

TRUCK CRANE

TL-200M

JAPANESE SPECIFICATIONS

TL

| CARRIER MODEL | OUTLINE | SPEC. NO. |
|-----------------------|-------------------------------------|-----------------|
| NISSAN DIESEL K-KW30M | 4-section Boom, Single stage Jib | TL-200M-1-10101 |

Control No. JA-02

TL-200M

CRANE SPECIFICATIONS

MAXIMUM TOTAL RATED LOAD

| | | | |
|------------|------|----------|----------------|
| Boom | 10m | 20,000kg | (7 part-line) |
| | 17m | 14,000kg | (7 part-line) |
| | 24m | 7,000kg | (4 part-line) |
| | 31m | 5,500kg | (4 part-line) |
| Jib | 7.5m | 2,500kg | (1 part-line) |
| Single top | 0.6m | 2,500kg | (1 part-line) |

MAX. LIFTING HEIGHT

| | |
|---------------|-------|
| Boom | 30.9m |
| Jib (5° tilt) | 38.4m |
| Single top | 31.6m |

MAX. WORKING RADIUS

| | |
|----------------|-------|
| Boom | 27.0m |
| Jib (30° tilt) | 29.5m |
| Single top | 27.0m |

BOOM LENGTH

10m - 31m

BOOM EXTENSION

21m

BOOM EXTENSION SPEED

21m / 105s

JIB LENGTH

7.5m

MAIN WINCH SINGLE LINE SPEED

| | | |
|-------------|---------|-------------|
| High range: | 95m/min | (4th layer) |
| Low range: | 47m/min | (4th layer) |

MAIN WINCH HOOK SPEED

| | | |
|-------------|-----------|---------------|
| High range: | 13.5m/min | (7 part-line) |
| Low range: | 6.7m/min | (7 part-line) |

AUXILIARY WINCH SINGLE LINE SPEED

| | | |
|-------------|---------|-------------|
| High range: | 94m/min | (2nd layer) |
| Low range: | 47m/min | (2nd layer) |

AUXILIARY WINCH HOOK SPEED

| | | |
|-------------|---------|---------------|
| High range: | 94m/min | (1 part-line) |
| Low range: | 47m/min | (1 part-line) |

BOOM ELEVATION ANGLE

-3° - 80°

BOOM ELEVATION SPEED

-3° - 80° / 55s

SWING ANGLE

360° continue

SWING SPEED

3.2 rpm

WIRE ROPE

Main Winch

IWRC 6×Fi(29)
Class B (Spin-resistant type)
16mm × 170m (Diameter×Length)
Breaking strength 17.6t

Auxiliary Winch

IWRC 6×Fi(29)
Class B
14mm × 85m (Diameter×Length)
Breaking strength 13.5t

BOOM

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

BOOM EXTENSION

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

JIB

1-staged swingaround boom extensions.
Dual (5°, 30°) offset

SINGLE TOP

Single sheave. Mounted to main boom head for single line work. (attached with a 30° tilt)

HOIST

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

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 | 5.6m |
| Middle extended width | 3.6m |

FRONT JACK

Manual type

MAX. OUTRIGGER LOAD

24.3t

HYDRAULIC PUMPS

| | |
|----------|--|
| Type | 3 gear pumps |
| Pressure | P ₁ , P ₂ : 210kg/cm ² , P ₃ : 175kg/cm ² |

HYDRAULIC OIL TANK CAPACITY

346 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

Boom angle indicator
Crane cab heater 1,400Kcal/H

OPTIONAL EQUIPMENTS

Oil cooler
Hydraulic oil temperature gauge
Winch drum rotation indicator

CARRIER SPECIFICATIONS

MANUFACTURER

NISSAN DIESEL MOTOR CO., LTD

CARRIER MODEL

K-KW30M

ENGINE

Model PEG

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

Piston displacement 11,670cc

Max. output 230PS at 2,300rpm

Max. torque 83kg-m at 1,200rpm

CLUTCH

Dry single-plate coil spring type

TRANSMISSION

Constant-mesh gear (1st speed, reverse)

Synchronized-mesh gear (2nd - 5th speeds)

Gear ratios 1st speed 6.540 2nd speed 3.780

3rd speed 2.511 4th speed 1.442

5th speed 1.000 Reverse 6.533

REDUCER

Hypoid gear type

Final drive 6.166

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

Exhaust brake

FRAME

Lattice type, box type, all-welded structure

ELECTRIC SYSTEM

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 11,945mm

Overall width 2,490mm

Overall height 3,460mm

Wheel base 3,950mm + 1,300mm = 5,250mm

Tread Front 2,020mm

Rear 1,860mm

WEIGHTS

Vehicle weight

Total 23,040kg

Front 5,970kg

Rear 17,070kg

Gross vehicle weight

Total 23,150kg

Front 6,100kg

Rear 17,050kg

PERFORMANCE

Max. traveling speed 70km/h

Gradeability (tan θ) 0.25

Min. turning radius (outermost wheel) 9.5m

TOTAL RATED LOADS

(1)

Unit : ton

| Outriggers fully extended + Front jack (360°) | | | | | | | |
|---|-------|-------|------|------|---------------|-------|------|
| B (m) \ A | 10 m | 17 m | 24 m | 31 m | E (°) \ C \ D | 7.5 m | |
| | | | | | | 5° | 30° |
| 3.0 | 20.00 | 14.00 | | | 80 | 2.50 | 1.25 |
| 3.5 | 20.00 | 14.00 | | | 75 | 2.50 | 1.25 |
| 4.0 | 17.90 | 14.00 | 7.00 | | 70 | 2.05 | 1.15 |
| 4.5 | 15.80 | 14.00 | 7.00 | | 65 | 1.65 | 1.10 |
| 5.0 | 14.30 | 12.80 | 7.00 | | 60 | 1.40 | 1.05 |
| 6.0 | 11.75 | 10.90 | 7.00 | 5.50 | 55 | 1.05 | 0.95 |
| 7.0 | 9.70 | 9.10 | 7.00 | 5.50 | 50 | 0.70 | 0.70 |
| 7.5 | 8.65 | 8.05 | 7.00 | 5.50 | 45 | 0.45 | 0.45 |
| 8.0 | 7.70 | 7.25 | 6.55 | 5.20 | 40 | 0.25 | 0.25 |
| 9.0 | | 5.85 | 5.80 | 4.65 | | | |
| 10.0 | | 4.85 | 5.00 | 4.20 | | | |
| 12.0 | | 3.40 | 3.85 | 3.45 | | | |
| 14.0 | | 2.35 | 2.85 | 3.00 | | | |
| 15.0 | | 2.00 | 2.45 | 2.65 | | | |
| 16.0 | | | 2.15 | 2.35 | | | |
| 18.0 | | | 1.60 | 1.80 | | | |
| 20.0 | | | 1.20 | 1.35 | | | |
| 22.0 | | | 0.80 | 1.05 | | | |
| 24.0 | | | | 0.75 | | | |
| 26.0 | | | | 0.55 | | | |
| 27.0 | | | | 0.45 | | | |

- 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.
2. The weights of slings and hooks (main winch hook: 230kg, auxiliary winch hook: 50kg) 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 2.9t for the main winch and 2.5t for the auxiliary winch.

| | | | | | |
|---|------|------|------|------|---|
| A | 10 m | 17 m | 24 m | 31 m | J |
| H | 7 | 7 | 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 0.6 ton for the main winch and 0.5t ton for the auxiliary winch.
6. The total rated loads for the single top are obtained by subtracting the corresponding values below from the total rated load of the main boom and must not exceed 2.5t.

| | | | | |
|---|------|-------|--------|--------|
| A | 10 m | 17 m | 24 m | 31 m |
| Q | 0 kg | 50 kg | 150 kg | 200 kg |

A = Boom length Q = Subtracted load

7. Except for over rear and over side cases, the "over front" range performance applies when the front jack is stored while the outriggers are fully extended.

(2)

Unit : ton

| Outriggers middle extended (Over front) | | | | |
|---|-------|------|------|------|
| B (m) \ A | 10 m | 17 m | 24 m | 31 m |
| 3.0 | 12.50 | 7.50 | | |
| 3.5 | 12.50 | 7.50 | | |
| 4.0 | 10.80 | 7.50 | 5.00 | |
| 4.5 | 9.40 | 7.50 | 5.00 | |
| 5.0 | 8.30 | 7.50 | 5.00 | |
| 6.0 | 6.55 | 6.00 | 5.00 | 4.50 |
| 7.0 | 4.95 | 4.50 | 5.00 | 4.50 |
| 7.5 | 4.25 | 3.90 | 4.40 | 4.50 |
| 8.0 | 3.60 | 3.40 | 3.90 | 4.00 |
| 9.0 | | 2.50 | 3.10 | 3.20 |
| 10.0 | | 1.85 | 2.40 | 2.60 |
| 12.0 | | 0.95 | 1.50 | 1.70 |
| 13.5 | | 0.50 | 1.00 | 1.20 |
| 14.0 | | | 0.90 | 1.10 |
| 15.0 | | | 0.70 | 0.90 |
| 16.0 | | | 0.45 | 0.70 |
| 17.5 | | | | 0.40 |

A = Boom length B = Working radius

NOTES:

1. The total rated loads shown are for the case when the crane is mounted horizontally on firm ground and are all based on the crane stability.
2. The weights of slings and hooks (main winch hook: 230kg, auxiliary winch hook: 50kg) 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 2.9t for the main winch and 2.5t for the auxiliary winch.

| A | 10 m | 17 m | 24 m | 31 m | Single top |
|---|------|------|------|------|------------|
| H | 7 | 7 | 4 | 4 | 1 |

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

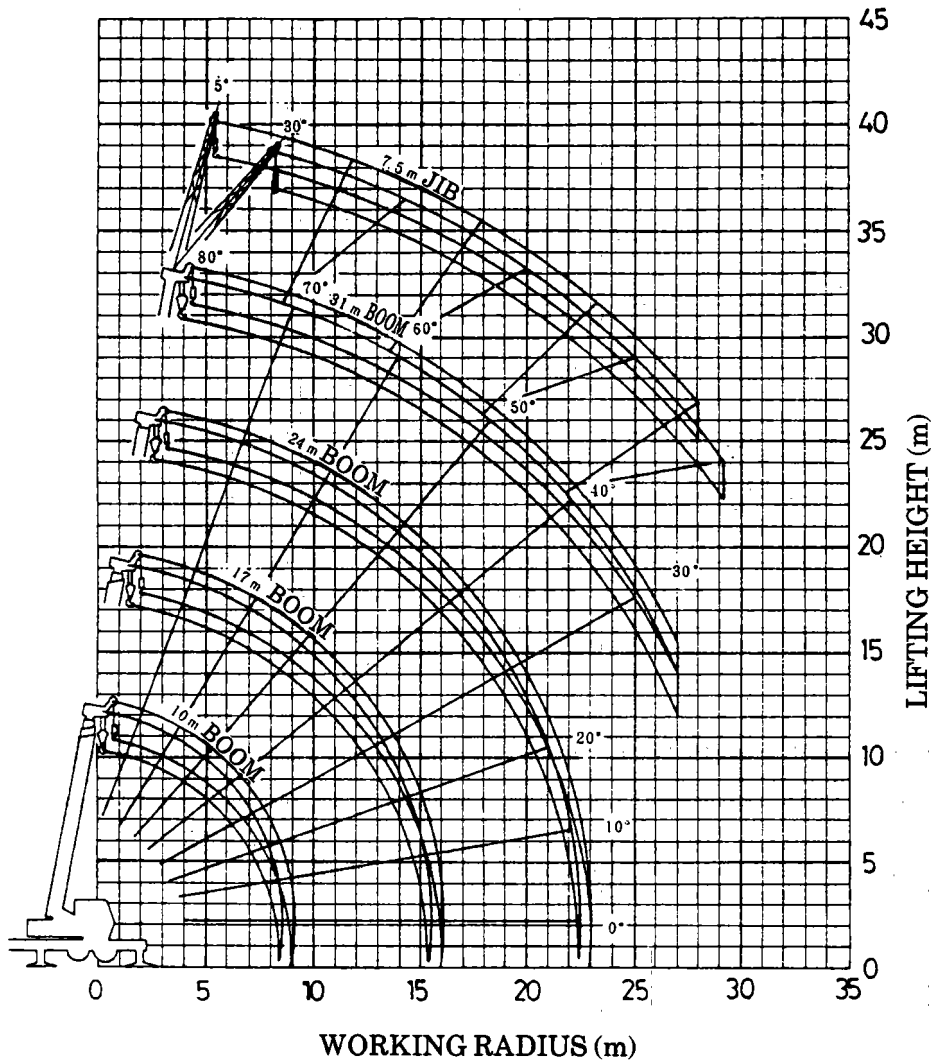
5. The total rated loads for free-fall operations is 1/5 of the total rated loads given above. The load per line should not exceed 0.6 ton for the main winch and 0.5t ton for the auxiliary winch.
6. The total rated loads for the single top are obtained by subtracting the corresponding values below from the total rated load of the main boom and must not exceed 2.5t.

| A | 10 m | 17 m | 24 m | 31 m |
|---|------|-------|--------|--------|
| Q | 0 kg | 50 kg | 150 kg | 200 kg |

A = Boom length Q = Subtracted load

7. Except for over rear and over side cases, the "over front" range performance applies when the front jack is stored while the outriggers are fully extended.

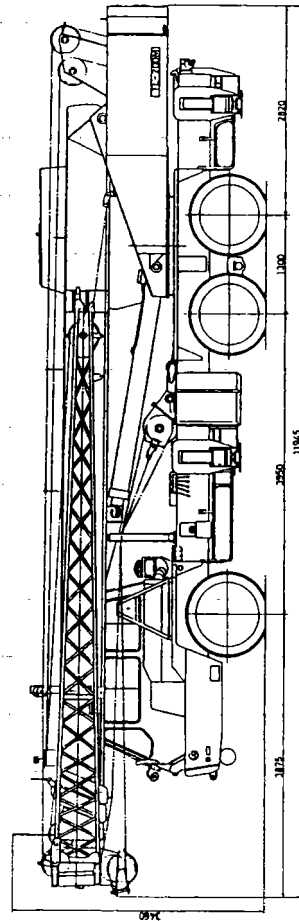
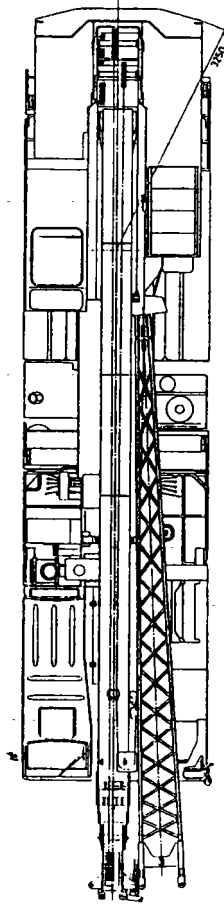
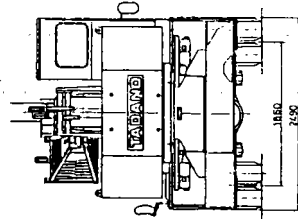
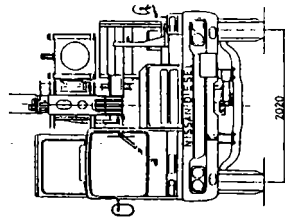
WORKING RADIUS - LIFTING HEIGHT



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)



◆ MEMO ◆

A series of horizontal dashed lines for writing.