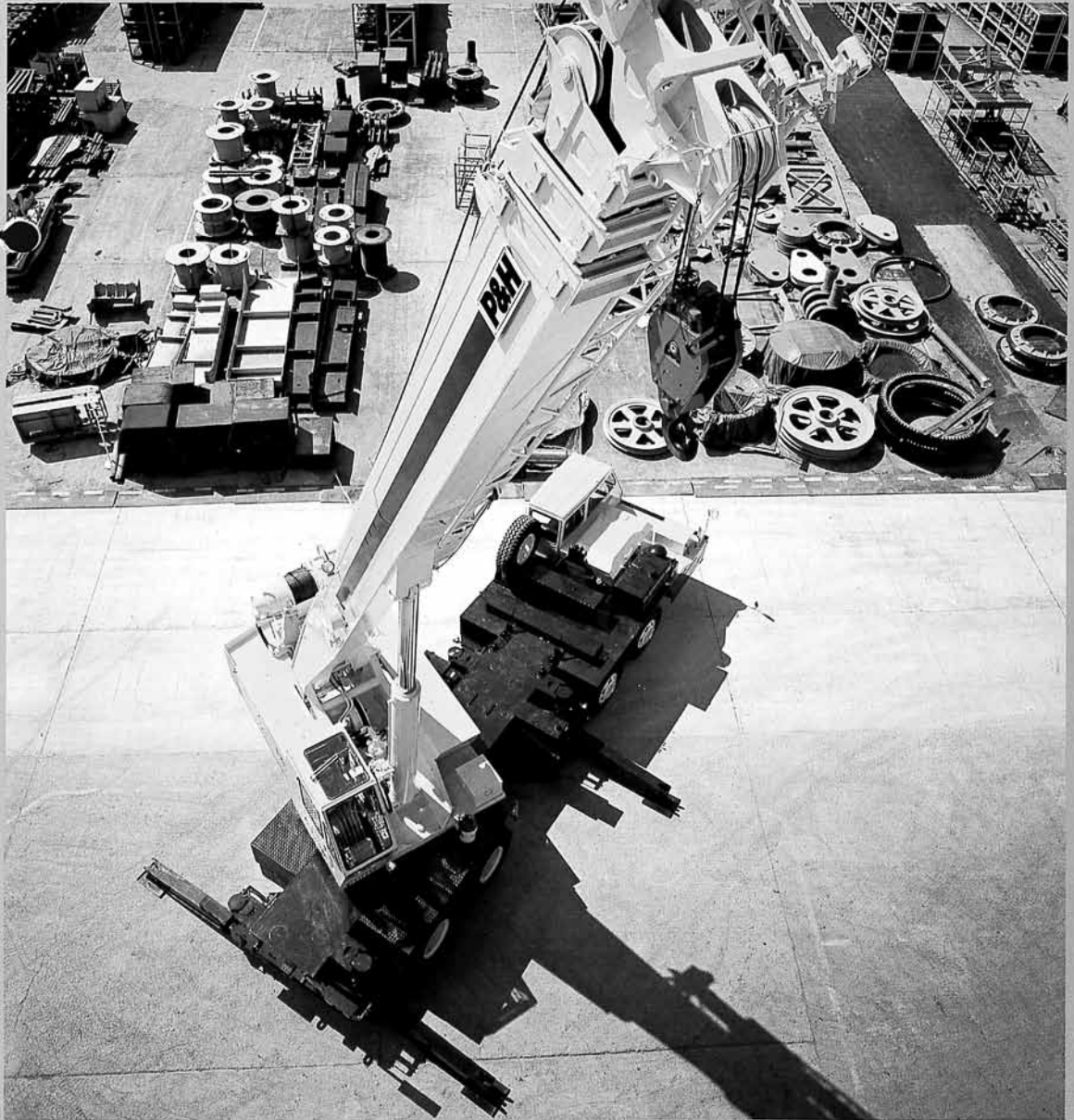


# **P&H T440**

## **HYDRAULIC TRUCK CRANE**

44ton maximum crane load  
50m maximum boom and jib



**KOBE STEEL**

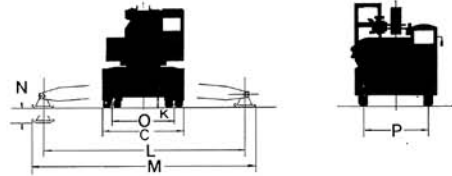
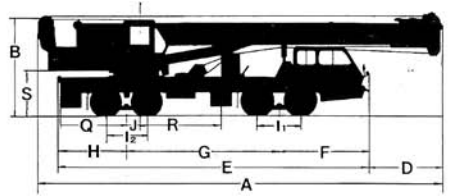
Bulletin No. KP-T440-3

# GENERAL DIMENSIONS

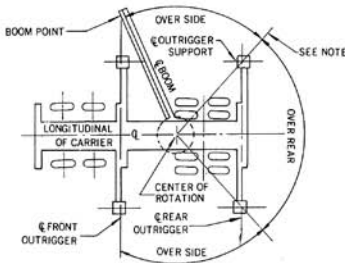
## Nissan KG50T

(Left hand drive) (Right hand drive)

A. Overall length in travelling condition.....	14.00 m (45'-11 $\frac{1}{2}$ "*)	14.00 m (45'-11 $\frac{1}{2}$ "*)
B. Overall height .....	3.80 m (12'-5 $\frac{3}{4}$ "*)	3.80 m (12'-5 $\frac{3}{4}$ "*)
C. Overall width .....	2.82 m (9'-3"	2.82 m (9'-3"
D. Frontoverhang .....	2.635 m (8'-7 $\frac{3}{4}$ "*)	2.635 m (8'-7 $\frac{3}{4}$ "*)
E. Overall length of carrier .....	10.605 m (34'-9 $\frac{1}{2}$ "*)	10.525 m (34'-6 $\frac{3}{4}$ "*)
F. Center of front axle to front of carrier .....	3.005 m (9'-10 $\frac{3}{4}$ "*)	2.925 m (9'-7 $\frac{3}{4}$ "*)
G. Center of front axle to center of rear bogie .....	5.215 m (17'-1 $\frac{3}{4}$ "*)	5.215 m (17'-1 $\frac{3}{4}$ "*)
H. Center of rear bogie to rear end of carrier .....	2.385 m (7'-9 $\frac{3}{4}$ "*)	2.385 m (7'-9 $\frac{3}{4}$ "*)
I <sub>1</sub> . Distance between Axles (front) .....	1.47 m (4'-9 $\frac{3}{4}$ "*)	1.47 m (4'-9 $\frac{3}{4}$ "*)
I <sub>2</sub> . Distance between axles (rear) .....	1.40 m (4'-7 $\frac{3}{4}$ "*)	1.40 m (4'-7 $\frac{3}{4}$ "*)
J. Center of rear bogie to center of rotation .....	0.35 m (1'-1 $\frac{3}{4}$ "*)	0.35 m (1'-1 $\frac{3}{4}$ "*)
K. Ground clearance .....	0.27 m (0'-10 $\frac{3}{4}$ "*)	0.27 m (0'-10 $\frac{3}{4}$ "*)
L. Effective length of outriggers.....	5.83 m (19'-1 $\frac{3}{4}$ "*)	5.83 m (19'-1 $\frac{3}{4}$ "*)
M. Overall length of outriggers.....	6.35 m (20'-10"	6.35 m (20'-10"
N. Wheel ground clearance—outrigger cyl's ext'd ...	0.096 m (0'-3 $\frac{3}{4}$ "*)	0.096 m (0'-3 $\frac{3}{4}$ "*)
O. Tread width (rear) .....	2.11 m (6'-11 $\frac{3}{4}$ "*)	2.11 m (6'-11 $\frac{3}{4}$ "*)
P. Tread width (front) .....	2.205 m (7'-2 $\frac{3}{4}$ "*)	2.205 m (7'-2 $\frac{3}{4}$ "*)
Q. Distance from centerline of rotation to rear outrigger .....	2.25 m (7'-4 $\frac{3}{4}$ "*)	2.25 m (7'-4 $\frac{3}{4}$ "*)
R. Distance from rear bogie to front outrigger .....	3.25 m (10'-7 $\frac{3}{4}$ "*)	3.25 m (10'-7 $\frac{3}{4}$ "*)
S. Distance under counterweight to ground .....	1.75 m (5'-8 $\frac{3}{4}$ "*)	1.75 m (5'-8 $\frac{3}{4}$ "*)

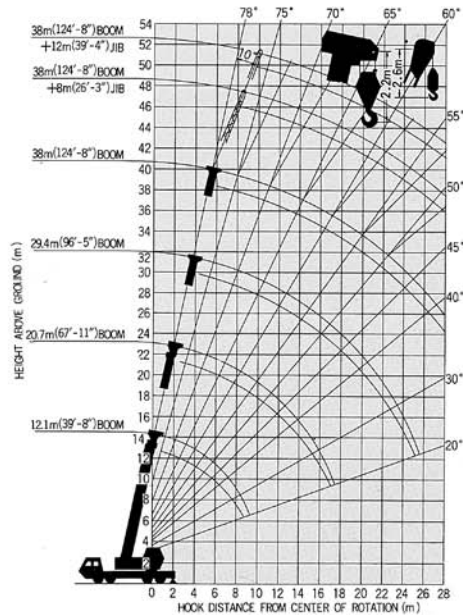


## AREAS OF OPERATION



**NOTE:** These lines determine the limiting position of any load for operation within working areas indicated.

## WORKING RANGES



# P&H T440

## SPECIFICATIONS

### UPPER

**SWING UNIT:** Hydraulic piston motor driving through planetary reducer—360° continuous rotation.

Swing speed ..... 2.1 rpm

**SWING BRAKE:** Hydraulic brake valve applied automatically when swing control lever in neutral position, and negative auto disk brake applied in no swing motion in order to sure fix.

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



**MAIN WINCH:** Mounted on rear part of revolving frame.

Totally enclosed hydraulic winch unit with automatic brake and free fall system, two speed type.

MAX. DRUM CAPACITY ..... 200 m (656')

HOIST LINE SPEED (at 5th layer of drum, hoisting and lowering)

LOW SPEED ..... 41 m/min. (134 fpm)

HIGH SPEED ..... 82 m/min. (269 fpm)

MAIN HOOK SPEED (Four part line, hoisting and lowering)

LOW SPEED ..... 41 m/min. (134 fpm)

HIGH SPEED ..... 82 m/min. (269 fpm)

MAX. SINGLE LINE PULL (1st layer at 165 kg/cm<sup>2</sup>)

LOW SPEED ..... 7,600 kg (16,750 lbs.)

HIGH SPEED ..... 3,200 kg (7,050 lbs.)

HOIST WIRE ROPE ..... IWRC 6 × Fi (22+7) c/o,  
18 φ × 200 m (3/8" dia. × 656')

**AUXILIARY WINCH:** Mounted on rear part of revolving frame. .... optional

Totally enclosed hydraulic winch unit with automatic brake and free fall system, single speed type.

MAX. DRUM CAPACITY ..... 165 m (541')

JIB HOOK SPEED (at 5th layer) ..... 74 m/min. (243 fpm)

**BOOM HOIST:** One double acting cylinder for boom hoist and two double acting cylinders for telescopic boom sections. Each cylinder equipped with integral safety holding valve.

BOOM HOISTING SPEED (0-78°) ..... 70 sec.

BOOM LOWERING SPEED (78-0°) ..... 43 sec.



**BOOM TELESCOPE:** Three telescopic boom sections can be hydraulically extended and retracted even with load.

LENGTH, FULLY EXTENDED ..... 38 m (124'-8")

LENGTH, FULLY RETRACTED ..... 12.066 m (39'-7")

### TELESCOPING SPEED

EXTEND ..... 102 sec.

RETRACT ..... 105 sec.



**CONTROLS:** Five adjustable hand control levers for swing, telescope, boom hoist, main winch and auxiliary winch, two short hand levers for main and auxiliary winch free fall system.

Two short hand lever for swing brake lock, and boom telescoping.

Foot pedal for engine throttle control.



**OPERATOR'S CAB:** Compact full visibility operator's cab is fully enclosed for working in all weather.

Nine operating control levers and acceleration pedal are conveniently arranged for the operator's comfort and efficiency.

**SAFETY DEVICES:** Boom angle indicator, over hoist alarm bell, relief valves to prevent over-pressure to hydraulic circuits, safety holding valves for boom hoist and telescopic cylinders ..... standard  
Safe lifting load indicator ..... optional

**COUNTERWEIGHT:** One piece removable counterweight ..... 1,850 kg (4,080 lbs.)

### HYDRAULIC SYSTEM

**POWER SYSTEM:** Power for all motions of upper structure and outriggers is delivered from carrier engine PTO to the hydraulic motors through hydraulic pumps mounted on the carrier.

**PUMPS:** Carrier engine PTO drives one set of four inline gear pumps.

First pump actuates main and auxiliary winch motors.

Second pump actuates boom hoisting cylinder and boom extension cylinders.

Third pump actuates swing motor.

Fourth pump actuates outrigger hydraulic cylinders.

**MOTORS:** One piston type hydraulic motor for swing.

Two hydraulic gear motors for hoist.

**OIL TANK CAPACITY** ..... 620 ℓ (163.8 gals.)

T440

- Longest boom among those mounted on 44-ton class hydraulic truck cranes, best suitable for jobs at high levels.
- Four independently driven hydraulic pumps to perform combined functions with accuracy.
- Totally enclosed hydraulic winch unit with automatic brake and free fall.
- Hydraulically operated telescopic boom.
- Very smooth rotating motion.
- Foldable and retractable 2-section jib.
- Spacious and comfortable crane cab allowing easy manual operation.
- Highly reliable safety devices.

## CARRIER

**MAKE AND MODEL:** Nissan, KG50T (8×4)



**POWER PLANT:** Nissan RD8, 4 cycle diesel 8 cyl. 280 ps/2,500 rpm.

**ELECTRICAL SYSTEM:** 24 volt electric starting, 2×12 volt batteries.

**FUEL TANK CAPACITY:** 300 ℓ (79 gals.)

**CLUTCH:** Directly actuated through hydraulic power cylinder—Dry single plate.

**TRANSMISSION:** Five speed—forward, and one—reverse.

**BRAKES:** Full air brake on all wheels, dual air line system, internal expanding shoe type.

**PARKING BRAKE:** Mechanically operated by hand lever, internal expanding shoe type on propeller shaft.



**STEERING:** Recirculating ball screw type with integral power steering gear.

**FRAME:** One pair of rectangular section frame members is reinforced with cross members and base plate for slewing ring between outrigger housings. Upper plate and bottom plate welded to rectangular sections members compose box section between outrigger housings.

### SUSPENSION:

**FRONT:** Semi-elliptic leaf springs with shock absorbers.

**REAR:** Solid bogie mounted with torque rods.

### AXLE:

**FRONT:** Steel tube section beam, reverse Elliot type.

**REAR:** Full floating type, single reduction at axle center.



**OUTRIGGERS:** Manual controlled, X-type hydraulic outriggers.

Eight double acting hydraulic cylinders for independent horizontal and vertical motion of each beam ..... standard

**OUTRIGGERS HOUSINGS:** Two independent housing front and rear, pin connected and removable.

### TIRES:

**FRONT:** 12:00—20—18 PR.

**REAR:** 12:00—20—18 PR.

**CAB:** All steel—one side two crew type offset left (or right) side of engine.

**LIGHTS:** Head lights, tail lights, parking lights, directional signal lights—front and rear, licence plate light, back up light, cab inside light.

24 V electrical system.

All rear lights recessed in frame.

**EQUIPMENT:** Front bumper, full fenders, skirts, running boards, hood, frame decking, bucket seat, 2×12V batteries, horn, rear view mirrors, air tank, boom rack, illuminated instrument panel with speedometer, ammeter air pressure gauge and fuel gauge, tools and accessories.

### PERFORMANCE:

Gross vehicle weight with jib and counterweight ..... 36,980 kg (81,530 lbs.)  
 Max. travelling speed ..... 74 km/h (46 mph)  
 Gradability ..... 0.25  
 Min. turning radius ..... 11.8 m (38'-8 1/2")

## ATTACHMENTS

**BOOM:** All welded high tensile steel plate box type construction.

Four sections—boom base section and three telescopic sections.

Five boom point sheaves with roller bearings ..... standard  
 Bottom diameter of point sheaves ..... 308 mm (12 1/8")



**HOOK BLOCK:** 23 metric ton, three sheaves, with swivel hook and safety latch ..... standard  
 40 metric ton, four sheaves, with swivel hook and safety latch ..... standard

**JIB:** Tubular lattice type construction outer jib and box type construction inner jib, foldable on the side of boom base section ..... optional  
 LENGTH, FULLY EXTENDED ..... 12 m (39'-4 1/4")  
 LENGTH, FULLY RETRACTED ..... 8 m (26'-3")

**JIB HOOK:** 2.9 metric ton for single jib line ..... optional

## AXLE LOAD

With jib and counterweight (approx.)

	(Left hand drive)	(Right hand drive)
Total .....	36,980 kg (81,530 lbs.)	37,360 kg (82,360 lbs.)
Front axle.....	14,410 kg (31,770 lbs.)	14,610 kg (32,210 lbs.)
Rear axle .....	22,570 kg (50,160 lbs.)	22,570 kg (50,160 lbs.)

T440

# LIFTING CAPACITIES

## LOAD RATINGS IN KG (LBS.) WITH OUTRIGGERS • Over Rear and Over Side

Operating Radius in m (Ft.-In.)	12.066 m (39'-7") Boom		20.7 m (67'-11") Boom		29.35 m (96'-3") Boom		34 m (111'-7") Boom		38 m (124'-8") Boom	
	Angle	kg (Lbs.)	Angle	kg (Lbs.)	Angle	kg (Lbs.)	Angle	kg (Lbs.)	Angle	kg (Lbs.)
3.5 (11-6)	64°	40,000 (88,180)	74°	20,000 (44,090)						
4 (13-1)	60°	38,000 (83,780)	73°	20,000 (44,090)						
4.5 (14-9)	57°	35,000 (77,160)	72°	20,000 (44,090)						
5 (16-5)	54°	31,500 (69,450)	70°	20,000 (44,090)						
6 (19-8)	49°	23,450 (51,700)	68°	20,000 (44,090)	74°	10,000 (22,050)	78°	6,000 (13,230)		
7 (23-0)	44°	17,800 (39,240)	64°	16,500 (36,380)	72°	10,000 (22,050)	76°	6,000 (13,230)		
8 (26-3)	40°	13,650 (30,090)	61°	12,850 (28,330)	70°	10,000 (22,050)	74°	6,000 (13,230)	75°	4,500 (9,920)
9 (29-6)	36°	10,900 (24,030)	58°	10,100 (22,270)	68°	10,000 (22,050)	72°	6,000 (13,230)	74°	4,500 (9,920)
10 (32-10)			55°	8,150 (17,970)	66°	9,200 (20,280)	71°	6,000 (13,230)	72°	4,500 (9,920)
12 (39-4)			48°	5,550 (12,240)	61°	6,500 (14,330)	67°	6,000 (13,230)	69°	4,500 (9,920)
14 (45-11)			40°	3,700 (8,160)	56°	4,750 (10,470)	64°	4,250 (9,370)	66°	4,500 (9,920)
15 (49-3)			35°	3,000 (6,610)	54°	4,050 (8,930)	62°	3,700 (8,160)	64°	4,500 (9,920)
16 (52-6)			29°	2,400 (5,290)	52°	3,450 (7,610)	60°	3,200 (7,050)	63°	4,000 (8,820)
18 (59-1)			15°	1,450 (3,200)	46°	2,500 (5,510)	56°	2,400 (5,290)	59°	3,000 (6,610)
20 (65-7)					41°	1,700 (3,750)	52°	1,750 (3,860)	56°	2,250 (4,960)
22 (72-2)					34°	1,100 (2,430)	47°	1,250 (2,760)	52°	1,650 (3,640)
24 (78-9)					27°	650 (1,430)	42°	900 (1,980)	48°	1,150 (2,540)
25 (82-0)					25°	400 (880)	40°	700 (1,540)	46°	950 (2,090)
26 (85-4)									44°	750 (1,650)
28 (91-10)									39°	400 (880)

## JIB LOAD RATINGS IN KG (LBS.)

Main Boom Angle	12.066–38 m (39'-7"–124'-8") Boom	
	+8 m (26'-3") Jib	+12 m (39'-4") Jib
78°	2,900 (6,390)	2,000 (4,410)
75°	2,750 (6,060)	2,000 (4,410)
70°	2,100 (4,630)	1,600 (3,530)
65°	1,600 (3,530)	1,200 (2,650)
60°	1,300 (2,870)	1,000 (2,200)
55°	900 (1,980)	750 (1,650)
50°	300 (660)	250 (550)

## HOIST REEVING—18 mm (11/16") Dia. Wire Rope Min. Breaking Strength—24,700 kg (54,450 Lbs.)

Parts of Line	1	2	3	4	5	6	7	8	9
Max. Load kg (Lbs.)	4,500 (9,920)	9,000 (19,840)	13,500 (29,760)	18,000 (39,680)	22,500 (49,600)	27,000 (59,520)	31,500 (69,450)	36,800 (81,130)	40,000 (88,180)

### Note:

- Operating radius horizontal distance from centerline of rotation to a vertical line through the gravity center of the load. The gross crane ratings shown do not exceed 78 percent of tipping loads.
- The rating of main boom include weight of main hook—abt. 23 ton hook 240 kg (530 lbs.), 40 ton hook 400 kg (880 lbs.)—and other hoist attachments.
- The ratings of jib boom include weight of jib hook—abt. 70 kg (150 lbs.)—and other hoist attachments.
- The ratings of jib boom are decided by boom angle.
- Deduct 1,600 kg (3,530 lbs.) from main boom ratings when jib boom is extended.
- Deduct 650 kg (1,430 lbs.) from main boom ratings when main boom is equipped with jib.
- Areas on plate where no ratings are shown, operation is not intended or approved.
- Ratings above based on overside and rear with outriggers being fully extended to a fulcrum point 2.915 m (9'-6 3/4") center of carrier.
- Ratings are contingent upon freely suspended loads and machine standing on a firm, level, uniformly supporting surface.

OPERATION OF THIS EQUIPMENT IN EXCESS OF LOAD RATINGS AND DISREGARD OF INSTRUCTIONS VOIDS THE WARRANTY.

# P&HT440

**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.

Licensed by HARNISCHFEGER INTERNATIONAL CORPORATION  
Milwaukee, Wisconsin, U.S.A.



CONSTRUCTION MACHINERY DIVISION

**Tokyo Head Office:**

Tekko Bldg.,  
No. 8-2, 1-chome, Marunouchi, Chiyoda-ku, Tokyo, Japan  
Phone: Tokyo (03) 218-7111  
Cable: "KOBESTEEL TOKYO"  
Telex: No. 222-3601 (KOBESTEEL TOK)

**Construction Machinery Plant:**

123, Fukuda, Okubo-cho, Akashi-city, Japan  
Phone: Akashi (078) 936-1331  
Cable: "KOBESTEEL AKA"  
Telex: No. 5628944 (KOBESTL J)

**Address Inquiries to:**

[Empty rectangular box for address inquiries]

Printed in Japan 7911500 (F)