

CK1000-III

HYDRAULIC CRAWLER CRANE



Max. Lift Capacity: 100 US Tons

Max. Boom Length: 200 ft

Max. Boom + Jib Length: 190 ft + 60 ft

Max. Lift Capacity with Luffing Jib: 80,000 lbs

Max. Boom Length: 115 ft (with up to 100' of Luffing Jib)

Max. Luffing Jib Length: 170 ft (with up to 95' of Main Boom)

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 CK1000-III'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 CK1000-III'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 CK1000-III 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 CK1000-III's powerful winches boast a rated single maximum line pull of 44,100 lbs. The result is dynamic lifting capacities and continuous trouble-free operations.

Large Capacity Drums

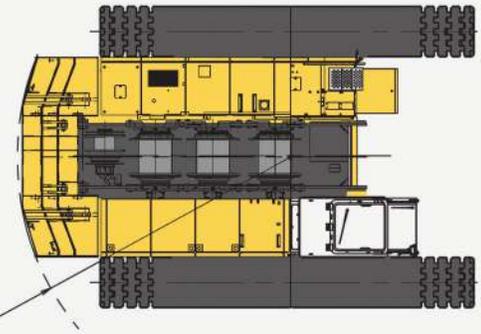
Kobelco's innovative internal disc brake system and installation of the reduction unit inside the drum allows for the use of wider drums, reducing the chance of uneven winding, while extending the service life of the wire rope. An optional, frame mounted, third drum is full sized, allowing for more attachment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

Additional Features:

- Single line speed for the first layer of rope is the fastest in this weight class, 390 ft/in (120 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 to just 14 feet. The result is a machine with great lifting capacity that can operate in a minimum of onsite space.

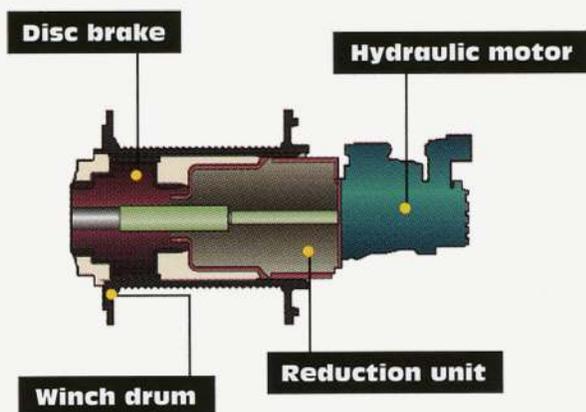


Innovative Wet-Type Disc Brake System

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.

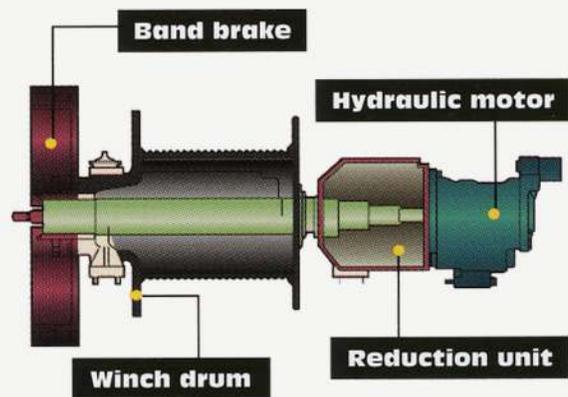
CK1000-III Std.

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



Other Cranes

Conventional, externally-fitted band brake:



Features

Upper / Lower Machinery

Carbody

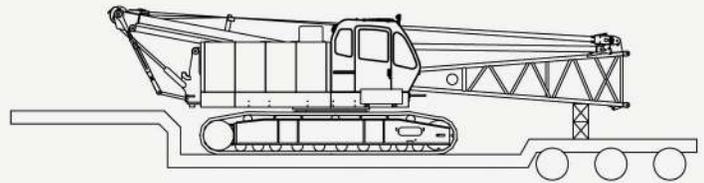
The CK1000-III features a high-tensile strength steel carbody with extendible axles. The crawler assemblies can be hydraulically extended for a wide operating stance of 16'10" or retracted for an easier transport width of 11'10". The crawler assembly consists of a drive sprocket, an idler wheel, 11 lower rollers, the travel motor assembly, three upper rollers, slide rails and 66 flat shoes on each side. Shoe width is 36" (914 mm).

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 1.18 mph (1.9 km/h) and in low range 0.75 mph (1.2 km/h). Travel motors fit within the track shoe width, protecting them from damage.

Transportation

- Crawlers retract to 11' 10" for transportation.
- 99,650 transport weight with boom base, gantry, crawlers, wire ropes (front, rear, and boom hoist drums).



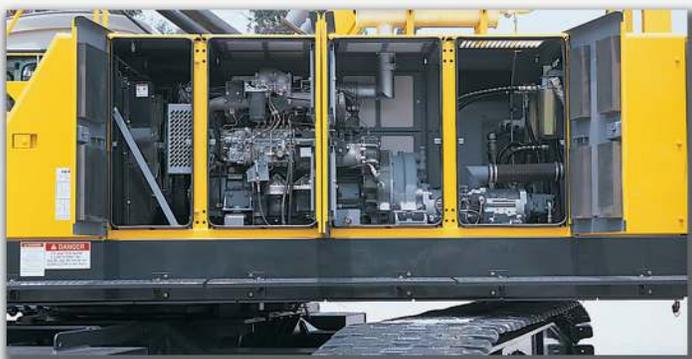
Self-Erecting and Transportation

Kobelco has designed the CK1000-III to be assembled and disassembled without the need of an assist crane by employing a counterweight self-handling system. The crawler retract feature allows the machine width to be reduced to 11'10" (3,610 mm) for transportation. The complete crane can be transported on four trucks, one main load and three fall off loads.

Tough, Maintenance-Free Durability

Careful attention has been paid to every detail of design so the CK1000-III 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 CK1000-III is one of the easiest machines in its class to maintain:

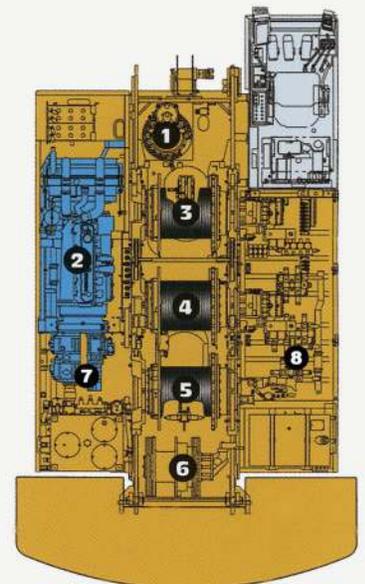
- Forged rollers and cast-iron idler sprockets are lubricated and sealed for long, trouble free service.
- Gantry raising/lowering cylinders.
- Machinery layout simplifies engine checks and routine maintenance.



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 service.

- 1 Swing Unit
- 2 Power Plant
- 3 Front Winch
- 4 Rear Winch
- 5 Third Winch
- 6 Boom Winch
- 7 Hydraulic Pumps
- 8 Control Valves



Features

Hydraulics

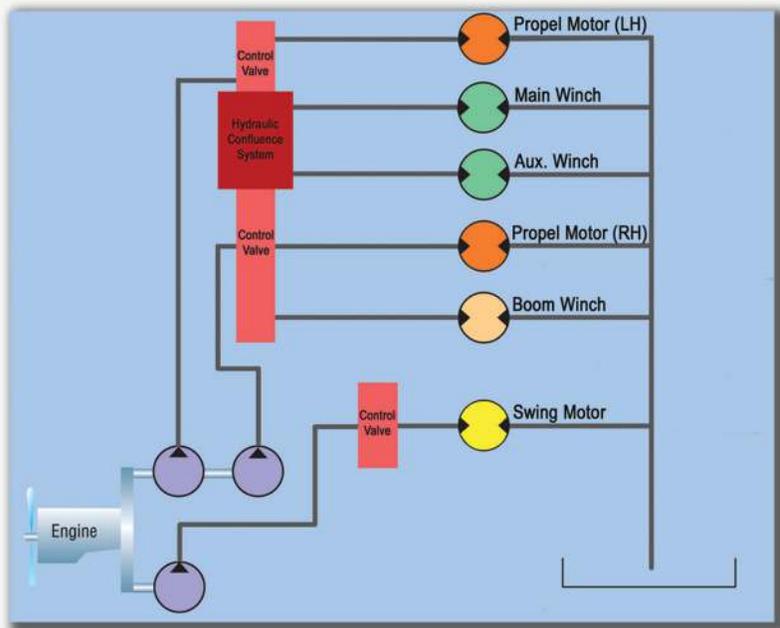
Kobelco has designed an innovative full hydraulic system for the CK1000-III. It performs all crane operations including load hoist, boom hoist, swing, propel & crawler extension/retraction, as well as counterweight installation & removal.

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 4.0 rpm.
- Swing disc brake is spring set and hydraulically released.

Hydraulic System

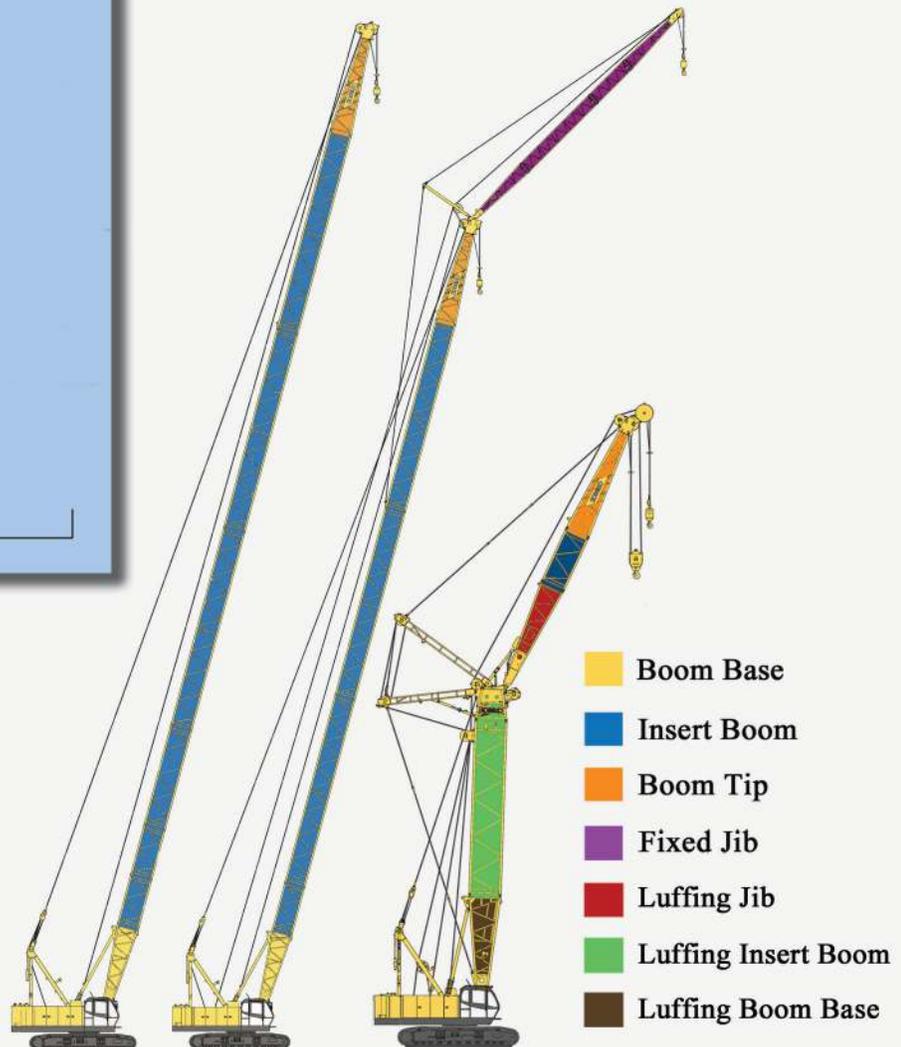
The CK1000-III features a dual pump flow hydraulic circuit for the front and rear drums. The advantage of this system is that it will produce a maximum line speed of 390 ft/min, also giving the operator exceptional control when using a single drum or when using both drums simultaneously. The front and rear drums can also be synchronized to work together at the same speed as needed in a clamshell type operation. This is done by simply by flipping a switch in the operator's console.



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	200,000 lbs (90,700 kg) at 11 ft (3.4 m) radius
Basic boom length (ft)	40 ft (12.2 m)
Max. boom length (ft)	200 ft (61.0 m)
Insert boom length	10 ft (3.1 m), 20 ft (6.1 m) & 40 ft (12.2 m)
Jib:	
Max. jib lifting capacity	24,000 lbs (10,886 kg)
Max. jib length	60 ft (18.3 m)
Basic jib length	30 ft (9.1 m)
Insert jib length	10 ft (3.1 m) & 20 ft (6.1 m)
Max. boom + jib length	190 ft + 60 ft (57.9 m + 18.3 m)
Luffing Jib:	
Max. lifting capacity with luffing jib	80,000 lbs x 22' (36.3 ton x 6.7m)
Max. luffing jib length	170 ft (51.8 m) with up to 95 ft (28.9m) of main boom
Max. boom length	115 ft (35.1 m) with up to 100 ft (30.5m) 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 24.1" (613 mm) P.C.D. x 24.5" (622 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)	771 ft (235 m)
Wire rope length (rear drum)	525 ft (160 m)
Storage capacity (front/rear drum)	1,023 ft (312 m)
Line speed (single line on the first layer)	
Hoisting and lowering	390 ft/min (120 m/min)
Rated line pull (front and rear) (lbs)	25,000 lbs (11,340 kg)
*Maximum line pull at first layer (front and rear) (lbs)	44,100 lbs (20,000 kg)

BOOM & LUFFING HOIST SYSTEM	
Drum	Powered by a hydraulic motor driving through a planetary reduction unit, the drum is grooved for 5/8" (16 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)	
Boom Hoisting and lowering	230 ft/min (70 m/min)
Luffing Jib Hoisting and lowering	98 ft/min (30 m/min)

SWING AND TRAVEL	
Swing speed (rpm)	4.0 RPM
Max. Travel Speed	
High range	1.18 MPH (1.9 km/h)
Low range	0.75 MPH (1.2 km/h)

HYDRAULIC SYSTEM	
Pumps	
Hoist, boom hoist and propel	2 piston pumps
Swing and crawler cylinders	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	4,622 psi (31.9 MPa)
Control circuit	782 psi (5.4 MPa)
Swing pressure	3,986 psi (27.5 MPa)
Reservoir	116 US gal (380 liters)

* 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 179,700 lbs (81,500 kg) (including 40 ft (12.19 m) basic boom and 85-ton hook block)
Ground pressure	Average 11.0 psi (0.77 kg/cm ²) with 36" (914 mm) shoes
Counterweight	Upper counterweight: Three-piece, total weight: 63,490 lbs (28,790 kg) Carbody counterweight: Two-piece, total weight: 16,100 lbs (7,300 kg)
Luffing Jib:	
Operating weight (lbs)	Approximately 200,400 lbs (90,900 kg) (including upper and lower machine counterweights, 55' boom + 50' jib, hook block)
Ground pressure	Average 14.0 psi (0.98 kg/cm ²) with 55' boom + 50' 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	One fixed displacement piston-type motor
Propel	Two 2-speed variable displacement piston-type motors

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
- 3-piece 63,490 lbs upper counterweights
- 1" diameter wire rope - front and rear drums
- 40' tubular steel boom (base & tip)
- Sound dampening panels for quiet operation
- 3rd drum prep
- Catwalks

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
- Retractable crawlers for transportation
- 2-piece, 16,100 lb carbody weights
- 36" 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 (without lug)
- 40' "A" boom insert with guy cables and deflector roller (with lug)
- 30' jib assembly, with guy cables and jib hoist line
- 10' jib insert with guy cables
- 20' jib insert with guy cables
- Auxiliary sheave
- 20' Luffing boom base
- 10' Luffing boom insert
- 30' Luffing boom insert with idler sheave
- 5' Luffing jib tip with pin connected boom point sheave

- Third drum & third drum wire rope. (free-fall)
- 13 ton overhaul ball hook
- 30 ton single sheave hook block
- 50 ton two sheave hook block
- 75 ton three sheave hook block
- 100 ton four sheave hook block
- Self-Assembly sheave

* One 40' "A" boom insert is required for installation of any fixed jib.

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.

