



## LIFTING CHARTS - Crawler Cranes

### KOBELCO MODEL CK2500-II - 250 TON CAPACITY

The Kobelco CK2500-II Crawler Crane is designed from the ground up for reliable operation, convenient maintenance and easy transport.

Please consult your Kobelco distributor for additional information regarding specifications, operating parameters and maintenance requirements.

#### 1. GENERAL DESCRIPTION

<b>Type</b>	Crawler mounted, fully revolving
<b>Maximum lifting capacity</b>	500,000 lbs (226,800 kg) at 16' (4.88 m) operating radius, with 50' (15.2 m) boom
<b>Maximum boom length</b>	300' (91.4 m)
<b>Maximum boom &amp; jib length</b>	250' + 100' (76.2 m + 30.5 m)
<b>Basic boom length</b>	50' (15.2 m)
<b>Working weight</b>	Approx. 476,200 lbs (216,000 kg) (Including Upper and Lower machine, counterweights, carbody weights, 50' boom, 250 ton Hook block)
<b>Ground pressure</b> (with basic boom)	Approx. 14.6 psi (101 kPa)
<b>Gradeability (with basic boom)</b>	30%

#### 2. GENERAL DIMENSIONS

<b>Height to top of cab</b>	12' 6" (3,810 mm)
<b>Width of upper machine with operator's cab</b>	11' 2" (3,400 mm)
<b>Radius of rear end (counterweight)</b>	19' 8" (6,000 mm)
<b>Counterweight ground clearance</b>	4' 11" (1,490 mm)
<b>Center of rotation to boom foot pin</b>	4' 7" (1,400 mm)
<b>Height from ground to boom foot pin</b>	8' 4" (2,530 mm)
<b>Height over gantry (raised)</b>	18' 2" (5,530 mm)
<b>Overall length of crawler</b>	29' 6" (8,985 mm)
<b>Center to center of tumbler</b>	25' 11" (7,895 mm)
<b>Overall width of crawlers</b>	25' 4" (7,730 mm)
<b>Shoe width</b>	52" (1,330 mm)
<b>Ground clearance of carbody</b>	17" (435 mm)

#### 3. WORKING SPEED

Line speeds based on single line, no load and first layer of rope on the drum.

<b>Hoist line speed (front and rear drum)</b>	360 ft/min (110 m/min)
<b>Lowering line speed (front and rear drum)</b>	360 ft/min (110 m/min)
<b>Boom hoist line speed</b>	144 ft/min (44 m/min)

#### Boom lowering line speed

144 ft/min (44 m/min)

#### Swing speed

2.2 rpm (2.2 min<sup>-1</sup>)

#### Travel speed (High / Low)

0.69 / 0.44 mph  
(1.1 / 0.7 km/hour)

#### 4. UPPER MACHINERY

##### 4.1 Power plant

##### Diesel engine, make and model

Hino P11C-UN (Comply with EPA "Tier 3")

##### No. of cylinders

6

##### Bore\_stroke

4-13/32" x 5-29/32"  
(122 mm x 150 mm)

##### Cycles

4

##### Total displacement

642 cu.in (10,520 liters)

##### Rated output SAE GROSS

331 HP / 2,000 rpm  
(247 kW / 2,000 min<sup>-1</sup>)

##### Maximum torque

959 lbs-ft / 1,500 rpm  
(1,300 N-m / 1,500 rpm)

##### Starter

24 Volts / 6.0 kW

##### Alternator

24 Volts / 50 Amp

##### Batteries

Two 12 volt, 136 AH capacity series connected.

##### Radiator

Corrugated type core, thermostatically controlled.

##### Throttle

Twist grip type hand throttle, electrically actuated.

##### Air cleaner

Dry type with replaceable paper element.

##### Fuel tank capacity

106 US gal. (400 liters)

##### Lube oil filter

Full flow and by-pass type with  
replaceable element.

##### Fuel filter

replaceable paper element.

##### 4.2 Hydraulic pumps

All driven from heavy duty pump drive.

##### Load hoist and propel

2 Piston pumps

##### Boom hoist

1 Piston pump

##### Swing

1 Piston pump

##### Control system and auxiliary

2 Gear pumps

##### 4.3 Counterweight

##### Upper counterweight

198,400 lbs(90,000 kg)

##### Carbody counterweight

52,900 lbs (24,000 kg)

# STERLING CRANE

## 4.4 Gantry

This high folding type gantry is fitted with a sheave frame for boom hoist reeving. Hydraulic lift is standard. It provides full up, full down positions with linkage.

## 4.5 Operator's Cab

Totally enclosed from weather, this full-vision cab has safety glass all around. The adjustable, high-backed seat with armrest is standard, allowing operators to customize the position. Auxiliary controls and instruments are on a side mounted console. A signal horn, windshield wipers, air conditioner are all standard features.

## 4.6 Controls

At operator's right are console-mounted adjustable short levers for the front and rear drum and the boom hoist control. Beside the operator's seat on the right are two short levers for propel control, individual speed shifts for front drum, rear drum and boom drum. At the operator's left are the console mounted swing lever, knobs for front and rear drum, boom drum pawls, engine start / stop key. A swing brake control switch and signal horn button are on the swing lever.

## 4.7 Electric system

All wiring corded for easy serving with individual, fused branch circuit.

## 4.8 Hydraulic system

**Maximum pressure rating** 4,620 psi (320 kg/cm<sup>2</sup>)

**Cooling** Oil to air heat exchanger

### Filtration

Full flow filters with replaceable paper elements and bypass type with replaceable element.

**Reservoir capacity:** 142 US gal (540 liters)

## 4.9 Boom hoist

Powered by hydraulic motor through planetary reducer.

**Drum** Double drum.  
Grooved for 1" (26 mm) dia. wire rope.

### Brake

A spring set, hydraulically-released, multiple-disc holding brake is mounted inside the boom hoist motor and is operated through a counter-balance valve. An external ratchet is fitted for locking the drum.

## 4.10 Front drum

Powered by hydraulic motor through planetary reducer.

### Drum

24-5/16" (617.4 mm) P.C.D. X 32' 13/16"  
(833.7 mm) Lg., Grooved for 1" (25.4 mm)  
dia. wire rope.

### Brake

A spring set, hydraulically-released, multiple-disc holding brake is mounted on the boom hoist motor and is operated through a counter-balance valve. An external ratchet is fitted for locking the drum.

## 4.11 Rear drum

Powered by hydraulic motor through planetary reducer.

### Drum

24.3" (617.4 mm) P.C.D. X 32.8"  
(833.7 mm) Lg., Grooved for 1" (25.4 mm)  
dia. wire rope. Rope capacity is 1,263' (385 m)  
working, 1,969' (600 m) storage length.

### Brake

A spring set, hydraulically-released, multiple-disc holding brake is mounted inside the hoist motor and is operated through a counter-balance valve. An external ratchet is fitted for locking the drum.

## 4.12 Swing

**Swing Function** Hydraulic motor driving through planetary reducer (2 sets) to output swing pinion for 360° rotation.

**Swing Brake** Spring set hydraulically released multiple disk brake mounted on swing motor.

**Swing Circle** Single row ball bearing with internal, integral swing gear.

## 5. LOWER MACHINERY

### 5.1 Carbody

The durable carbody features steel welded construction with extendible axles.

### 5.2 Crawler

Crawler belt tension adjusted with hydraulic jack and maintained by shims between the idler block and frame.

### 5.3 Crawler drive

The independent hydraulic propel drive is built into each crawler side frame. Each drive consists of a hydraulic motor driving a propel sprocket through a planetary gear box. The hydraulic motor and gearbox are built into the crawler side frame within the shoe width.

### 5.4 Crawler brakes

Spring set, hydraulically released, multiple disk-type parking brakes are built into each propel drive.

# STERLING CRANE

## 5.5 Steering mechanism

The hydraulic propel system provides both skid steering (driving one track only) and counter-rotating steering (driving each track in opposite direction).

## 5.6 Crawler shoes

67 shoes, 52" (1,330 mm) wide each crawler.

## 5.7 Track rollers

The track rollers are sealed for maintenance-free operation.

## 6. CRANE ATTACHMENTS

### 6.1 Standard Crane boom

Tubular high tensile steel chords all welded, lattice construction, pin connected.

**Extendible up to 300' (91.4 m)**

**Basic boom length** 50' (15.2 m)  
**Boom base section** 25' (7.6 m)  
**Boom tip section** 25' (7.6 m)

### 6.2 Boom insert (Optional)

Boom insert available for extension, tubular high tensile steel chords all welded, lattice construction, pin connected, each one of 10' (3.05 m), 20' (6.10 m), 40' (12.2 m) length.

### 6.3 Jib (Optional)

Tubular high tensile steel chords all welded, lattice construction, pin connected.

**Extendible up to 100' (30.5 m)**

**Basic jib length** 40' (12.2 m)  
**Jib base section** 15' (4.6 m)  
**Jib tip section** 15' (4.6 m)  
**Jib insert** 10' (3.0 m), 20' (6.1 m)

Jib inserts are available to provide extension capabilities. They also have welded lattice construction with tubular, high-tension steel chords and pin connections. Jib is extendible on booms of 90' (27.4 m) through 250' (76.2 m).

Jib only fits on the standard boom and does not fit on boom exceeding length of 250' (76.2 m).

### 6.4 Auxiliary sheave (Optional)

### 6.5 Diameter of wire rope

**Hoist rope** 1" (25.4 mm)  
**Boom hoist rope** 1-1/32" (26 mm)  
**Boom suspension rope** 1 5/16" (34.0 mm)  
**Jib suspension rope** 1 5/16" (34.0 mm)

## 6.6 Line Pull

	Rated line pull	*Max. line pull
Front Drum	29,500 lbs (13,380 kg)	55,000 lbs (24,950 kg)
Rear Drum	29,500 lbs (13,380 kg)	55,000 lbs (24,950 kg)

## 6.7 Wire rope specifications

Use	Specs	Diameter inch (mm)	Working Length Feet (m)	Breaking Strength Lbs (kg)
Front Drum	IWRC C/O 6 x Fi (25)	1" (25.4)	1,575' (480)	103,500 (46,900)
Rear Drum	IWRC C/O 6 x Fi (25)	1" (25.4)	1,263' (385)	103,500 (46,900)
Boom Hoist Drum	IWRC O/O 6 x WS (31)	1-1/32" (26)	935' (285)	124,500 (56,500)
Luffing Jib Drum	IWRC O/O 6 x WS (31)	7/8" (22)	870' (265)	89,330 (40,500)

## 6.8 Boom hoist reeving

Sixteen (16) parts of 1-1/32" (26 mm) dia. high strength wire rope.

## 6.9 Boom backstops

Required for all boom lengths.

## 7. AUXILIARY EQUIPMENT

### 7.1 Lights

Two (2) front flood lights  
 One (1) cab inside light

### 7.2 Gauges and warning display

#### Gauges

One (1) Tachometer  
 One (1) Hour meter  
 One (1) Fuel gauge  
 One (1) Water temperature gauge for engine

#### Warning display

Battery charge  
 Engine oil pressure  
 Air cleaner  
 Engine oil filter  
 Control main pressure  
 Hydraulic oil temperature

### 7.3 Others

Air conditioner  
 Drum turn indicator (front and rear drum)  
 Foot acceleration pedal  
 Electric fuel pump  
 Counterweight self-removal device

## 8. SAFETY SERVICE

- Over load protective device (Moment limiter)
- Function lock lever
- Boom over hoist limit switch
- Signal horn
- Front and rear hoist drum lock
- Swing alarm (Buzzer and lamps)
- Hook over hoist shut off (Anti-two-block)
- Boom angle indicator
- Boom hoist drum lock
- Swing lock
- Boom backstops

## 9. TRANS-LIFTER

The trans-lifter system allows quick and easy removal of the crawler side frames and trailer loading for transport. Four vertical cylinders lift the basic machine for self-loading onto a trailer. Four horizontal axle pin cylinders facilitate the removal and replacement of the side frames.

## 10. TOOLS AND ACCESSORIES

A complete set of standard tools and accessories is furnished.

## 11. MAST

Fitted with a point sheave, the newly designed mast enhances lifting capabilities and also handling of major components during self-erection. Raises and lowers by means of a hydraulic cylinder.

All specifications are subject to change without notice.