

CK2000-II

HYDRAULIC CRAWLER CRANE



Max. Lift Capacity: 200 US Tons

Max. Boom Length: 280 ft

Max. Boom + Jib Length: 240 ft + 100 ft

Max. Lift Capacity with Luffing Jib: 107,100 lbs

Max. Boom Length: 180 ft

Max. Luffing Jib Length: 170 ft

KOBELCO

KOBELCO CRANES NORTH AMERICA, INC.

Reliability is the History of Quality

Features

Cab & Controls

Cab Comfort

Kobelco knows that operator comfort is directly related to performance and has developed the ideal balance between comfort and ergonomics in the CK2000-II's cab design.

Settle into the fully adjustable operator's seat and you'll discover just how comfortable crane operation can be. Viscous silicon-filled cab mounts help eliminate shocks and vibrations that can fatigue an operator and degrade his productivity over a long shift. An air conditioner with fresh air vents will supply plenty of cool air to maintain the operator's desired temperature level.

Totally enclosed from weather, this full-vision cab has safety glass all around. The adjustable, high backed seat with arm rest is standard, allowing operators to customize the position. Whether you're lifting a load, digging with the clamshell or driving piles, there is plenty of leg room and nothing to obstruct the lower field of view. The length and angle of the control levers can be adjusted to the best working position for each operator.

Precise Operation with Responsive Control

Full-hydraulic technology delivers quick, efficient response, with excellent precision. Pilot pressure-assisted controls allow you to control the speed and power of each function in proportion to lever movement. In addition, the hydraulic system is designed so that each function operates independently, ensuring smooth and consistent performance when different functions are used simultaneously. Further precision is available using "inching mode", slowing the machine functions up to 70%.

LCD Display

The easy-to-read LCD multi-display provides current status information on such functions as engine rpm, maintenance and on-board trouble-shooting, providing the operator with an ongoing real-time assessment of the machine's conditions at a glance.

Electric Throttle Control

Sensitive engine control is also assured by an electric throttle control with a twist grip that rotates just 120 degrees to maintain comfortable wrist movement. Or the operator can choose to use the floor mounted accelerator pedal.

Hydraulic Pilot Control System

Smooth, precise operation is ensured by a sophisticated pilot control system that opens and closes the valve spools in direct proportion to control lever movement. The boom hoist and travel circuits have brakes that are spring-set and hydraulically released. When the control levers are in neutral, the spring-applied disc brake stops movement. When the control levers are engaged, pilot pressure releases the brakes.

Free-Fall and Power Lowering

A choice of either power lowering or free-fall mode can be selected for the winch drum according to requirements. In the power lowering mode, the drum clutch is constantly engaged and the load is powered down at a variable speed. In free-fall mode, the clutch is released automatically when the control lever is placed in neutral and lowering is controlled by the foot-operated brake.



Features

Cab & Controls / Engine

Key-Controlled Release Switches

By using the key-controlled release switches, the safety enhancing mechanisms can be engaged or cancelled for specific operational needs.



Free-Fall Control Switches

The Free-Fall Control Switches, strategically located on the hoist levers, allow the operator to engage free-fall whenever desired without removing his hands from the control levers. The Free-Fall Lock Switch, located on the Key-Controlled Switch panel, must be turned to the “on” position prior to free-fall operation. The red indicator lights will illuminate when it is activated.



Dial-Type Drum Speed Control

Speeds for the main winch, auxiliary winch and boom hoist can be set independently with dial controls. By turning the dials to the right the speed of the drums are increased. Turn the dials to the left to decrease the speed of the drums. This feature allows operators to match line speeds for certain jobs, regardless of parts of line.



Wet-Type Multi-Disc Brake System

The CK2000-II's wet-type multi-disc brake system reduces operator fatigue over extended periods of repeated braking while operating in the free-fall mode.



Load Moment Indicator System

The load moment indicator system on the CK2000-II was designed by Kobelco engineering, specifically for Kobelco cranes. This unique system utilizes a large LCD color screen to display accurate load information in the form of numerical data and colorful, user friendly graphics to facilitate at a glance understanding of the current load status. Kobelco's LMI system has a reputation of being one of the most advanced, user friendly, and reliable systems available in today's market.

Additional Features From Kobelco Engineering Include:

- Function lock-out lever - In the “up” position disengages all hydraulic functions while the operator enters & leaves the cab.
- Inching control - Slows the machine's hydraulic functions to 1/3 of normal speed except for swing, for precision applications.
- Electric throttle - Located on the swing control lever for light, precise engine control.

Power Plant

| | |
|--------------------------|--|
| Diesel Engine Model/Make | Hino P11C-UN (Tier 3 Compliant) |
| No. of Cylinders | 6 |
| Bore and Stroke | 4-13/16" x 5-7/8" (122 mm x 150 mm) |
| Displacement | 642 cu. in. (10,520 cm ³) |
| Rated Power (SAE Gross) | 331 HP / 2,000 rpm (247 kW / 2,000 min ⁻¹) |
| Max. Torque | 959 lbs-ft / 1,500 rpm (1,300 Nm / 1,500 min ⁻¹) |
| Fuel Tank Capacity | 106 US gal (400 liters) |



Features

Upper Machinery

Upper Frame

The Upper frame is fabricated from all-welded alloy steel and is CAD designed for durable strength.

Incredibly Strong Winches

The CK2000-II's powerful winches boast a maximum rated single line pull of 55,500 lbs. The result is dynamic lifting capacities and continuous trouble-free operations.

Large Capacity Drums

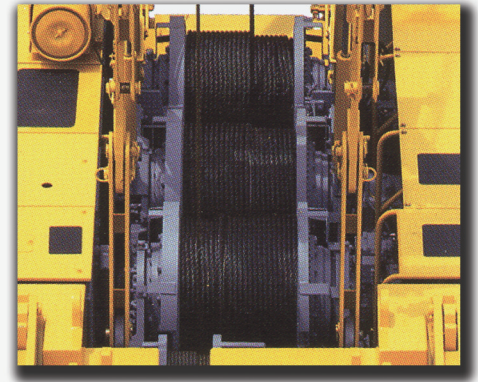
Kobelco's innovative internal disc brake system and installation of the reduction unit inside the drum allows for the use of wider drums, reducing the chance of uneven winding, while extending the service life of the wire rope. An optional, frame mounted, third drum is full sized, allowing for more attachment options.

Additional Features:

- Single line speed for the first layer of rope is the fastest in this weight class, 330 ft/in (100 m/min).
- Swing flashers with audible swing alarm.
- Rear working lights.

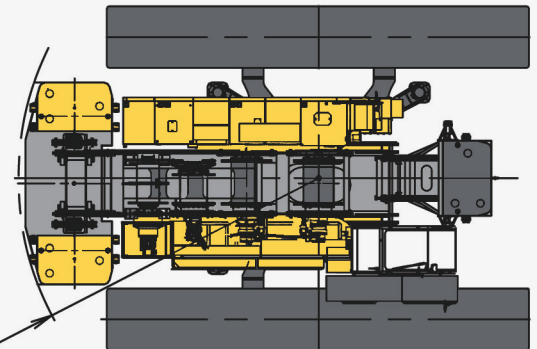
Further Improved Stability

Large crawlers have been added to further improve the stability, while keeping the tail swing radius under 20 feet. The result is a machine with great lifting capacity that can operate in a minimum of onsite space.



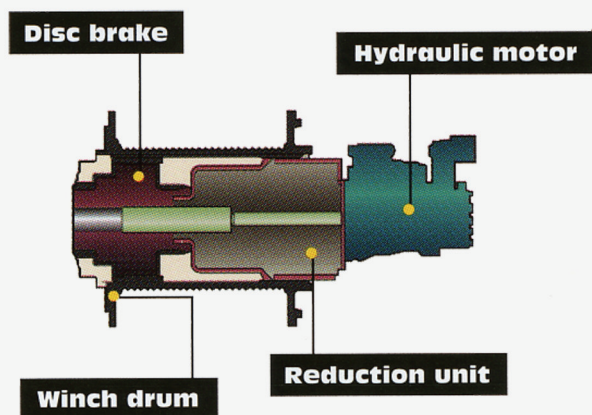
Innovative Wet-Type Disc Brake System

Kobelco's oil cooled wet-type multi-disc brake system is first in its class and provides quiet, dependable braking power. Multiple discs are self adjusting and self equalizing, minimizing maintenance requirements. Forced oil circulation keeps brake temperatures cooler during long, continuous operations and maximizes smooth brake operation. The completely enclosed system eliminates the possibility of outside contamination, providing years of problem free service life. The low brake pedal effort reduces operator fatigue when the machine is working in the free-fall mode.



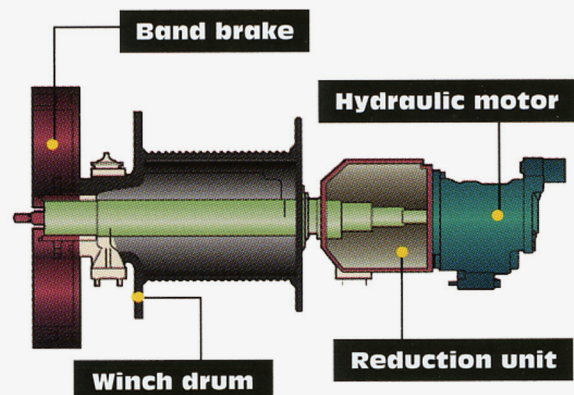
CK2000-II Std.

Wet-type multi-disc brake installed in the winch drum:



Other Cranes

Conventional, externally-fitted band brake:



Features

Upper / Lower Machinery

Carbody

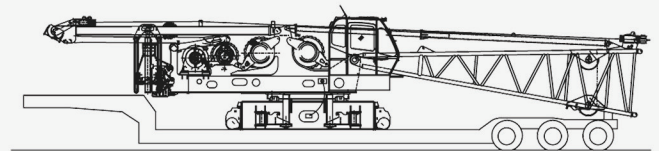
The CK2000-II features a high-tensile strength steel welded carbody with axle. The crawler assemblies are designed with quick disconnect features for individual removal from the axles. The crawler belt tension adjusts with a hydraulic jack and maintained by shims between the idler block and the frame. 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 of 48" (1,220 mm), with 64 shoes. The track rollers are sealed for maintenance-free operation.

On-Site Maneuverability

Independently driven hydraulic travel motors with planetary reducers provide three steering modes for optimal on-site maneuverability. In addition to conventional skid steering, the independent crawler drives enables counter-rotation of the tracks as well as differential track speed steering. Travel speed in high range is 0.68 mph (1.1 km/h) and in low range 0.41 mph (0.66 km/h). Travel motors fit within the track shoe width, protecting them from damage.

Transportation

- Transportation width of 11'6".
- 94,800 lbs transport weight with boom base, self-assembly sheave, counterweight self-removal cylinder, translifter, and front, rear, boom hoist drums with wire rope.



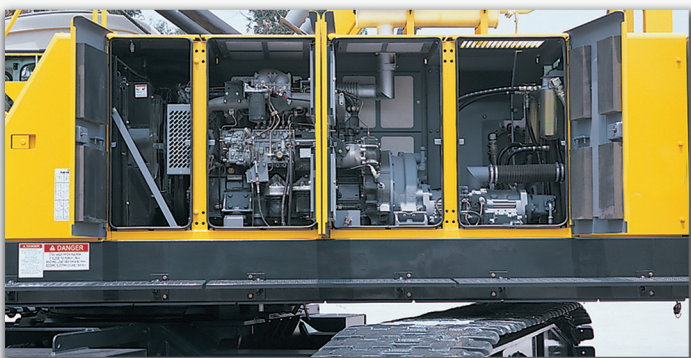
Self-Erecting and Transportation

Kobelco has designed the CK2000-II to be assembled and disassembled without the need of an assist crane by employing a counterweight self-handling system. Using the built-in, remote controlled translifters to lift the crane. Hydraulic cylinders are used to raise the gantry into the working position. The boom base is reeved with a hook block and is used to lift and attach the front and rear carbody counterweights, and used to construct the rear counterweight assembly. The rear counterweights are raised into position by using the counterweight self-removal cylinder. The complete crane can be transported on seven trucks, one main load and six fall off loads.

Tough, Maintenance-Free Durability

Careful attention has been paid to every detail of design so the CK2000-II stays on the job, not in the shop. Routine checks can be conducted easily with the help of service compartment doors and removable panels that provide full access to the engine and hydraulic components. From the wet-type disc brake system to the easy-access engine layout, the CK2000-II is one of the easiest machines in its class to maintain:

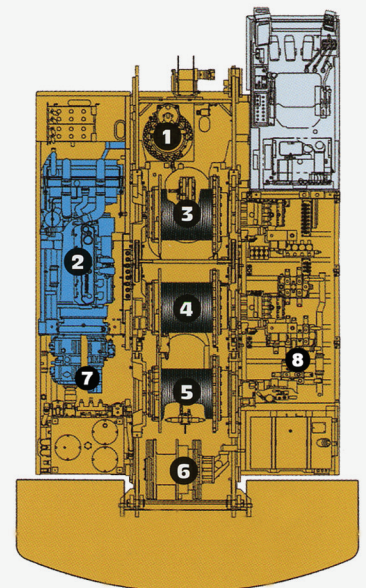
- Forged rollers and cast-iron idler sprockets are lubricated and sealed for long, trouble free service.
- Gantry raising/lowering cylinders.
- Machinery layout simplifies engine checks and routine maintenance.



Simplified Maintenance

The wet-type multi-disc brake system is trouble free and requires no adjustment, so maintenance is simple. Also, the engine layout on the side of the machine provides easy access for routine inspection and servicing.

- ❶ Swing Unit
- ❷ Power Plant
- ❸ Front Winch
- ❹ Rear Winch
- ❺ Third Winch
- ❻ Boom Winch
- ❼ Hydraulic Pumps
- ❽ Control Valves



Features

Hydraulics

Kobelco has designed an innovative full hydraulic system for the CK2000-II. It performs all crane operations including load hoist, boom hoist, swing, propel & crawler extension/retraction, as well as counterweight installation & removal.

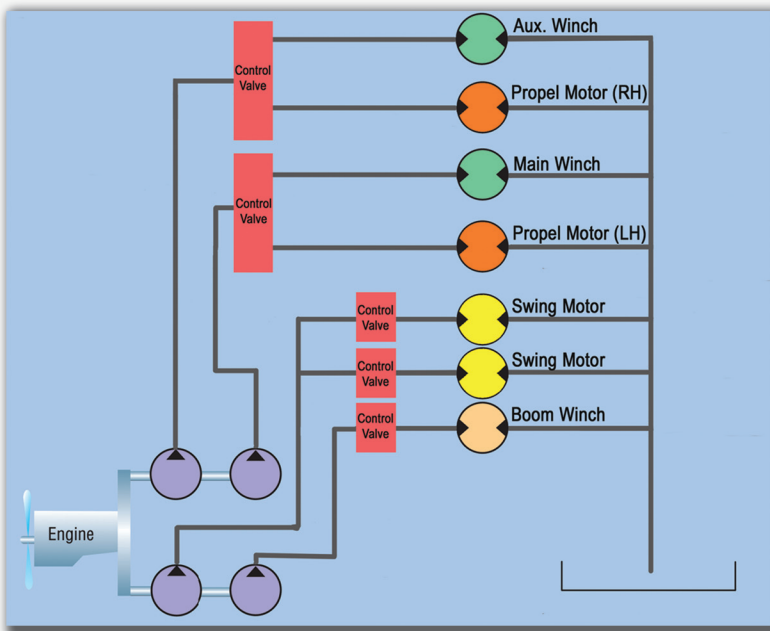
Precision and Control

- Full hydraulic technology delivers quick and efficient operation with excellent precision.
- Pilot pressure-assisted control allows exact manipulation of speed and power for each function in proportion to lever movement.
- Independent swing motor with planetary reducer ensures smooth swing at a maximum speed of 2.6 rpm.
- Swing disc brake is spring set and hydraulically released.



Hydraulic System

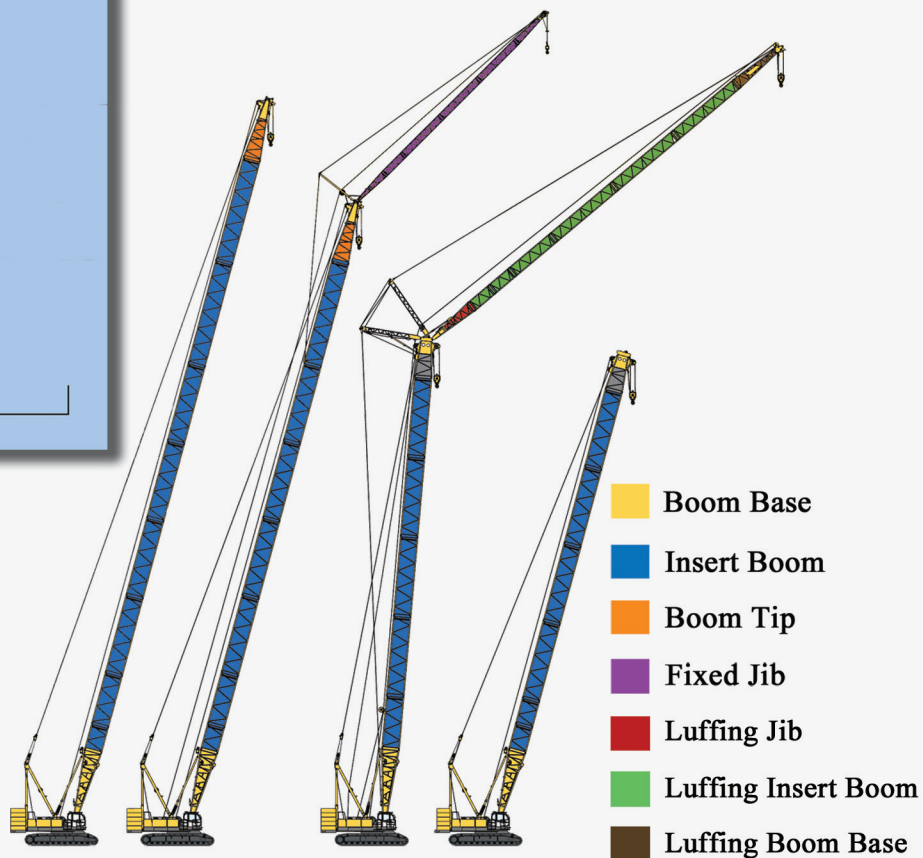
In a conventional series hydraulic circuit (a conflux hydraulic circuit), the boom winch is driven by the same hydraulic pump that drives the main or auxiliary winches. This can result in hydraulic pressure interference that reduces line speed when the hook and boom are hoisted or lowered simultaneously. The CK2000-II features independent hydraulic circuits for the main, auxiliary, and boom hoist winches, thereby eliminating interference. The circuits can be operated simultaneously with lower shocks and virtually no speed reductions, regardless of winch speed or load condition.



Innovative Boom Design

Also designed by Kobelco engineers is an innovative boom design to enhance lifting performance.

This Kobelco manufactured boom is fabricated by "state-of-the-art" laser aligned-robot welders assuring uniformity, reliability, and safety.



Features

General Specifications

| | | | |
|--|--|---|---------------------------|
| PERFORMANCE | | | |
| Max. lifting capacity | 400,000 lbs (160,000 kg) at 12.3 ft (3.75 m) radius (w/40' boom) | | |
| Basic boom length (ft) | 50 ft (15.2 m) | | |
| Max. boom length (ft) | 280 ft (85.3m) | | |
| Insert boom length | 10 ft (3.1 m), 20 ft (6.1 m), 30 ft (9.1 m) & 40 ft (12.2 m) | | |
| Jib: | | | |
| Max. jib lifting capacity | 59,000 lbs (26,760 kg) at 32 ft (9.7 m) radius | | |
| Max. jib length | 100 ft (30.5 m) | | |
| Basic jib length | 40 ft (12.2 m) | | |
| Insert jib length | 10 ft (3.1 m) & 20 ft (6.1 m) | | |
| Max. boom + jib length | 240 ft + 100 ft (73.2 m + 30.5 m) | | |
| Luffing Jib: | | | |
| Max. lifting capacity with luffing jib | 107,100 lbs (48,580 kg) at 30' (9.1 m) | | |
| Max. luffing jib length | 170 ft (51.8 m) with up to 180 ft (54.9 m) of main boom | | |
| Max. boom length | 180 ft (54.9 m) with up to 170 ft (51.8m) of luffing jib | | |
| LOAD HOIST SYSTEM | | | |
| Drums: Front rear, and optional 3rd | Winches are powered by a hydraulic motor driving through a planetary reduction unit. The 24-5/16" (617.4 mm) P.C.D. x 32-13/16" (833.7 mm) wide drums are each grooved for 1" (25.4 mm) wire rope. | | |
| Brake | Spring set, hydraulically released multi-disc holding brakes are mounted inside the motor and a counter-balance valve is mounted on top of the motor. Spring set, hydraulically released multi-disc brakes for controlling the load are mounted inside the winch assembly. There is an external ratchet for locking the drum. | | |
| Wire rope length (front drum) | 1,411 ft (430 m) | | |
| Wire rope length (rear drum) | 1,100 ft (355 m) | | |
| Storage capacity (front/rear drum) | 1,668 ft (509 m) | | |
| Line speed (single line on the first layer) | 330 ft/min (100 m/min) | | |
| Hoisting and lowering | 330 ft/min (100 m/min) | | |
| Rated line pull (front and rear) (lbs) | 29,500 lbs (13,380 kg) | | |
| *Maximum line pull at first layer (front and rear) (lbs) | 55,500 lbs (25,170 kg) | | |
| BOOM & LUFFING HOIST SYSTEM | | | |
| Drum | Powered by a hydraulic motor driving through a planetary reduction unit, the luffing drum is grooved for 1" (26 mm) wire rope and the boom drum is grooved for 7/8" (22 mm) wire rope. | | |
| Brake | Spring set, hydraulically released, multi-disc holding brakes are mounted inside the motor. There is an external ratchet for locking the drum. | | |
| Line speed (single line on the first layer) | 178 ft/min (54 m/min) | | |
| Boom Hoisting and lowering | 178 ft/min (54 m/min) | | |
| Luffing Jib Hoisting and lowering | 144 ft/min (44 m/min) | | |
| SWING AND TRAVEL | | | |
| Swing speed (rpm) | 2.6 RPM | | |
| Max. Travel Speed | 0.68 MPH (1.1 km/h) | | |
| High range | 0.68 MPH (1.1 km/h) | | |
| Low range | 0.41 MPH (0.66 km/h) | | |
| * Maximum line pull is determined by performance of the winches, not by the strength of the wire rope. | | | |
| WEIGHTS | | | |
| Operating weight w/basic boom (lbs) | Approximately 362,200 lbs (164,300 kg) (including 50 ft (15.2 m) basic boom and 85-ton hook block) | | |
| Ground pressure | Average 13.24 psi (91.2 kPa) with 48" (1.22 m) shoes | | |
| Counterweight | Counterweight: (1) One base counterweight and ten (10) side counterweights totaling 132,280 lbs (60,000 kg) Carbody counterweight: Four-piece, total weight: 44,100 lbs (20,000 kg) | | |
| Luffing Jib: | | | |
| Operating weight (lbs) | Approximately 377,600 lbs (171,000 kg) (including upper and lower machine counterweights, 70' boom + 70' jib, hook block) | | |
| Ground pressure | Average 13.8 psi (95 kPa) with 70' boom + 70' jib | | |
| HYDRAULIC MOTORS | | | |
| Front and rear load hoist | One each variable displacement piston-type motor (total two) | | |
| Boom hoist | One fixed displacement piston-type motor | | |
| Swing | Two fixed displacement piston-type motor | | |
| Propel | Two 2-speed variable displacement piston-type motors | | |
| | | HYDRAULIC SYSTEM | |
| | | Pumps | |
| | | Load hoist and propel | 2 piston pumps |
| | | Boom hoist | 1 piston pump |
| | | Swing | 1 piston pump |
| | | Control system and auxiliary | 2 gear pumps |
| | | Brake cooling system | 2 gear pumps |
| | | Max. discharge pressures | |
| | | Load hoist, boom hoist & propel circuit | 4,620 psi (32.0 MPa) |
| | | Control circuit | 782 psi (5.4 MPa) |
| | | Swing pressure | 3,986 psi (27.5 MPa) |
| | | Reservoir | 145.2 US gal (550 liters) |

STANDARD EQUIPMENT

Upper Machinery

- Anti-two block device
- Boom angle indicator
- Boom back-stops
- Boom hoist drum lock
- Boom over hoist prevention device
- Counterweight/Crawler self-removal device
- Dial-type drum speed control
- Drum rotation indicators-front and rear drums
- Folding-type gantry with hydraulic cylinders for easy transport
- Front and rear hoist drum locks
- Grooved front and rear drums
- Rear swing flashers and rear working lights
- Swing lock
- Tandem drums powered independently by two hydraulic axial piston motors through planetary reducers.
- Free-fall
- Tool kit
- One (1) Base counterweight, and ten (10) side counterweights - 132,280 lbs
- 1" diameter wire rope - front and rear drums
- 50' tubular steel boom (base & tip)
- Sound dampening panels for quiet operation
- 3rd drum prep
- Catwalks
- Translifters with remote control device

Cab

- Air conditioning
- Electric twist-grip hand throttle and foot pedal
- Function lock-out lever
- Fire extinguisher
- Hydraulic controls
- Load Moment Indicator (LMI - Kobelco designed)
- Operator's and Parts Manuals (2 sets)
- Signal horn
- Swing lock
- Tachometer
- Totally enclosed full vision cab with safety glass
- Windshield wiper/washer

Engine

- Alternator (50 amp)
- Fuel tank (106 US gallons) with tank mounted fill pump.
- Heavy duty batteries (2-12 volt-136 AH)
- Hino P11C-UN, 6 cylinder, Tier 3 compliant
- 331 SAE GROSS HP @ 2,000 RPM
- Starting motor (24 Volt-6.0 kW)

Lower Machinery

- Independent hydraulic propel motors built into each side frame
- 4-piece, 44,100 lb carbody weights
- 48" crawler shoes
- Kobelco factory warranty - including engine

OPTIONAL EQUIPMENT

- 10' boom insert with guy cables and deflector roller
- 20' boom insert with guy cables and deflector roller
- 40' boom insert with guy cables and deflector roller
- 40' jib assembly, with guy cables and jib hoist line
- 20' jib insert with guy cables
- Auxiliary sheave
- 20' Luffing boom base
- 10' Luffing boom insert
- 40' Luffing boom insert
- 30' Luffing boom insert with idler sheave
- 5' Luffing jib tip with pin connected boom point sheave
- Front and rear winch free-fall (Wet-type disc brake)
- Third drum & third drum wire rope.
- Reeving winch
- Pillow plate for boom self-erection
- 19 ton overhaul ball hook
- 30 ton single sheave hook block
- 75 ton four sheave hook block
- 115 ton four sheave hook block
- Free Fall
- Custom color

NOTE: Due to our policy of continual product improvement, all designs and specifications are subject to change without notice.

Meets applicable requirements of OSHA -

- 1910.180
- Subpart N section 1926.550.

Meets applicable requirements of ANSI/ASME -

- B30.5-1968 safety code.

