

**P&H**

**KOBELCO**

# T400

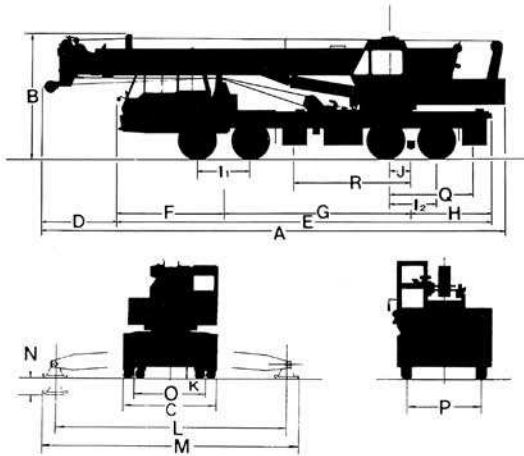
## HYDRAULIC TRUCK CRANE

36.3M.ton. maximum crane load  
47.8m. maximum boom and jib



Bulletin NO. KP-T400-4

## GENERAL DIMENSIONS



Nissan KG51T  
Right Hand  
drive m/(ft)

A. Overall length in travelling condition	12.89 (42.29)
B. Overall height	3.49 (11.45)
C. Overall width	2.75 (9.02)
D. Front overhang	2.02 (6.63)
E. Overall length of carrier	10.455 (34.30)
F. Center of front axle to front of carrier	2.975 (9.76)
G. Center of front axle to center of rear bogie	5.215 (17.11)
H. Center of rear bogie to rear end of carrier	2.265 (7.43)
I <sub>1</sub> . Distance between Axles (front)	1.47 (4.82)
I <sub>2</sub> . Distance between Axles (rear)	1.40 (4.59)
J. Center of rear bogie to center of rotation	0.62 (2.03)
K. Ground clearance	0.235 (0.77)
L. Effective length of outriggers	6.000 (19.68)
M. Overall length of outriggers	6.550 (21.49)
N. Wheel ground clearance—outrigger cyl's ext'ed	0.096 (0.31)
O. Tread width (rear)	2.11 (6.92)
P. Tread width (front)	2.215 (7.267)
Q. Distance from centerline of rotation to rear outrigger	2.37 (7.78)
R. Distance from rear bogie to front outrigger	3.25 (10.66)

## SPECIFICATIONS

### UPPER

**SWING UNIT:** Hydraulic radial piston motor driving through planetary reducer, 360° continuous rotation  
Swing speed ..... 2.0 rpm

**SWING BRAKE:** Negative auto disk brake mounted on swing reducer.

**SLEWING RING:** Single row ball bearing swing circle—internal spur gear and integral type swing gear.

**MAIN WINCH:** Mounted on rear part of revolving frame. Driven with hydraulic radial piston motor, through single stage gear reducer and clutch.



Clutch type: Shoe clutch expanded with hydraulic power.

Brake type: Band brake operated with wheel cylinder and master cylinder.

Line speed (3rd layer): Low speed 44 m/min.  
High speed 90 m/min.

Cable size: 18 mm dia., 180 m Length.

**AUXILIARY WINCH:** Mounted on rear part of revolving frame. Driven with hydraulic radial piston motor, through single stage gear reducer and clutch. Clutch type: Shoe clutch expanded with hydraulic power.

Brake type: Band brake operated with wheel cylinder and master cylinder.

Line speed (2nd layer): Low speed 46 m/min.  
High speed 94 m/min.

Cable size: 16 mm dia., 100 m length.

**BOOM HOIST:** One full power cylinder with holding valve  
Speed (raise) 0°—78° ..... 54 sec.

**BOOM TELESCOPE:** Power telescoping by two hydraulic cylinders with holding valves and wire ropes.  
Speed (extend) 10.66 m—34 m ..... 100 sec.  
Speed (retract) 34 m—10.66 m ..... 100 sec.



**CONTROLS:** Four adjustable hand control levers for swing, telescope, boom hoist and winch, two short hand levers for main and auxiliary winch clutch ON-OFF. One short hand lever for swing brake lock.



One short hand change lever for boom telescoping.

Foot pedal for engine throttle control.  
Two brake pedals for main and aux. winch drum brake.

**OPERATORS CAB:** All weather type, with full vision and safety glass throughout, carrier engine start and shut off switches incorporated, attached.



**SAFETY DEVICES:** Over load warning device with lifting load, boom length and boom angle indicators. Hydraulic safety valves, check valves and holding valves.

**COUNTER WEIGHT:** One piece non-removable counter-weight.

# A Go-Anywhere 36-Ton for Fast and Stable Oper



Set up and ready for work with single lever operation.

Simply set the vertical and horizontal selection levers for each cylinder, and the x-shaped outriggers can be extended quickly and accurately by operation of a single main lever. Each outrigger can be easily adjusted for extension and height. And the float, which is an automatic storage type, need not be removed or mounted.



A powerful and efficient winch system ensures fast job completion.

Three individual operations—hoisting, boom extension and raising, and swing—are driven by independent pumps, which means that smooth, composite operations are easily performed with stable power and constant speed.

The hydraulic circuit employs a special control valve which allows selection of high or low speed for either the main or auxiliary winches.

Moreover, constant control in the low speed zone is possible without being adversely affected by load weight; and smooth subtle inching operations can also be performed as desired.

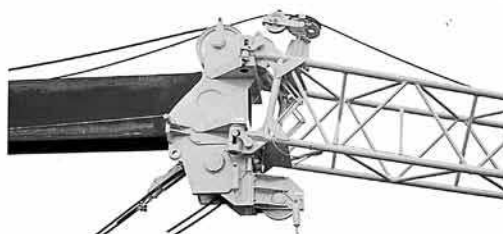
# ner rations



Hook block resting on the

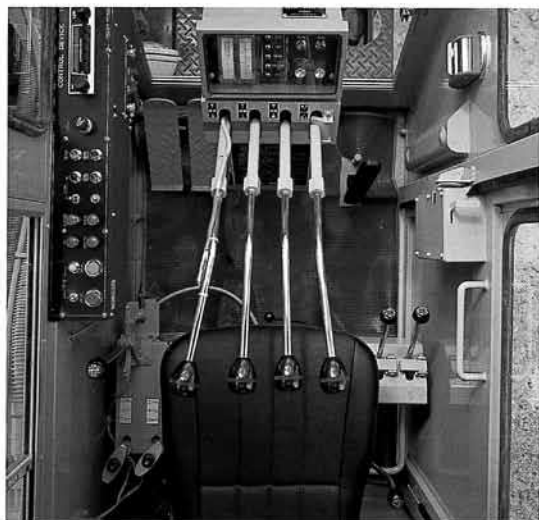
## Easy-set-up two-step jib.

The jib is composed of a basic unit, which is of lattice type construction, and a box-shaped forward section; and can be easily extended or folded.



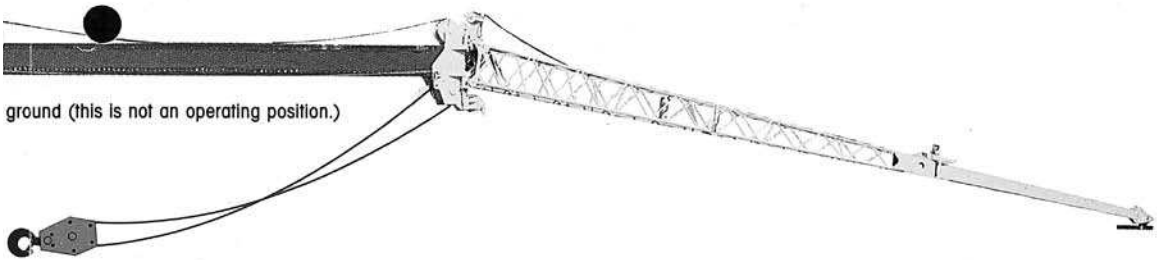
## Auxiliary sheave for sharply increased operating efficiency.

An auxiliary sheave serving as a small-sized jib is fitted as a standard feature. As only one sheave is used, light loads can also be handled with ease.



## Deluxe cab for easy operation and comfort.

The light and roomy cab is fitted with easy-to-operate control levers that are length adjustable, and a reclining seat which can be moved back and forth, to suit any driver. A radio and easy-to-read instruments-all of which are standard equipment, are conveniently located to assure operation safety and driver comfort.

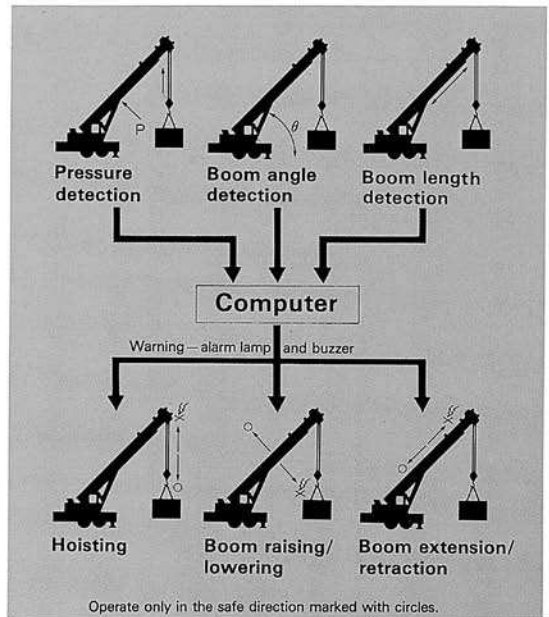


### Computer controlled safety system

The overloading alarm device, (optional) comprises a highly reliable CCS (Computer Control System). The computer has a memory that stores data on a whole series of load limits across the complete operating range. It displays the actual load, detected from the boom raising pressure, boom angle and boom length, and the load limit for a specific operating position, in tons. If the actual load exceeds 90% of the load limit, the pre-alarm lamp lights up, and when it reaches the load limit, the alarm lamp lights up, and the buzzer sounds again; so that the operator can always work in complete safety. In addition, various other devices mentioned below are provided, so as to assure safety of total crane operations.

### Standard equipment and a buzzer sounds

- Overwinding alarm
- Erratic boom extension/retraction prevention device
- Safety valve for each hydraulic circuit
- Winch drum lock
- Winch brake lock
- Automatic swivel disc brake
- Hook wire clamp



# LIFTING CAPACITIES

## Main Boom Rated Lifting Capacity, kg (lb.)

Operating Radius m (ft)	Boom Length, m (ft)						
	10.66 (34.97)	14.55 (47.74)	18.44 (60.50)	22.33 (73.26)	26.22 (86.02)	30.11 (98.79)	34.00 (111.55)
3.5 (11.48)	36,300 (80,028)	25,000 (55,115)					
4 (13.12)	30,000 (66,138)	25,000 (55,115)	20,000 (44,092)				
4.5 (14.76)	27,000 (59,524)	25,000 (55,115)	20,000 (44,092)	15,000 (33,069)	12,000 (26,456)		
5 (16.40)	24,500 (54,013)	23,200 (51,147)	20,000 (44,092)	15,000 (33,069)	12,000 (26,456)		
5.5 (18.04)	22,250 (49,053)	21,300 (46,958)	20,000 (44,092)	15,000 (33,069)	12,000 (26,456)		
6 (19.69)	20,400 (44,974)	19,500 (42,990)	18,500 (40,785)	15,000 (33,069)	12,000 (26,456)	10,000 (22,046)	
7 (22.97)	16,800 (37,037)	16,000 (35,274)	15,600 (34,392)	15,000 (33,069)	12,000 (26,456)	10,000 (22,046)	8,000 (17,637)
8 (26.25)	13,600 (29,983)	12,700 (27,998)	12,800 (28,219)	12,900 (28,439)	12,000 (26,456)	10,000 (22,046)	8,000 (17,637)
8.9 (29.20)		10,650 (23,479)	10,500 (23,148)	11,000 (24,251)	10,550 (23,259)	10,000 (22,046)	8,000 (17,637)
9 (29.53)		10,500 (23,148)	10,300 (22,707)	10,800 (23,810)	10,400 (22,928)	9,900 (21,826)	8,000 (17,637)
10 (32.81)		8,600 (18,960)	8,550 (18,849)	8,950 (19,731)	9,000 (19,841)	8,900 (19,621)	8,000 (17,637)
12 (39.37)		6,000 (13,228)	5,850 (12,897)	6,300 (13,889)	6,700 (14,771)	6,900 (15,212)	6,700 (14,771)
14 (45.93)			4,150 (9,149)	4,600 (10,141)	5,000 (11,023)	5,200 (11,464)	5,400 (11,905)
16 (52.49)			2,900 (6,393)	3,450 (7,606)	3,800 (8,377)	4,000 (8,818)	4,200 (9,259)
18 (59.06)				2,500 (5,512)	2,900 (6,393)	3,000 (6,614)	3,350 (7,385)
20 (65.62)				1,700 (3,748)	2,100 (4,630)	2,300 (5,071)	2,600 (5,732)
22 (72.18)					1,500 (3,307)	1,700 (3,748)	2,000 (4,409)
24 (78.74)					1,000 (2,205)	1,200 (2,646)	1,500 (3,307)
26 (85.30)						800 (1,764)	1,100 (2,425)
28 (91.86)						450 (992)	750 (1,653)
30 (98.43)							500 (1,102)

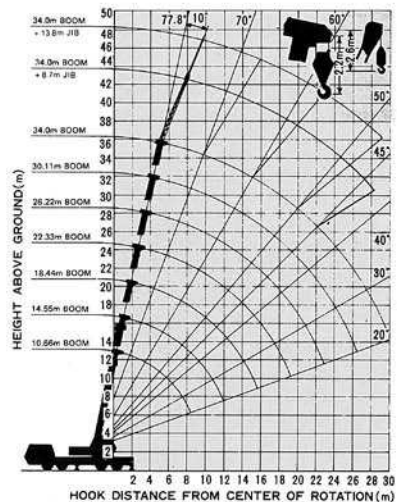
## Jib Rated Lifting Capacity, kg (lb.)

Main Boom Angle (deg.)	Jib Length	
	8.7 m (28.54)	13.8 m (45.28)
77.8	3,300 (7,275)	2,000 (4,409)
75	2,800 (6,173)	1,750 (3,858)
70	2,300 (5,071)	1,400 (3,086)
65	1,900 (4,189)	1,150 (2,535)
60	1,500 (3,307)	950 (2,094)
55	1,100 (2,425)	700 (1,543)
50	700 (1,543)	500 (1,102)
45	300 (661)	

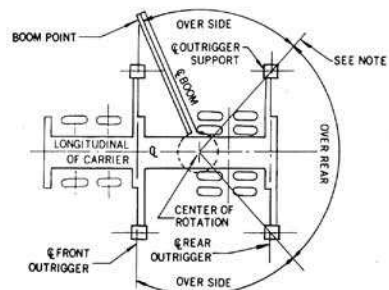
### NOTES:

- Operating radius is horizontal distance from centerline of rotation to a vertical line through the gravity center of the load.
- The ratings of main boom include weight of main hook (35 ton hook—400 kg, 20 ton hook—300 kg) and not include weight of jib.
- The ratings of jib boom include weight of jib hook—abt. 80 kg.
- Deduct 1700 kg from main boom ratings when jib boom is fully extended (8.7 m or 13.8 m).
- Main boom rated lifting capacities given above apply when the jib is in the stored position (side of boom base section).
- Areas on plate where no ratings are shown, operation is not intended or approved.
- Ratings are contingent upon freely suspended loads and machine standing on a firm, level, uniformly supporting surface.
- Gross crane ratings shown do not exceed 78% of tipping loads.
- Ratings above based on over side and rear with outriggers being fully extend.
- Ratings above the heavy line are based on the machine's hydraulic or structural competence and not on machine stability.

## WORKING RANGES



## AREAS OF OPERATION





## HYDRAULIC SYSTEM

**PUMP DRIVE:** Carrier transmission PTO with disconnect feature for traveling.

**PUMP:** One set of three tandem gear pump

**OIL TANK CAPACITY:** ..... 560ℓ

**OIL RESERVOIR:** Mounted on carrier, 560 liters capacity.

**CONTROL VALVES:** One set each of 5-stack, 4-way valves and 1-stack, 4-way valves.

## CARRIER

**MAKE and MODEL:** NISSAN DIESEL MOTOR, KG51T (8 x 4)

**TYPE:** Front engine, forward control, right side off-set cab.

**POWER PLANT:** NISSAN DIESEL MOTOR RD8 DIESEL ENGINE, 8 cyl. 4 cycle, 300 ps at 2500 rpm.



**FUEL TANK CAPACITY:** 300 liters

**CLUTCH:** Single dry plate, hydraulically operated.

**TRANSMISSION:** 5 speeds forward, 1 reverse.

**SUB TRANSMISSION:** High and low.

**BRAKES-SERVICE:** Air brakes on all 8 wheels.

**-PARKINGS:** Internal expanding type, on propeller shaft.

**RADIATOR:** Corrugated fin type.

**STEERING:** Recirculating ball screw type with linkage power assistance.



**FRAME:** All welded construction of high tensile steel, box type.

**SUSPENSION:** Front: Semi-elliptic leaf springs with shock absorbers.

Rear: Equalizer beams with torque rods.

**FRONT AXLE:** NISSAN DIESEL MOTOR, steel tube section beam. Reverse "ELLIOT" type.

**REAR AXLE UNIT:** NISSAN DIESEL MOTOR, full floating, cast steel housing, in-line tandem type, single reduction hypoid gear.

**OUTRIGGERS:** P & H hydraulic scissors type; 8 double acting hydraulic cylinders for independent horizontal and vertical motion of each beam.



**TIRES:** Front; Single x 4 11.00—20—16 PR  
Rear; Double x 4 11.00—20—16 PR

**CAB:** Steel, two crew type, offset right side of engine.

**LIGHTS:** Front; dual head lights, turn signal and directional signal light, parking light.  
Rear; license plate light, back light, directional signal lights, stop, tail and parking lights, reflectors.  
24 volt electrical system.

**EQUIPMENT:** Full reclining driver's seat, horn, rear view mirrors, illuminated instrument panel with speedometer, tachometer, ammeter, fuel gauge, oil pressure gauge, water temperature gauge, air pressure gauge, low air pressure indicator light, windshield wipers, flashers, PTO tachometer with hour meter.

Front bumper, front and rear fenders, skirts, spare tire, hooks front and rear, two 12-volt batteries, rigging compartment, tools and accessories.

Mounted on carrier frame, securely fixed when traveling.

**PERFORMANCE:** Gross vehicle weight (with jib, spare tire and crew 2 men (approx.)) 35,560 kg

**MAX. SPEED:** 70 km/h

**GRADE ABILITY:** 0.29 (tan  $\theta$ )

**MIN. TURNING RAD:** 11.8 m

## ATTACHMENTS

**BOOM:** Four section, one base and three power telescoping sections, made from high tensile steel.  
Four boom point sheaves with roller bearings.  
Length fully retracted ..... 10.66 m  
Length fully extended ..... 34 m

**HOOK BLOCK:** Main; 20 metric tons, three sheaves with swivel hook and safety latch.  
37 metric tons, four sheaves with swivel hook and safety latch.  
Jib; weighted ball with swivel hook and safety latch.



**JIB:** 2-Section Jib.  
Outer Jib; Lattice construction fabricated with tubular high tensile steel tube.  
Inner Jib; Box type construction fabricated with high tensile steel plate.  
Length fully retracted ..... 8.7 m  
Length fully extended ..... 13.8 m

## AXLE LOAD

with jib, spare tire and crew 2 men (approx.)

Total .....	35,560 kg
Front axle .....	13,710 kg
Rear axle .....	21,850 kg



# T400

**NOTE:** In furtherance of our policy of continual product improvement all designs and specifications are subject to change without advance notice. Data herein is informational in nature and shall not be construed to warrant suitability of the machine for any particular purpose as performance may vary with the conditions encountered. These statements are correct at time of gone to press.



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Printed in Japan 85032000 F