

P&H

KOBELCO

330-TC

30-ton Truck Crane Crane, Clamshell



 **KOBE STEEL**

Bulletin No. 330-TC-5

Specifications

• UPPER MACHINERY



POWER PLANT:

Diesel: Isuzu DA120P (standard).....
6 cyl., 100 mm (3.94") bore x 130 mm (5.12")
stroke, 6,126 cc (374 cubic inch) displac-
ement, 4 cycle, water cooled, 76.5PS @ 1,800
rpm full load engine output.

G.M. 4-53 (Optional).....4 cyl., 76 hp @ 2,000 rpm

RADIATOR: Capacity 19.05 lt (5 gal.)
Fin and tube type.

FUEL TANK: Capacity 150 lt (39.6 gal.)

THROTTLE: Twist grip control on swing lever.

TRANSMISSION: 4 speed transmission, second gear is nor-
mal operating speed.



BOOM HOIST ASSEMBLY: Independent
planetary gear type, with external ratchet and
automatic brake provides for raising and lower-
ing boom under power and locking boom. Drum
mounted on anti-friction bearings.

Clutch—double shoe type, internal expanding, 355.6 mm
(14") dia. x 64 mm (2½") wide.

Brake —band type, external contracting, 384.8 mm (15½")
dia. x 64 mm (2½") wide.

Drum Pitch Dia. 195 mm (7¾")

Drum Length 134.9 mm (5⅝")

Drum Capacity (1 st layer) 6.1 m (20')

Drum Total Capacity 57 m (187')

Cable Dia. 12 mm (½")

Line Pulls 7,990 kg (17,615 lbs.)

Line Speed (1st layer):

Raising 39.4 m/min (129.3 fpm)

Lowering 18.4 m/min (60.4 fpm)



MAIN DRUM ASSEMBLY: Drums in tandem,
mounted on anti-friction bearings.

Clutches—Double shoe type, internal expanding,
508 mm (20") dia. x 76 mm (3")
wide.

Brakes—band type, external contracting, 635 mm (25") dia.
x 89 mm (3½") wide.

Drum Pitch Dia. 292 mm (11½")

Drum Length...L.H.: 229.4 mm (9"), R.H.: 228.8 mm (9")

Drum Capacity (1st layer) 10.1 m (33'-1⅝")

Drum Total Capacity 120 m (393'-8½")

Cable Dia. 18 mm (¾")

Line Pulls 6,465 kg (1,4250 lbs.)

Line Speed (1st layer):

Raising 47.7 m/min (156.5 fpm)

Lowering 24.8 m/min (81.4 fpm)

[Jib Hoist Drum (R.H.) is not equipped with Planetary
Power Lowering Device.]



TYPE OF FASTENING TO LOWER: P&H
swing circle, roller bearing type, 5 adjustable
hook rollers—two double hook rollers rear, one
single hook roller front.

SWING ROLLERS: 28 rollers live roller circle.

ROLLER TRUCK: 1,270 mm (4'-2") pitch dia.

SWING GEAR: Internal cut teeth, 1.016 mm (3'-4") pitch
dia.

ROTATING SPEED: 5.05 rpm.

SWING CLUTCHES: Double shoe type, internal expanding
—406 mm (16") dia. x 102mm (4") wide.

SWING BRAKE: Band type, external contracting—305 mm
(12") dia. x 51 mm (2") wide.



CONTROLS: Direct acting hydraulic.

POWER BOX: All gear run in oil bath, all shafts
are involute splined.

COUNTERWEIGHT: Non-removable punching
in counterweight box at rear of machine 1,390 kg
(3,060 lbs.)

Single piece external removable casting 4,700 kg
(10,360 lbs.)

Total 6,090 kg (13,420 lbs.)

SAFETY DEVICES: Boom over hoist alarm bell, Crane over
hoist alarm bell, Swing warning horn, Boom angle indicator,
Boom backstop, Boom over hoist clutch kickout (Automatic
boom hoist limiting device).

ELECTRICAL INSTALLATIONS: Inside cab light, am-
meter, water temperature gauge, fuel gauge, flood light,
trouble lamp.

• CARRIER

8 WHEELS, 4 WHEEL DRIVE, 12 Tires

MAKE AND MODEL: Nissan Diesel Motor KG30R

TYPE: Front engine, forward control, 8x4, right-hand steer-
ing for 27,200 kg (60,000 lbs.) truck crane carrier.

WEIGHT: Including turret and outriggers, with standard tires
—13,810 kg (30,450 lbs.)

FRAME: Reinforced beam all welded construction, ladder
type, high tensile strength steel.



OUTRIGGER HOUSINGS: Two independent
housings, front and rear, welded to the frame.

OUTRIGGER BEAMS: Alloy steel, welded box
section with screw jack at beam ends. Extended
position from center of truck—2.5 m (8'-2⅝")

HYDRAULIC OUTRIGGERS: Total of 8 double acting hy-
draulic cylinders provide independent horizontal and vertical
motion of each beam. The outriggers are controlled by manu-
al operated valves. (optional extra)



POWER PLANT: Diesel: Nissan Diesel PE6
(standard)..... 4 cycle, direct injection, water
cooled, in-line diesel engine, 6 cyl., 133 mm
(5¼") bore x 140 mm (5½") stroke, 1,1670 cc
(712 cubic inch) displacement, 24 volt electric
starting, 24 volt-25 amp alternator, 220 hp @ 2,300 rpm.

CLUTCH: Dry single plate, hydraulically operated clutch re-
lease mechanism with air assisted booster, 410 mm (16⅝")
dia. x 250mm (9⅞") wide.
Total lining area..... 830 cm² (128.7 sq. in.) x 2

TRANSMISSION: Nissan Diesel TMH 414, constant mesh,
mechanical type, five speeds forward plus one reverse, Gear
ratios—1st: 6.540, 2nd: 3.780, 3rd: 2.511, 4th: 1.442,
5th: 1.000, reverse: 6.533, Gear shift—floor shift, mecha-
nical remote control.



FRONT AXLE: Tandem—weld axle ends, steel tube and forged steel, reverse, "ELLIOT" steering knuckles.
Rated capacity.....6,300 kg (13,890 lbs.) each axle.

REAR AXLE: Full floating pressed steel banjo type housing, in-line tandem type.
Rated capacity..... 11,000 kg (24,250 lbs.) each axle.
Single reduction, hypoid gear, ratio..... 6.833



STEERING: Recirculating ball screw type with linkage power assistance, 27.7 to 1 gear ratio, 510 mm (20¹/₈") dia. wheel.

SERVICE BRAKE: Full air brake on all wheels, dual air line system, internal expanding leading

and trailing shoe type.

Front drum 410 mm (16¹/₈") dia. x 130 mm (5¹/₈") wide
Rear drum 410 mm (16¹/₈") dia. x 180 mm (7¹/₈") wide
Front lining area 4,112 cm² (637.4 sq. in.)
Rear lining area 6,128 cm² (949.8 sq. in.)
Total lining area..... 10,240 cm² (1,587.2 sq. in.)

PARKING BRAKE (HAND BRAKE): Mechanically operated by hand brake lever, internal expanding duo-servo shoe type acting on drum at transmission case rear.

Drum 304.8 mm (12") dia. x 75 mm (3") wide
Total effective lining area.....531 cm² (82.3 sq. in.)

ENGINE RETARDER (EXHAUST BRAKE): Electric-pneumatic operated shutter.

AIR RESERVOIR: Pressed type air reservoir. Safety valve to be fitted on the first reservoir.
Capacity—for service brake 38 lt (10 gal.) x 2

FRONT SUSPENSION: Underhanging high tensile steel equalizer beams with rubber bushing at ends, includes for torque rods (no springs).

REAR SUSPENSIONS: Underhanging high tensile steel equalizer beams with self-adjusting spherical bearing at ends, includes two torque rods (no springs).



WHEELS: Pressed steel disc type, two pieces. Interim, 700 ton x 20, offset 162 mm (6³/₈") 8 studs.

TIRES: Twelve. FRONT: Single x 4, 10.00 x 20—16 PR. REAR: Double x 4, 10.00 x 20—16 PR. 7.50 kg/cm² (106.7 lbs./sq. in.) air pressure.

FUEL TANK: Located on the right hand side of chassis frame.
Capacity 200 lt (52.8 gal.)

RADIATOR: (Tropical zone) Corrugate fin type, flow capacity—214 lt (56.5 gal.)/min. at engine rev. 1,200 rpm.

CAB: Steel, two men, semi under floor type one side cab. All windows are safety glass with wind-down door window, slide-by right side window. Two speed electric windshield wiper, full reclining driver seat.

ELECTRICAL EQUIPMENT: 24 volt DC. electric system, battery. Dual type sealed beam head lights, tail lights, stop lights, directional signal lights, fog lights, licence lights, parking lights, reverse lights, reflectors, side clearance lights.



INSTRUMENTS: Meter: speedometer with odometer, tachometer, fuel gauge, water temperature gauge, ammeter, air pressure gauge, oil pressure gauge. Warning light with buzzer: low oil pressure, over speed. Indicating light: turn signal indicator, head light high beam indicator, battery switch indicator, hand brake indicator, exhaust brake indicator, air heater indicator.

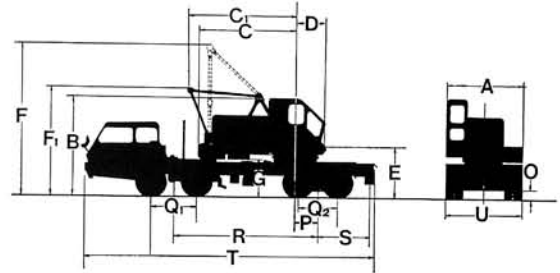
EQUIPMENT: Sun visor, cigarette lighter, window washer with water tank, cab heater and defroster, digging brake valve. Tool (one set), spare tire carrier.

PERFORMANCE:

(Based on Nissan Diesel PE 6 Engine)

Max. travel speed 64 km/h (39.7 mph)
Percent grade..... 22%
Brake distance.....9 m (29'6³/₈")
Min. turning radius..... 11 m (36'1¹/₈")

• GENERAL DIMENSIONS



	Meters	Ft. & Ins.
A—Width of cab.....	2.425	(7-11 ¹ / ₂)
B—Height to top of cab	3.605	(11-9 ³ / ₈)
C—Radius of rear end (counterweight).....	3.195	(10-5 ³ / ₈)
C ₁ —Radius of rear end (gantry lowered)	3.275	(10-8 ³ / ₈)
D—Center of rotation to boom foot pin	0.91	(2-11 ³ / ₈)
E—Height from ground to boom foot pin	1.87	(6-1 ³ / ₈)
F—Clearance height over gantry (raised)	5.02	(16-5 ³ / ₈)
F ₁ —Clearance height over gantry (lowered)	3.735	(12-3 ³ / ₈)
G—Counterweight ground clearance	1.43	(4-8 ³ / ₈)
O—Ground clearance.....	0.265	(0-10 ³ / ₈)
P—Center of rotation to center of rear bogie	0.7	(2-3 ³ / ₈)
Q ₁ —Distance between front axles	1.47	(4-9 ³ / ₈)
Q ₂ —Distance between rear axles.....	1.30	(4-3 ³ / ₈)
R—Wheelbase.....	4.715	(15-5 ³ / ₈)
S—Center of rear bogie to rear of carrier.....	1.88	(6-2)
T—Overall length of carrier with outriggers	9.74	(31-11 ³ / ₈)
U—Overall width of carrier	2.49	(8-2)

30-ton Truck Crane

33.53m Boom

33.53m Boom+9.14m Jib

• GENERAL DATA

BOOM: Angle lattice alloy steel construction. Basic length, bolt connected in two equal sections 9.14 m (30')
Open throat with four offset boom point sheaves on bronze sleeve bearings, pitch dia. 424 mm (16 1/8")
10 part boom hoist reeving, standard.

BOOM INSERT: Insert length 3.05 m (10'), 6.10 m (20').

Maximum boom length 33.53 m (110')

HOOK BLOCK: Three sheaves with swivel hook and 7 part hoist line, standard. 27,200 kg (60,000 lbs) capacity

JIB BOOM: Tubular lattice carbon steel construction. Basic length, bolt connected in two sections.....4.57 m (15')
Open throat with one boom point sheave.

JIB INSERT: Insert length.....1.52 m (5'), 3.05 m (10')
Maximum jib length..... 9.14 m (30')

POWER CONTROLLED LOAD LOWERING: Planetary device for lowering load under power, optional extra.

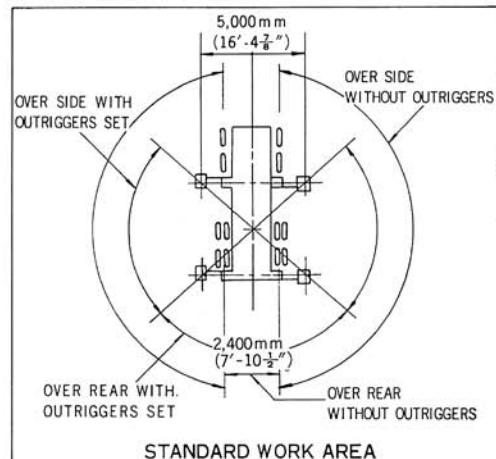
GANTRY: High gantry folding type, standard.

WORKING WEIGHT.....approx. 28,300 kg (62,309 lbs.)
Including hook block and 6,090 kg (13,430 lbs.) counterweight.

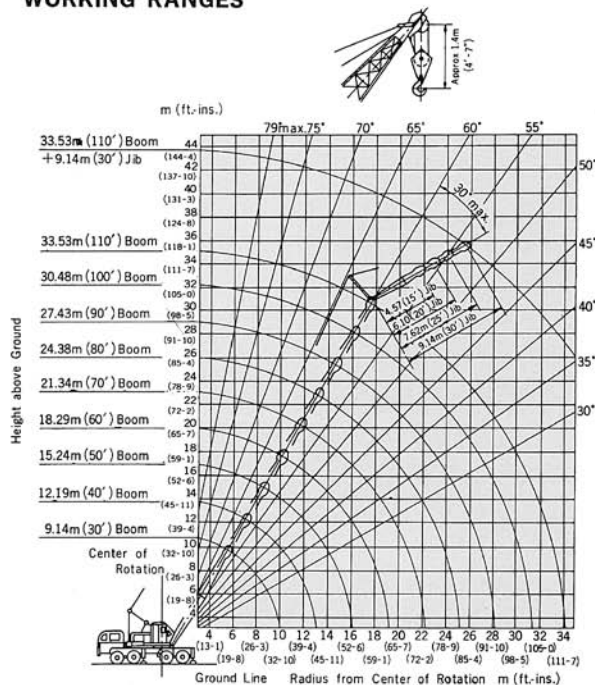
DRUM SHAFT ASSEMBLY

Lifting Crane Drums (P.D.)	Cable Dia.	Max. Cable Capacity	Line Pulls	Line Speeds
L.H. 292 mm (11 1/2")	18 mm (3/4")	120 m (393'-8 1/2")	6,465 kg (14,250 lbs.)	47.7 m/min. (156.5 fpm)
R.H. 292 mm (11 1/2")	18 mm (3/4")	120 m (393'-8 1/2")	6,465 kg (14,250 lbs.)	47.7 m/min. (156.5 fpm.)

*Line Pulls and Line Speeds based on single part line in normal operating (2nd) gear.
To fit job requirements, line pull and line speed can be varied by shifting into other gears.



WORKING RANGES



● **LIFTING CAPACITIES**

RATED CRANE LOADS IN KG (LBS.) WITH OUTRIGGERS FULLY EXTENDED

Operating Radius in Meters (Ft.-Ins.)	9.14 m (30') Boom				12.19 m (40') Boom				15.24 m (50') Boom				18.29 m (60') Boom				21.34 m	
	Angle (°)	Hook Pt. El. m (Ft.-In)	Over Side	Over Rear	Angle (°)	Hook Pt. El. m (Ft.-In)	Over Side	Over Rear	Angle (°)	Hook Pt. El. m (Ft.-In)	Over Side	Over Rear	Angle (°)	Hook Pt. El. m (Ft.-In)	Over Side	Over Rear	Angle (°)	Hook Pt. El. m (Ft.-In)
3.0 (9-10)	77	9.3 (30-5)	27,200 (60,000)	27,200 (60,000)														
4.0 (13-1)	70	9.0 (29-5)	25,000 (55,120)	25,000 (55,120)	76	12.2 (39-11)	21,350 (47,040)	21,400 (48,180)	79	15.3 (50-2)	21,250 (46,850)	21,300 (46,960)						
5.0 (16-5)	64	8.5 (28-0)	19,800 (43,650)	20,000 (44,090)	71	11.9 (38-11)	18,400 (40,570)	18,600 (41,010)	75	15.1 (49-5)	18,300 (40,340)	18,500 (40,790)	77	18.2 (59-8)	18,200 (40,120)	18,400 (40,570)		
6.0 (19-8)	56	8.0 (26-1)	16,000 (35,270)	16,500 (36,380)	66	11.4 (37-7)	15,500 (34,170)	15,900 (35,050)	71	14.7 (48-4)	15,400 (33,950)	15,800 (34,830)	74	17.9 (58-10)	15,300 (33,730)	15,700 (34,610)	76	21.1 (69-2)
7.0 (23-0)	48	7.2 (23-7)	12,650 (27,890)	13,200 (29,100)	60	10.9 (35-10)	12,600 (27,780)	13,100 (28,880)	67	14.3 (47-1)	12,550 (27,670)	13,000 (28,660)	71	17.6 (57-10)	12,500 (27,560)	12,900 (28,440)	74	20.8 (68-4)
8.0 (26-3)	39	6.1 (20-2)	10,300 (22,710)	10,750 (23,700)	55	10.3 (33-9)	10,200 (22,490)	10,700 (23,590)	62	13.9 (45-6)	10,150 (22,380)	10,600 (23,370)	67	17.2 (56-6)	10,100 (22,270)	10,550 (23,260)	71	20.5 (67-3)
9.0 (29-6)	28	4.6 (15-2)	8,650 (19,070)	9,150 (20,170)	49	9.5 (31-2)	8,550 (18,850)	9,100 (20,060)	58	13.3 (43-7)	8,500 (18,740)	9,000 (19,840)	64	16.8 (55-0)	8,450 (18,630)	8,900 (19,620)	68	20.1 (66-0)
10.0 (32-10)					42	8.5 (27-10)	7,350 (16,200)	7,850 (17,310)	54	12.6 (41-4)	7,300 (16,090)	7,800 (17,200)	60	16.2 (53-3)	7,200 (15,870)	7,700 (16,980)	65	19.7 (64-7)
12.0 (39-4)					25	5.4 (17-10)	5,700 (12,570)	6,350 (14,000)	44	10.8 (35-6)	5,650 (12,460)	6,250 (13,780)	53	14.9 (48-11)	5,550 (12,240)	6,150 (13,560)	59	18.6 (61-0)
14.0 (45-11)									31	8.2 (26-10)	4,550 (10,030)	5,050 (11,130)	45	13.1 (43-2)	4,500 (9,920)	4,950 (10,910)	52	17.2 (56-6)
16.0 (52-6)													35	10.7 (35-2)	3,700 (8,160)	4,150 (9,150)	45	15.5 (50-9)
18.0 (59-1)																	37	13.1 (43-2)
20.0 (65-7)																		
25.0 (82-0)																		

RATED CRANE LOADS IN KG (LBS.) WITHOUT OUTRIGGERS

Operating Radius in Meters (Ft.-Ins.)	9.14 m (30') Boom			12.19 m (40') Boom			15.24 m (50') Boom			18.29 m (60') Boom			21.34 m (70') Boom			24.38 m (80') Boom		
	Angle (°)	Over Side	Over Rear	Angle (°)	Over Side	Over Rear	Angle (°)	Over Side	Over Rear	Angle (°)	Over Side	Over Rear	Angle (°)	Over Side	Over Rear	Angle (°)	Over Side	Over Rear
3.0 (9-10)	77	13,600 (29,980)	15,300 (33,730)															
3.6 (11-10)	73	10,550 (23,260)	12,700 (28,000)	77	10,450 (23,040)	12,600 (27,780)												
4.0 (13-1)	70	9,050 (19,950)	11,200 (24,690)	76	9,000 (19,840)	11,150 (24,580)	79	8,900 (19,620)	11,050 (24,360)									
5.0 (16-5)	64	6,750 (14,880)	8,400 (18,520)	71	6,650 (14,660)	8,350 (18,410)	75	6,550 (14,440)	8,300 (18,300)	77	6,500 (14,330)	8,250 (18,190)						
6.0 (19-8)	56	5,300 (11,680)	6,800 (14,990)	66	5,250 (11,570)	6,700 (14,770)	71	5,150 (11,350)	6,550 (14,440)	74	5,100 (11,240)	6,450 (14,220)	76	5,050 (11,130)	6,300 (13,890)	78	5,000 (11,020)	6,200 (13,670)
7.0 (23-0)	48	4,350 (9,590)	5,600 (12,350)	60	4,300 (9,480)	5,500 (12,300)	67	4,250 (9,370)	5,400 (11,900)	71	4,150 (9,150)	5,300 (11,680)	74	4,100 (9,040)	5,200 (11,460)	76	4,000 (8,820)	5,100 (11,350)
8.0 (26-3)	39	3,700 (8,160)	4,850 (10,690)	55	3,650 (8,050)	4,750 (10,470)	62	3,550 (7,830)	4,700 (10,360)	67	3,500 (7,720)	4,600 (10,140)	71	3,450 (7,610)	4,500 (9,920)	73	3,400 (7,500)	4,400 (9,700)
9.0 (29-6)	28	3,200 (7,050)	4,250 (9,370)	49	3,150 (6,940)	4,150 (9,150)	58	3,050 (6,720)	4,100 (9,040)	64	3,000 (6,610)	4,000 (8,820)	68	2,950 (6,500)	3,900 (8,600)	71	2,850 (6,280)	3,800 (8,360)
10.0 (32-10)				42	2,750 (6,060)	3,650 (8,050)	54	2,650 (5,840)	3,550 (7,830)	60	2,600 (5,730)	3,500 (7,720)	65	2,550 (5,620)	3,400 (7,500)	68	2,450 (5,400)	3,300 (7,300)
12.0 (39-4)				25	2,150 (4,740)	2,900 (6,390)	44	2,100 (4,630)	2,850 (6,280)	53	2,050 (4,520)	2,750 (6,060)	59	1,950 (4,300)	2,650 (5,840)	63	1,900 (4,190)	2,550 (5,620)
14.0 (45-11)							31	1,700 (3,750)	2,300 (5,070)	45	1,650 (3,640)	2,250 (4,960)	52	1,600 (3,530)	2,150 (4,740)	58	1,500 (3,310)	2,050 (4,520)
16.0 (52-6)										35	1,350 (2,980)	1,900 (4,190)	45	1,300 (2,870)	1,800 (3,970)	52	1,250 (2,760)	1,700 (3,750)
18.0 (59-1)													37	1,050 (2,310)	1,550 (3,420)	46	1,000 (2,200)	1,500 (3,310)
20.0 (65-7)																39	850 (1,870)	1,200 (2,670)

34 m (70') Boom			24.38 m (80') Boom				27.43 m (90') Boom				30.48 m (100') Boom				33.53 m (110') Boom				
Hook Pt. El. (ft-in)	Over Side	Over Rear	Angle (°)	Hook Pt. El. (ft-in)	Over Side	Over Rear	Angle (°)	Hook Pt. El. (ft-in)	Over Side	Over Rear	Angle (°)	Hook Pt. El. (ft-in)	Over Side	Over Rear	Angle (°)	Hook Pt. El. (ft-in)	Over Side	Over Rear	
1.1 (3-2)	15,200 (33,510)	15,600 (34,390)	78	24.2 (79-5)	15,100 (33,290)	15,500 (34,170)													
0.8 (3-4)	12,400 (27,340)	12,800 (28,220)	76	24.0 (78-8)	12,350 (27,230)	12,700 (28,000)	77	27.1 (89-0)	12,300 (27,120)	12,550 (27,670)	79	30.2 (99-2)	12,250 (27,010)	12,450 (27,450)					
0.5 (7-3)	10,050 (22,160)	10,500 (23,150)	73	23.7 (77-9)	9,950 (21,940)	10,450 (23,040)	75	26.9 (88-2)	9,900 (21,830)	10,350 (22,820)	77	30.0 (98-6)	9,850 (21,720)	10,300 (22,710)					
0.1 (3-0)	8,350 (18,410)	8,800 (19,400)	71	23.4 (76-8)	8,300 (18,300)	8,750 (19,290)	73	26.6 (87-2)	8,250 (18,190)	8,650 (19,070)	75	29.8 (97-8)	8,150 (17,970)	8,600 (18,960)	76	32.9 (108-0)	8,100 (17,860)	8,500 (18,740)	
0.7 (1-7)	7,150 (15,760)	7,650 (16,870)	68	23.0 (75-5)	7,100 (15,650)	7,550 (16,640)	71	26.3 (86-1)	7,000 (15,430)	7,500 (16,530)	73	29.5 (96-8)	6,950 (15,320)	7,450 (16,420)	74	32.6 (107-1)	6,900 (15,210)	7,400 (16,310)	
8.6 (1-0)	5,500 (12,130)	6,050 (13,340)	63	22.1 (72-5)	5,400 (11,900)	5,950 (13,120)	66	25.5 (83-6)	5,350 (11,790)	5,850 (12,900)	69	28.8 (94-4)	5,300 (11,680)	5,800 (12,790)	71	32.0 (105-0)	5,200 (11,460)	5,700 (12,570)	
7.2 (3-6)	4,400 (9,700)	4,850 (10,690)	58	20.9 (68-8)	4,350 (9,590)	4,750 (10,470)	62	24.5 (80-4)	4,250 (9,370)	4,700 (10,360)	65	27.9 (91-6)	4,200 (9,260)	4,650 (10,250)	67	31.2 (102-6)	4,100 (9,040)	4,600 (10,140)	
5.5 (0-9)	3,650 (8,050)	4,100 (9,040)	52	19.5 (64-0)	3,550 (7,830)	4,000 (8,820)	57	23.3 (76-4)	3,500 (7,720)	3,950 (8,710)	61	26.9 (88-1)	3,400 (7,500)	3,850 (8,490)	63	30.3 (99-5)	3,350 (7,390)	3,800 (8,380)	
3.1 (3-2)	3,100 (6,830)	3,500 (7,720)	46	17.8 (58-3)	3,000 (6,610)	3,400 (7,500)	52	21.8 (65-10)	2,950 (6,500)	3,300 (7,280)	56	25.6 (84-0)	2,850 (6,280)	3,250 (7,170)	60	29.2 (95-10)	2,750 (6,060)	3,150 (6,940)	
			39	15.5 (51-0)	2,550 (5,620)	3,000 (6,610)	46	20.1 (65-10)	2,500 (5,510)	2,900 (6,390)	51	24.1 (79-2)	2,400 (5,290)	2,800 (6,170)	55	27.9 (91-8)	2,350 (5,180)	2,700 (5,950)	
							29	13.5 (44-3)	1,750 (3,860)	2,050 (4,520)	38	19.0 (62-6)	1,650 (3,640)	1,950 (4,300)	44	23.7 (77-9)	1,550 (3,420)	1,900 (4,190)	

Boom	27.43 m (90') Boom			30.48 m (100') Boom			33.53 m (110') Boom		
Over Rear	Angle (°)	Over Side	Over Rear	Angle (°)	Over Side	Over Rear	Angle (°)	Over Side	Over Rear
6,200 (13,670)									
5,150 (11,350)	77	3,950 (8,710)	5,050 (11,130)	79	3,800 (8,380)	5,000 (11,020)			
4,400 (9,700)	75	3,300 (7,280)	4,300 (9,480)	77	3,250 (7,170)	4,250 (9,370)			
3,800 (8,380)	73	2,800 (6,170)	3,700 (8,160)	75	2,750 (6,060)	3,650 (8,050)	76	2,700 (5,950)	3,550 (7,830)
3,350 (7,390)	71	2,400 (5,290)	3,250 (7,170)	73	2,350 (5,180)	3,200 (7,050)	74	2,300 (5,070)	3,100 (6,830)
2,550 (5,620)	66	1,850 (4,080)	2,450 (5,400)	69	1,800 (3,970)	2,400 (5,290)	71	1,700 (3,750)	2,300 (5,070)
2,050 (4,520)	62	1,450 (3,200)	1,950 (4,300)	65	1,400 (3,090)	1,850 (4,080)	67	1,350 (2,980)	1,800 (3,970)
1,700 (3,750)	57	1,150 (2,540)	1,650 (3,640)	61	1,100 (2,430)	1,550 (3,420)	63	1,050 (2,310)	1,450 (3,200)
1,500 (3,310)	52	950 (2,090)	1,450 (3,200)	56	900 (1,980)	1,350 (2,980)	60	800 (1,760)	1,250 (2,760)
1,250 (2,760)	46	750 (1,650)	1,150 (2,540)	51	700 (1,540)	1,100 (2,430)	55	650 (1,430)	1,050 (2,310)

NOTE:

1. Operating radius is the horizontal distance from centerline of rotation to a vertical line through the centerline of gravity of the load.
2. Ratings shown do not exceed 78% of tipping load, and including weight of hook block, slings and all other crane handling accessories.
3. Ratings shown are based on freely suspended loads and make on allowance for such factors as wind effect on lifted load, ground conditions, out-of-level, operating speeds or any other condition that could be detrimental to the safe operation of this equipment. The operator, therefore, has the responsibility to judge the existing conditions and reduce lifted loads and operating speed accordingly.
4. When boom is equipped with jib, main hook ratings must be reduced by 410 kg (900 lbs.).
5. Gantry must be in raised position for all crane operations.
6. Boom backstops are required for all boom lengths.
7. When operating crane "without outriggers" loads lifted over rear and swing over side, will increase in radius due to tire deflection. This increase in radius must be compensated for by raising boom, or machine may tip over.

WARNING:

The wind effect on the lifted load can cause sufficient side load to overstress boom or jib structure. When suspended load will not remain in line with boom, derated chart 25%. We recommend stopping operation when wind is above 10 m/sec. (20 mph) and tying off, or lowering, boom when wind is above 16 m/sec. (35 mph).

MAXIMUM JIB RATINGS IN KG (LBS.)

Offset Angle Jib to Boom Under Full Load	4.57 m (15') Jib	6.10 m (20') Jib	7.62 m (25') Jib	9.14 m (30') Jib
10°	4,000 (8,820)	3,600 (7,940)	2,900 (6,390)	2,450 (5,400)
20°	3,600 (7,940)	2,900 (6,390)	2,450 (5,400)	2,000 (4,410)
30° max.	3,150 (6,940)	2,450 (5,400)	2,000 (4,410)	1,550 (3,420)

NOTE:

1. Jib crane ratings are based on strength of materials.
2. Use of outriggers is recommended when boom is equipped with jib.
3. Jib ratings at any radius are the same as main boom ratings when operated at that radius, but do not exceed maximum jib ratings shown.
4. Maximum jib operating radius is not to exceed length of main boom on which it is being used.

MAXIMUM BOOM LENGTH TO LIFT OFF GROUND

Boom Over	WITH OUTRIGGERS		WITHOUT OUTRIGGERS	
	Boom Only	Boom & Jib	Boom Only	Boom & Jib
Side	33.53 m (110')	33.53 m+9.14 m (110'+30')	30.48 m (100')	24.38 m+9.14 m (80'+30')
Rear	33.53 m (110')	33.53 m+9.14 m (110'+30')	33.53 m (110')	33.53 m+4.57 m (110'+15')

HOIST REEVING IN KG (LBS.)

No. of Parts of Line	1	2	3	4	5	6	7
Max. Load—Kg (Lbs.)	4,000 (8,820)	8,000 (17,640)	12,000 (26,460)	16,000 (35,270)	20,000 (44,090)	24,000 (52,910)	27,200 (60,000)

RECOMMENDED WIRE ROPE LENGTH FOR DRUMS IN METERS (FT.)

Boom Length Meters (Ft.)	Main Hoist Drum	*Jib Hoist Drum	Boom Length Meters (Ft.)	Main Hoist Drum	*Jib Hoist Drum
9.14 (30)	98 (322)	—	24.38 (80)	139.5 (458)	79 (259)
12.19 (40)	108 (354)	—	27.43 (90)	154.5 (507)	85.5 (281)
15.24 (50)	117.5 (386)	—	30.48 (100)	169.5 (556)	91.5 (300)
18.29 (60)	129.5 (425)	—	33.53 (110)	149 (489)	97.5 (320)
21.34 (70)	124.5 (408)	—			

*Jib length: 9.14 m (30')

Clamshell

0.6m³ (¾ CU. YD.)

● GENERAL DATA

BOOM:

Angle lattice alloy steel construction. Basic length, bolt connected in two equal sections 9.14 m (30')
 Open throat with four offset boom point sheaves on bronze sleeve bearings, pitch dia. 424 mm (16½")
 10 part boom hoist reeving, standard.

GANTRY High gantry, folding type, standard.

TAGLINE WINDER spring type.

WORKING WEIGHT:

(with bucket) 28,900 kg (63,710 lbs.)
 [6,090 kg (13,426 lbs.) counterweight include in working weight, furnished as standard.]

DRUM SHAFT ASSEMBLY

Clam. Drums	Pitch Dia.	Cable Dia.	*Line Pulls	*Line Speeds
L. H.	292 mm (11½")	18 mm (¾")	6,465 kg (14,250 lbs.)	47.7 m/min (156.5 fpm.)
R. H.	292 mm (11½")	18 mm (¾")	6,465 kg (14,250 lbs.)	47.7 m/min (156.5 fpm.)

*Line Pulls and Line Speeds based on single part line in normal operating (2nd) gear.

To fit job requirements, line pull and line speed can be varied by shifting into other gears.

CLAMSHELL RATED LOADS IN KG (LBS.)

Operating Radius in Meters (Ft.-Ins.)	9.14m (30') Boom	12.19 m (40') Boom
6.0 (19-8)	3,400 (7,500)	
7.0 (23-0)	3,400 (7,500)	
8.0 (26-3)	3,300 (7,280)	3,280 (7,230)
9.0 (29-6)		2,830 (6,240)
10.0 (32-10)		2,470 (5,450)

Clamshell ratings shown also apply to grapple and all other material handling buckets except dragline which is rated separately. For clamshell operations, the weight of bucket is considered a part of the load and the total weight of bucket plus contents must not exceed the corresponding ratings shown.

Ratings are contingent upon machine being equipped with proper P&H boom, with gantry in raised position.

- Maximum boom length recommended for clamshell operation 12.10m (40')
- Limit on clamshell rating 3,400 kg (7,500 lbs.)
- Maximum allowable heavy digging bucket size 0.6 m³ (¾ cu. yd.)

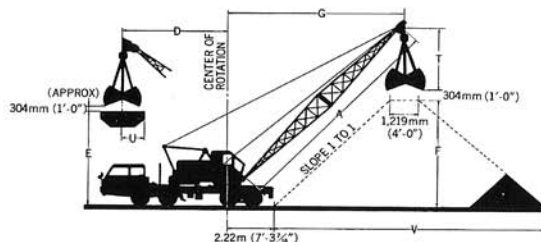
Larger size may be approved depending on type of material, type of bucket—within limitations rating charts.

NOTE:

To select bucket size best suited for your application, use the following formula: Refer to chart above to obtain clamshell capacity in kgs. Clamshell capacity = (cubic meter capacity of bucket) × (weight of material per cubic meter) + (weight of specific clamshell bucket).

CLAMSHELL WORKING RANGES IN METERS (FT.-INS.)

Boom Length A	9.14 m (30') Boom		12.19 m (40') Boom	
	Height and ½ Wight of Bin			
Operating Radius D	E	U	E	U
	5.0 (16-5)	6.49 (21-4)	1.38 (4-6)	
6.0 (19-8)	5.93 (19-5)	1.92 (6-4)	9.40 (30-10)	1.30 (4-3)
7.0 (23-0)	5.19 (17-0)	2.60 (8-6)	8.90 (29-2)	1.66 (5-5)
8.0 (26-3)	4.22 (13-10)	3.52 (11-7)	8.28 (27-2)	2.09 (6-10)
9.0 (29-6)			7.52 (24-8)	2.62 (8-7)
Height and Width of Stock Pile	F	V	F	V
	4.72 (15-6)	11.58 (38-0)	6.86 (22-6)	15.85 (52-0)
At Operating Radius G	7.47 (24-6)		9.60 (31-6)	
Height T	(depends on size and make of bucket) 3.10 (10-2)			

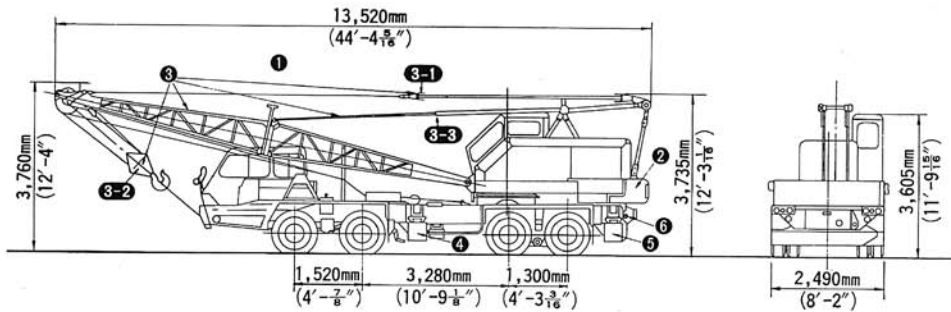


Crane Axle Loadings

NISSAN KG30RXL (8 x 4 CARRIER) WITH MANUAL OUTRIGGERS

Use table below to determine weight adjustments to conform with local highway regulations. Item ❶ is the base figure (total weight). From this item ❶, deduct "minus" figures or add "plus" figures shown. All figures indicate weight in Kgs (lbs.).

Item No.	Effect of Removing	Total Weight or Adjustment	Boom Over Front of Carrier		Boom Over Rear of Carrier	
			Front Bogie	Rear Bogie	Front Bogie	Rear Bogie
1	Complete Standard Machine with 9.14 m (30ft.) Boom Lowered to travel position, three sheave block, boom backstop	28,280 (62,350)	6,380 (14,070)	21,940 (48,370)	11,270 (24,850)	17,010 (37,500)
2	Cast Counterweight	-23,580 (-51,980)	+2,230 (+4,920)	-6,930 (-15,280)	-1,070 (-2,360)	-3,630 (-8,000)
3	9.14m(30') Boom with Guy Line, Three sheave,Block, Boom Backstop, Upper Spreader	-26,960 (-59,440)	-1,890 (-4,170)	+570 (+1,260)	+1,020 (+2,250)	-2,040 (-4,500)
3-1	Upper Spreader	-	-95 (-209)	+12 (+26)	+71 (157)	-154 (-400)
3-2	Three Sheave Block	-	-560 (-1,230)	+260 (+570)	+300 (+660)	-600 (-1,320)
3-3	Boom Backstop	-	-36 (-79)	-47 (-104)	+22 (+49)	-105 (-230)
4	Front Outrigger Beams and Jack Screws	-620 (-1,370)	-370 (-820)	-250 (-550)	-370 (-820)	-250 (-550)
5	Rear Outrigger Beams and Jack Screws	-620 (-1,370)	+210 (+460)	-830 (-1,830)	+210 (+460)	-830 (-1,830)
6	Four Outrigger Floats	-100 (-220)	-10 (-22)	-90 (-198)	-10 (-22)	-90 (-98)



P&H **KOBELCO** **330-TC**

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.



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