

# KATO

## NK-400E-III

### FULLY HYDRAULIC TRUCK CRANE

**ACS**

*Moment Limiter*

Lifting Capacity **40** Ton  
Metric



**KATO WORKS CO., LTD.**

# 40 Tons of Lifting Power Goes Where Others Fear to Tread Performance, Safety and Reliability Backed Up by Strong Technology

A new machine with operability and performance that defy comparison. Packed with advanced functions to meet the diversity of user requirements. The **NK-400E-m** is a crystallization of technological excellence with lifting power you can put to work today.



# Microcomputer Control System Ensures Safety and Reliability

## Technologically Advanced Voice Alarm (Voice Alarm is available as an option)

Compuload synthesizes sound of female voice to provide start-up checks and overload warnings



### Automatic Seven-Point Detection

• The advanced ACS Moment Limiter is a fully automatic overload prevention device that incorporates calculation functions based on the latest electronic know-how and an electronic synthesizer that generates the sound of a female voice to provide start-up checks and overload warnings. It provides precise output on up to seven safety factors: safety level (total moment), boom angle, working radius, boom length, critical load, actual load, and maximum hook lift. These factors are displayed on a graphic display panel. This arrangement permits easy readout without eye fatigue and facilitates a constant and accurate appraisal of changes in the safety factors, thereby enhancing the safety of crane operation.

### Constant Five-Point Display of Operating Condition

• Five digital displays show safety level, boom angle, boom length, working radius and critical load at all times, without any troublesome button operations. For further safety, the display of safety level is color-zoned to enable the operator to take in the condition of the load at a glance.

### Protection Against Breakdowns and Malfunctions

For double protection in the unlikely event of a malfunction in the ACS Moment Limiter or any other problems, a trouble indicator has been provided to generate an emergency signal to warn the operator.

### COMPULOAD Moment Limiter



## NK-400E-III

Maximum Lifting Capacity . . . . . **40t**

Maximum Boom Length . . . . . **35m**

Jib length 9.2m—15.0m (2-section)

Maximum Lifting Height (boom) . . **34.8m**

(jib) . . . . . **49.7m**

(35m boom + 15m jib offset 5°)

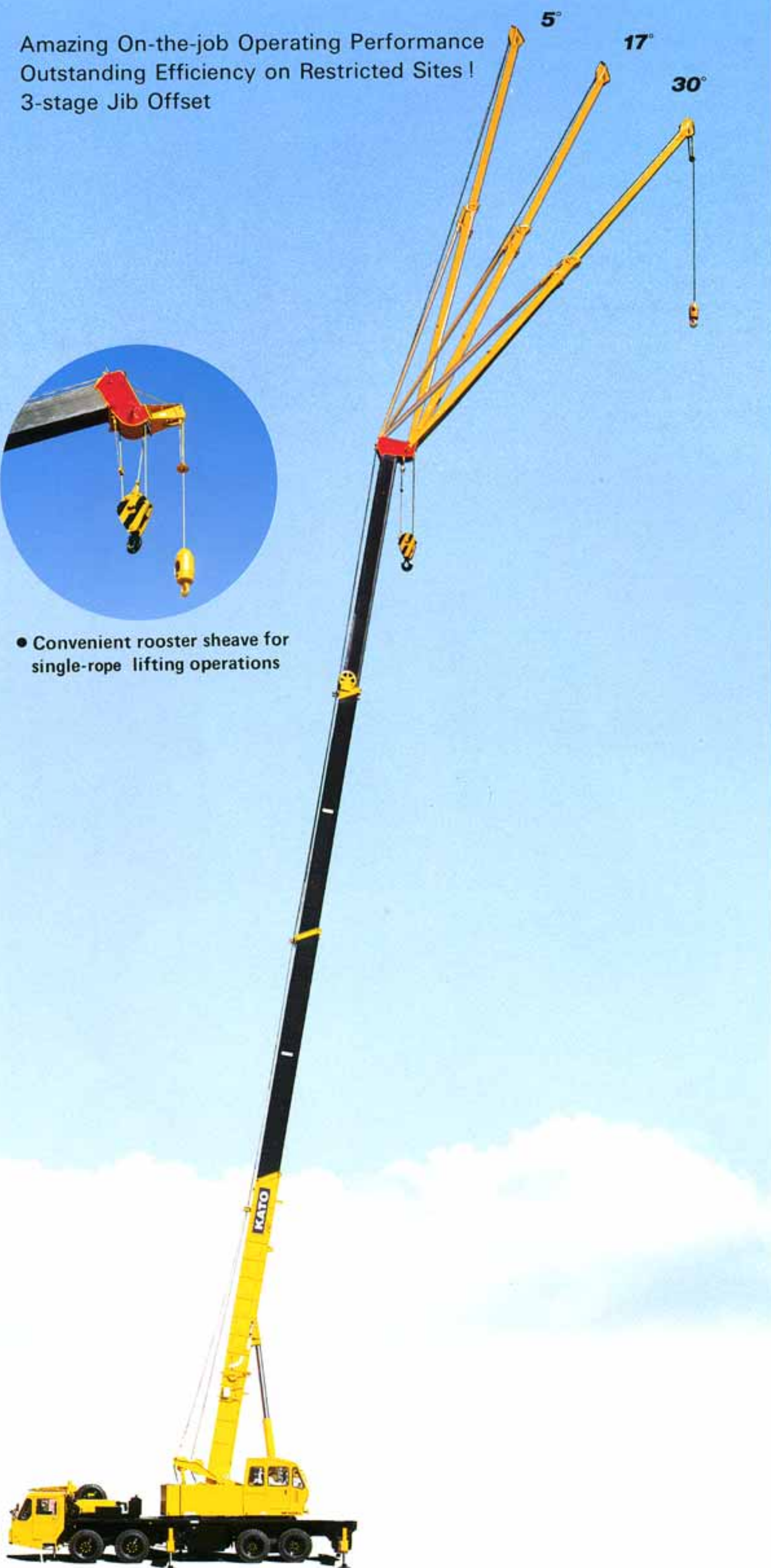
# Tough New Boom Reduces Vertical Deflection and Lateral Bending During Lifting Operations

## Exceptionally Wide Operating Range

Amazing On-the-job Operating Performance  
Outstanding Efficiency on Restricted Sites!  
3-stage Jib Offset



- Convenient rooster sheave for single-rope lifting operations

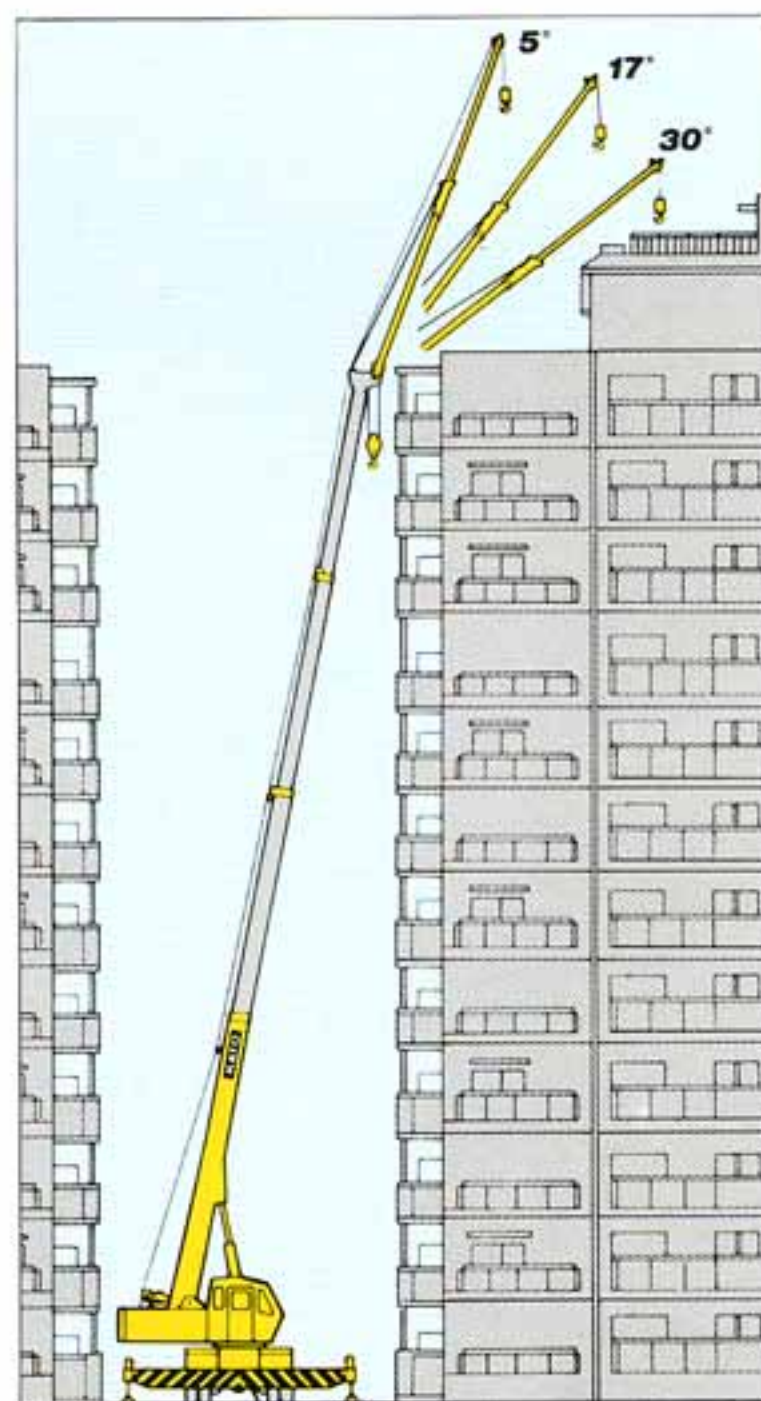


### Sturdy Fullpower Boom Cuts Deflection Way Down

- For greater ease of use, operability and safety, the new boom is of a robust construction that reduces vertical deflection and lateral bending during operations.
- The tough new Fullpower boom utilizes a sequential synchronized extension/retraction control system that permits single-lever control and speeds up operations at all boom lengths from low lifts at 11m (fully retracted) to high lifts at 35m (fully extended).

### Extra-long Boom Ideal for Close-in, High-lift Work!

- The NK-400E-III features a new three-stage jib designed to operate at three offset angles: 5°, 17° and 30°. This feature is a real boon in the close-in work involved in the construction of high-rise buildings and steel frame erection, lifting heavy objects easily with power that leaves the rest behind.



# Amazing On-the-job Operating Performance



## Forward-Acting Derrick Cylinder Delivers Incredibly Wide Derricking Range

- The powerful forward-acting derrick cylinder provides  $-2^{\circ}$  to  $+81^{\circ}$  elevation for operation in close quarters and easier jib housing.

## Rope Durability Dramatically Enhanced by Enlarged Sheaves

- The diameters of the sheaves are 23 times the diameter of the wire rope, minimizing strain on the rope and extending rope life.

## Convenient, Forward-Extendible Jib Is Easy to Set Up Even at Small Sites

- The compact jib is housed under the boom when in transport and can be extended forwards when in use. Requires less space and time to set up than side-ways-extending jibs.



## Microcomputer Control Raises Efficiency and Augments Safety

Outriggers Capable of intermediate Extension for Impressive Performance on Narrow Sites



Intermediate stroke **4.6m**

Maximum stroke **6.6m**



## Microcomputer Makes Operation Safer by Monitoring the Extended Outriggers

- Outriggers are designed for extension in 2 stages – 6.6m and 4.6m – for performance that matches on-site requirements. And microcomputer control monitors the state of the outriggers to provides a higher level of safety, so the heavy and high lift operations can be undertaken with confidence.

## Hydraulic Front Jack Provides Excellent 360° Lifting Capabilities for a Wide Operating Range

- A hydraulic jack installed under the front extremity of the carrier frame enables the crane to offer the same lifting performance in all directions. This means that there are fewer limitations caused by the orientation of the crane when it enters a site, so the crane has a greater operational range.



\* Hydraulic front jack (option)

# King-Size Cab Larger than Ever More Comfortable, More Functional !



## All-Round Comfort and Functional Design of Spacious Cab Guarantee a Pleasant Working Environment

- The spacious cabin is finished in highly relaxing color tones and comes with a sliding door that facilitates ingress and egress and can be left open without getting in the operator's way. A push-up type window is incorporated in the roof for better ventilation. Careful consideration has been given to human engineering for maximum operator comfort; the lengths of the levers can be adjusted and the high-backed seat can be moved forward or backward, raised or lowered to suit any physique. The result is a comfortable, roomy cabin.

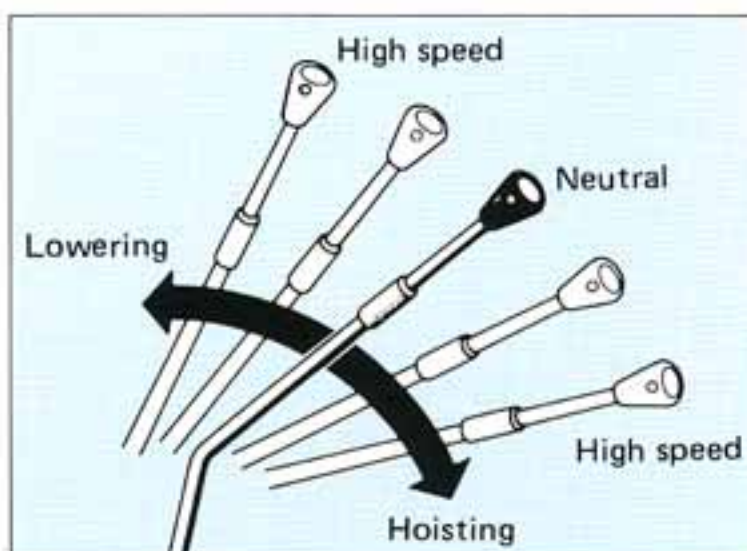
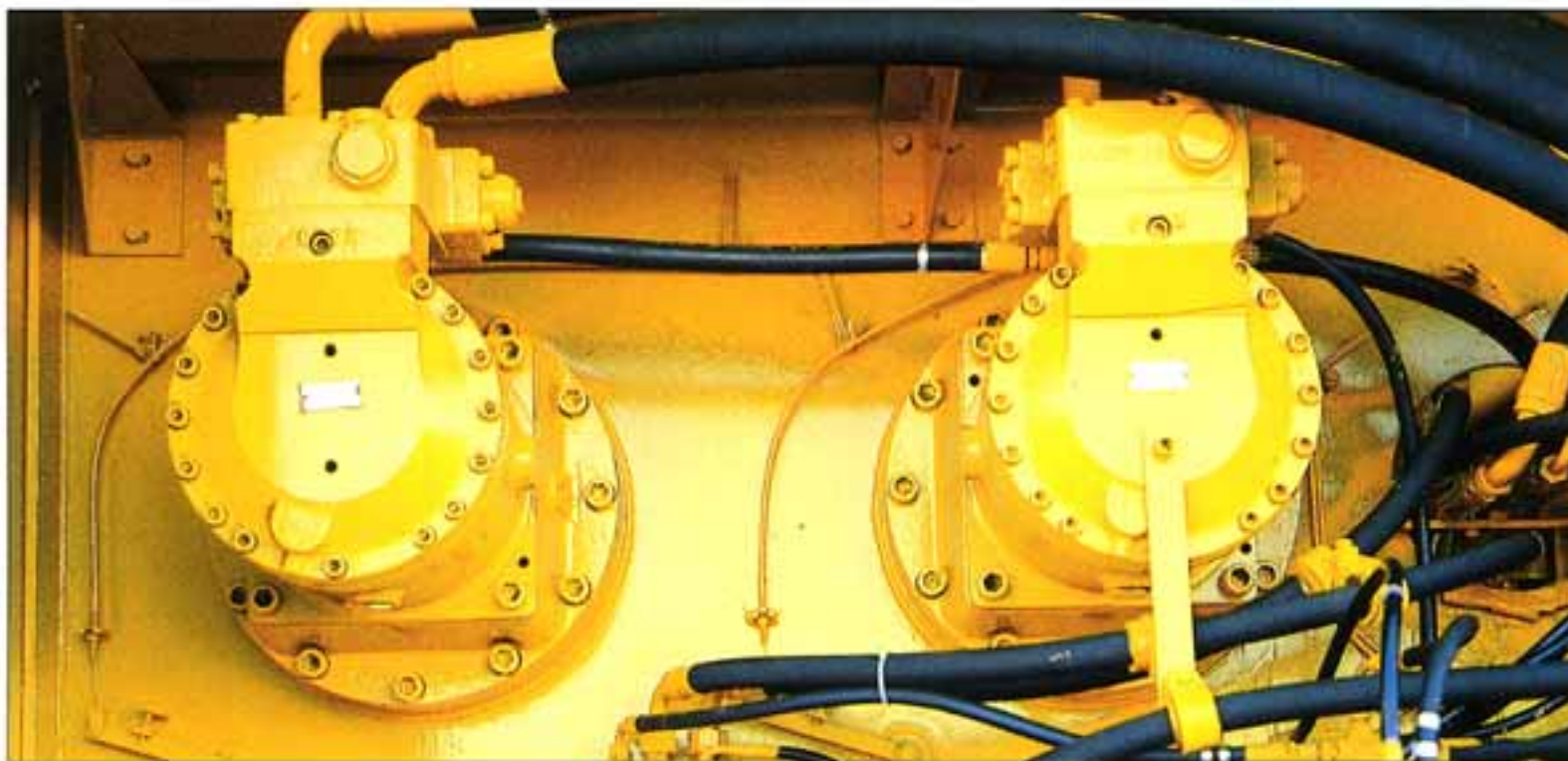
## • Priority Given to Safety in Crane Operator's Cab

For maximum operator comfort and safety all instrumentation utilizes the very latest electronic technology has been located in the optimum position for visibility and ease of operation.

- Easy to use foot pedals have been attached to the winch levers for greater convenience in compound operations.



# Independent Winches with Automatic Brakes Allow Freedom in Compound Operations Power, Speed, and Operability Are Better Than Ever



## Highly Functional, Three-tiered Safety Construction

• The winch mechanism is equipped with three separate safety features: an automatic brake, a counter-balancing valve and a drum lock. These are designed to eliminate the danger arising from operating error and assure safer, more productive operation.

### Reliable irregular winding prevention device

• The drum is grooved and equipped with a device to prevent irregularities in rope feeding. This not only keeps the rope winding smoothly but also prolongs rope life.

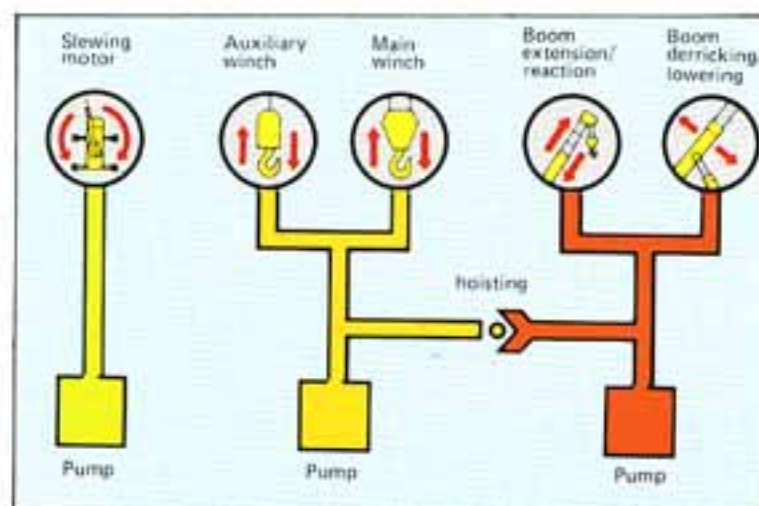
### Non-rotating rope stays straight

• The use of non-rotating rope prevents tangling during operations and damage to the rope caused by twisting of the hook, resulting in smoother, safer operations.

## Smooth and Efficient Simultaneous Hoisting, Slewing and Boom Movement

• Simultaneous hoisting, slewing and boom extension/derricking. . .

A special hydraulic system comprising 3 powerful pumps permits 3 operations: (hoisting, lowering), (Boom extension/retraction, Boom derricking/lowering), (Slewing), to be carried out simultaneously and with outstanding speed and efficiency.



## Fast, Efficient Operation Guaranteed Independent Winches with Automatic Braking

• The NK-400E-III features 2 independently-driven winches equipped with powerful automatic brakes. This feature is particularly useful in compound operations because the main and auxiliary winches are controlled by separate levers that permit them to perform hoisting and lowering operations independently yet at the same time. The result is faster operations and greater efficiency.

• The automatic brake prevents accidents resulting from incorrect operation, while the elimination of tiring pedal operations for the main and auxiliary winches represents a big reduction in operator workload.

## 2-Stage Speed Control Winch Provides Easy Control for Compound Operations

• For greater operational versatility, combined dual hydraulic circuits permit 2-stage speed control of the main and auxiliary winches by means of independent levers, enabling the operator to vary the speed of the two winches between high and low without any loss of hoisting power.

## Scrupulous Care Taken with Safety Measures that Include a Variety of Safety Devices

• The most careful attention has been given to making the NK-400E-III safe. It has been fitted with all kinds of safety devices, including the ACS Moment Limiter, an overhoisting prevention device, a boom derricking safety device, automatic brakes, an outrigger locking mechanism and hydraulic relief valves. All cylinders mounted in the boom, outriggers and so on are fitted with specially designed safety valves.

## Convenient Slewing System With Free-Lock Switching Is Easy to Use

• The slewing system can be locked for delicate slewing operation during high or heavy lifting work, or left free for repetitive operation.



# NK-400E-III

## FULLY HYDRAULIC TRUCK CRANE



NOTE: Illustrations may include optional equipment. KATO products and specifications are subject to improvements and changes without notice.



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