

# KATO

## FULLY HYDRAULIC TRUCK CRANE

# NK-160

Lifting Capacity **16t**



KATO WORKS CO., LTD.

# KATO NK-160

## FULLY-HYDRAULIC FULL-SLEWING TRUCK CRANE

Maximum lifting capacity: 16tons  
Maximum boom length : 30.7 m(with jib)



### OUTSTANDING BOOM CAPABILITY:

Each part of three section boom hydraulically extends or retracts simultaneously and equally ("Full-Power"®), by single control lever action within the range from 9.5m to 23.5m length. This boom action also allows the light boom head and more lifting capacity than any other competitive cranes in same class.

### EASY FLY JIB HANDLING

A fly jib folded underneath the boom permits extension or retraction of boom without removing jib hook.

Pendant rod assures a easy and simple handling and reduces set-up time of the fly jib even at the restricted site.



### FREOMATIC WINCHES:

The main winch and the auxiliary winch have a common shaft allowing power lowering and gravity drop. An effective and fail safe system by means of the hydraulic motor which varies output in accordance with the load. Fingertip control and easy maintenance are available.





### RUGGED OUTRIGGERS

H-type outriggers can be extended enough to provide a highly stable and wide-span base at both sides, ensuring a great resistance to occasional sudden shock that might be given to the truck body during crane work.

Further, extension of the outriggers at both side is freely adjustable depending on the jobsite conditions, making it possible to do work smoothly even in narrow places.



### AUTOMATIC SAFETY CUT-OUT: (A.S.L.I.) Model: MS-4

An indicator shows continuously both the rated allowable load and the actual lifting status along the boom length and working radius.

For a safe operation, a buzzer warns of the danger as soon as the crane operation reaches any overload status, and then the hydraulic power is cut off automatically in the event of dangerous excess.

This device is an optional attachment and can be installed by the customer's request.

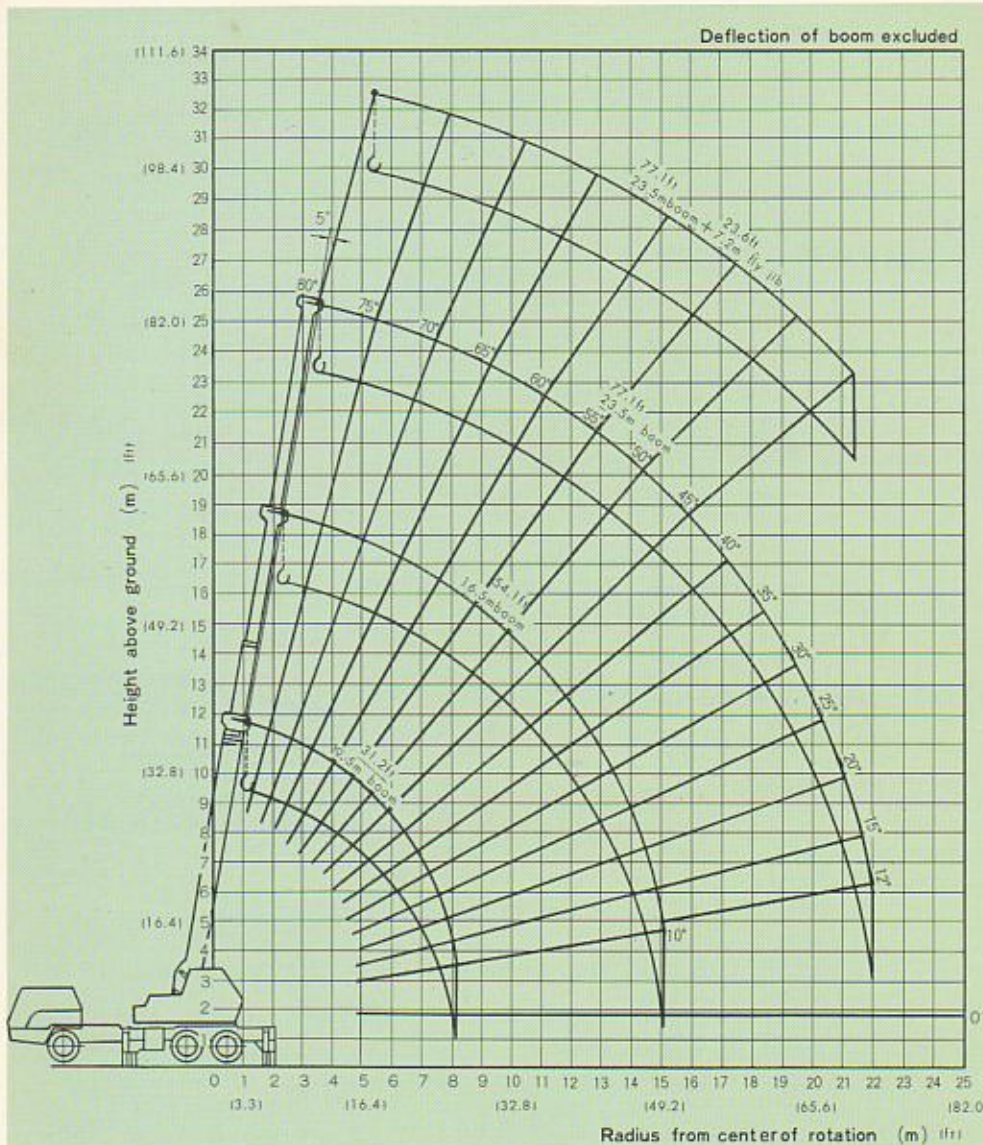
### WEIGHT INDICATOR:

An indicator in the operator's cab shows actual lifting load suspended from the main hook or the fly jib hook.

This device is an optional attachment and can be installed by the customer's request.



## WORKING RANGES



## RATED LIFTING CAPACITIES

Working radius (m)	With Outriggers (over side and over rear)				
	9.5 m (31.2 ft) boom	16.5 m (54.1 ft) boom	23.5 m (77.1 ft) boom	Boom angle	7.2 m (23.6 ft) fly jib
3.0	16.00 (35.27)	10.00 (22.04)		80°	2.00 (4.41)
3.5	13.55 (29.87)	10.00 (22.04)		75°	2.00 (4.41)
4.0	12.00 (26.45)	10.00 (22.04)		70°	2.00 (4.41)
4.5	10.75 (23.70)	10.00 (22.04)		66°	1.90 (4.19)
5.0	9.60 (21.16)	9.60 (21.16)	5.50 (12.12)	60°	1.20 (2.64)
5.5	8.25 (18.18)	8.25 (18.18)	5.50 (12.12)	55°	0.95 (2.09)
6.0	7.20 (15.87)	7.20 (15.87)	5.50 (12.12)	50°	0.70 (1.54)
6.5	6.40 (14.11)	6.40 (14.11)	5.50 (12.12)	45°	0.45 (0.99)
7.0	5.75 (12.67)	5.75 (12.67)	5.50 (12.12)		
7.4	5.25 (11.57)	5.25 (11.57)	5.25 (11.57)		
8.0	4.60 (10.14)	4.60 (10.14)	4.60 (10.14)		
8.5		4.20 ( 9.26)	4.20 ( 9.26)		
9.0		3.80 ( 8.37)	3.80 ( 8.37)		
10.0		3.25 ( 7.16)	3.25 ( 7.16)		
11.0		2.75 ( 6.06)	2.75 ( 6.06)		
12.0		2.40 ( 5.29)	2.40 ( 5.29)		
13.0		2.00 ( 4.41)	2.00 ( 4.41)		
14.0		1.80 ( 3.97)	1.80 ( 3.97)		
16.0			1.30 ( 2.86)		
18.0			1.05 ( 2.31)		
20.0			0.75 ( 1.65)		
22.0			0.55 ( 1.21)		

in metric ton (lbs)

## NOTES

1. The rated lifting capacities are the maximum loads guaranteed on a firm level ground and include the weight of hook block and other lifting equipment.

Hook Weight Kg (lbs)	for 16 ton	for 2 ton
	250 (551)	100 (221)

The capacities in the blue area are based on the structural strength and other capacities on 75% of tipping loads.

2. The working radii are the actual values including the deflection of the booms. During the main hook operation, the working radius must not exceed 22 m (72.2 ft.).

3. When the boom length exceeds the rated one, operation must be carried out under the lifting capacities rated for the longer rated boom length.

4. The capacities are based on using outriggers fully extended. Any operation is prohibited unless the outriggers are fully extended even in no load condition.

5. During the main hook operation with the fly jib installed, 400 kg (882 lbs.) must be deducted from the capacities.

6. With the fly jib installed, the boom must not be lowered below 45°.

7. The number of parts of rope for each boom length is as follows.

Boom length	Parts
9.5m (31.2ft)	6
9.5m ~ 16.5m (31.2ft ~ 54.1ft)	6
16.5m ~ 23.5m (54.1ft ~ 77.1ft)	6

8. The rated lifting capacities for fly jib hook are determined by each boom angle only and not determined by either boom length or working radius.

## SUPERSTRUCTURE

### CRANE PERFORMANCE

Boom length (Full power 3 section)	9.5m ~ 23.5m (31.2ft ~ 77.1ft)
Fly jib length	7.2m (23.6ft)
Boom derricking angle	-5° ~ 80°
Boom derricking time	47 sec. (min. to max.)
Boom telescoping speed	
Extension	0.18m/sec. (0.6ft)
Retraction	0.22m/sec. (0.7ft)
Hoist and lower rope speed	
Main winch	63m/min. (206.7ft)
Auxiliary winch	63m/min. (206.7ft)
Hoist and lower hook speed	
Main winch	10.5m/min. (34.5ft)
Auxiliary winch	63m/min. (206.7ft)
Slewing speed	3.1 rpm

### WIRE ROPE FOR HOISTING

Main winch	Type	6 x Fi (29) I.W.R.C.
	Length	200m x 16mm dia.
Auxiliary winch	Type	6 x Fi (29) I.W.R.C.
	Length	90m x 16mm dia.

### HYDRAULIC SYSTEM

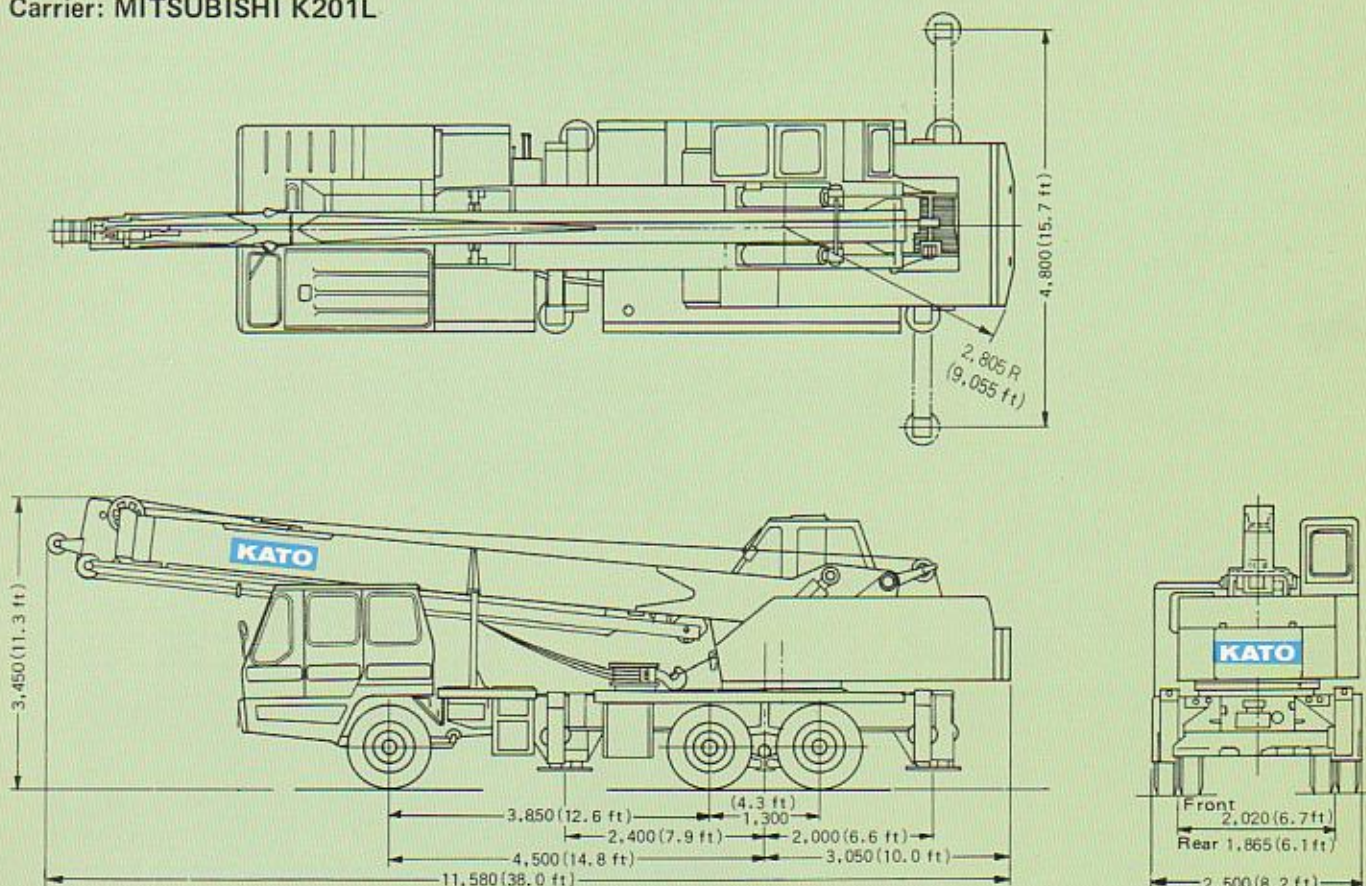
Hydraulic pump	Tandem gear type
Hoist motor	Variable plunger type
Slewing motor	Radial piston type
Control valve	3 position 4 way double-acting type with integral check, and relief valves.
Cylinder	Double acting type

## GENERAL DATA

CARRIER MODEL	MITSUBISHI K201L	
TOTAL LENGTH mm (ft)	11,580	( 38.0)
TOTAL WIDTH mm (ft)	2,500	( 8.2)
TOTAL HEIGHT mm (ft)	3,450	( 11.3)
ENGINE	MITSUBISHI 6DC20A	
Model	200/2,500	
Rated output PS/rpm	200/2,500	
GROSS WEIGHT kg (lbs)	20,300	(44,753)
FRONT kg (lbs)	5,700	(12,566)
REAR kg (lbs)	14,600	(32,187)
WHEEL BASE mm (ft)	4,500	( 14.8)
TREAD FRONT mm (ft)	2,020	( 6.7)
TREAD REAR mm (ft)	1,865	( 6.1)
MAX. SPEED km/h	70	
TURNING RADIUS m (ft)	9.5	( 31.16)
GRADEABILITY (tan $\theta$ )	29%	
DRIVE SYSTEM	6 x 4	
CLUTCH TYPE	Dry single disc	
TRANSMISSION SYSTEM	Synchromesh	
TIRE FRONT	11.00-20-14PRx2	
TIRE REAR	11.00-20-14PRx8	
STEERING TYPE	Ball nut with power assist	
ELECTRICAL SYSTEM	24V starting, lighting, instrumental light, beam headlight, tail and stop- light, windshield wiper, horn and turn signal.	

- *MACHINE is subject to the user's specifications and any chassis having proper capacity and dimension are applicable.*
- *We reserve the right to make specification or equipment changes without notice.*

Carrier: MITSUBISHI K201L





**KATO**

QUALITY & EXPERIENCE  
SINCE 1895

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