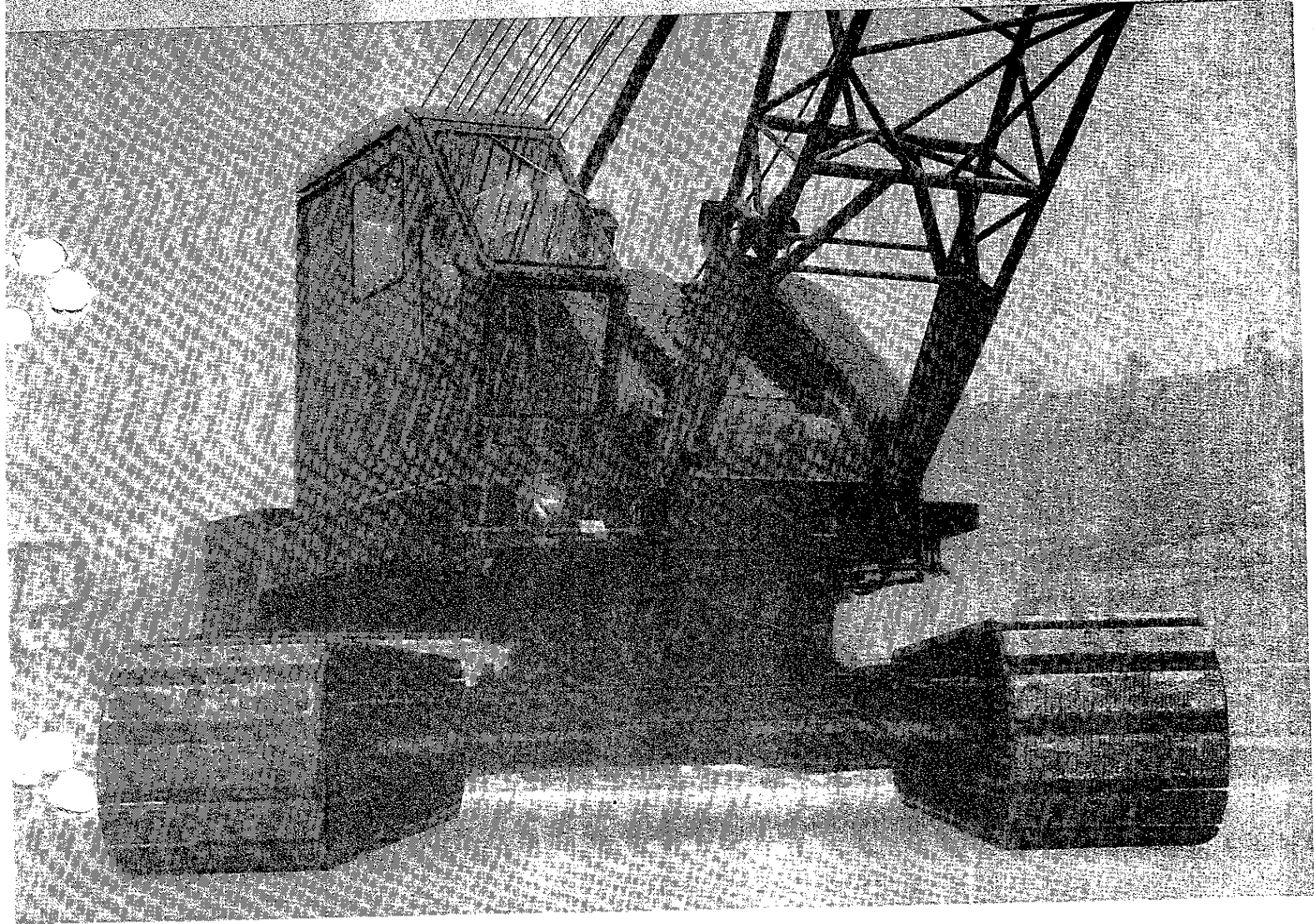


# P&H

# 440-S

## CRANE, CLAMSHELL, DRAGLINE



### P&H BUILT TO MEET TODAY'S RIGID PRODUCTION DEMANDS!

Only P&H Offers you ALL these features as STANDARD equipment.

- **Exclusive P&H power box construction**—Provides the most efficient method of transmitting power . . . rugged all-welded construction . . . vital gears operate in oil bath . . . seals out dirt and foreign material.
- **Hydraulic controls**—Provide positive control . . . accurate load positioning . . . minimize operator fatigue.
- **Propel shaft is splined** for easy extension and retraction. Axles fitted into close tolerance guides for smooth operation. Easily removed pins allow for quickly adjusted stabilizer bar.
- **True tractor-type crawlers**—Provide greater traction, increased stability with longer life . . . require far less maintenance. Large diameter sprockets give smooth rolling action.
- **Automatic propel brakes**—Spring loaded, double-acting propel and steering brakes are released and set automatically. Assure positive holding power on the steepest slopes.
- **"Triple-safe" independent planetary boom hoist**—Assure precision handling of boom through "Triple-safe" independent expanding-band clutch, automatic brake and planetary gearing system.
- **Exclusive P&H live roller circle**—Assures smooth, fast easier swing . . . even weight distribution of upper and load . . . more efficient work cycles.

Bulletin No. 440S-1



## KOBE STEEL, LTD.

# CRANE 40 metric ton SPECIFICATIONS

## P&H CRANE ATTACHMENT

The P&H boom has lattice-type, all-welded construction of T-1 tubular steel which provides the strongest crane boom available with the lowest relative weight.

- The P&H open-throat design provides greater load clearance. Boom point sheaves ride on anti-friction bearings for longer wear.
- Booms feature an offset head for added clearance feature which gives increased lifting height for each boom length.
- P&H pin connections permit fast, easy erection and takedown.

## GENERAL DATA

**BOOM:** Tubular T-1 steel chords, lattice construction.

Basic length, pin connected in two equal sections ... 12.19 m (40')

With four offset boom point sheaves on anti-friction

bearings.....bottom dia. .... 451 mm (17 3/4')

Twelve part boom hoist reeving, standard.

**HOOK BLOCK** ..... 15 ton

Four sheaves with swivel hook for 1~8 part hoist line, optional extra.

**POWER CONTROLLED LOAD LOWERING:** Planetary device for lowering load under power, both drums (grooved drum), optional extra.

**WORKING WEIGHT:** (including block)

.....approx. 40,100 kg (88,220 lbs)

[12,000 kg (26,400 lbs.) counterweight included in weight, furnished as standard.]

## DRUM SHAFT ASSEMBLY

| **Lifting Crane Drums      | Cable Dia.   | Max. Cable Capacity | *Line Pulls            | *Line Speeds        |
|----------------------------|--------------|---------------------|------------------------|---------------------|
| L.H. 400 mm (15 3/4") P.D. | 20 mm (3/4") | 160 m (525')        | 7,450 kg (16,400 lbs.) | 46 m/min. (151 fpm) |
| R.H. 400 mm (15 3/4") P.D. | 20 mm (3/4") | 160 m (525')        | 7,450 kg (16,400 lbs.) | 46 m/min. (151 fpm) |

\* Line pulls and line speeds based on single-line in normal operating gear, to fit job requirements, line pull and line speed can be varied by shifting into another gear.

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

## GROUND PRESSURE

| Shoe Width in mm (inch)...             | 760 mm (30")  | 914 mm (36")  |
|--|---|---|
| Kg/cm <sup>2</sup> (Lbs. per sq. inch) | 0.60 kg/cm <sup>2</sup> (8.53 lbs/in <sup>2</sup> ) | 0.52 kg/cm <sup>2</sup> (7.39 lbs/in <sup>2</sup> ) |

## RATED CRANE LOADS IN KGS (LBS)

| Operating Radius in m (ft) | 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 | 30.48 m (100') Boom | 33.53 m (110') Boom | 36.58 m (120') Boom | 39.62 m (130') Boom | 42.67 m (140') Boom |
|----------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 3.5 (11.5)                 | 40,000 (88,000)    | ...                | ...                | ...                | ...                | ...                | ...                 | ...                 | ...                 | ...                 | ...                 |
| 4 (13.12)                  | 31,700 (69,890)    | 31,400 (69,670)    | ...                | ...                | ...                | ...                | ...                 | ...                 | ...                 | ...                 | ...                 |
| 4.5 (14.7)                 | 26,000 (57,320)    | 25,900 (57,100)    | 25,800 (56,880)    | ...                | ...                | ...                | ...                 | ...                 | ...                 | ...                 | ...                 |
| 5 (16.4)                   | 22,100 (48,730)    | 22,000 (48,510)    | 21,900 (48,290)    | 21,800 (48,070)    | ...                | ...                | ...                 | ...                 | ...                 | ...                 | ...                 |
| 6 (19.6)                   | 16,900 (37,260)    | 16,800 (37,040)    | 16,700 (36,820)    | 16,600 (36,600)    | 16,500 (36,380)    | 16,400 (36,160)    | ...                 | ...                 | ...                 | ...                 | ...                 |
| 7 (22.9)                   | 13,600 (29,990)    | 13,500 (29,770)    | 13,400 (29,550)    | 13,300 (29,330)    | 13,200 (29,110)    | 13,100 (28,890)    | 13,000 (28,660)     | ...                 | ...                 | ...                 | ...                 |
| 8 (26.2)                   | 11,400 (25,140)    | 11,300 (24,920)    | 11,200 (24,700)    | 11,100 (24,480)    | 11,000 (24,260)    | 10,900 (24,040)    | 10,800 (23,810)     | 10,700 (23,590)     | ...                 | ...                 | ...                 |
| 9 (29.5)                   | 9,700 (21,390)     | 9,600 (21,170)     | 9,500 (20,950)     | 9,400 (20,730)     | 9,300 (20,510)     | 9,200 (20,290)     | 9,100 (20,070)      | 9,000 (19,850)      | 8,900 (19,630)      | 8,800 (19,410)      | ...                 |
| 10 (32.8)                  | 8,500 (18,740)     | 8,400 (18,520)     | 8,300 (18,300)     | 8,200 (18,080)     | 8,100 (17,860)     | 8,000 (17,640)     | 7,900 (17,420)      | 7,800 (17,200)      | 7,700 (16,980)      | 7,600 (16,760)      | 7,500 (16,540)      |
| 12 (39.3)                  | 6,700 (14,780)     | 6,600 (14,560)     | 6,500 (14,330)     | 6,400 (14,110)     | 6,300 (13,890)     | 6,200 (13,670)     | 6,100 (13,450)      | 6,000 (13,230)      | 5,900 (13,010)      | 5,800 (12,790)      | 5,700 (12,570)      |
| 14 (45.9)                  | ...                | 5,400 (11,910)     | 5,300 (11,690)     | 5,200 (11,470)     | 5,100 (11,250)     | 5,000 (11,030)     | 4,900 (10,810)      | 4,800 (10,590)      | 4,700 (10,370)      | 4,600 (10,150)      | 4,500 (9,930)       |
| 16 (52.4)                  | ...                | ...                | 4,450 (9,820)      | 4,350 (9,600)      | 4,250 (9,370)      | 4,150 (9,150)      | 4,050 (8,930)       | 3,950 (8,710)       | 3,850 (8,490)       | 3,750 (8,270)       | 3,650 (8,050)       |
| 18 (59.0)                  | ...                | ...                | ...                | 3,670 (8,100)      | 3,570 (7,880)      | 3,470 (7,650)      | 3,370 (7,430)       | 3,270 (7,210)       | 3,170 (6,990)       | 3,070 (6,770)       | 2,970 (6,550)       |
| 20 (65.6)                  | ...                | ...                | ...                | 3,160 (6,970)      | 3,060 (6,750)      | 2,960 (6,530)      | 2,860 (6,310)       | 2,760 (6,090)       | 2,660 (5,870)       | 2,560 (5,650)       | 2,460 (5,430)       |
| 25 (82.0)                  | ...                | ...                | ...                | ...                | ...                | 2,060 (4,550)      | 1,960 (4,330)       | 1,860 (4,110)       | 1,760 (3,890)       | 1,660 (3,670)       | 1,560 (3,450)       |
| 30 (98.5)                  | ...                | ...                | ...                | ...                | ...                | ...                | ...                 | 1,270 (2,800)       | 1,170 (2,580)       | 1,070 (2,360)       | 970 (2,140)         |

Operating radius is 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 75 percent of tipping loads with the machine standing on a firm, level, uniformly supporting surface. The crawler frames must be in fully extended position. These crane ratings include weight of hook, blocks, slings and all other crane handling accessories. Backstops recommended for all boom lengths. When boom is equipped with jib, main hook ratings should be reduced by 700 kg (1,540 lbs.) for 6.10 m (20 ft) or 9.14 m (30 ft.) jib and 900 kg (2,000 lbs.) for 12.19 m (40 ft.) jib.

**MAXIMUM JIB RATINGS IN KGS (LBS)**

| Offset Angle Jib to Boom under Full Load | 6.10 m (20') Jib | 9.14 m (30') Jib | 12.19 m (40') Jib |
|--|------------------|------------------|-------------------|
| 10°                                      | 4,540 (10,000)   | 3,630 (8,000)    | 2,720 (6,000)     |
| 20°                                      | 4,080 (9,000)    | 3,180 (7,000)    | 2,270 (5,000)     |
| 30° (max.)                               | 3,630 (8,000)    | 2,720 (6,000)    | 1,810 (4,000)     |

Jib ratings at any radius from center of rotation are the same as crane ratings shown in table for main boom when operated at that radius, but do not exceed maximum jib ratings shown. For bucket ratings on jib, deduct ten percent from maximum jib ratings. Maximum jib operating radius not to exceed length of main boom on which it is being used.

**HOIST REEVING**

| No. of Parts of Line    | 1              | 2               | 3               | 4               | 5               | 6               | 7               | 8               |
|-------------------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Max. Load in kgs (lbs.) | 5,000 (11,000) | 10,000 (22,000) | 15,000 (33,000) | 20,000 (44,000) | 25,000 (55,000) | 30,000 (66,000) | 35,000 (77,000) | 40,000 (88,000) |

**MAXIMUM BOOM LENGTH MACHINE CAN LIFT OFF GROUND**

|  | Boom Only      | Boom & Jib                     |
|--|----------------|--------------------------------|
| Crawler frame is fully extended position | 42.67 m (140') | 36.58 m + 12.19 m (120' + 40') |

