# TRUCK CRANE

## TL-200M

### JAPANESE SPECIFICATIONS

<table>
<thead>
<tr>
<th>CARRIER MODEL</th>
<th>OUTLINE</th>
<th>SPEC. NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NISSAN DIESEL K-KW30M</td>
<td>4-section Boom, Single stage Jib</td>
<td>TL-200M-1-10101</td>
</tr>
</tbody>
</table>

Control No. JA-02
### TL-200M

**CRANE SPECIFICATIONS**

<table>
<thead>
<tr>
<th>MAXIMUM TOTAL RATED LOAD</th>
<th>(7 part-line)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boom</td>
<td>10m 20,000kg</td>
</tr>
<tr>
<td></td>
<td>17m 14,000kg</td>
</tr>
<tr>
<td></td>
<td>24m 7,000kg</td>
</tr>
<tr>
<td></td>
<td>31m 5,500kg</td>
</tr>
<tr>
<td>Jib</td>
<td>7.5m 2,500kg</td>
</tr>
<tr>
<td>Single top</td>
<td>0.6m 2,500kg</td>
</tr>
</tbody>
</table>

**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/fixed 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/cm², $P_3$: 175kg/cm²

### 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
- Elevator 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 PE6
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
Hydropoid 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

<table>
<thead>
<tr>
<th>B (m)</th>
<th>A</th>
<th>10 m</th>
<th>17 m</th>
<th>24 m</th>
<th>31 m</th>
<th>7.5 m</th>
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<tbody>
<tr>
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<td>20.00</td>
<td>14.00</td>
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<tr>
<td>3.5</td>
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</tbody>
</table>

### 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.

<table>
<thead>
<tr>
<th>A</th>
<th>10 m</th>
<th>17 m</th>
<th>24 m</th>
<th>31 m</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>7</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

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 0.5 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.

### NOTES:

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.
**Unit:** ton

<table>
<thead>
<tr>
<th>B (m)</th>
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<td>4.0</td>
<td>10.80</td>
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<td>5.00</td>
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<td>4.5</td>
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<td>10.0</td>
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<td>12.0</td>
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<td>17.5</td>
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<td>0.40</td>
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</tbody>
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**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.
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<th>17 m</th>
<th>24 m</th>
<th>31 m</th>
<th>Single top</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>7</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
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**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.

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<th>17 m</th>
<th>24 m</th>
<th>31 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q</td>
<td>0 kg</td>
<td>50 kg</td>
<td>150 kg</td>
<td>200 kg</td>
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</table>

**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.
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°).