

TRUCK CRANE

TG-1000M

TG

JAPANESE SPECIFICATIONS

CARRIER MODEL	OUTLINE	SPEC. NO.
MITSUBISHI K-K1302	5-section Boom, 2-stage Jib	TG-1000M-1-20101

Control No. JA-03

TG-1000M

CRANE SPECIFICATIONS

MAXIMUM TOTAL RATED LOAD

Boom	12.0m	100,000kg	(14 part line)
	18.0m	45,000kg	(7 part line)
	24.0m	36,000kg	(6 part line)
	30.0m	27,000kg	(6 part line)
	36.0m	22,000kg	(4 part line)
	40.0m	18,000kg	(4 part line)
	44.0m	12,000kg	(4 part line)
Jib	9.5m	5,000kg	(1 part line)
	15.0m	3,000kg	(1 part line)
Single top	0.74m	5,000kg	(1part-line)

MAX. LIFTING HEIGHT

Boom	44.2m
Jib	58.7m

MAX. WORKING RADIUS

Boom	36.0m
Jib	34.0m

BOOM LENGTH

12.0m – 44.0m

BOOM EXTENSION

32.0m

BOOM EXTENSION SPEED

32.0m / 145s

JIB LENGTH

9.5m, 15.0m

MAIN WINCH SINGLE LINE SPEED

High range:	90m/min	(4th layer)
Low range:	45m/min	(4th layer)

MAIN WINCH HOOK SPEED

(14 part-line)

High range:	6.4m/min	(4th layer)
Low range:	3.2m/min	(4th layer)

AUXILIARY WINCH SINGLE LINE SPEED

High range:	104m/min	(2nd layer)
Low range:	52m/min	(2nd layer)

AUXILIARY WINCH HOOK SPEED

(1 part-line)

High range:	104m/min	(2nd layer)
Low range:	52m/min	(2nd layer)

BOOM ELEVATION ANGLE

-1° – 80°

BOOM ELEVATION SPEED

-1° – 80° / 45s

SWING ANGLE

360° continue

SWING SPEED

1.6 rpm

WIRE ROPE

Main Winch

Spin-resistant type

22mm × 240m (Diameter × Length)

Auxiliary Winch

Spin-resistant type

20mm × 175m (Diameter × Length)

BOOM

5-section full length power telescoping boom of box construction
(2nd – 4th sections: synchronized; 5th section: sequential).

BOOM EXTENSION

4 double-acting hydraulic cylinder

JIB

2-staged swingaround boom extensions.

(2nd stage: pull-out type)

Dual (5°, 30°) offset

SINGLE TOP

Single sheave. Mounted to main boom head for single line work.

HOIST

Driven by hydraulic motor and via helical gear speed reducer.

Power load lowering / free-fall lowering type

2 single winches

BOOM ELEVATION

2 double-acting hydraulic cylinders

SWING

Hydraulic motor driven planetary gear reducer

Swing bearing

Hand brake

Oil lock type

OUTRIGGERS

Fully hydraulic H-type

Slides and jacks each provided with independent operation device.

Full extended width 7.5m

ENGINE FOR CRANE

Model PE6

Type 4-cycle, in-line, direct-injection, water-cooled diesel engine.

Piston Displacement 11,670cc

Max. Output 200PS at 2,200rpm

Max. Torque 73kg·m at 1,200rpm

HYDRAULIC PUMPS

2 high pressure variable piston pumps and 1 high pressure gear pump

HYDRAULIC OIL TANK CAPACITY

985 liters

SAFETY DEVICES

Automatic moment limiter

- Moment display
- Load display
- Total rated load display
- Boom angle display
- Boom length display
- Max. lifting height display
- Working radius display

Over-winding cutout

Level gauge

Over front area control device

Hook safety latch

Winch drum lock

Swing brake

Hydraulic safety valve

Elevation counterbalance valve

Telescopic counterbalance valve

Jack pilot check valve

EQUIPMENTS

Oil cooler

Hydraulic oil temperature gauge

Boom angle indicator

Crane cab heater 2,200Kcal/H

Boom dismount device

Swing frame dismount device

CARRIER SPECIFICATIONS

MANUFACTURER

MITSUBISHI MOTOR CORPORATION

CARRIER MODEL

K-K1302

ENGINE

Model 8DC90A

Type 4-cycle V8-cylinder, direct-injection, water-cooled diesel engine

Piston displacement 16,031cc

Max. output 310PS at 2,200rpm

Max. torque 108kg·m at 1,400rpm

CLUTCH

Dry single-plate type

TRANSMISSION

Type Constant-mesh gear (6-stage speed, reverse)
Synchronized-mesh gear (for 2nd - 6th speeds)

Gear ratios 1st speed 5.969 2nd speed 3.807

3rd speed 2.201 4th speed 1.463

5th speed 1.000 6th speed 0.691

Reverse 6.058

REDUCER

Type 1-stage speed reduction type

Hypoid gear type

Final drive 12.152

FRONT AXLE

Reverse-elliot type steering knuckles

REAR AXLE

Full-floating type; cast-steel housing

SUSPENSION

Front Semi-elliptical laminated leaf spring and torque rod type

With spring torsion bar stabilizer

Rear Equalizer beam and torque rod type

STEERING

Recirculating ball screw type

With linkage type hydraulic power booster

BRAKE SYSTEM

Service Brake

2-circuit air brake, foot operated full air brake on all wheels

Parking Brake

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

Auxiliary Brake

Electro-pneumatic operated exhaust brake

ELECTRIC SYSTEM

2 batteries of 12V (140Ah)

FUEL TANK CAPACITY

200 liters + 200 liters

CAB

Two-man type

TIRES

Front 14.00-24-24

Rear 14.00-24-24

STANDARD EQUIPMENTS

Car heater

Car radio

GENERAL DATA

DIMENSIONS (On-site travel)

Overall length 15,520mm

Overall width 3,400mm

Overall height 4,000mm

Wheel base 1,450mm + 4,325mm + 1,500mm = 7,275mm

Tread Front 2,730mm

Rear 2,540mm

WEIGHTS (CARRIER ONLY)

Gross vehicle weight

Total 35,390kg

Front 13,045kg

Rear 22,345kg

PERFORMANCE (CARRIER ONLY)

Max. traveling speed 66.2km/h

Gradeability (tan θ) 0.38

Min. turning radius (Outermost wheel) 11.5m

TOTAL RATED LOADS

(1) Extra weight specifications (i)

BOOM		Unit : ton						
Outriggers fully extended (Over rear · Over sides)								
B (m)	A	12.0m	18.0m	24.0m	30.0m	36.0m	40.0m	44.0m
3.0		100.0	45.0					
3.5		90.0	45.0					
4.0		78.0	45.0					
4.5		68.0	45.0	36.0				
5.0		61.0	45.0	36.0				
5.5		55.0	45.0	36.0				
6.0		50.0	42.0	36.0	27.0			
6.5		46.0	39.4	34.0	27.0	22.0		
7.0		42.0	37.0	32.2	25.7	22.0	18.0	
7.5		39.0	34.6	30.6	24.2	22.0	18.0	
8.0		36.0	33.0	29.0	22.9	20.7	18.0	
9.0		30.0	29.5	26.0	20.4	18.5	16.6	
10.0		25.0	26.2	24.0	18.4	16.6	15.3	12.0
11.0			23.4	22.0	16.6	15.0	14.0	12.0
12.0			20.0	20.0	15.2	13.8	12.8	11.4
14.0			15.4	15.4	12.6	11.3	10.8	9.7
16.0			12.0	12.0	10.8	9.5	9.2	8.4
18.0				10.0	9.2	8.1	7.6	7.4
20.0				8.0	7.7	6.9	6.8	6.8
22.0				6.4	6.2	5.8	5.8	5.1
24.0					5.1	4.9	5.0	4.4
26.0					4.0	4.0	4.2	3.7
28.0					3.0	3.1	3.6	3.2
30.0						2.3	2.9	2.6
32.0							2.2	2.2
34.0							1.6	1.6
36.0								1.3

JIB		Unit : ton			
Outriggers fully extended (Over rear · Over sides)					
E (°)	D	9.5 m		15 m	
		5°	30°	5°	30°
80.0		5.00	2.50	3.00	1.30
79.0		5.00	2.50	3.00	1.30
78.0		5.00	2.35	3.00	1.30
77.0		5.00	2.30	3.00	1.20
75.0		4.50	2.15	2.75	1.15
72.0		4.00	2.05	2.40	1.05
70.0		3.70	2.00	2.25	1.00
68.0		3.50	1.90	2.10	0.95
65.0		3.10	1.80	1.90	0.85
62.0		2.80	1.75	1.60	0.80
60.0		2.70	1.70	1.50	0.75
58.0		2.10	1.60	1.40	
55.0		1.60	1.45	1.25	

- A = Boom length
- B = Working radius
- C = Jib length
- D = Jib offset
- E = Boom angle

NOTES:

1. The total rated loads shown are for the case when the outriggers are set horizontally on firm ground. The values are based on the crane strength.
2. The weights of slings and hooks (960kg for a 100 ton capacity hook, 525kg for a 45 ton capacity hook and 140kg for a 5 ton capacity hook) are included in the total rated loads shown.
3. The total rated load is based on the actual working radius including the deflection of the boom.
4. The number of part lines for each boom length should not exceed the values below. The load per line should not exceed 7.14t for the main winch and 5t for the auxiliary winch.

A	12.0m	18.0m	24.0m	30.0m	36.0m	40.0m	44.0m	J
H	14	7	6	6	4	4	4	1

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

5. The total rated loads for free-fall operations is 1/5 of the total rated loads given above. The load per line should not exceed 1.42t for the main winch and 1.0t for the auxiliary winch.
6. The total rated load for the single top is the same as that of the main boom and must not exceed 5 tons. However, when hooks, slings, etc. are mounted on the main boom, one should work with the total rated load obtained by subtracting the weights of the hooks, slings, etc. mounted on the main boom from the total rated load of the main boom.
7. The values above are for the case when the extra weight is mounted.

(1) Extra weight specifications

(ii)

Unit : ton

B (m)	Outriggers fully extended (Over front)				Without outriggers (Over rear)
	12.0 m BOOM	18.0 m BOOM	24.0 m BOOM	30.0 m BOOM	12.0 m BOOM
3.0	70.0	36.0			
3.5	70.0	36.0			
4.0	70.0	36.0			11.7
4.5	64.8	36.0	27.0		9.5
5.0	60.0	36.0	27.0		8.0
5.5	55.0	36.0	27.0		7.0
6.0	50.0	36.0	27.0	22.0	5.8
6.5	46.0	36.0	27.0	22.0	5.0
7.0	42.0	36.0	27.0	22.0	4.3
7.5	37.4	33.5	27.0	22.0	3.7
8.0	33.3	31.0	27.0	22.0	3.3
9.0	25.6	26.2	23.7	20.4	2.3
10.0	20.4	21.0	20.5	18.4	1.7
11.0		17.2	17.5	16.1	
12.0		14.4	14.6	14.2	
14.0		10.3	10.5	10.6	
16.0		7.5	7.5	7.8	
18.0			5.8	5.9	
20.0			4.2	4.3	
22.0			2.7	2.9	

B = Working radius

NOTES:

1. The total rated loads shown are for the case when the crane is set horizontally on firm ground. All values are based on the crane stability. The foundation, working conditions, etc. should be taken into consideration adequately when performing crane operations according to the total rated load chart for the case when the outriggers are not used (Over rear).
2. The weights of slings and hooks (960kg for a 100 ton capacity hook, 525kg for a 45 ton capacity hook and 140kg for a 5 ton capacity hook) are included in the total rated loads shown.
3. The total rated load is based on the actual working radius including the deflection of the boom.
4. The number of part lines for each boom length should not exceed the values below. The load per line should not exceed 7.14t for the main winch and 5t for the auxiliary winch.

A	12.0 m	18.0 m	24.0 m	30.0 m	36.0 m	40.0 m	44.0 m	Single top
H	14	7	6	6	4	4	4	1

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

5. The total rated loads for free-fall operations is 1/5 of the total rated loads given above. The load per line should not exceed 1.42t for the main winch and 1.0t for the auxiliary winch.
6. The total rated load for the single top is the same as that of the main boom and must not exceed 5 tons. However, when hooks, slings, etc. are mounted on the main boom, one should work with the total rated load obtained by subtracting the weights of the hooks, slings, etc. mounted on the main boom from the total rated load of the main boom.
7. The values above are for the case when the extra weight is mounted.

(2) Standard weight specifications

(i)

BOOM

Unit : ton

Outriggers fully extended (Over rear · Over sides)							
A \ B (m)	B (m)						
	12.0m	18.0m	24.0m	30.0m	36.0m	40.0m	44.0m
90.0							
85.0	80.0	45.0					
80.0	70.0	45.0					
75.0	62.0	45.0	36.0				
70.0	56.0	45.0	36.0				
65.0	50.0	45.0	36.0				
60.0	45.0	42.0	36.0	27.0			
55.0	41.0	39.4	34.0	27.0	22.0		
50.0	38.0	37.0	32.2	25.7	22.0	18.0	
45.0	35.0	34.6	30.6	24.2	22.0	18.0	
40.0	32.5	32.5	29.0	22.9	20.7	18.0	
35.0	26.3	28.1	26.0	20.4	18.5	16.6	
30.0	22.0	23.4	23.5	18.4	16.6	15.3	12.0
25.0		19.9	20.0	16.6	15.0	14.0	12.0
20.0		17.1	17.2	15.2	13.8	12.8	11.4
15.0		13.0	13.1	12.6	11.3	10.8	9.7
10.0		10.0	10.2	10.3	9.5	9.2	8.4
5.0			8.1	8.1	8.1	7.6	7.4
			6.4	6.5	6.5	6.5	6.3
			4.9	5.0	5.0	5.5	5.1
				3.8	3.8	4.5	4.4
				2.8	2.8	3.5	3.7
				1.9	2.0	2.6	3.2
						1.9	2.4
							1.8

JIB

Unit : ton

Outriggers fully extended (Over rear · Over sides)				
E (°)	C		D	
	9.5 m		15 m	
	5°	30°	5°	30°
80.0	5.00	2.50	3.00	1.30
79.0	5.00	2.50	3.00	1.30
78.0	5.00	2.35	3.00	1.30
77.0	5.00	2.30	3.00	1.20
75.0	4.50	2.15	2.75	1.15
72.0	4.00	2.05	2.40	1.05
70.0	3.70	2.00	2.25	1.00
68.0	3.50	1.90	2.10	0.95
65.0	3.10	1.80	1.90	0.85
62.0	2.80	1.75	1.60	0.80
60.0	2.70	1.70	1.50	0.75
58.0	2.10	1.60	1.40	
55.0	1.60	1.45	1.25	

A = Boom length
 B = Working radius
 C = Jib length
 D = Jib offset
 E = Boom angle

NOTES:

1. The total rated loads shown are for the case when the outriggers are set horizontally on firm ground. The values are based on the crane strength.
2. The weights of slings and hooks (960kg for a 100 ton capacity hook, 525kg for a 45 ton capacity hook and 140kg for a 5 ton capacity hook) are included in the total rated loads shown.
3. The total rated load is based on the actual working radius including the deflection of the boom.
4. The number of part lines for each boom length should not exceed the values below. The load per line should not exceed 7.14t for the main winch and 5t for the auxiliary winch.

A	12.0m	18.0m	24.0m	30.0m	36.0m	40.0m	44.0m	J
H	14	7	6	6	4	4	4	1

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

5. The total rated loads for free-fall operations is 1/5 of the total rated loads given above. The load per line should not exceed 1.42t for the main winch and 1.0t for the auxiliary winch.
6. The total rated load for the single top is the same as that of the main boom and must not exceed 5 tons. However, when hooks, slings, etc. are mounted on the main boom, one should work with the total rated load obtained by subtracting the weights of the hooks, slings, etc. mounted on the main boom from the total rated load of the main boom.
7. The values above are for the case when the extra weight is mounted.

**(2) Standard weight specifications
(ii)**

Unit : ton

B (m)	Outriggers fully extended (Over front)				Without outriggers (Over rear) 12.0 m BOOM
	12.0 m BOOM	18.0 m BOOM	24.0 m BOOM	30.0 m BOOM	
3.0	70.0				
3.5	70.0	36.0			
4.0	70.0	36.0			11.7
4.5	62.0	36.0	27.0		9.5
5.0	56.0	36.0	27.0		8.0
5.5	50.0	36.0	27.0		7.0
6.0	45.0	36.0	27.0	22.0	5.8
6.5	41.0	36.0	27.0	22.0	5.0
7.0	36.4	36.0	27.0	22.0	4.3
7.5	32.8	32.5	27.0	22.0	3.7
8.0	28.2	28.8	27.0	22.0	3.3
9.0	21.5	22.1	22.3	19.4	2.3
10.0	17.0	17.6	17.7	16.7	1.7
11.0		14.3	14.5	14.6	
12.0		11.7	11.9	12.0	
14.0		8.2	8.4	8.5	
16.0		5.7	6.0	6.1	
18.0			4.2	4.2	
20.0			2.7	2.8	

B = Working radius

NOTES:

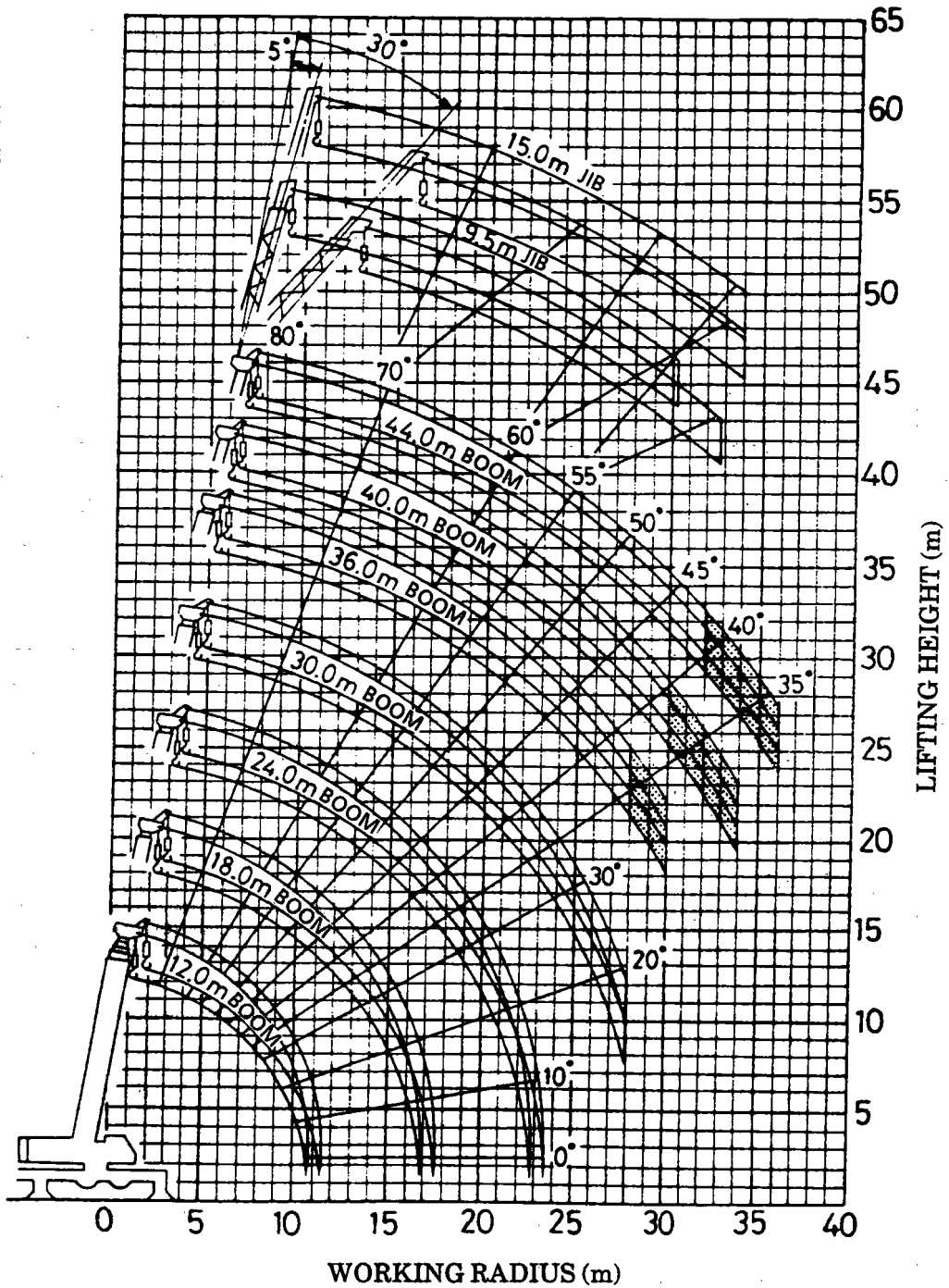
- The total rated loads shown are for the case when the crane is set horizontally on firm ground. All values are based on the crane stability. The foundation, working conditions, etc. should be taken into consideration adequately when performing crane operations according to the total rated load chart for the case when the outriggers are not used (Over rear).
- The weights of slings and hooks (960kg for a 100 ton capacity hook, 525kg for a 45 ton capacity hook and 140kg for a 5 ton capacity hook) are included in the total rated loads shown.
- The total rated load is based on the actual working radius including the deflection of the boom.
- The number of part lines for each boom length should not exceed the values below. The load per line should not exceed 7.14t for the main winch and 5t for the auxiliary winch.

A	12.0 m	18.0 m	24.0 m	30.0 m	36.0 m	40.0 m	44.0 m	Single top
H	14	7	6	6	4	4	4	1

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

- The total rated loads for free-fall operations is 1/5 of the total rated loads given above. The load per line should not exceed 1.42t for the main winch and 1.0t for the auxiliary winch.
- The total rated load for the single top is the same as that of the main boom and must not exceed 5 tons. However, when hooks, slings, etc. are mounted on the main boom, one should work with the total rated load obtained by subtracting the weights of the hooks, slings, etc. mounted on the main boom from the total rated load of the main boom.

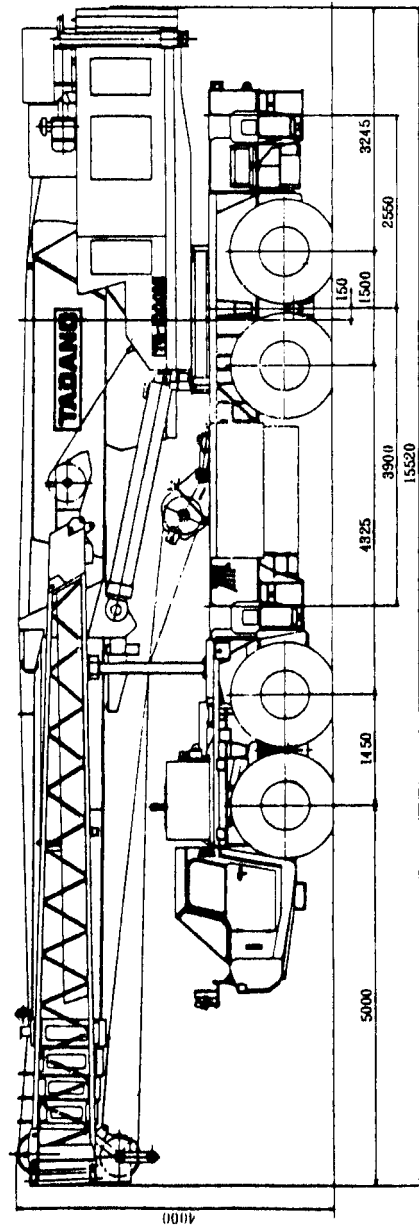
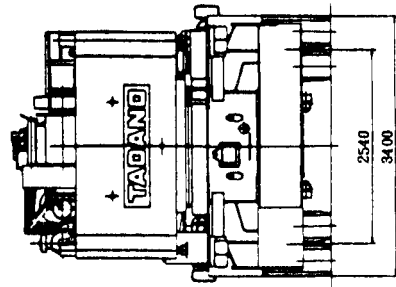
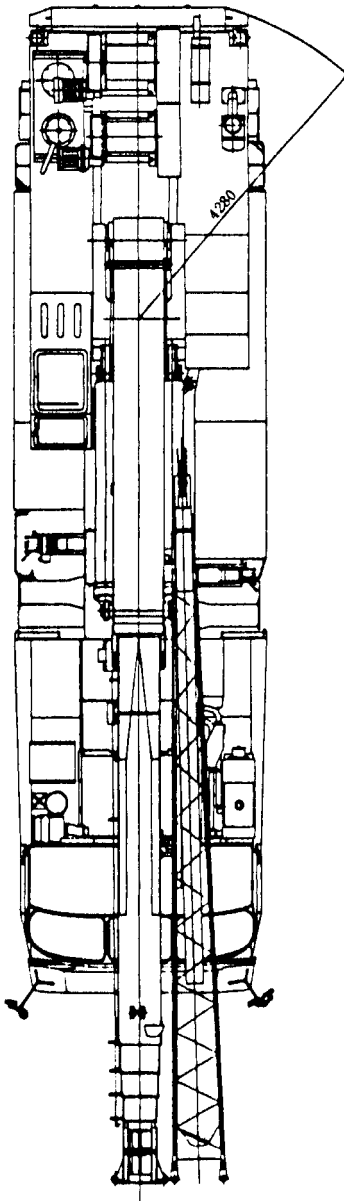
WORKING RADIUS - LIFTING HEIGHT



NOTES:

1. The deflection of the boom is not incorporated in the figure above.
2. The figure above is for the case when the outriggers are fully extended (Over rear or side of the carrier).
3. The shaded area in the figure above indicates the case when the extra weight is mounted.

DIMENSIONS (1/100)



◆ MEMO ◆

A series of horizontal dashed lines for writing, spanning the width of the page.

TRUCK CRANE

TG-1000M

Optional

Jib

TG

JAPANESE SPECIFICATIONS

These specifications are for the optional jib for the TG-1000M type crane.

Refer to these specifications along with specification sheet no. TG-1000M-1-20101.

Control No. TG-1000M-25MJ-01

TG-1000M

CRANE SPECIFICATIONS

JIB

3-stage jib (stages 2,3: Standard jib)

JIB LENGTH

1-stage 10.0m

2-stage 10.0m+9.5m (Standard jib)

3-stage 10.0m+15.0m(Standard jib)

JIB OFFSET

5° (1st stage) + 5°-30° (2nd, 3rd stages)

MAXIMUM TOTAL RATED LOAD

10.0m Jib 7,000kg (2 part-line)

10.0m+9.5m Jib 4,000kg (1 part-line)

10.0m+15.0m Jib 2,500kg (1 part-line)

MAX. LIFTING HEIGHT

67.9m

MAX. WORKING RADIUS

42.1m

WINCH SINGLE LINE SPEED

High range: 104m/min (2nd layer)

Low range: 52m/min (2nd layer)

WINCH HOOK SPEED

High range: 52m/min (2 part-line)

Low range: 26m/min (2 part-line)

High range: 104m/min (1 part-line)

Low range: 52m/min (1 part-line)

WIRE ROPE

Main Winch

20mm × 175m (Diameter × Length)

Spin-resistant wire rope

HOOK

7t hook (for 2 part-line)

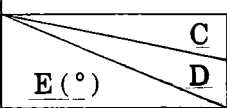
5t hook (Standard) (for 1 part-line)

WEIGHT

Approx. 965kg (Body of 1st-stage jib only)

TOTAL RATED LOADS

Unit : ton

Outriggers fully extended (Over rear · Over sides)					
 E (°)	C	D		D	
	10.0 m	10.0 m + 9.5 m		10.0 m + 15.0 m	
	5°	5° + 5°	5° + 30°	5° + 5°	5° + 30°
80	7.00	4.00	2.10	2.50	1.15
79	7.00	3.80	2.10	2.50	1.15
78	7.00	3.60	2.10	2.40	1.15
77	6.65	3.45	2.05	2.30	1.10
75	5.90	3.15	1.95	2.15	1.05
72	5.00	2.75	1.80	1.95	1.00
70	4.50	2.45	1.70	1.80	0.95
68	4.00	2.20	1.60	1.65	0.90
65	3.50	1.85	1.45	1.45	0.85
62	3.05	1.60	1.30	1.20	0.80
60	2.80	1.40	1.20	1.05	0.75
58	2.25	1.00	0.90	0.70	0.60
55	1.60				
52	1.10				
50	0.80				

C = Jib length D = Jib offset E = Boom angle

NOTES:

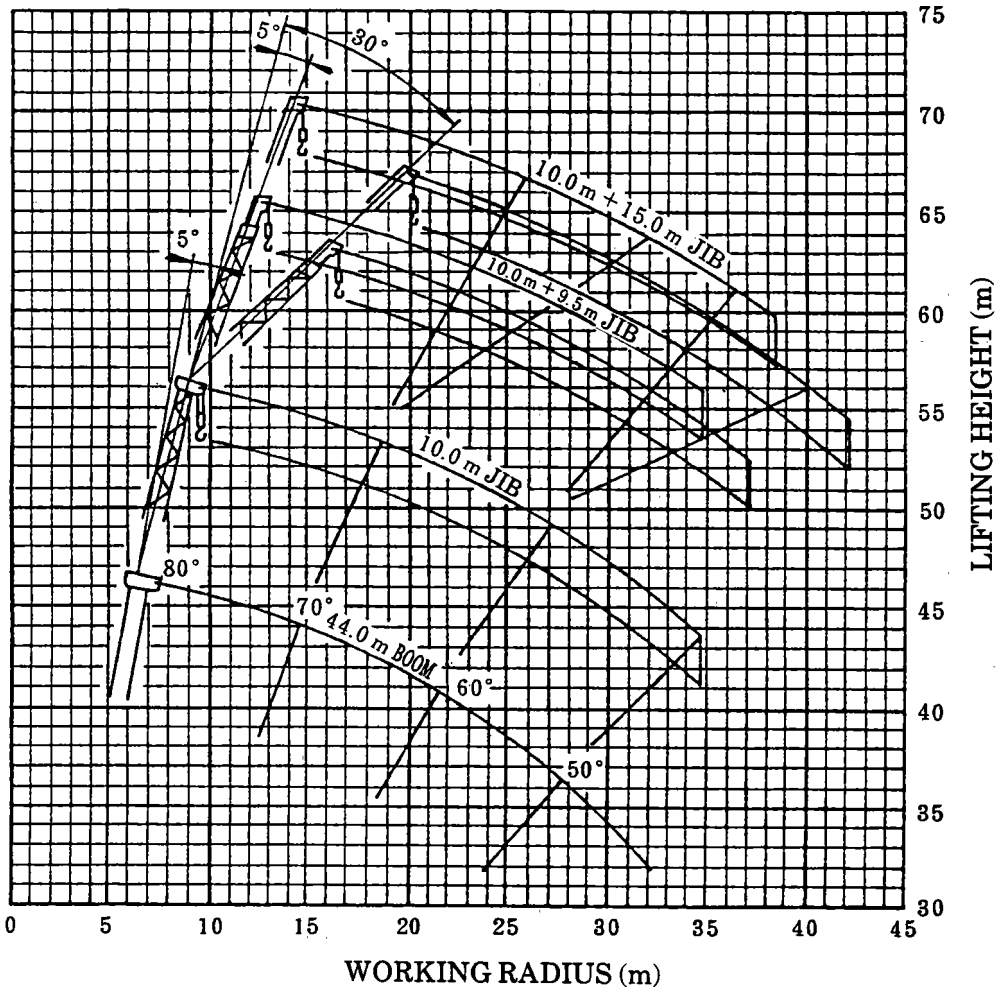
- The total rated loads shown are for the case when the outriggers are set horizontally on firm ground. The values above the bold lines are based on the crane strength while those below are based on the crane stability.
- The weights of slings and hooks (270kg for a 7 ton capacity hook, 140kg for a 5 ton capacity hook) are included in the total rated loads shown.
- The number of part lines for each boom length should not exceed the values below. The load per line should not exceed 5.0t.

C	10.0 m	10.0 m + 9.5 m	10.0 m + 15.0 m
H	2	1	1

C = Jib length H = No. of part-line

- The total rated loads for free-fall operations is 1/5 of the total rated loads given above. The load per line should not exceed 1.0t.

WORKING RADIUS - LIFTING HEIGHT



NOTES:

1. The deflection of the boom is not incorporated in the figure above.