

ROUGH TERRAIN CRANE

GR-300N

(Power Tilt Jib)

JAPANESE SPECIFICATIONS

GR

SPEC. NO.	OUTLINE
GR-300N-1-00101	Winch without free-fall device
GR-300N-1-00102	Winch with free-fall device

Control No. JA-02

GR-300N

CRANE SPECIFICATIONS

CRANE CAPACITY

7.7m Boom	30,000kg	at 3.0m	(8part-line)
12.7m Boom	19,000kg	at 5.0m	(6part-line)
17.7m Boom	17,000kg	at 4.5m	(6part-line)
22.7m Boom	12,000kg	at 6.0m	(4part-line)
27.7m Boom	9,000kg	at 7.0m	(4part-line)
30.5m Boom	8,000kg	at 7.0m	(4part-line)
32.0m Boom	7,000kg	at 7.0m	(4part-line)
6.5m Jib	3,200kg	at 72°	(1part-line)
11.0m Jib	2,000kg	at 70°	(1part-line)
Single top	4,000kg		(1part-line)

MAX. LIFTING HEIGHT

Boom	32.8m
Jib	43.9m

MAX. WORKING RADIUS

Boom	29.5m
Jib	32.5m

BOOM LENGTH

7.7m - 32.0m

BOOM EXTENSION

24.3m

BOOM EXTENSION SPEED

24.3m/77s

JIB LENGTH

6.5m, 11.0m

MAIN WINCH SINGLE LINE WINDING SPEED

120m/min (4th layer)

MAIN WINCH HOOK SPEED

15.0m/min (8 part-line)

MAIN WINCH SINGLE LINE UNWINDING SPEED

<Reference>

Standard 110m/min (4th layer)

High speed 200m/min (4th layer) --- only on cranes fitted with winches without free-fall device

AUXILIARY WINCH SINGLE LINE WINDING SPEED

120m/min (4th layer)

AUXILIARY WINCH HOOK SPEED

120m/min (1 part-line)

AUXILIARY WINCH SINGLE LINE UNWINDING SPEED

<Reference>

Standard 110m/min (4th layer)

High speed 200m/min (4th layer) --- only on cranes fitted with winches without free-fall device

BOOM ELEVATION ANGLE

-8° - 83°

BOOM ELEVATION SPEED

-8° - 83°/47s

SWING ANGLE

360° continue

SWING SPEED

2.5min⁻¹ (rpm)

WIRE ROPE

Main Winch:	16mm x 182m (Diameter x Length) Spin-resistant wire rope
Auxiliary Winch:	16mm x 98m (Diameter x Length) Spin-resistant wire rope

BOOM

6-section hydraulically telescoping boom of box construction

(stages 2,3: synchronized; stages 4,5,6: synchronized)

BOOM EXTENSION

2 double-acting hydraulic cylinders

JIB

Two-stage type stored alongside boom (with 2nd stage being a pull-out type)

Hydraulic non-stage offset (5°-60°) type

SINGLE TOP

Mounted and fixed on the top boom section.

HOIST

Driven by hydraulic motor and via spur gear reducer.

Automatic brake

High-speed unwind function - only on cranes fitted with winches without free-fall device

Free-fall device (with foot brake) - only on cranes fitted with winches with free-fall device

2 single winches

With flow regulator valve with pressure compensation

BOOM ELEVATION

1 double-acting hydraulic cylinders

With flow regulator valve with pressure compensation

SWING

Hydraulic motor driven planetary gear reducer

Swing bearing

Negative brake

OUTRIGGERS

Fully hydraulic Htype (floats mounted integrally)

Slides and jacks each provided with independent operation device.

Fully extended width 6.7m

Middle extended width 6.3m, 5.2m, 3.8m

Minimum extended width 2.08m

OPERATION METHOD

Hydraulic pilot valve operation

MAX. VERTICAL LOAD CAPACITY OF OUTRIGGER

28.4t

POWER TAKE-OFF

PTO wet multi-plate clutch

HYDRAULIC PUMPS

2 variable piston pumps

Gear pumps + piston pumps

HYDRAULIC OIL TANK CAPACITY

430 liters

SAFETY DEVICES

Automatic moment limiter (AML)

Swing automatic stop device

Elevation slow down and stop device

Over-winding cutout device

Working area control device

Free-fall interlock device - only on cranes fitted with winches with free-fall device

Outrigger extension width detector

Level gauge

Hook safety latch

Hydraulic safety valve

Telescopic counterbalance valve

Elevation counterbalance valve

Power tilt counterbalance valve

Jack pilot check valve

EQUIPMENT

Air-conditioner with dehumidifier

Hydraulic oil temperature indication lamp

Radio

Oil cooler/Visual-type winch drum rotation indicator

Operation pedals

ISO arrangement: for telescoping/auxiliary hoisting

TADANO arrangement: for elevating/telescoping

Television (option)

CARRIER SPECIFICATIONS

ENGINE

Model MITSUBISHI 6M60 - TLE2A (with turbo charger and air cooler)
Type 4-cycle, 6-cylinder, direct-injection, water-cooled diesel engine
Piston displacement 7,545cc
Max. output 200kW (272PS) at 2,700min⁻¹(rpm)
Max. torque 785N·m(80.0kgf·m) at 1,400⁻¹(rpm)

TORQUE CONVERTER

3-element, 1-stage unit (with automatic lock-up mechanism)

TRANSMISSION

Automatic and manual transmission
Power shift type (wet multi-plate clutch)
4 forward and 1 reverse speeds (with Hi/Low settings)

REDUCER

Axle dual-ratio reduction

DRIVE

2-wheel drive (4X2) / 4-wheel drive (4X4) selection

FRONT AXLE

Full floating type

REAR AXLE

Full floating type

SUSPENSION

Front Hydro-pneumatic suspension (with hydraulic lock cylinder)

Rear Hydro-pneumatic suspension (with hydraulic lock cylinder)

STEERING

Fully hydraulic power steering
With reverse steering correction mechanism

BRAKE SYSTEM

Service Brake
Hydro-pneumatic disk brake

Parking Brake
Mechanically operated, internal expanding duo-servo shoe type acting on drum at transmission case rear.

Auxiliary Brake
Hydrodynamic retarder
Electro-pneumatic operated exhaust brake.
Auxiliary braking device for operations

FRAME

Welded box-shaped structure

ELECTRIC SYSTEM

12 V DC. 2 batteries of 24V (120Ah)

FUEL TANK CAPACITY

300 liters

TIRES

Front 385/95R25 170E ROAD

Rear 385/95R25 170E ROAD

CAB

One-man type
With interior equipment
Liquid filled rubber mounted type
Fully adjustable foldable seat
(with headrest, armrest and seat belt)
Adjustable handle (tilt, telescoping)
Intermittent type windshield/roof wiper (with washer)
Power window
Side visor

SAFETY DEVICES

Emergency steering device
Suspension lock device
Rear wheel steering lock device
Engine over-run alarm
Overshift prevention device
Parking brake alarm
Powered mirror for right side of boom
Monitor TV for left side of boom

EQUIPMENT

Centralized oiling device

GENERAL DATA

DIMENSIONS

Overall length	9,620mm
Overall width	2,490mm
Overall height	3,495mm
Wheel base	3,550mm
Tread Front	2,060mm
Tread Rear	2,060mm

WEIGHTS

Gross vehicle weight	
Total	28,275kg
Front	14,140kg
Rear	14,135kg

PERFORMANCE

Max. traveling speed	49km/h
Gradeability (tan θ)	0.57
Min. turning radius	5.1m (4-wheel steering) 8.6m (2-wheel steering)

Note:

This crane is covered by Class D Conditions under the Basic Running Conditions of the Road Traffic Act.

TOTAL RATED LOADS

(1) With outriggers set
[BOOM]

Unit: ton

Outriggers fully extended (6.7m) -360°-							
A \ B	7.7m	12.7m	17.7m	22.7m	27.7m	30.5m	32.0m
2.5m	30.0	19.0	17.0	12.0			
3.0m	30.0	19.0	17.0	12.0			
3.5m	27.8	19.0	17.0	12.0	9.0		
4.0m	25.0	19.0	17.0	12.0	9.0		
4.5m	22.5	19.0	17.0	12.0	9.0	8.0	7.0
5.0m	20.3	19.0	16.2	12.0	9.0	8.0	7.0
5.5m		18.5	15.2	12.0	9.0	8.0	7.0
6.0m		17.0	14.3	12.0	9.0	8.0	7.0
6.5m		15.4	13.5	11.5	9.0	8.0	7.0
7.0m		14.0	12.8	11.0	9.0	8.0	7.0
8.0m		11.6	11.5	9.9	8.4	7.4	6.7
9.0m		9.2	9.25	8.9	7.7	6.8	6.4
10.0m		7.3	7.4	8.0	7.1	6.2	5.9
11.0m			6.1	6.7	6.55	5.7	5.4
12.0m			5.1	5.7	6.0	5.3	5.0
13.0m			4.25	4.8	5.2	4.9	4.55
14.0m			3.55	4.15	4.5	4.6	4.25
15.0m			3.0	3.6	3.9	4.0	3.95
16.0m				3.05	3.45	3.55	3.7
17.0m				2.65	3.0	3.15	3.3
18.0m				2.25	2.6	2.75	2.9
19.0m				2.0	2.3	2.4	2.55
20.0m				1.7	2.05	2.15	2.3
22.0m					1.55	1.7	1.8
24.0m					1.15	1.25	1.4
26.0m						0.95	1.1
28.0m						0.7	0.8
29.5m							0.6
a (°)	0 ~ 83						

A= Boom length B= Working radius
a= Boom angle range (for the unladen condition)

[BOOM]

Unit:ton

		Outriggers middle extended (6.3m)					-Over sides-	
A \ B	7.7m	12.7m	17.7m	22.7m	27.7m	30.5m	32.0m	
2.5m	30.0	19.0	17.0	12.0				
3.0m	30.0	19.0	17.0	12.0				
3.5m	27.8	19.0	17.0	12.0	9.0			
4.0m	25.0	19.0	17.0	12.0	9.0			
4.5m	22.5	19.0	17.0	12.0	9.0	8.0	7.0	
5.0m	20.3	19.0	16.2	12.0	9.0	8.0	7.0	
5.5m		18.5	15.2	12.0	9.0	8.0	7.0	
6.0m		17.0	14.3	12.0	9.0	8.0	7.0	
6.5m		15.0	13.5	11.5	9.0	8.0	7.0	
7.0m		13.2	12.8	11.0	9.0	8.0	7.0	
8.0m		10.5	10.7	9.9	8.4	7.4	6.7	
9.0m		8.5	8.4	8.9	7.7	6.8	6.4	
10.0m		6.7	6.8	7.6	7.1	6.2	5.9	
11.0m			5.55	6.3	6.55	5.7	5.4	
12.0m			4.6	5.3	5.7	5.3	5.0	
13.0m			3.8	4.5	4.9	4.9	4.55	
14.0m			3.2	3.8	4.2	4.35	4.25	
15.0m			2.65	3.25	3.6	3.75	3.85	
16.0m				2.8	3.1	3.3	3.5	
17.0m				2.35	2.7	2.85	3.05	
18.0m				2.05	2.35	2.5	2.7	
19.0m				1.75	2.05	2.2	2.4	
20.0m				1.5	1.7	1.9	2.1	
22.0m					1.3	1.45	1.65	
24.0m					0.95	1.05	1.2	
26.0m						0.8	0.9	
28.0m						0.6	0.65	
29.0m							0.55	
a (°)	0 ~ 83							

A= Boom length B= Working radius
a= Boom angle range (for the unladen condition)

[BOOM]

Unit:ton

		Outriggers middle extended (5.2m)					-Over sides-	
A \ B	7.7m	12.7m	17.7m	22.7m	27.7m	30.5m	32.0m	
2.5m	30.0	19.0	17.0	12.0				
3.0m	30.0	19.0	17.0	12.0				
3.5m	27.8	19.0	17.0	12.0	9.0			
4.0m	25.0	19.0	17.0	12.0	9.0			
4.5m	22.5	19.0	17.0	12.0	9.0	8.0	7.0	
5.0m	19.0	19.0	16.2	12.0	9.0	8.0	7.0	
5.5m		16.0	15.2	12.0	9.0	8.0	7.0	
6.0m		13.4	13.4	12.0	9.0	8.0	7.0	
6.5m		11.5	11.5	11.5	9.0	8.0	7.0	
7.0m		10.0	9.9	10.9	9.0	8.0	7.0	
8.0m		7.6	7.6	8.5	8.4	7.4	6.7	
9.0m		6.0	6.0	6.8	7.3	6.8	6.4	
10.0m		4.8	4.8	5.6	6.0	6.1	5.9	
11.0m			3.9	4.6	5.0	5.15	5.25	
12.0m			3.15	3.8	4.2	4.3	4.5	
13.0m			2.55	3.2	3.5	3.7	3.8	
14.0m			2.05	2.65	2.95	3.15	3.25	
15.0m			1.65	2.2	2.55	2.7	2.8	
16.0m				1.85	2.15	2.35	2.45	
17.0m				1.55	1.8	2.0	2.1	
18.0m				1.25	1.55	1.7	1.8	
19.0m				1.0	1.3	1.45	1.55	
20.0m				0.8	1.1	1.2	1.3	
22.0m					0.7	0.8	0.95	
24.0m					0.4	0.5	0.65	
26.0m							0.4	
a (°)	0 ~ 83				6 ~ 83	26 ~ 83	27 ~ 83	

A= Boom length B= Working radius
a= Boom angle range (for the unladen condition)

[BOOM]

Unit:ton

		Outriggers middle extended (3.8m)					-Over sides-	
B \ A		7.7m	12.7m	17.7m	22.7m	27.7m	30.5m	32.0m
2.5m		30.0	19.0	17.0	12.0			
3.0m		28.0	19.0	17.0	12.0			
3.5m		22.5	19.0	17.0	12.0	9.0		
4.0m		17.2	17.7	16.0	12.0	9.0		
4.5m		13.3	13.9	13.8	12.0	9.0	8.0	7.0
5.0m		10.8	11.4	11.4	11.5	9.0	8.0	7.0
5.5m			9.5	9.5	10.3	9.0	8.0	7.0
6.0m			8.1	8.1	8.8	9.0	8.0	7.0
6.5m			6.9	6.9	7.65	8.1	7.8	7.0
7.0m			5.95	5.95	6.6	7.1	7.15	7.0
8.0m			4.5	4.5	5.2	5.6	5.7	5.8
9.0m			3.45	3.45	4.05	4.5	4.6	4.7
10.0m			2.6	2.6	3.25	3.65	3.8	3.9
11.0m				2.0	2.6	3.0	3.1	3.2
12.0m				1.5	2.05	2.4	2.55	2.65
13.0m				1.1	1.6	1.95	2.1	2.2
14.0m				0.7	1.25	1.55	1.7	1.85
15.0m				0.4	0.95	1.25	1.4	1.5
16.0m					0.7	1.0	1.15	1.25
17.0m					0.45	0.75	0.9	1.0
18.0m						0.5	0.65	0.8
19.0m							0.5	0.65
20.0m								0.45
a (°)		0 ~ 83			34 ~ 83	45 ~ 83	48 ~ 83	48 ~ 83

A= Boom length B= Working radius
a= Boom angle range (for the unladen condition)

[BOOM]

Unit:ton

		Outriggers minimum extended (2.08m)					-Over sides-	
B	A	7.7m	12.7m	17.7m	22.7m	27.7m	30.5m	32.0m
	2.5m		11.5	11.5	10.5	10.0		
3.0m		11.5	11.5	10.5	10.0			
3.5m		8.7	8.9	9.0	9.0	8.0		
4.0m		6.9	7.0	7.0	7.6	7.8		
4.5m		5.5	5.6	5.6	6.2	6.6	6.0	5.6
5.0m		4.4	4.5	4.5	5.2	5.5	5.5	5.6
5.5m			3.7	3.7	4.4	4.75	4.8	4.9
6.0m			3.0	3.0	3.7	4.1	4.1	4.2
6.5m			2.5	2.5	3.15	3.5	3.55	3.6
7.0m			2.0	2.0	2.65	3.0	3.05	3.15
8.0m			1.25	1.25	1.9	2.25	2.35	2.4
9.0m			0.65		1.3	1.6	1.75	1.85
10.0m						1.15	1.25	1.35
a (°)		0 ~ 83	29 ~ 83	57 ~ 83	62 ~ 83	57 ~ 83	68 ~ 83	69 ~ 83

A= Boom length B= Working radius
a= Boom angle range (for the unladen condition)

[JIB]

Unit:ton

Outriggers fully extended (6.7m) -360°-																
C	32.0m Boom + 6.5m Jib								32.0m Boom + 11.0m Jib							
	5°		25°		45°		60°		5°		25°		45°		60°	
E (°)	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M
83	4.8	3.2	6.6	2.3	7.8	1.7	8.4	1.6	5.8	2.0	9.2	1.4	11.5	1.0	12.6	0.8
76	9.9	3.2	11.4	2.3	12.4	1.7	12.9	1.6	11.9	2.0	14.8	1.4	16.5	1.0	17.2	0.8
72	12.7	3.2	14.1	2.3	14.9	1.7	15.2	1.53	15.1	2.0	17.6	1.3	19.2	0.95	19.7	0.73
70	14.0	2.9	15.4	2.3	16.1	1.7	16.3	1.5	16.6	2.0	19.0	1.25	20.4	0.94	20.8	0.7
65	16.9	2.3	18.4	1.95	18.9	1.7	18.8	1.45	19.8	1.7	22.1	1.15	23.3	0.93	23.3	0.7
60	20.2	1.85	21.2	1.65	21.6	1.5	21.5	1.4	23.0	1.35	25.2	1.1	26.1	0.92	25.9	0.7
55	23.0	1.45	23.6	1.35	23.8	1.3			25.9	1.1	28.0	1.0	28.5	0.88		
50	25.6	0.95	25.8	0.9	26.0	0.9			28.6	0.8	30.4	0.7	30.7	0.7		
45	27.7	0.63	27.8	0.6	27.9	0.6			30.9	0.5	32.4	0.45	32.5	0.45		
40	29.7	0.35	29.8	0.33												
a (°)	39 ~ 83				44 ~ 83		59 ~ 83		44 ~ 83				59 ~ 83			

Unit:ton

Outriggers middle extended (6.3m) -Over sides-																
C	32.0m Boom + 6.5m Jib								32.0m Boom + 11.0m Jib							
	5°		25°		45°		60°		5°		25°		45°		60°	
E (°)	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M
83	4.8	3.2	6.6	2.3	7.8	1.7	8.4	1.6	5.8	2.0	9.2	1.4	11.5	1.0	12.6	0.8
76	9.9	3.2	11.4	2.3	12.4	1.7	12.9	1.6	11.9	2.0	14.8	1.4	16.5	1.0	17.2	0.8
72	12.7	3.2	14.1	2.3	14.9	1.7	15.2	1.53	15.1	2.0	17.6	1.3	19.2	0.95	19.7	0.73
70	14.0	2.9	15.4	2.3	16.1	1.7	16.3	1.5	16.6	2.0	19.0	1.25	20.4	0.94	20.8	0.7
65	16.9	2.3	18.4	1.95	18.9	1.7	18.8	1.45	19.8	1.7	22.1	1.15	23.3	0.93	23.3	0.7
60	20.1	1.8	21.2	1.6	21.6	1.5	21.5	1.4	23.0	1.35	25.2	1.1	26.1	0.92	25.9	0.7
55	22.8	1.2	23.5	1.15	23.8	1.1			25.8	0.95	27.9	0.9	28.5	0.85		
50	25.4	0.8	25.8	0.75	26.0	0.75			28.5	0.6	30.3	0.55	30.7	0.55		
45	27.5	0.45	27.8	0.4	27.9	0.4			30.8	0.35	32.3	0.3	32.4	0.3		
a (°)	44 ~ 83				59 ~ 83		44 ~ 83				59 ~ 83					

B= Working radius C= Jib length D= Jib offset
E= Boom angle M= Total rated loads
a= Boom angle range (for the unladen condition)

[JIB]

Unit:ton

Outriggers middle extended (5.2m) -360°-																
C	32.0m Boom + 6.5m Jib								32.0m Boom + 11.0m Jib							
	5°		25°		45°		60°		5°		25°		45°		60°	
E (°)	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M
83	4.8	3.2	6.6	2.3	7.8	1.7	8.4	1.6	5.8	2.0	9.2	1.4	11.5	1.0	12.6	0.8
76	9.9	3.2	11.4	2.3	12.4	1.7	12.9	1.6	11.9	2.0	14.8	1.4	16.5	1.0	17.2	0.8
72	12.7	3.2	14.1	2.3	14.9	1.7	15.2	1.53	15.1	2.0	17.6	1.3	19.2	0.95	19.7	0.73
70	13.9	2.8	15.4	2.3	16.1	1.7	16.3	1.5	16.6	2.0	19.0	1.25	20.4	0.94	20.8	0.7
65	16.7	1.8	18.4	1.7	18.9	1.55	18.8	1.4	19.7	1.45	22.1	1.15	23.3	0.93	23.3	0.7
60	19.7	1.15	20.9	1.05	21.5	1.0	21.5	0.9	22.6	0.9	25.0	0.85	26.0	0.7	25.9	0.6
55	22.3	0.65	23.3	0.55	23.8	0.55			25.4	0.5	27.5	0.5	28.3	0.4		
52	23.8	0.35	24.7	0.33	25.2	0.3										
a (°)	51 ~ 83						59 ~ 83		54 ~ 83						59 ~ 83	

Unit:ton

Outriggers middle extended (3.8m) -Over sides-																
C	32.0m Boom + 6.5m Jib								32.0m Boom + 11.0m Jib							
	5°		25°		45°		60°		5°		25°		45°		60°	
E (°)	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M
83	4.8	3.2	6.6	2.3	7.8	1.7	8.4	1.6	5.8	2.0	9.2	1.4	11.5	1.0	12.6	0.8
76	9.9	3.2	11.4	2.3	12.4	1.7	12.9	1.6	11.9	2.0	14.8	1.4	16.5	1.0	17.2	0.8
72	12.2	2.1	13.8	1.8	14.9	1.6	15.2	1.2	14.8	1.6	17.6	1.3	19.2	0.95	19.7	0.73
70	13.5	1.65	15.1	1.45	16.0	1.3	16.2	1.0	16.0	1.25	19.2	1.1	20.3	0.8	20.8	0.6
65	16.3	0.8	17.8	0.75	18.6	0.7	18.7	0.5	19.0	0.6	21.5	0.55	23.0	0.45	23.3	0.45
a (°)	64 ~ 83								64 ~ 83							

B= Working radius C= Jib length D= Jib offset
E= Boom angle M= Total rated loads
a= Boom angle range (for the unladen condition)

PRECAUTIONS TO BE TAKEN WHEN THE OUTRIGGERS ARE EXTENDED:

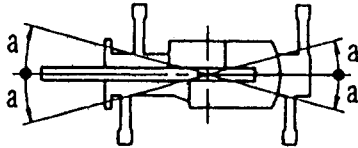
1. The total rated loads shown are for the case where the crane is set horizontally on firm level ground. They include the weights of the slings and hooks (main hook: 260kg, 12t hook: 170kg, auxiliary hook: 60kg). The values above the bold lines are based on the crane strength while those below are based on the crane stability.
2. Since the working radii are based on the actual values including the deflection of the boom, operations should be performed in accordance with the working radii.
3. Jib operations should be performed in accordance with the boom angle, irrespective of the boom length. The working radii are reference values for the case where the jib is mounted on a 32.0m boom.
4. The total rated load for the single top shall be the value obtained by subtracting the weight of the hook mounted on the boom from the total rated load of the boom and must not exceed 4.0t.
5. High-speed unwind function (only on cranes fitted with winches without free-fall device) should be performed only when lowering the hook alone and sudden braking operations must be avoided.
6. As a rule, free-fall operation (only on cranes fitted with winches with free-fall device) should be performed only when lowering the hook alone. If a hoisted load must be lowered by free-fall operation, the load must be kept below 1/5th of the total rated load and sudden braking operations must be avoided.
7. The table below shows the standard number of part lines for each boom length. When using with other than this number of part lines, the load per line should not exceed 3.75t for the main winch, and 4.0t for the auxiliary winch.

A	7.7m	12.7m	17.7m	22.7m	27.7m	30.5m	32.0m	J
H	8	6	6	4	4	4	4	1

A= Boom length H= No. of part-lines
J= Jib/Single top

8. The hoisting performance for the "Over sides" range will differ according to the extended width of the outriggers. Operations should be performed in accordance with the performance corresponding to the extended width. Also, although the hoisting performances for the "Over front" and "Over rear" ranges are equivalent to those of the "outriggers fully extended" condition, the front and rear ranges (angle a) will differ according to the width to which the outriggers are extended in the left and right directions.

Extended width	Middle extended (6.3m)	Middle extended (5.2m)	Middle extended (3.8m)	Minimum extended (2.08m)
Angle a°	35	25	15	5



(2) Without outriggers

Unit:ton

B (m)	Stationary							
	7.7m Boom		12.7m Boom		17.7m Boom		22.7m Boom	
	K	G	K	G	K	G	K	G
3.0	14.0	8.2	11.5	6.3	8.0	6.3		
3.5	12.5	6.1	10.5	5.0	8.0	5.0	6.5	
4.0	11.0	4.7	9.7	4.1	8.0	4.1	6.5	5.0
4.5	10.0	3.75	8.8	3.3	8.0	3.3	6.5	4.1
5.0	9.0	2.8	8.0	2.7	7.5	2.7	6.5	3.45
5.5			6.5	2.2	6.5	2.2	6.0	2.9
6.0			5.8	1.8	5.8	1.8	5.5	2.45
6.5			5.1	1.4	5.1	1.4	5.1	2.0
7.0			4.4	1.0	4.4	1.0	4.7	1.6
8.0			3.4		3.4		3.9	1.0
9.0			2.55		2.55		3.15	
10.0			1.9		1.9		2.5	
11.0					1.3		1.85	
12.0					0.8		1.35	
13.0					0.5		0.9	
14.0							0.55	
a (°)	0~78		0~82	43~82	26~82	59~82	47~82	65~82

Unit:ton

B (m)	Creep (travelling at 1.6km/h or less)							
	7.7m Boom		12.7m Boom		17.7m Boom		22.7m Boom	
	K	G	K	G	K	G	K	G
3.0	10.5	6.9	9.5	5.3	6.7	5.3		
3.5	9.6	5.1	8.7	4.25	6.7	4.2	5.5	
4.0	8.5	3.9	8.0	3.4	6.7	3.4	5.5	4.2
4.5	7.5	3.1	7.2	2.8	6.7	2.75	5.5	3.4
5.0	6.7	2.35	6.3	2.25	6.3	2.25	5.5	2.9
5.5			5.5	1.8	5.5	1.8	5.0	2.4
6.0			5.0	1.45	5.0	1.5	4.6	2.0
6.5			4.3	1.1	4.3	1.15	4.3	1.7
7.0			3.7	0.8	3.7	0.8	3.9	1.3
8.0			2.8		2.8		3.3	0.8
9.0			2.1		2.1		2.6	
10.0			1.6		1.6		2.1	
11.0					1.0		1.5	
12.0					0.65		1.1	
13.0							0.7	
a (°)	0~78		0~82	43~82	33~82	59~82	50~82	65~82

B= Working radius K= Front G= 360°
a= Boom angle range (for the unladen condition)

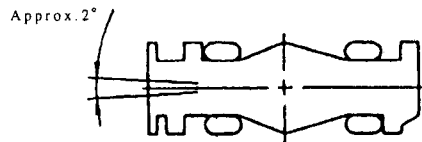
PRECAUTIONS TO BE TAKEN WHEN THE OUTRIGGERS ARE NOT MOUNTED:

1. The total rated loads shown are for the case where the tire air pressure on firm level ground is as specified 900kPa (9.00kgf/cm²) and the suspension-lock cylinder is retracted as much as possible. They include the weights of the slings and hooks (main hook: 260kg, 12t hook: 170kg, auxiliary hook: 60kg).
The values above the bold lines are based on the crane strength while those below are based on the crane stability. The foundation, working conditions, etc. should be taken into consideration for actual work.
2. Since the working radii are based on the actual values including the deflection of the boom and the tires, operations should be performed in accordance with the working radii.
3. The table below shows the standard number of part lines for each boom length. When using with other than this number of part lines, the load per line should not exceed 3.75t for the main winch, and 4.0t for the auxiliary winch.

A	7.7m	12.7m	17.7m	22.7m	Single top
H	4	4	4	4	1

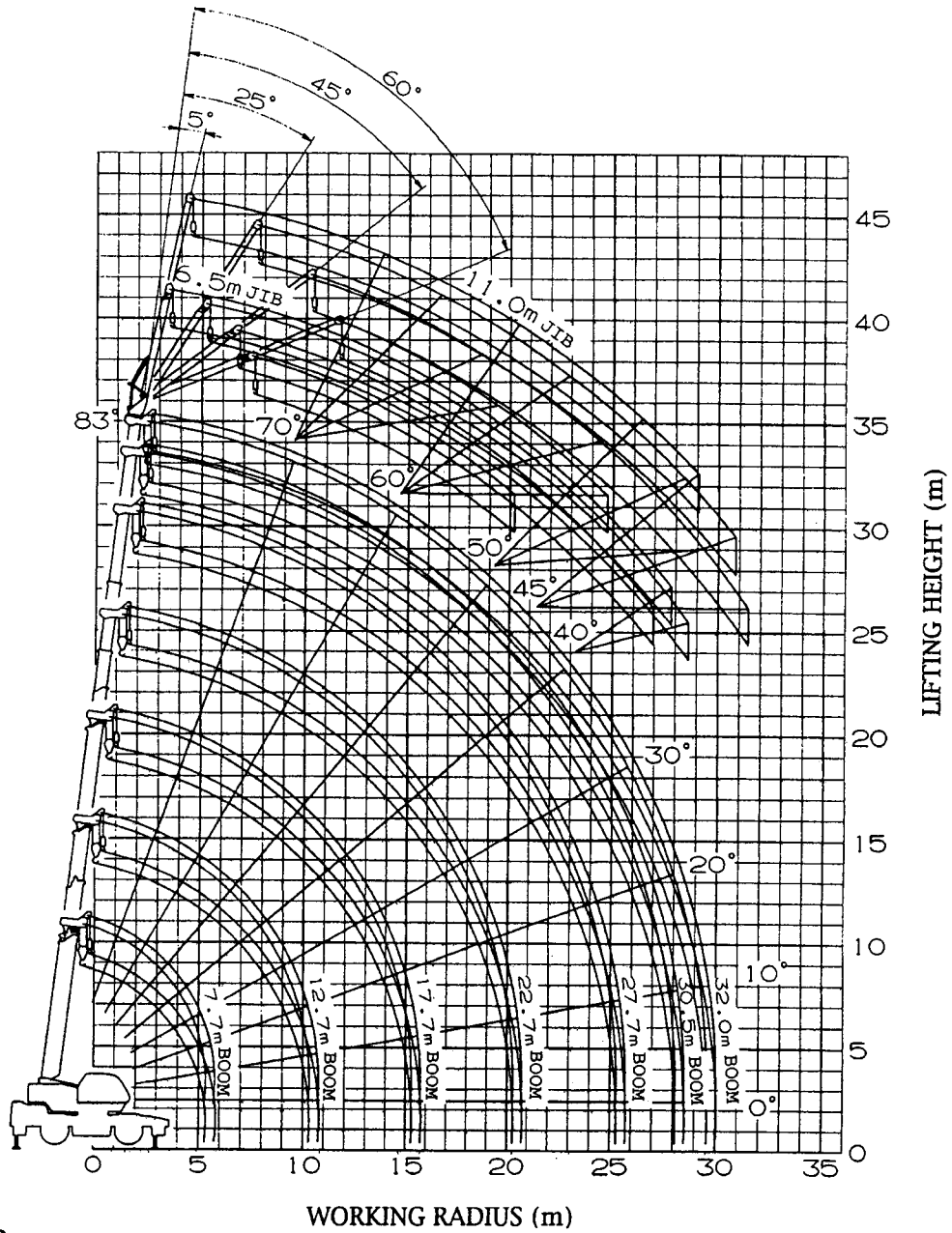
A= Boom length H= No. of part-lines

4. "Over front" crane operations should be performed only when the AML "over-front area indicator lamp" is lit. The boom must be kept inside a 2° area over front of the carrier when performing "Over front" crane operations without the outriggers.



5. The total rated load for the single top shall be the value obtained by subtracting the weight of the hook mounted on the boom from the total rated load of the boom and must not exceed 4.0t.
6. High-speed unwind function (only on cranes fitted with winches without free-fall device) and free-fall operations (only on cranes fitted with winches with free-fall device) should not be performed without outriggers.
Booms over 22.7m in length and jibs should not be used without outriggers.
7. The "Drive Mode Selection" switch should be set to "4-wheel / Lo" for creeping while hoisting a load and the shift lever should be set to first.
8. When creeping while hoisting a load, the swing brake should be applied, the load should be kept as close to the ground as possible but not touching the ground and the speed should be kept at 1.6km/h or less. In particular, any abrupt steering, starting or braking must be avoided.
9. Crane operations should not be performed when creeping while hoisting a load.

WORKING RADIUS - LIFTING HEIGHT



NOTES:

1. The deflection of the boom and the jib are not incorporated in the figure above.
2. The figure above is for the case where the outriggers are fully extended (360°).

DIMENSIONS (1/100)

