

CKE900-1F

**KOBELCO**

# HYDRAULIC CRAWLER CRANE *CKE900*

## CRANE BOOM

Max. Lifting Capacity: 90 tons × 3.4 m\*

Max. Boom Length: 61.0 m

## FIXED JIB

Max. Lifting Capacity: 10.9 tons × 18.0 m

Max. Fixed Jib Combination: 51.8 + 18.3 m



\*Auxiliary sheave is necessary.

The CKE900 crawler crane from KOBELCO takes advantage of new technologies to raise performance to new heights. New winches with extremely powerful line-pull handle the toughest jobs, while the innovative “wet-type” multi-disc braking system provides safe and sure control with minimal maintenance. Large winch capacities promote ultra-smooth operation and enhanced component service life. An optional full-sized third winch enables the use of an impressive selection of attachments. Add these new features to the renowned power and reliability of KOBELCO cranes, and you have the ideal combination of lifting performance, economical operation and tough durability.

## **CKE900 Five Major Features**

1

**Excellent Performance for Diverse Applications**

2

**High-Performance Winch Accommodates a Wide Range of Jobs**

3

**Excellent Cab with Enhanced Functions**

4

**Excellent Transportability and Assembly**

5

**Safe, Environmentally-Conscious Design**



**KOBELCO's Awesome New Expression of Power, Speed and Efficiency!**

# **TECHNOLOGY AND POWER**

For precise and varied operation

# Excellent Performance for Diverse Applications

## Versatile Operation

The CKE900 has the power, structural strength, safety specs, and nimble operability needed to accommodate all kinds of jobs, from standard crane work to high-rise lifting and material handling work.

### Crane Boom

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## High-Output Engine

The engine has an impressive rated output of 247kW and complies with NRMM (Europe) Stage IIIA and US EPA Tier III exhaust emissions regulations. All of this power works with KOBELCO's unique Engine Speed Sensing (ESS) control system and new hydraulic systems to ensure stable and smooth simultaneous operations.



Engine Output:

**247 kW**

Meets NRMM (Europe) Stage IIIA

## High-Speed Lifting Increases Work Efficiency

The main and auxiliary winches deliver a fast maximum hoisting and lowering speed of 120 m/min that improves operational efficiency on high-rise jobs.

Max. Line Speed (First layer):

**120 m/min**

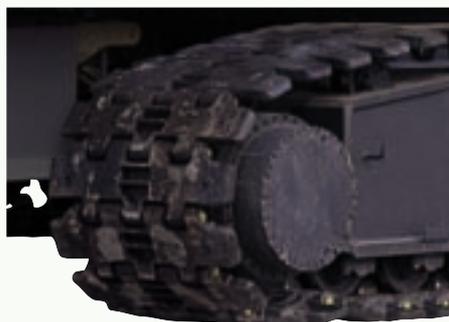


## On-Site Maneuverability

Independently driven hydraulic travel motors with planetary reduction units provide three steering modes (differential steering, skid steering and counter rotation) for optimal on-site maneuverability.

Max. Travel Speed:

**1.9 km/h**



## Control Levers Connected Directly to Pilot Valves for Smooth Operation

The control levers regulate the pilot valves directly to reduce the amount of play and ensure smooth, precise hoisting start-ups and inching. Control is light and sure, with almost no clatter even over long operating periods.



## Winch Speed Controller



The speeds of the main winch, auxiliary winch and boom hoist can be set independently with trimmer controls.



■ Hydraulic pilot system detects swing reaction force.

■ Electric throttle with a twist grip ensures sensitive engine control.



■ Red switch on the boom lever grip allows easy inching control for hoist, boom hoist, and travel. The operator can activate it without taking his hands off the boom hoist lever.

Durable operation for the toughest jobs

# High-Performance Winch Accommodates a Wide Range of Jobs

## Wide, Large-Capacity Winches for Smooth High-Rise Work

The wide hoist winches provide an impressive spooling capacity of 42 m on the first layer with a 26 mm hoist rope. Their large capacity and large diameter help to prevent uneven spooling and wear while ensuring smooth operation for high-rise work.

Spooling Capacity (First-Layer):

**42 m**



## Large Third Winch (Optional)

Because of KOBELCO's innovative internal disc brake system and side engine layout, the optional third winch is the same size as the main and auxiliary winches, allowing for more attachment options and better operation coordination.



## Winches with a Powerful Line Pull Handle Hard Work with Ease

Through the efficient match-up of a high-output engine and high-performance hydraulic motors, the winches deliver plenty of line pull for single-line work. There's also ample capacity for heavy loads when they first clear the ground, and other tough jobs.

Rated Line Pull (Single Line):

**112kN {11.4 tf}**

## Reliable Winch System with Free-Fall Mode

KOBELCO's new oil cooled wet-type multi-disc brake system is first in its class and provides quiet, dependable braking power. The multiple discs are self-adjusting and self-equalizing. Forced-oil circulation keeps brake temperatures cooler during long, continuous operations and ensures smooth braking. The completely enclosed system eliminates the possibility of outside contamination, providing years of problem-free service life. In free-fall mode, the brake pedal is easily depressed to reduce operator fatigue.

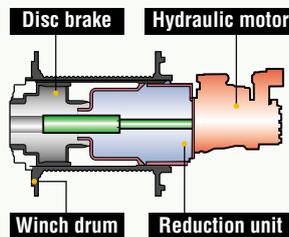
## Maintenance-Free Winches

Winches are maintenance-free. The built-in wet-type disc brake for the free-fall winch has a forced-oil cooling system to prevent overheating, and requires no band adjustment or lining replacement.

## Environmentally Friendly Design

Because there's no brake band, the brake operates quietly and doesn't generate lining dust.

### Wet-Type Disc Brake System



For better man-machine communication

# Excellent Cab with Enhanced Functions

## Multi-Function LMI Display

The newly designed load moment indicator (LMI) system features a large, easy-to-read LCD display. The rated load, actual load, load ratio, and other information are displayed in large characters. Warnings and other items are displayed in color, and text messages and alarms alert the operator to prevent dangerous conditions from developing. Other information can also be displayed, including a rated load chart and rated load curve, in addition to a function that regulates the working range.



## Multi Display

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

### Normal Displays

- Engine speed (Lifting height<sup>\*)</sup>)
- Engine oil change interval
- Reeling number for the main/aux winch wire rope
- Low-speed switch status

<sup>\*</sup> With the optional lifting height gauge installed

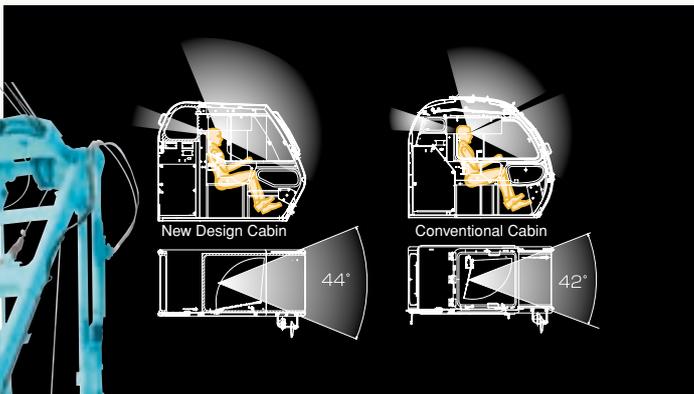
### Warning Displays

- Warning (malfunction, maintenance information, etc.)
- Self-diagnostic function (detects malfunctions in solenoid valves, sensors, etc.)



## Clear, Panoramic View

The CKE900 has a new cabin design with sash-less front and top glass that provides a panoramic frontward and skylight view. The glass also has less curvature to minimize distortion. The front upper window has been broadened on both sides for a view that is 31% wider than a conventional cab, while the top-window view is widened toward the rear.



## Comfortable 940mm-Wide Cab

- Air conditioner
- Fully adjustable, high backed seat with a headrest and armrests
- Intermittent wipers and window washers ■ Sun visor ■ Roof blind



■ Luggage tray



■ Cup holder

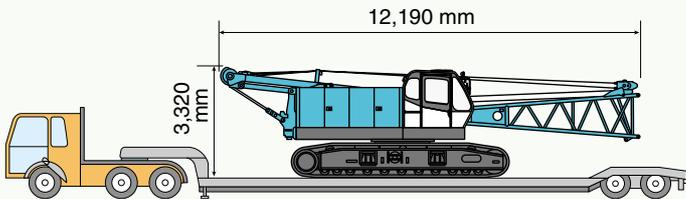
To ensure safe assembly and increase actual working hours

# Excellent Transportability and Assembly

## Crawler Retraction to 3.5 m Designed for Easier Transport

With its crawlers retracted, the CKE900 measures just 3.5 m wide for easy transport. Total transportation weight (including boom base, gantry and crawlers) is 44.7 tons, complying with transport regulations in Europe and helping to reduce the number of trailers required.

Transport width: 3.5 m    Transport weight: 44.7 tons



## Self-Removal Device

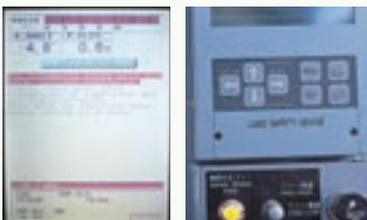
KOBELCO has designed the CKE900 to be assembled and disassembled without the need of an assist crane by employing a counterweight self-handling system. The complete crane can be transported on three trucks (each under 45 tons) and assembled by three men in less than half a day.



■ Crawlers feature convenient self-handling devices for easy transportation (optional).

## Boom Assembly/Disassembly Mode

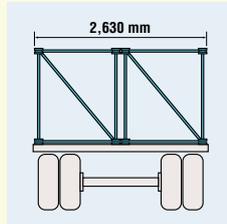
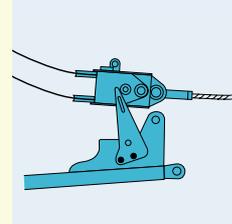
The boom assembly/disassembly mode, which is used to release the over-hoist prevention function to facilitate boom assembly and disassembly, is activated with a switch located under the multi-function LCD display of the load moment indicator (LMI). (This switch is different from the switch that releases the auto-stop functions for over-load and hook over-hoist.) When the boom is lifted to a certain angle, it is automatically deactivated and the LMI function is automatically re-engaged to ensure that the boom assembly/disassembly function is used only when needed.



## Efficient Transport of Attachments

### Upper Spreader Storage Guide

Upper spreader storage guides make it easy to connect guy cables.



### Compact Boom Transport

The boom sections are just 1,315 mm wide, so that two sections can be loaded side-by-side on a trailer with a total width of 2,630 mm.



No compromise in KOBELCO's safety policy

# Safe, Environmentally-Conscious Design

## Automatic Soft-Stop Function Reduces Shocks

This function is activated automatically when boom lowering or boom hoisting is stopped by the over-load prevention system and the over-hoist prevention system. It makes for a smooth stop and reduces dangerous swinging of the load.

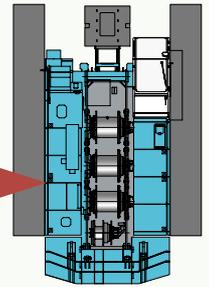
## Automatic Stop Release Switch with Safety Function

The automatic stop system prevents over-load, hook over-hoist and boom over-hoist. To deactivate the system, a two-stage release procedure is employed that uses a master key and separate switches. This makes it easy to supervise the use of the single key and prevent unauthorized release of the automatic stop system.



## Side-Engine Layout For Easy Maintenance

A new engine layout on the side of the machine provides easy access for routine inspections and servicing. Maintenance crews can access the entire power plant just by opening the side door.

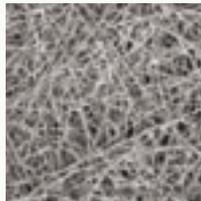


## Super-Fine Filter, a Long-Life Filter for Hydraulic Oil

The large-capacity, super-fine filter is made of a high-performance filter medium consisting of glass fiber reinforced with steel wires. The replacement cycle is extended to four times longer than that of conventional filters to reduce lifelong operating costs.



Photomicrograph (× 250)



Super fine filter (glass fiber)



Conventional filter (paper fiber)

## Safety Functions of the Free-fall Winch

### Free-fall with Monitoring and Lock Functions

Free-fall operations can only be initiated by releasing the lock using a key switch. Unless the lock is released, free-fall cannot occur even if the switch is put in the "neutral-free" position. Also, to prevent the free-fall mode from being activated accidentally because of system malfunction, a monitoring function monitors the free-fall clutch cylinder pressure in the winch.

### Free-fall Switch with Interlock

The free-fall switches are strategically located on the hoist levers, allowing the operator to engage free-fall without removing his hands from the control levers. To prevent the load from accidentally dropping, the interlock function makes it impossible to initiate free-fall unless the foot brake is fully depressed.



**⚠** To prevent the load from accidentally dropping because of operator error, do not use free-fall when lifting.

## Conforms with European Exhaust-Gas and Noise Regulations

The CKE900 meets NRMM Stage IIIA exhaust emissions regulations in Europe, and is designed with advanced KOBELCO low-noise construction technologies to comply with European Noise Regulations.

## Other Safety Features



Function lock lever helps prevent accidental operation when the operator enters or leaves the cab.



Directional markings on the crawlers make it easy to see which direction the crawlers will move.



External lamp for over-load alarm notifies surrounding workers of the load condition.



One-way call supports the safety of onsite personnel (optional).

- Swing flashers and warning buzzer warn surrounding workers when the machine is swinging.
- Cameras and color monitor provide views of the rear of the machine, and the main and auxiliary winches (optional).

