEC. NO.
NISSAN DIESEL P-KW31M	4-section Boom, Single stage Jib	TL-200M-3-10103
mitsubishi P-K203		TL-200M-3-20103

Control No. JA-04

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	38.9m

MAX. WORKING RADIUS

Boom	29.4m
Jib	30.7m

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) Class C ordinary · Z twist
 Spin-resistant wire rope
 Breaking strength 18.7t

Auxiliary Winch

16mm × 85m (Diameter × Length)
 7 × 7 + 6 × WS(31) Class B ordinary · Z twist
 Spin-resistant wire rope
 Breaking strength 17.6t

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 alongside 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

346 liters

SAFETY DEVICES

Automatic moment limiter (AML)
 Working area control device
 Over-winding cutout
 Level gauge
 Hook safety latch
 Winch drum lock
 Hydraulic safety valve
 Telescopic counterbalance valve
 Elevation counterbalance valve
 Jack pilot check valve
 Front jack over load alarm

EQUIPMENTS

Boom angle indicator
 Oil cooler
 Crane cab heater
 Radio
 Fan
 Block

CARRIER SPECIFICATIONS**MANUFACTURER**

NISSAN DIESEL MOTOR CO., LTD

CARRIER MODEL

P-KW31M

ENGINE

Model PE6

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

Piston displacement 11,670cc

Max. output 230PS at 2,200rpm

Max. torque 83kg·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	11,785mm
Overall width	2,490mm
Overall height	3,300mm
Wheel base	4,050mm + 1,300mm = 5,350mm
Tread Front	2,020mm
Tread Rear	1,860mm

WEIGHTS

Gross vehicle weight	
Total	23,560kg
Front	6,500kg
Rear	17,060kg

PERFORMANCE

Max. traveling speed	65km/h
Gradeability (tan θ)	0.35
Min. turning radius	9.2m

CARRIER SPECIFICATIONS

MANUFACTURER

MITSUBISHI MOTOR CORPORATION

CARRIER MODEL

P-K203

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	11,785mm
Overall width	2,490mm
Overall height	3,300mm
Wheel base	4,050mm + 1,300mm = 5,350mm
Tread Front	2,040mm
Tread Rear	1,845mm

WEIGHTS

Gross vehicle weight	
Total	23,560kg
Front	6,495kg
Rear	17,065kg

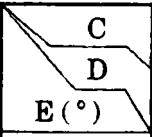
PERFORMANCE

Max. traveling speed	70km/h
Gradeability (tan θ)	0.35
Min. turning radius	9.5m

TOTAL RATED LOADS

(1)

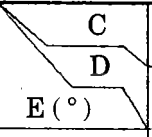
Unit : ton

· Outriggers fully extended + Front jack (360°) · Outriggers fully extended (Over rear · Over sides)										
A B (m)	9.8 m	13.3 m	16.9 m	20.4 m	23.9 m	27.5m	31 m			
								E (°)	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	0.55
7.0	10.25	10.00	9.80	8.85	7.50	6.50	6.00	40	0.40	0.35
7.5	9.40	9.20	9.10	8.35	7.50	6.50	6.00			
8.0	8.65	8.45	8.35	7.90	7.20	6.25	5.70			
9.0		7.05	7.10	7.00	6.65	5.75	5.20			
10.0		6.05	5.90	6.35	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

(2)

Unit : ton

· Outriggers middle extended (360°) · Outriggers fully extended (Over front)										
A \ B (m)	9.8 m	13.3 m	16.9 m	20.4 m	23.9 m	27.5m	31 m		8.0 m	
									E (°)	5°
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				77	2.75	1.35
4.0	15.70	15.40	14.50	9.50	7.50	6.50		75	2.25	1.35
4.5	13.70	13.35	13.15	9.50	7.50	6.50		70	1.25	1.00
5.0	10.50	10.25	10.05	9.50	7.50	6.50	6.00	65	0.60	0.50
6.0	6.85	6.65	6.50	7.00	7.30	6.50	6.00			
7.0	4.85	4.65	4.50	4.95	5.25	5.40	5.55			
8.0	3.55	3.40	3.25	3.70	3.90	4.10	4.20			
9.0		2.50	2.40	2.80	3.00	3.15	3.30			
10.0		1.85	1.75	2.10	2.35	2.50	2.60			
12.0			0.90	1.20	1.40	1.55	1.65			
14.0				0.60	0.80	0.95	1.05			
15.0					0.60	0.70	0.80			

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 the slings and hooks (main winch hook: 230kg, auxiliary winch hook: 60kg) 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 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 m	J
H	7	7	7	4	4	4	4	1

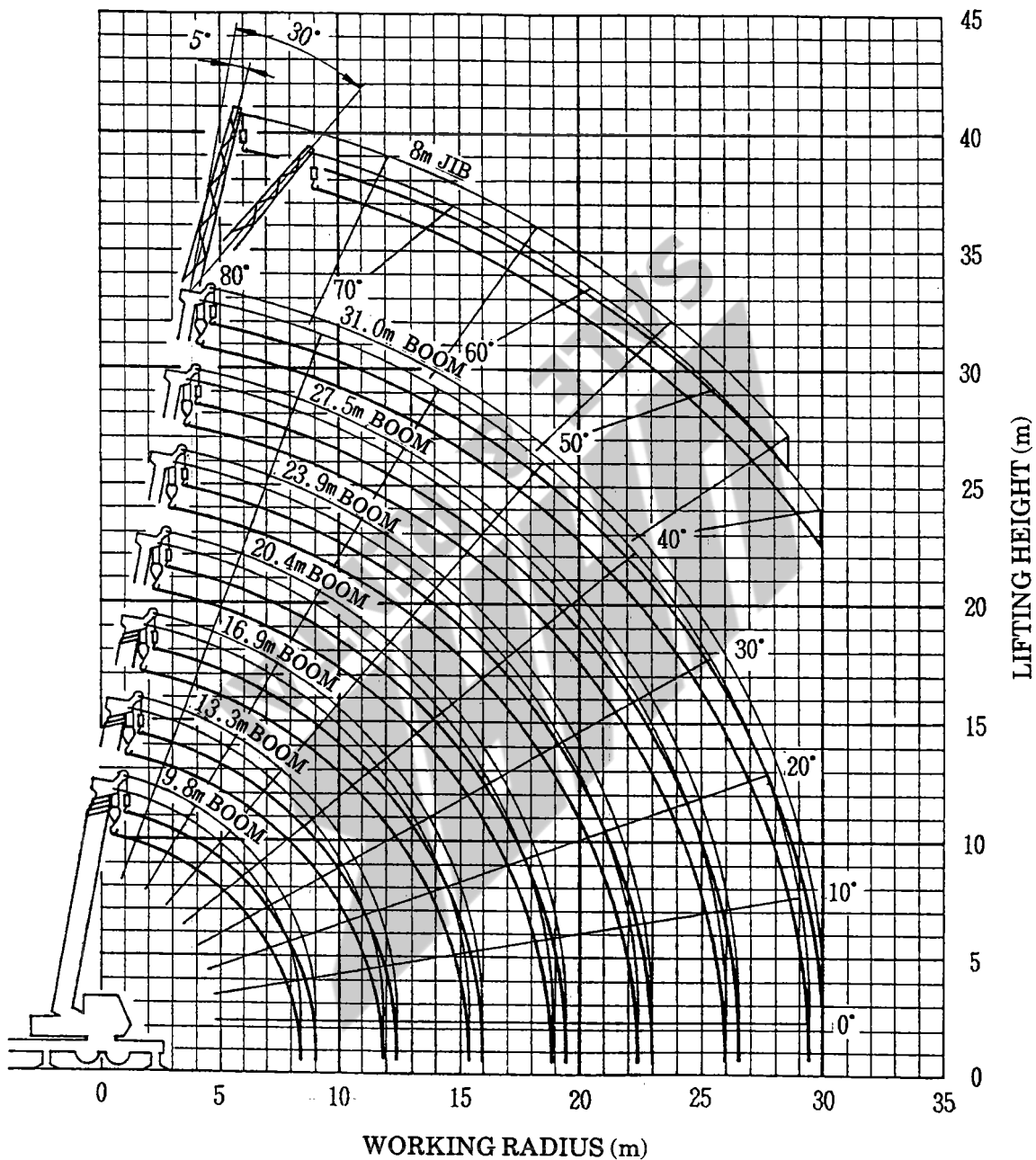
A = Boom length H = No. of part-line J = Jib/ Single top

5. 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.
6. 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 m
Q	0kg	50kg	50kg	150kg	150kg	200kg	200kg

A = Boom length Q = Subtracted load

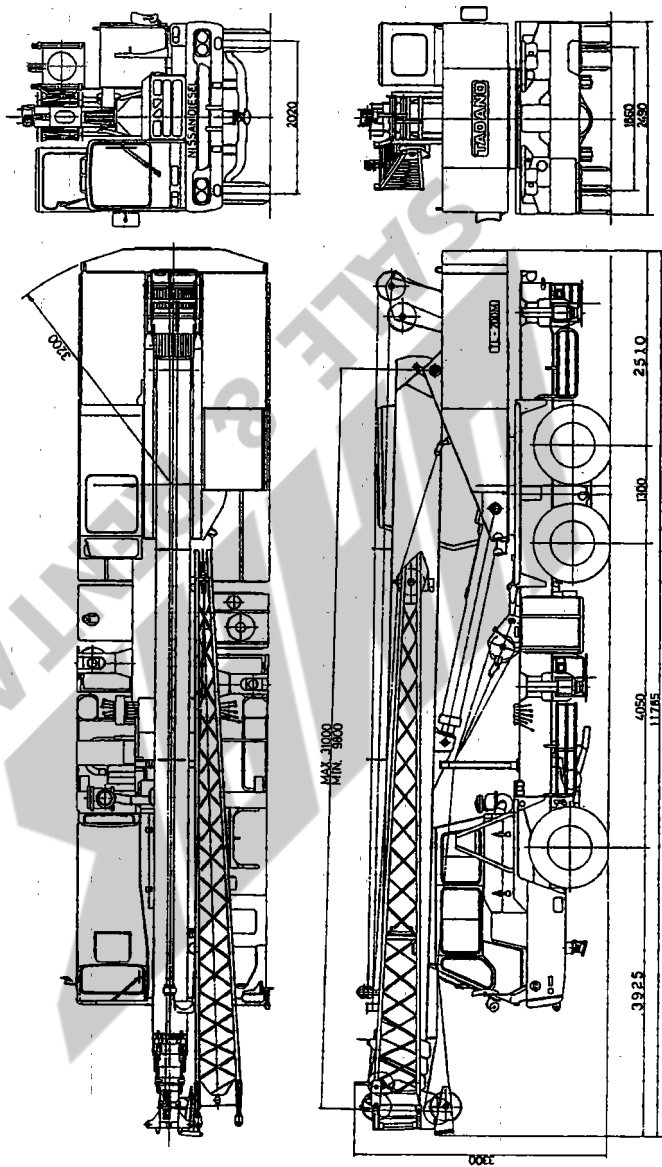
WORKING RADIUS - LIFTING HEIGHT



NOTES:

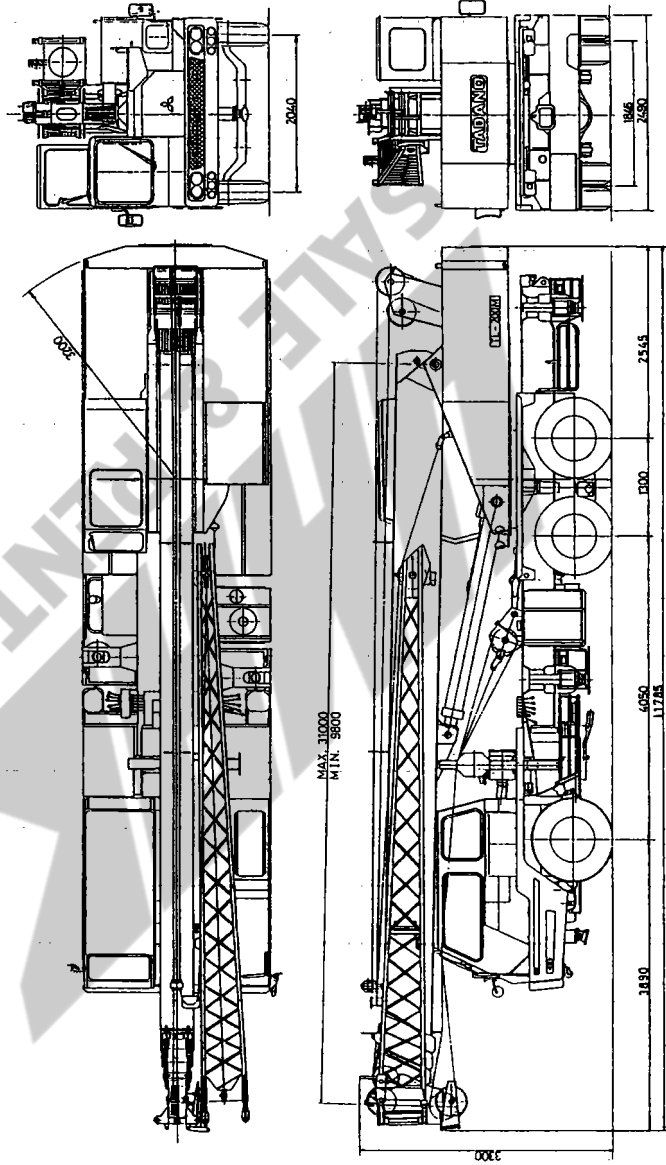
1. The deflection of the boom is not incorporated in the figure above.
2. The above chart is for the case where the outriggers are fully extended and where the front jack are used (over 360°).

DIMENSIONS (1/100)
P-KW31M



DIMENSIONS (1/100)

P-K203



◆ MEMO ◆

Lined area for writing a memo, consisting of horizontal dashed lines.

