

KATO NK-400E-III

FULLY HYDRAULIC TRUCK CRANE

RATED LIFTING CAPACITY (1)

Based on * BS 1757:1981
* DIN 15019-2
* 75% of tipping loads

Working radius (m)	With fully extended outriggers-over side and over rear					Without outriggers over rear 11.0m Boom
	11.0 Boom	15.0 Boom	19.0 Boom	27.0 Boom	35.0 Boom	
3.0	40.00	28.00	21.00			8.00
3.5	35.00	28.00	21.00			6.40
4.0	31.50	28.00	21.00	15.00		5.10
4.5	28.50	26.60	21.00	15.00		4.20
5.0	26.00	24.40	21.00	15.00		3.40
5.4	23.80	22.50	21.00	15.00		2.90
6.0	21.50	20.50	19.10	15.00	9.00	2.30
6.5	19.80	19.00	17.70	15.00	9.00	1.90
7.0	18.20	17.70	16.50	14.00	9.00	1.60
7.5	16.70	16.50	15.45	13.10	9.00	1.25
8.0	14.90	14.70	14.50	12.30	9.00	1.00
8.5	13.40	13.20	13.00	11.55	9.00	
9.0	12.15	11.95	11.80	10.90	8.60	
10.0		9.95	9.75	9.80	8.00	
11.0		8.35	8.15	8.90	7.40	
12.0		7.00	6.80	7.65	6.80	
13.0		5.85	5.70	6.55	6.25	
14.0			4.80	5.65	5.80	
16.0			3.45	4.25	4.60	
18.0				3.20	3.60	
20.0				2.40	2.85	
22.0				1.80	2.20	
24.0				1.30	1.70	
26.0					1.30	
28.0					1.00	
30.0					0.70	
Standard hook	for 40 tons			for 20 tons		for 40 tons
Hook weight	450kg			270kg		450kg
Parts of line	10	7	6	4	3	10
Critical boom angle					20°	

(Unit: metric ton)

JIB RATED LIFTING CAPACITY (2)

Boom angle (°)	With fully extended outriggers-over side and over rear					
	9.2m Jib			15.0m Jib		
	offset 5°	offset 17°	offset 30°	offset 5°	offset 17°	offset 30°
81	4.00	3.00	2.00	2.70	1.60	1.20
79	4.00	3.00	2.00	2.70	1.60	1.20
77	4.00	3.00	2.00	2.45	1.60	1.20
76	3.86	2.90	2.00	2.30	1.60	1.20
74	3.50	2.67	2.00	2.06	1.51	1.20
72	3.18	2.47	2.00	1.87	1.40	1.16
70	2.91	2.30	1.88	1.70	1.28	1.08
68	2.68	2.15	1.78	1.56	1.20	1.01
66	2.48	2.01	1.70	1.43	1.12	0.99
64	2.32	1.90	1.60	1.33	1.07	0.97
62	2.06	1.78	1.53	1.22	1.03	0.95
60	1.75	1.62	1.46	1.13	1.00	0.93
58	1.45	1.37	1.30	1.06	0.99	0.92
56	1.20	1.16	1.08	0.98	0.90	0.83
54	0.98	0.95	0.87	0.76	0.71	0.67
52	0.78	0.76	0.71	0.58	0.57	0.55
50	0.60	0.60	0.55	0.45	0.45	0.45
48	0.45	0.43	0.40			
Critical boom angle	47°	47°	47°	49°	49°	49°
Standard hook	for 4 tons (120kg weight)					

(Unit: metric ton)

(Notes)

1) The rated lifting capacities indicate the maximum guaranteed load for this model operating on a firm level ground. They include the weight of hook block and other hoisting equipments. The figures in the blue areas are based on the mechanical strength of the crane.

Hook	for 40 ton	for 20 ton	for 4 ton
Weight (kg)	450	270	120

2) The working radii as given in table are the actual values including the deflection of booms and jibs. Therefore operate the crane based on the working radius. However, jib operation should be performed in accordance with the boom angle.

3) The rated lifting capacities for operation without outrigger are based on best condition of the tire air pressure and the ground surface.

4) The rated lifting capacities for the rooster sheave are equivalent to the rated lifting capacities for the boom with an upper limit of 4,000 kg. However, when hoisting equipment, etc., is attached to the boom, the weight of the hoisting equipment (ex. hook block for rooster sheave) plus the weight of the hoisting equipment attached to the boom (ex. hook block for main boom) should be subtracted from the rated lifting capacities.

5) If the boom length exceeds the specified value, refer to the rated lifting capacities for the boom length and the next highest boom length. The crane should be operated within the smaller lifting capacity.

6) When using the boom with the jib installed, 2,000 kg plus the hoisting equipment, etc., should be subtracted from the rated lifting capacities. The rooster sheave should not be used.

7) Critical boom angles for each boom length are shown bottommost line. If the boom angle is lowered to less than critical boom angle, the crane will tip over. Therefore, never lower the boom below these angles.

8) The standard number of parts of line is shown in the rated lifting capacity tables. When the standard number of parts of line is not used, the minimum number of parts of line is determined so that weight per part will not exceed 4000 kg.

9) In principal, free fall should only be allowed with the hook only, but when free fall under laden conditions cannot be avoided, a limit of 20% of the rated lifting capacity should be set and sudden braking must be avoided at all costs.

10) Over front lifting performance is inferior to over side/over rear lifting performance. Great care should be taken when transferring from over side to over front since there is a danger of overloading.

11) When optional front jack is extended, over front performance is the same as over side/over rear performance. Therefore, in case outriggers are fully extended, please refer to the Rated lifting capacity table (1) and (2). In case outriggers are intermediately extended, please refer to the Rated lifting capacity table (3) and (4).

RATED LIFTING CAPACITY (3)

With intermediately extended outriggers-360° full range With fully extended outriggers-over front					
Working radius (m)	11.0m Boom	15.0 Boom	19.0 Boom	27.0 Boom	35.0 Boom
3.0	24.00	20.00	16.00		
3.5	24.00	20.00	16.00		
4.0	24.00	20.00	16.00	12.00	
4.5	24.00	20.00	16.00	12.00	
5.0	22.00	20.00	16.00	12.00	
5.5	17.20	16.80	16.00	12.00	
6.0	13.85	13.50	13.30	12.00	6.00
6.5	11.50	11.20	10.95	12.00	6.00
7.0	9.70	9.45	9.20	10.25	6.00
7.5	8.30	8.00	7.80	8.80	6.00
8.0	7.15	6.85	6.65	7.65	6.00
8.5	6.20	5.90	5.70	6.70	6.00
9.0	5.30	5.10	4.95	5.90	6.00
10.0		3.90	3.70	4.60	5.10
11.0		2.95	2.80	3.65	4.10
12.0		2.20	2.00	2.90	3.35
13.0		1.60	1.40	2.30	2.70
14.0				1.80	2.20
15.0				1.40	1.80
16.0					1.40
17.0					1.10
Standard hook	for 40 tons			for 20 tons	
Hook weight	450kg			270kg	
Parts of line	10	7	6	4	3
Critical boom angle			37°	52°	57°

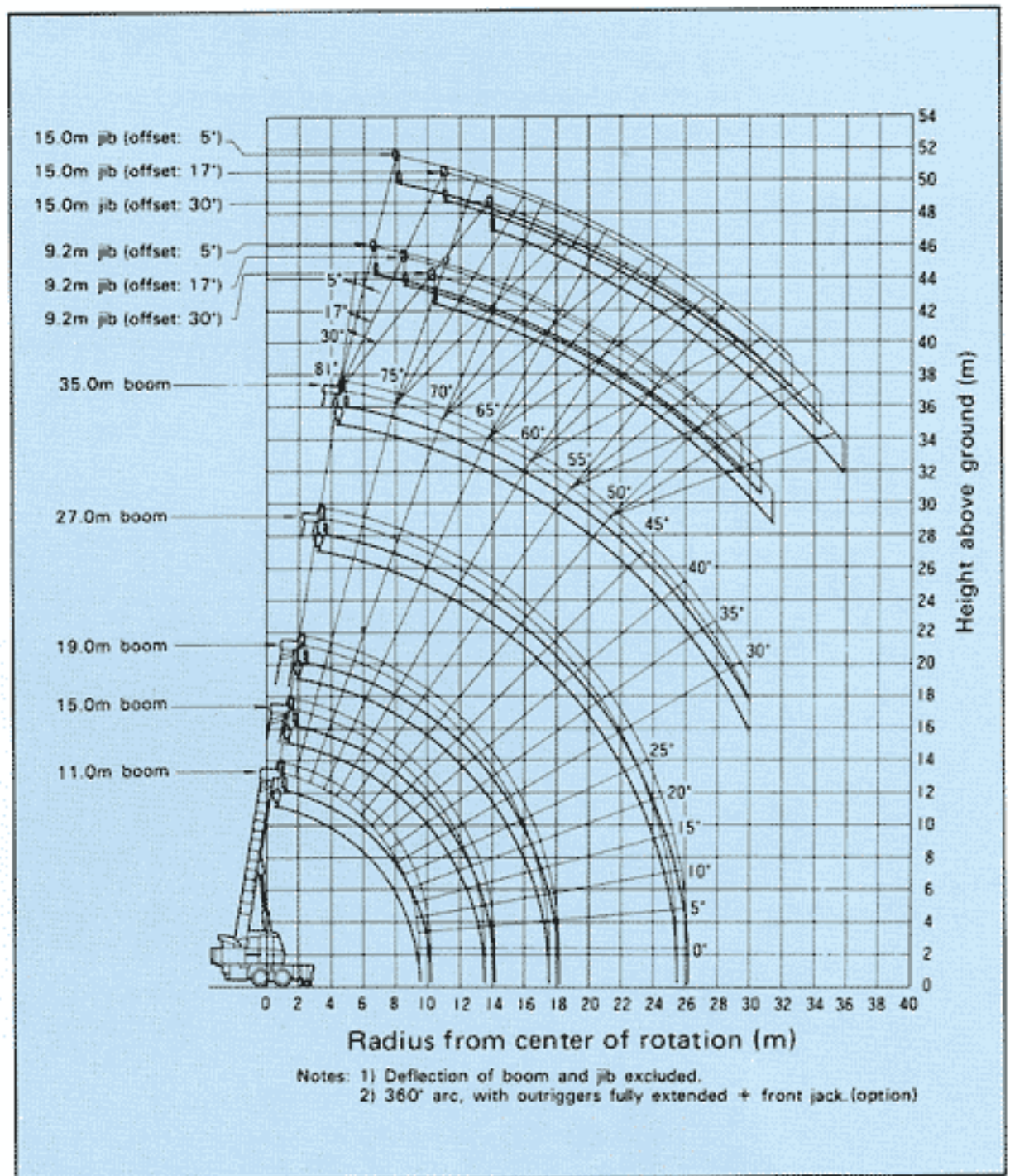
(Unit: metric ton)

JIB RATED LIFTING CAPACITY (4)

With intermediately extended outriggers-360° full range With fully extended outriggers-over front						
Boom angle (°)	9.2m Jib			15.0m Jib		
	Offset 5°	Offset 17°	Offset 30°	Offset 5°	Offset 17°	Offset 30°
81	4.00	3.00	2.00	2.70	1.60	1.20
79	4.00	3.00	2.00	2.70	1.60	1.20
77	3.50	3.00	2.00	2.45	1.60	1.20
76	3.15	2.66	2.00	2.30	1.60	1.20
75	2.82	2.35	2.00	2.18	1.59	1.20
74	2.50	2.08	1.80	1.86	1.51	1.20
73	2.21	1.81	1.56	1.63	1.33	1.07
72	1.95	1.57	1.37	1.42	1.15	0.91
70	1.43	1.15	1.03	1.05	0.85	0.72
68	1.00	0.80	0.75			
Critical boom angle	67°	67°	67°	69°	69°	69°
Standard hook	for 4 tons (120kg weight)					

(Unit: metric ton)

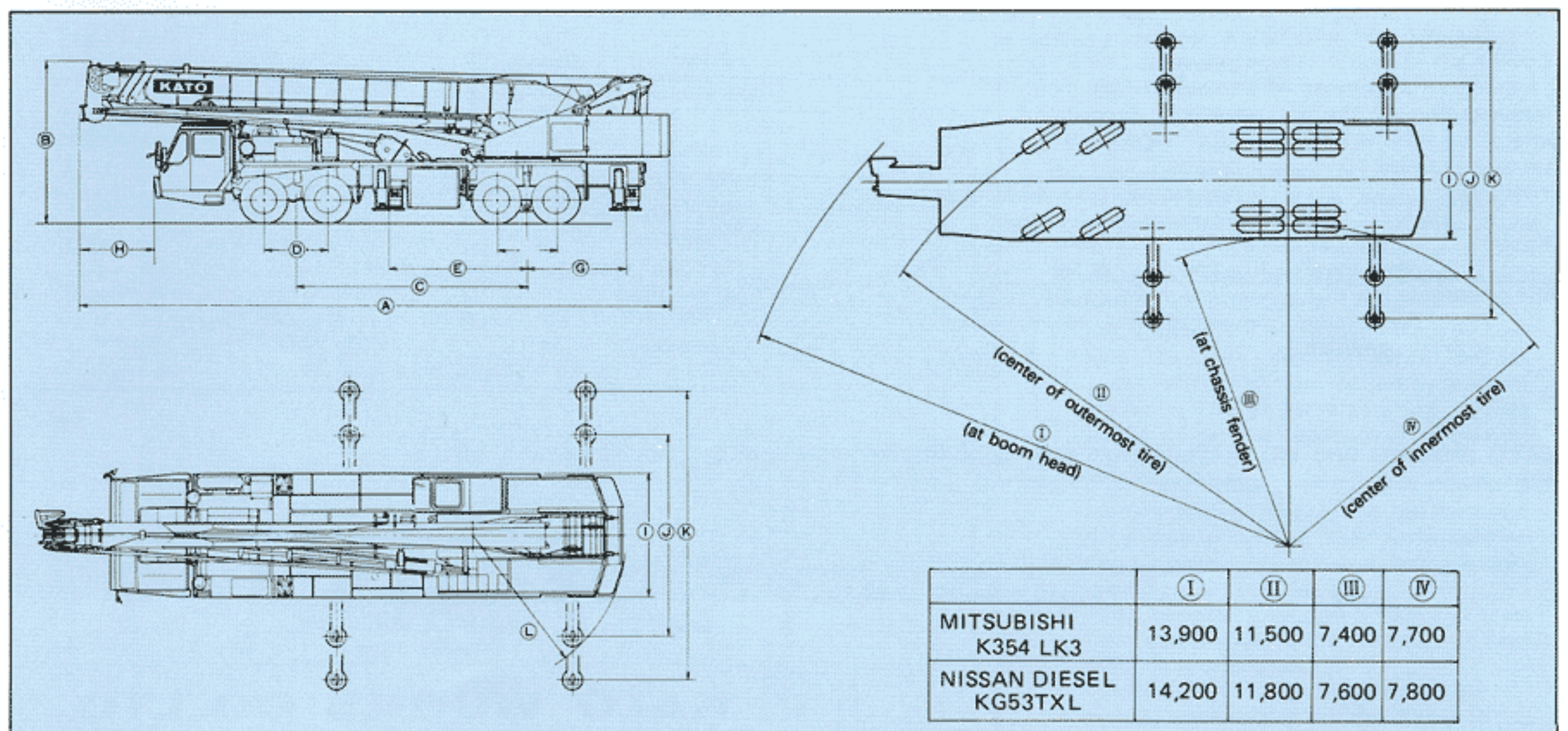
WORKING RANGES



SUPERSTRUCTURE SPECIFICATIONS

Name and Type		KATO NK-400E-III FULLY HYDRAULIC CRANE
Performance		
Crane Capacity		40.0t x 3.0m 11m Boom with outriggers over side and over rear
		28.0t x 4.0m 15m Boom with outriggers over side and over rear
		21.0t x 5.4m 19m Boom with outriggers over side and over rear
		15.0t x 6.5m 27m Boom with outriggers over side and over rear
		9.0t x 8.5m 35m Boom with outriggers over side and over rear
		4.0t Rooster sheave outriggers over side and over rear
		4.0t x 77° 9.2m jib (offset 5') outriggers over side and over rear
		3.0t x 77° 9.2m jib (offset 17') outriggers over side and over rear
		2.0t x 72° 9.2m jib (offset 30') outriggers over side and over rear
		2.7t x 79° 15.0m jib (offset 5') with outriggers over side and over rear
		1.6t x 76° 15.0m jib (offset 17') with outriggers over side and over rear
	1.2t x 74° 15.0m jib (offset 30') with outriggers over side and over rear	
	8.0t x 3.0m 11m Boom over side and over rear	
Boom length	Basic	11m
	Max.	35m
Jib length		9.2 ~ 15m
Max. lifting height		34.8m (35m Boom)
		49.7m (35m Boom + 15.0m Jib)
Main hoisting line speed		119m/min (3rd layer)
Auxiliary hoisting line speed		111m/min (2nd layer)
Main hook hoisting speed		11.9m/min (3rd layer, 10-parts of line)
Auxiliary hook hoisting speed		111m/min (2nd layer, 1-part of line)
Boom derricking time		43 sec (-2° ~ 81°)
Boom derricking angle		-2° ~ 81°
Slewing speed		2.3 r.p.m.

Hydraulic System								
Hydraulic pump	High pressure gear type, 3 section							
Hoisting motor	Axial piston type							
Slewing motor	Axial piston type							
Control valve	Multiple automatic return type							
Cylinder	High-pressure doubleacting type							
Superstructure								
Hoisting device	Hydraulic motor-driven planetary gear speed reduction type (with free fall device and automatic brake system) Single winch x 2							
Slewing device	Hydraulic motor-driven cycloid gear speed reduction type with built-in negative brakes and free/lock switching							
Slewing circle	Ball bearing type							
Boom derricking device	Direct-acting cylinder type							
Outrigger system	Hydraulic, vertically supporting with float and vertical cylinder in single unit							
Front jack (option)	Hydraulic, vertically supporting with float and vertical cylinder in single unit							
Hoisting Ropes								
Main	U4 x ses (39) φ 18 x 160m							
Auxiliary	U4 x ses (39) φ 18 x 110m							
Safety Device								
	Microcomputer type ACS fully automatic overload protection device (Moment Limiter), Boom free fall prevention device, Overhoisting prevention device, Drum lock device, Drum hold safety device, Automatic brake, Irregular winding prevention device, Hydraulic circuit safety system, Outrigger lock device, Boom angle indicator, Slewing lock system							
Option								
	<table border="0"> <tr> <td>Cooler</td> <td rowspan="6">} Crane cabin</td> </tr> <tr> <td>Voice alarm</td> </tr> <tr> <td>Radio</td> </tr> <tr> <td>Fan</td> </tr> <tr> <td>Heater</td> </tr> <tr> <td>Front jack</td> </tr> </table>	Cooler	} Crane cabin	Voice alarm	Radio	Fan	Heater	Front jack
Cooler	} Crane cabin							
Voice alarm								
Radio								
Fan								
Heater								
Front jack								



Carrier name and model	A	B	C	D	E	F	G	H	I	J	K	L
MITSUBISHI K354 LK3	13,450	3,750	5,250	1,450	3,150	1,350	2,250	1,780	2,750	4,600	6,600	3,520
NISSAN DIESEL KG53TXL	13,470	3,700	5,215	1,470	3,350	1,400	2,100	2,290	2,820	4,600	6,600	3,520

KATO NK-400E-III

FULLY HYDRAULIC TRUCK CRANE

CARRIER SPECIFICATIONS

MITSUBISHI K354LK3

Maximum traveling speed	75km/h
Gradeability (tan θ)	31.1% (computed, @ G.V.W. = 35800kg)
Minimum turning radius (center of extreme outer tire)	11.5m

General dimensions

Overall length	approx. 13450mm
Overall width	approx. 2750mm
Overall height	approx. 3750mm
Wheel base	5250mm
Treads	Front 2040mm
	Rear 1845mm
Center to center of extended outriggers	6600mm (Fully extended) 4600mm (Intermediately extended)
Gross weight	approx. 35800kg
	Front approx. 12800kg
	Rear approx. 23000kg

Carrier

Maker	MITSUBISHI
Model	K354LK3
Drive system	8 x 4

Engine

Maker	MITSUBISHI
Model	8DC8-2A
Type	4 cycle, water cooled, diesel
Number of cylinder	8 - 90°V
Piston displacement	14886cc
Max. output horsepower	290 ps/2300 r.p.m. 213 kw/2300 r.p.m.
Max. output torque	99 kg-m/1400 r.p.m. 970 N-m/1400 r.p.m.
Clutch	Single dry plate, hydraulic control with air booster
Transmission	10 forward & 2 reverse speed synchromesh and constantmesh gear
Axles	Front Reverse "ELLIOT" type
	Rear Full floating type
Steering	Ball nut type with power booster
Suspension	Front Semi-elliptic leaf springs
	Rear Equalizer beams and torque rods
Brake	Service 2 circuit air brake, 8 wheels internal expanding type
	Parking Spring loaded brake, acting on 4 rear wheels variable air operated
	Auxiliary Exhaust brake
Electric system	24V
Battery	12V - 140AH x 2
Fuel tank capacity	300 lit.
Driver's cab	All steel welded construction 2 persons, low line type
Tire size	Front 11.00 - 20 - 16 PR
	Rear (dual tire) 11.00 - 20 - 16 PR

Note : The output is in accordance with JIS D1004, 1976.
Rated power output guaranteed within 15% at standard
ambient condition.

NISSAN DIESEL KG53TXL

Maximum traveling speed	68km/h
Gradeability (tan θ)	29% (computed, @ G.V.W. = 35700kg)
Minimum turning radius (center of extreme outer tire)	11.8m

General dimensions

Overall length	approx. 13470mm
Overall width	approx. 2820mm
Overall height	approx. 3700mm
Wheel base	5215mm
Treads	Front 2270mm
	Rear 2110mm
Center to center of extend outriggers	6600mm (Fully extended) 4600mm (Intermediately extended)
Gross weight	approx. 35700kg
	Front approx. 13400kg
	Rear approx. 22300kg

Carrier

Maker	NISSAN DIESEL
Model	KG53TXL
Drive system	8 x 4

Engine

Maker	NISSAN DIESEL
Model	RE8
Type	4 cycle, water cooled, diesel
Number of cylinder	8 - V
Piston displacement	15115 cc
Max. output horsepower	315 ps/2300 r.p.m. 231 kw/2300 r.p.m.
Max. output torque	105 kg-m/1400 r.p.m. 1029 N-m/1400 r.p.m.

Note: The output is in accordance with JIS D1004, 1976.
Rated power output guaranteed within 5% at standard
ambient condition.

Clutch	Single dry plate, hydraulic control with air booster
Transmission	5 forward & 1 reverse speed, synchromesh and constantmesh gear
Axles	Front Reverse "ELLIOT" type
	Rear Full floating type
Steering	Ball nut type with power booster
Suspension	Front Semi-elliptic leaf springs
	Rear Equalizer beams and torque rods
Brake	Service 2 circuit air brake, 8 wheels internal expanding type
	Parking Mechanical, internal expanding type acting on drum at transmission case rear
	Auxiliary Exhaust brake
Electric system	24V
Battery	12V - 120AH x 2
Fuel tank capacity	300 lit.
Driver's cab	Steel, two men, semi under floor type, one side cab
Tire size	Front 11.00 - 20 - 16 PR
	Rear (dual tire) 11.00 - 20 - 16 PR

KATO products and specifications are subject to improvements and changes without notice.



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