Specifications

P&H KOBELCO

440A-S

Basic Machine

● UPPER MACHINERY

POWER PLANT:
Diesel: Mitsubishi 6DB10C (standard)..... 6 cyl., 110 mm (4.33″) bore × 150 mm (5.91″) stroke, 8,553 cc (522 cubic inch) displacement, 4 cycle, water cooled, 105 PS @ 1,600 rpm full load engine output.
G.M. 4-53N (optional) ..... 4 cyl., 102 PS @ 2,200 rpm

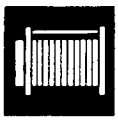
FUEL TANK: Capacity .....220 liters (58.1 US gal.)

THROTTLE: Hand grip control for all operations, standard.

TRANSMISSION: 2 speed transmission, high gear is normal operating speed.

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

Clutch—band type, internal expanding, 463 mm (18.23″) dia. × 63.5 mm (2.5″) wide.
Brake —band type, external contracting, 541 mm (21.3″) dia. × 63.5 mm (2.5″) wide.
Drum Pitch Dia. .....242 mm (9.53″)
Drum Length .....145 mm (5.71″)
Raising .....46 m/min (151 fpm)
Lowering .....28 m/min (92 fpm)
Line Speed (1st layer):
Raising ..... 46 m/min (151 fpm)
Lowering ..... 28 m/min (92 fpm)



MAIN DRUM ASSEMBLY: Drums opposite each other mounted on anti-friction bearings on single drum shaft.
Clutches—band type, internal expanding, 622 mm (24.5″) dia. × 76 mm (3″) wide.
Brakes—band type, external contracting, 749 mm (29.5″) dia. × 89 mm (3.5″) wide.
Drum Pitch Dia. .....400 mm (15.75″)
Drum Length ..... L.H. : 267 mm (10.51″)
R.H. : 267 mm (10.51″)
Drum Total Capacity ..... 160 m (525′)
Cable Dia. ..... 20 mm (0.79″)
Line Pull ..... 7,450 kg (16,400 lbs.)
Line Speed (1st layer):
Raising..... 46 m/min (151 fpm)
Lowering..... 28 m/min (92 fpm)

THIRD DRUM ASSEMBLY (OPTIONAL): Mounts on L.H. extension of independent boom hoist drum shaft (opposite boom hoist drum), does not interfere with any other machine function. Available for application to all machines with crane boom type attachments.

TYPE OF FASTENING TO LOWER: 6 adjustable hook rollers—two double hook rollers rear, one double hook roller front.

SWING ROLLERS: 28 rollers live roller circle.

SWING GEAR: Internal cut teeth.

ROTATING SPEED: 4.3 rpm

SWING CLUTCHES: Two shoe type internal expanding

(standard)—533.4 mm (21″) dia. × 114.4 mm (4.5″) wide.

SWING BRAKE: Spring set—hydraulic release, V type.

CONTROLS: Direct acting hydraulic.

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

GANTRY: High gantry folding type.

COUNTERWEIGHT: 2,000 kg (4,400 lbs.) non-removable punchings in counterweight box at rear of machine and 6,000 kg (13,200 lbs.) and 4,000 kg (8,800 lbs.) removable castings for crane. 4,000 kg (8,800 lbs.) casting should be removed for clamshell works. Neither 6,000 kg (13,200 lbs.) nor 4,000 kg (8,800 lbs.) external removable counterweights are required for dragline works.

SAFETY DEVICES: Boom over hoist alarm bell, Crane over hoist alarm bell, Boom angle indicator, Boom backstop, Signal horn, Boom hoist drum lock, Main hoist drum lock. Boom over hoist kickout (Automatic boom boist limiting device). Over load warning device (Optional for Crane use).

TOOLS, LUB KIT AND ACCESSORIES: A set of tools, lubrication kit, and accessories are furnished as standard. Electric installations such as Inside cab light, Two flood lights (2×60 W), Inspection lamp, Ammeter, Water temperature gauge, Fuel gauge, Oil pressure gauge and Window shield wiper are furnished as standard.

● LOWER MACHINERY

CARBODY AND AXLES: All-welded unitized constructions.

TRACTOR TYPE CRAWLERS: Automatic spring-loaded track tension. 12 lower roller in each frame, with double rolling surface—178 mm (7″) dia.

CRAWLER FRAME SPRAWLING MECHANISM: Crawler side frames are extendable and retractable by means of hydraulic cylinders to convert from wide track operating condition to a narrower overall width for travel and transportation.

Hydraulic pump ..... 95 kg/cm² (1,350 lbs. per sq. in), 26 liters/min (6.9 US gal./min)
Oil tank capacity.....60 liters (15.9 Us gal.)
Hydraulic cylinder .....125 mm (4.92″) bore × 330 mm (13″) stroke.
Extension speed .....17.5 mm/sec. (0.69″ per sec.)
Retraction speed.....23.0 mm/sec. (0.91″ per sec.)

CRAWLER DRIVE: Spring loaded double acting propel and steering brakes release automatically under engine power when traveling, set automatically when popelling power is not applied. Independent travel.

STEERING MECHANISM: Sliding jaw clutches, one on each side control application of propelling power to each crawler. When either side is disengaged, propel brake on that side remains set, thus locking that crawler.

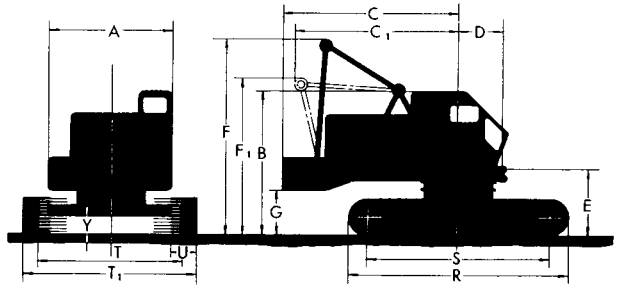
CRAWLER SHOES: Total number—both sides 116
Forged flat shoes—standard width ..... 760 mm (30″)
Forged flat shoes—optional width ..... 914 mm (36″)

TRAVEL SPEED: Normal ..... 1.4 km/h (0.87 mph)
In low range ..... 0.9 km/h (0.56 mph)

PERCENT GRADE 30%

● GENERAL DIMENSIONS

	Meters	Inches
A —Width of cab	2.81	(110.6)
B —Height to top of cab	3.26	(128.3)
C —Radius of rear end (counterweight)	3.83	(150.8)
C_1—Radius of rear end (gantry lowered)	3.82	(150.4)
D —Center of rotation to boom foot pin	1.05	(41.3)
E —Height from ground to boom foot pin	1.54	(60.6)
F —Clearance height over gantry (raised)	4.68	(184.3)
F_1—Clearance height over gantry (lowered)	3.39	(133.5)
G —Counterweight ground clearance	1.02	(40.2)
R —Overall length of crawlers	4.99	(196.5)
S —Center to cener of sprokets	4.17	(164.2)
T —Overal width of crawlers (760 mm shoes)—retracted	3.30	(129.9)
T_1—Overal width of crawlers (760 mm shoes)—extended	3.96	(155.9)
U —Width of shoes		
standard	0.76	(30.0)
optional extra	0.91	(36.0)
Y —Ground clearance of carbody	0.30	(11.8)



Crane

41M. ton Crane Load
42.67m(140′) Boom
36.58m(120′) Boom+12.19m(40′) Jib

●GENERAL DATA

BOOM: Tubular T-1 steel chords, lattice construction. Basic length. pin connected in two equal sections... 12.19 m (40′) Open throat with four offset boom point sheaves on anti-friction bearings, bottom dia.....451 mm (17.76″) 12 part boom hoist reeving standard.

BOOM INSERT (Optional): Insert length.....3.05 m (10′), 6.10 m (20′), 9.14 m) 30′).

Maximum boom length ..... 42.67 m (140′)

HOOK BLOCK: Four sheaves with swivel hook for 1-8 part hoist line, standard ..... 41 metric tons 15 metric tons single sheave with swivel hook for 1-3 part hoist line, optional.

JIB (Optional): Tubular lattice carbon steel construction. Basic length, pin connected in two equal sections.....6.10 m (20′)

Open throat with one boom point sheave.

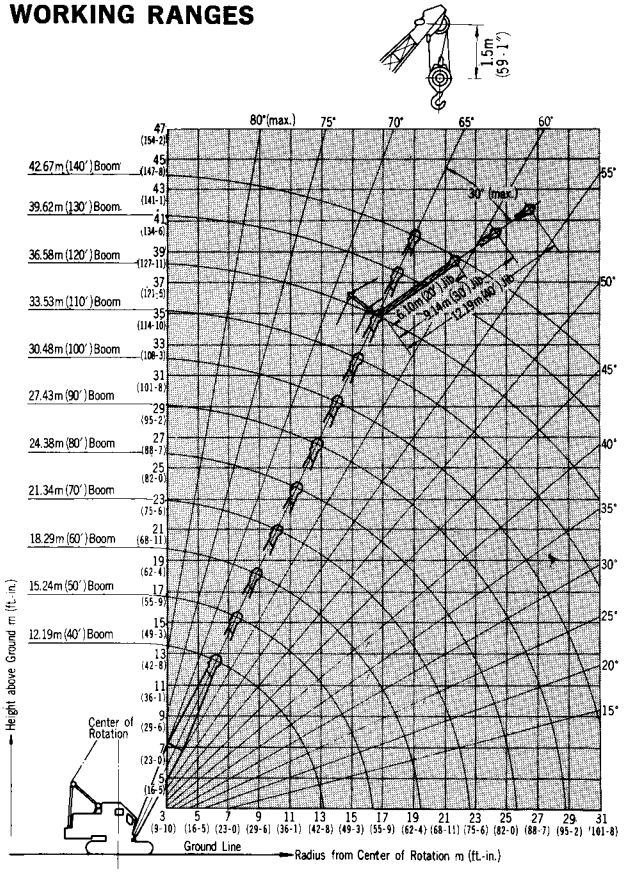
JIB INSERT (Optional): Insert length.....3.05 m (10′) Maximun jib length..... 12.19 m (40′)

POWER CONTROLLED LOAD LOWERING: Planetary device for lowering load under power (left hand grooved drum), Standard for Crane use (Main hoist only).

GANTRY: High gantry folding type.

WORKING WEIGHT: (Including block) ..... 40,100 kg (88,400 lbs.)
[12,000 kg (26,500 lbs.) counterweight included in weight, furnished as standard.]

WORKING RANGES



DRUM SHAFT ASSEMBLY

** Lifting Crane Drums (P.D.)	Cable Dia.	Max. Cable Capacity	* Line Pulls	* Line Speeds
L.H. 400 mm (17.32″)	20 mm (0.79″)	160 m (525′)	7,450 kg (16,400 lbs.)	46 m/min (151 fpm)
R.H. 400 mm (17.32″)	20 mm (0.79″)	160 m (525′)	7,450 kg (16,400 lbs.)	46 m/min (151 fpm)

* Line Pulls and Line Speeds based on single part line in normal operating gear, to fit job requirements, line pull and line speed can be varied by shifting into another gear.

** L.H. grooved drum (crane with power lowering), R.H. grooved drum.

GROUND PRESSURES

Shoe Width	760 mm (30″)	914 mm (36″)
kg/cm² (lbs. per sq. in.)	0.60 (8.53)	0.52 (7.40)

● LIFTING CAPACITIES

RATED CRANE LOADS IN KG (LBS.)—MAIN BOOM IN 360° WORK AREA WITH CRAWLER FULLY EXTENDED

Operating Radius in Meters (Ft.-In.)	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			27.43 m (90') Boom		
	Angle (°)	Boom Pt. El.	Rating	Angle (°)	Boom Pt. El.	Rating	Angle (°)	Boom Pt. El.	Rating	Angle (°)	Boom Pt. El.	Rating	Angle (°)	Boom Pt. El.	Rating	Angle (°)	Boom Pt. El.	Rating
3.5 (11-6)	79	13.5 (44-2)	40,816 **(90,000)**															
4.0 (13-1)	76	13.4 (43-9)	31,700 (69,890)	79	16.5 (54-1)	31,600 (69,670)												
4.5 (14-9)	74	13.2 (43-9)	26,000 (57,320)	77	16.4 (53-8)	25,900 (57,100)	79	19.5 (64-0)	25,800 (56,880)									
5.0 (16-5)	71	13.1 (42-9)	22,100 (48,720)	75	16.2 (53-3)	22,000 (48,500)	78	19.4 (63-6)	21,900 (48,280)	80	22.5 (73-9)	21,800 (48,060)						
6.0 (19-8)	66	12.7 (41-6)	16,900 (37,260)	71	16.0 (52-3)	16,800 (37,040)	74	19.1 (62-8)	16,700 (36,820)	77	22.3 (73-2)	16,600 (36,600)	78	25.4 (83-4)	16,500 (36,380)	80	28.5 (93-6)	16,400 (36,160)
7.0 (23-0)	61	12.2 (40-0)	13,600 (29,980)	67	15.6 (51-1)	13,500 (29,760)	71	18.8 (61-8)	13,400 (29,540)	74	22.9 (75-1)	13,300 (29,320)	76	25.2 (82-7)	13,200 (29,100)	78	28.3 (92-11)	13,100 (28,880)
8.0 (26-3)	55	11.6 (37-9)	11,400 (25,130)	63	15.1 (49-5)	11,300 (24,910)	68	18.5 (60-6)	11,200 (24,690)	71	21.7 (71-2)	11,100 (24,470)	74	24.9 (81-9)	11,000 (24,250)	76	28.1 (92-1)	10,900 (24,030)
9.0 (29-6)	49	10.8 (35-4)	9,700 (21,380)	59	14.5 (47-7)	9,600 (21,160)	64	18.0 (59-1)	9,500 (20,940)	68	21.3 (70-0)	9,400 (20,720)	71	24.6 (80-8)	9,300 (20,500)	73	27.8 (91-2)	9,200 (20,280)
10.0 (32-10)	43	9.8 (32-2)	8,500 (18,740)	54	13.9 (45-5)	8,400 (18,520)	61	17.4 (57-2)	8,300 (18,300)	65	20.9 (68-7)	8,200 (18,080)	69	24.2 (79-5)	8,100 (17,860)	71	27.5 (90-1)	8,000 (17,640)
12.0 (39-4)	26	6.9 (22-6)	6,700 (14,770)	44	12.1 (39-8)	6,600 (14,550)	53	16.2 (53-1)	6,500 (14,340)	59	19.9 (65-2)	6,400 (14,110)	64	23.3 (76-6)	6,300 (13,890)	67	26.7 (87-7)	6,200 (13,670)
14.0 (45-11)				32	9.6 (31-4)	5,400 (11,900)	45	14.5 (47-4)	5,300 (11,860)	53	18.5 (60-8)	5,200 (11,460)	58	22.2 (72-10)	5,100 (11,240)	62	25.7 (84-5)	5,000 (11,020)
16.0 (52-6)							35	12.1 (39-5)	4,450 (9,810)	46	16.8 (55-2)	4,350 (9,590)	52	20.8 (68-3)	4,250 (9,370)	57	24.5 (80-6)	4,150 (9,150)
18.0 (59-1)										38	14.5 (47-7)	3,670 (8,090)	46	19.1 (62-7)	3,570 (7,870)	52	23.1 (75-10)	3,470 (7,650)
20.0 (65-7)										28	11.4 (37-3)	3,160 (6,970)	39	16.9 (55-5)	3,060 (6,750)	47	21.4 (70-1)	2,960 (6,530)
25.0 (82-0)																29	14.9 (48-11)	2,060 (4,540)
30.0 (98-5)																		

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 are only for combination of KOBE manufactured upper, crawler, boom, jib and counterweights.
3. Ratings shown do not exceed 75% of tipping load. Deduct weight of hook, block(s), slings and all other load handling accessories from the main boom or jib ratings shown.
4. Boom backstops are required for all boom length. Boom inserts must be arranged as shown in the "Owner and Operator's Manual".
5. Gantry must be in raised position for all "Crawler extended" ratings.
6. When boom is equipped with jib, main hook ratings must be reduced by 700 kg (1,540 lbs.) for 6.10 m (20') or 9.14 m (30') jib and 900 kg (1,980 lbs.) for 12.19 m jib.
7. Ratings shown are based on freely suspended loads and make no 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 speeds accordingly.
8. Crawler frames must be fully extended for all crane operations.