

# TRUCK CRANE

## TG-1200M

TG

### *JAPANESE SPECIFICATIONS*

CARRIER MODEL	OUTLINE	SPEC. NO.
MITSUBISHI P-K1200	3-stage Luffing Jib	TG-1200M-1-20101

- The "extension jib" and the "luffing jib" are optional equipment. Refer to the specifications in the following pages regarding the details of these optional jibs.

Control No. JA-03

# TG-1200M

## CRANE SPECIFICATIONS

### CRANE CAPACITY

12.0m	Boom	120,000kg	at	3.2m	(18 part-line)
17.7m	Boom	50,000kg	at	6.5m	(7 part-line)
23.4m	Boom	40,000kg	at	7.5m	(6 part-line)
29.1m	Boom	32,000kg	at	8.5m	(5 part-line)
34.8m	Boom	25,000kg	at	10.0m	(4 part-line)
42.4m	Boom	15,000kg	at	14.0m	(4 part-line)
50.0m	Boom	12,000kg	at	15.0m	(4 part-line)
11.1m	Jib	6,000kg	at	77°	(1 part-line)
18.9m	Jib	4,000kg	at	80°	(1 part-line)
26.0m	Jib	2,500kg	at	80°	(1 part-line)
Single top		6,000kg			(1 part-line)

### MAX. LIFTING HEIGHT

Boom	50.0m
Jib	76.0m

### MAX. WORKING RADIUS

Boom	42.0m
Jib	50.0m

### BOOM LENGTH

12.0m - 50.0m

### BOOM EXTENSION

38.0m

### BOOM EXTENSION SPEED

38.0m / 145s

### JIB LENGTH

11.1m, 18.9m, 26.0m

### MAIN WINCH SINGLE LINE SPEED

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

### MAIN WINCH HOOK SPEED

High range: 5.0m/min (18 part-line)  
Low range: 2.5m/min (18 part-line)

### AUXILIARY WINCH SINGLE LINE SPEED

High range: 94m/min (2nd layer)  
Low range: 47m/min (2nd layer)

### AUXILIARY WINCH HOOK SPEED

High range: 94m/min (1 part-line)  
Low range: 47m/min (1 part-line)

### BOOM ELEVATION ANGLE

-1° - 83°

### BOOM ELEVATION SPEED

-1° - 83° / 56s

### SWING ANGLE

360° continue

### SWING SPEED

1.25 rpm

### WIRE ROPE

Main Winch  
22mm × 275m (Diameter × Length)  
T(T7 × 7) + 6 × WS(36)  
Designated type ordinary · Z twist  
Spin-resistant type Breaking strength 41.5t

Auxiliary Winch  
22mm × 185m (Diameter × Length)  
T(T7 × 7) + 6 × WS(36)  
Designated type ordinary · Z twist  
Spin-resistant type Breaking strength 38.0t

### HOOK

120t hook (18 part-line)  
50t hook (7 part-line)  
6t hook (1 part-line)

### BOOM

6-section hydraulically telescoping boom of box construction.  
(stages 2-4 : synchronized; 5,6 : sequenced)

### BOOM EXTENSION

4 double-acting hydraulic cylinder  
1 wire rope type telescoping device

### JIB

3-staged swingaround boom extensions.  
(with 2nd and 3rd stages being of a pull-out type)  
Dual offset (5°, 30°) type.

### 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 9.0m

Middle extended width 6.2m

### MAX. OUTRIGGER LOAD

103t

### FRONT JACK

Hydraulic operated type

### REAR JACK

Hydraulic operated type

### ENGINE FOR CRANE

Model 6D22C

Type 4-cycle, 6 in-line cylinder, direct-injection, water-cooled diesel engine.

Piston Displacement 11,149cc

Max. Output 200PS at 2,200rpm

Max. Torque 73kg·m at 1,200rpm

### HYDRAULIC PUMPS

2 variable piston pumps and 1 variable gear pumps

### HYDRAULIC OIL TANK CAPACITY

985 liters

### SAFETY DEVICES

Automatic moment limiter (AML-UG)

Over-winding cutout

Level gauge

Over front area control device

Over rear area control device

Hook safety latch

Cable follower

Winch drum lock

Hydraulic safety valve

Telescopic counterbalance valve

Elevation counterbalance valve

Jack pilot check valve

Swing lock

Front jack over load alarm

### EQUIPMENTS

Crane cab heater

Oil cooler

Hydraulic oil temperature gauge

Boom angle indicator

Jib extending device

Boom dismount device

Swing frame dismount device

Radio

Fan

### OPTIONAL EQUIPMENTS

Heavy duty boom (boom exchanging type)

Boom length : 12.0m - 28.0m

Boom type : 3-stage hydraulically synchronized telescoping type of box construction.

Extension jib (length: 10.0m)

Maximum jib length : 36.0m

Maximum lifting height from ground : approx. 86m

## CARRIER SPECIFICATIONS

### MANUFACTURER

MITSUBISHI MOTOR CORPORATION

### CARRIER MODEL

P-K1200

### ENGINE

Model 8DC9

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

Piston displacement 16,031cc

Max. output 320PS at 2,200rpm

Max. torque 110kg·m at 1,400rpm

### CLUTCH

Dry single-plate type

### TRANSMISSION

10-forward and 2-reverse speeds

Constant-mesh gear (1st speed, 2nd speed, reverse)

Synchronized-mesh gear (for 3rd - 10th speeds)

### REDUCER

Hypoid gear type

With planetary gear type hub reduction

### FRONT AXLE

Reverse-elliot type steering knuckles

### REAR AXLE

Full-floating type; cast-steel housing

### SUSPENSION

Front Tapered leaf spring

With 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

Foot operated full air brake on all wheels, dual air line system, internal expanding leading and trailing shoe type.

Parking Brake

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

Auxiliary Brake

Exhaust brake

Spring brake, acting on 4 rear wheels

### ELECTRIC SYSTEM

24 V DC. 2 batteries of 12V (140Ah)

### FUEL TANK CAPACITY

400 liters

### CAB

Two-man type

### TIRES

Front 14.00-24-24PR

Rear 14.00-24-24PR

### STANDARD EQUIPMENTS

Car heater

Car radio

Car cooler

## GENERAL DATA

### DIMENSIONS (CARRIER ONLY)

Overall length 12,130mm

Overall width 3,400mm

Overall height 2,960mm

Wheel base 1,550mm + 4,275mm + 1,500mm = 7,325mm

Tread Front 2,760mm

Rear 2,540mm

### WEIGHTS (CARRIER ONLY)

Gross vehicle weight

Total 36,930kg

Front 13,810kg

Rear 23,120kg

### PERFORMANCE (CARRIER ONLY)

Max. traveling speed 60km/h

Gradeability (tan θ) 0.49

Min. turning radius 11.8m

# TOTAL RATED LOADS

## (1) Outriggers fully extended

Unit : ton

Outriggers fully extended + Front jack + Rear jack (360°)														
A B (m)								C D	11.1 m		18.9 m		26.0 m	
	12.0 m	17.7 m	23.4 m	29.1 m	34.8 m	42.4 m	50.0 m		5°	30°	5°	30°	5°	30°
3.2	120.0	50.0						80	6.0	3.0	4.0	1.5	2.5	1.0
3.8	100.0	50.0						79	6.0	2.9	3.75	1.4	2.3	0.90
4.0	95.0	50.0						78	6.0	2.85	3.55	1.3	2.15	0.85
4.5	83.5	50.0	40.0					77	6.0	2.75	3.35	1.25	2.05	0.80
5.0	74.2	60.0	40.0					75	5.4	2.65	3.0	1.15	1.8	0.70
5.5	66.5	50.0	40.0					72	4.8	2.5	2.6	1.05	1.55	0.65
6.0	60.2	50.0	40.0	32.0				70	4.4	2.4	2.4	1.0	1.4	0.60
6.5	55.0	50.0	40.0	32.0	25.0			68	4.0	2.3	2.2	0.95	1.3	0.60
7.0	50.2	46.8	40.0	32.0	25.0	15.0		65	3.45	2.15	1.9	0.90	1.15	0.55
7.5	46.2	44.1	40.0	32.0	25.0	15.0		62	3.0	2.0	1.7	0.85	1.05	0.55
8.0	42.6	41.5	38.0	32.0	25.0	15.0		60	2.75	1.9	1.55	0.80	1.0	0.50
8.5	38.5	39.2	36.0	32.0	25.0	15.0		58	2.5	1.8	1.4	0.80	0.95	0.50
9.0	36.8	37.0	34.0	30.4	25.0	15.0		55	2.1	1.65	1.25	0.75	0.85	0.50
10.0	32.0	32.4	30.5	27.4	25.0	15.0	12.0	52	1.85	1.2	0.85	0.70	0.60	
11.0	28.0	28.5	27.75	25.0	22.4	15.0	12.0	50	0.95	0.85	0.55			
12.0		25.3	25.4	23.0	20.2	15.0	12.0	48	0.60	0.55				
14.0		20.0	19.5	19.5	17.0	15.0	12.0							
15.0		18.0	17.5	17.5	16.0	14.0	12.0							
16.0		16.0	16.0	15.6	15.0	13.2	11.5							
18.0			12.8	12.5	12.5	11.75	10.5							
20.0			10.0	10.0	10.0	10.3	9.5							
22.0			8.0	8.0	8.0	9.2	8.6							
24.0				6.5	6.5	7.5	7.7							
26.0				5.0	5.0	6.3	7.0							
28.0				3.7	3.8	5.2	5.9							
30.0					2.7	4.2	5.0							
32.0					1.8	3.2	4.2							
34.0						2.5	3.5							
36.0						1.8	2.9							
38.0						1.2	2.2							
40.0							1.7							
42.0							1.2							

- 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 (1,250kg for a 120 ton capacity hook, 525kg for a 50 ton capacity hook and 250kg for a 6 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 6t for the auxiliary winch.

A	12.0 m	17.7 m	23.4 m	29.1 m	34.8 m	42.4 m	50.0 m	J
H	18、14	7	6	5	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 1.4t for the main winch and 1.2t 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 6 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 "Over front" performance for the case when the front jack is not used and the "Over rear" performance for the case when the rear jack is not used are equivalent to the performance for the case when the "outriggers are extended to the middle".

(2) Outriggers middle extended

Unit : ton

Outriggers middle extended (360°)														
A \ B (m)	B (m)							C \ D	C		D			
	12.0 m	17.7 m	23.4 m	29.1 m	34.8 m	42.4 m	50.0 m		11.1 m	18.9 m	26.0 m	5°	30°	
3.2	60.0	50.0						80	6.0	3.0	4.0	1.5	2.5	1.0
3.8	60.0	50.0						79	6.0	2.9	3.75	1.4	2.3	0.90
4.0	60.0	50.0						78	6.0	2.85	3.55	1.3	2.15	0.85
4.5	60.0	50.0	40.0					77	6.0	2.75	3.35	1.25	2.05	0.80
5.0	60.0	50.0	40.0					75	5.4	2.65	3.0	1.15	1.8	0.70
5.5	50.0	50.0	40.0					72	4.35	2.5	2.6	1.05	1.55	0.65
6.0	43.0	43.0	40.0	32.0				70	3.2	2.4	2.2	1.0	1.4	0.60
6.5	37.0	37.0	37.0	32.0	25.0			68	2.3	1.9	1.5	0.95	1.0	0.60
7.0	32.5	32.5	32.5	32.0	25.0	15.0		65	1.15	0.95				
7.5	29.0	29.0	29.0	29.0	25.0	15.0								
8.0	26.0	26.0	26.0	26.0	25.0	15.0								
8.5	23.0	23.5	23.5	23.5	22.5	15.0								
9.0	21.0	21.0	21.0	21.0	21.0	15.0								
10.0	17.0	17.0	17.0	17.5	17.5	15.0	12.0							
11.0	14.0	15.0	15.0	15.0	15.0	15.0	12.0							
12.0		12.5	12.5	12.5	12.5	13.5	12.0							
14.0		9.0	9.0	9.0	9.0	10.0	11.0							
15.0		7.5	7.5	7.5	7.5	8.8	9.7							
16.0		6.5	6.5	6.5	6.5	8.0	8.5							
18.0			5.0	5.0	5.0	6.0	6.5							
20.0			3.0	3.0	3.4	4.5	5.3							
22.0			2.0	2.0	2.0	3.5	4.0							
24.0				1.0	1.0	2.4	3.4							
26.0						1.5	2.5							
28.0							1.7							
30.0							1.1							

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

NOTES:

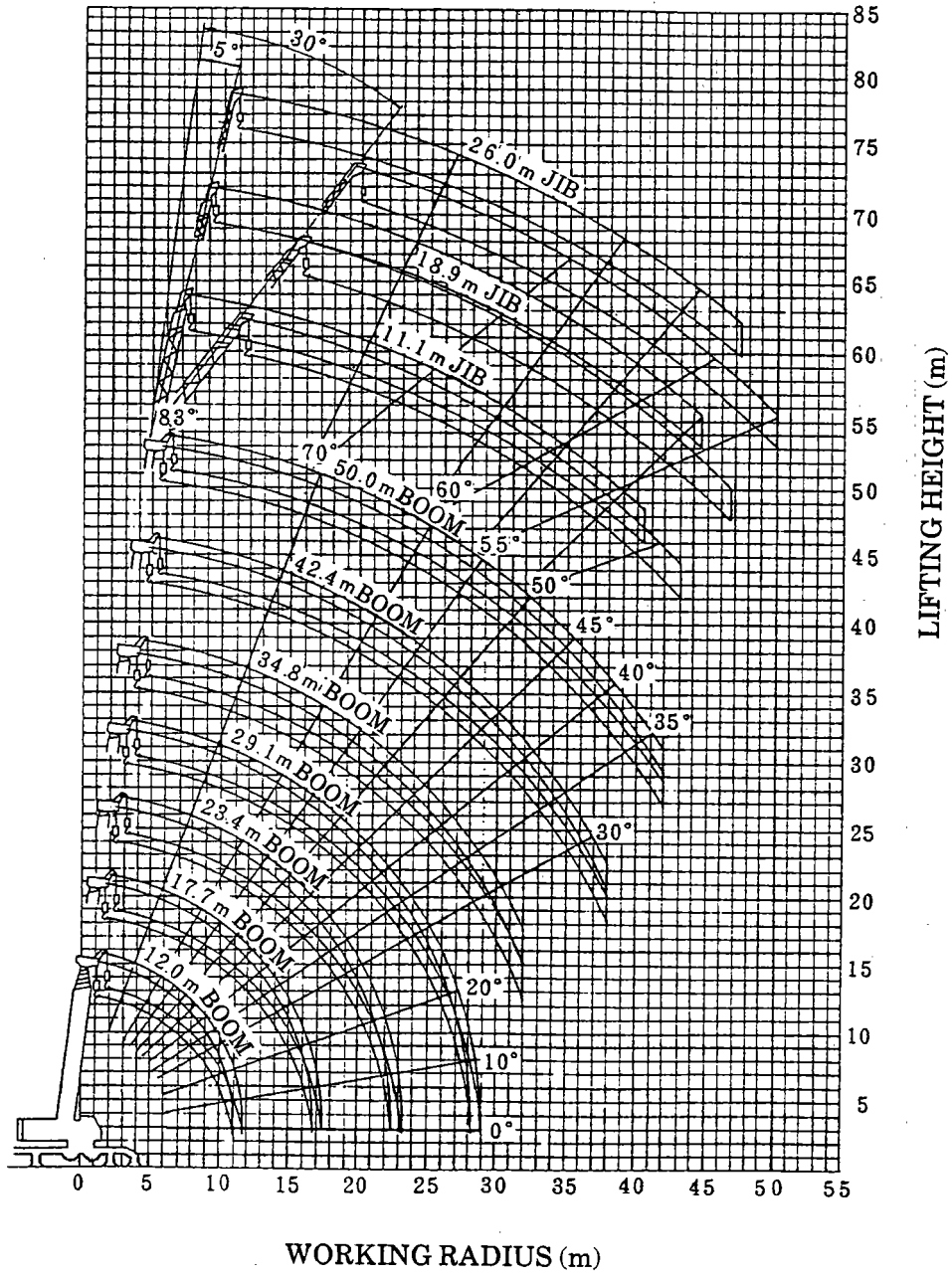
1. The total rated loads shown are for the case when the outriggers are set horizontally on firm ground. The values are based on the crane strength.
2. The weights of slings and hooks (1,250kg for a 120 ton capacity hook, 525kg for a 50 ton capacity hook and 250kg for a 6 ton capacity hook) are included 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 6t for the auxiliary winch.

A	12.0 m	17.7 m	23.4 m	29.1 m	34.8 m	42.4 m	50.0 m	J
H	18、14	7	6	5	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 1.4t for the main winch and 1.2t 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 6 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.

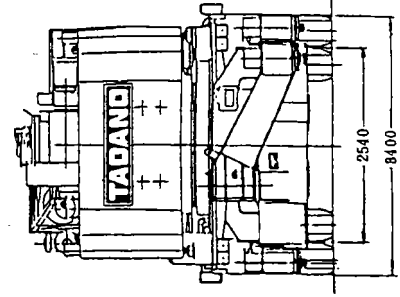
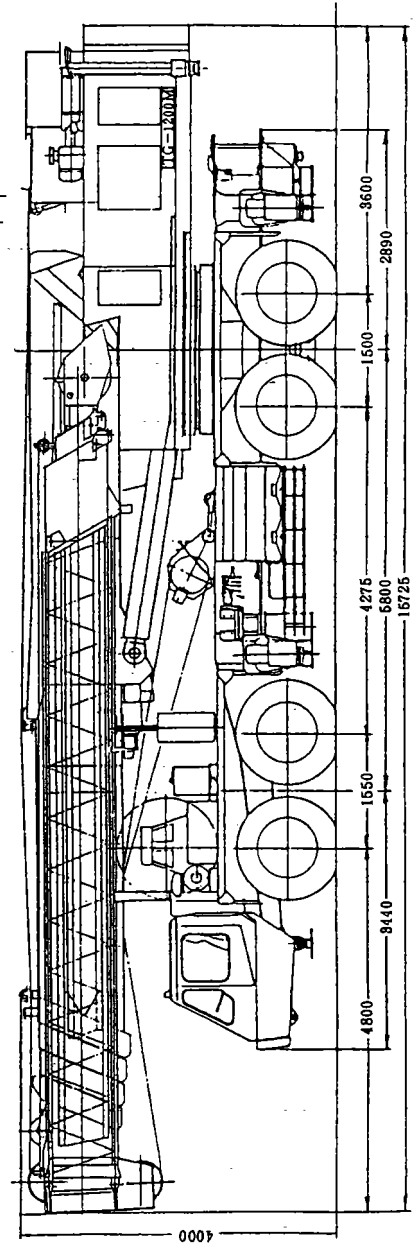
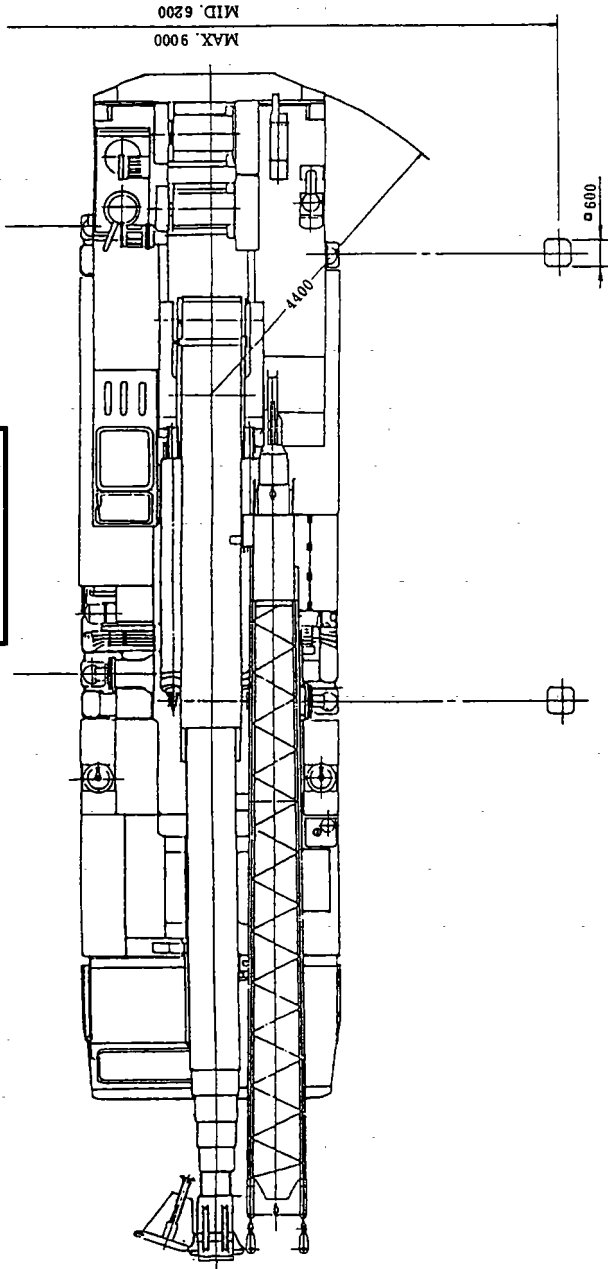
**WORKING RADIUS - LIFTING HEIGHT**



**NOTES:**

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

**DIMENSIONS** (1/100)



◆ MEMO ◆

A series of horizontal dashed lines for writing a memo.



# TRUCK CRANE

## **TG-1200M**

**Optional  
Luffing Jib**

**TG**

*JAPANESE SPECIFICATIONS*

These specifications are for the optional jib for the TG-1200M type crane.  
Refer to these specifications along with specification sheet no. TG-1200M-1-20101.

Control No. TG-1200M-LJ-01

# TG-1200M

## CRANE SPECIFICATIONS

### JIB

3-stage jib (with 2nd and 3rd stages being pull-out types)  
Tilt angle: 8° – 45°; non-stage offset type

### JIB LENGTH

11.1m, 18.9m, 26.0m

### MAXIMUM TOTAL RATED LOAD

11.1m Jib 5,500kg

18.9m Jib 4,000kg

26.0m Jib 2,500kg

### MAX. LIFTING HEIGHT

Approx. 70m

### MAX. WORKING RADIUS

Approx. 44.8m

### HOOK USED

6t hook (for 1 part-line)

### NOTES:

1. The length of the boom used should be between 12.0m – 34.8m (1-stage – 4-stage booms) when using the luffing jib; the 5-stage top boom must be used in the fully retracted condition.
2. This luffing jib is to be used in combination with the extension jib (length: 10.0m; offset: 5°).

**TOTAL RATED LOADS**

Unit (B: m, M: t)

· Outriggers fully extended (Over sides) · Front jack: used (Over front) · Rear jack: used (Over rear)													
E	C	10.0 m + 11.1 m				10.0 m + 18.9 m				10.0 m + 26.0 m			
	P	8°	20°	30°	45°	8°	20°	30°	45°	8°	20°	30°	45°
80°	<b>B</b>	13.5	15.0	16.2	17.9	16.5	19.3	21.7	24.6	19.2	23.5	26.3	30.5
	<b>M</b>	5.5	4.3	3.7	3.2	4.0	3.25	2.65	2.0	2.5	1.7	1.3	1.0
75°	<b>B</b>	18.1	19.6	20.8	22.2	22.2	24.5	26.9	29.3	25.1	28.5	31.9	35.6
	<b>M</b>	4.5	4.1	3.7	3.2	3.9	3.25	2.65	2.0	2.35	1.7	1.3	1.0
70°	<b>B</b>	22.4	23.8	25.0	26.0	27.4	29.5	31.5	33.5	31.0	34.2	36.8	40.0
	<b>M</b>	3.8	3.5	3.2	2.9	3.3	2.8	2.5	1.9	2.0	1.5	1.2	1.0
65°	<b>B</b>	27.2	28.3	29.4	30.4	32.5	34.3	36.1	38.0	36.5	39.5	42.2	44.8
	<b>M</b>	3.0	2.85	2.75	2.6	2.7	2.4	2.1	1.7	1.6	1.3	1.1	0.9
60°	<b>B</b>	30.8	32.0	33.0	33.8	36.4	38.6	40.2	41.4				
	<b>M</b>	2.8	2.7	2.5	2.4	2.2	2.0	1.8	1.6				
55°	<b>B</b>	34.8	35.8	36.6	37.4								
	<b>M</b>	2.3	2.2	2.1	2.0								

Unit (B: m, M: t)

· Outriggers middle extended (Over sides) · Front jack: not used (Over front) · Rear jack: not used (Over rear)													
E	C	10.0 m + 11.1 m				10.0 m + 18.9 m				10.0 m + 26.0 m			
	P	8°	20°	30°	45°	8°	20°	30°	45°	8°	20°	30°	45°
80°	<b>B</b>	13.5	15.0	16.2	17.9	16.5	19.3	21.7	24.6	19.2	23.5	26.3	30.5
	<b>M</b>	5.5	4.3	3.7	3.2	4.0	3.25	2.65	2.0	2.5	1.7	1.3	1.0
75°	<b>B</b>	18.1	19.6	20.8	22.2	22.2	24.5	26.9	29.3	25.1	28.5	31.9	35.6
	<b>M</b>	4.5	4.1	3.7	3.2	3.9	3.25	2.65	2.0	2.35	1.7	1.3	1.0
70°	<b>B</b>	22.4	23.8	25.0	26.0	27.4	29.5	31.5	33.5	31.0	34.2	36.8	40.0
	<b>M</b>	2.8	2.5	2.3	2.2	1.8	1.5	1.3	1.2	1.2	1.0	0.9	0.7

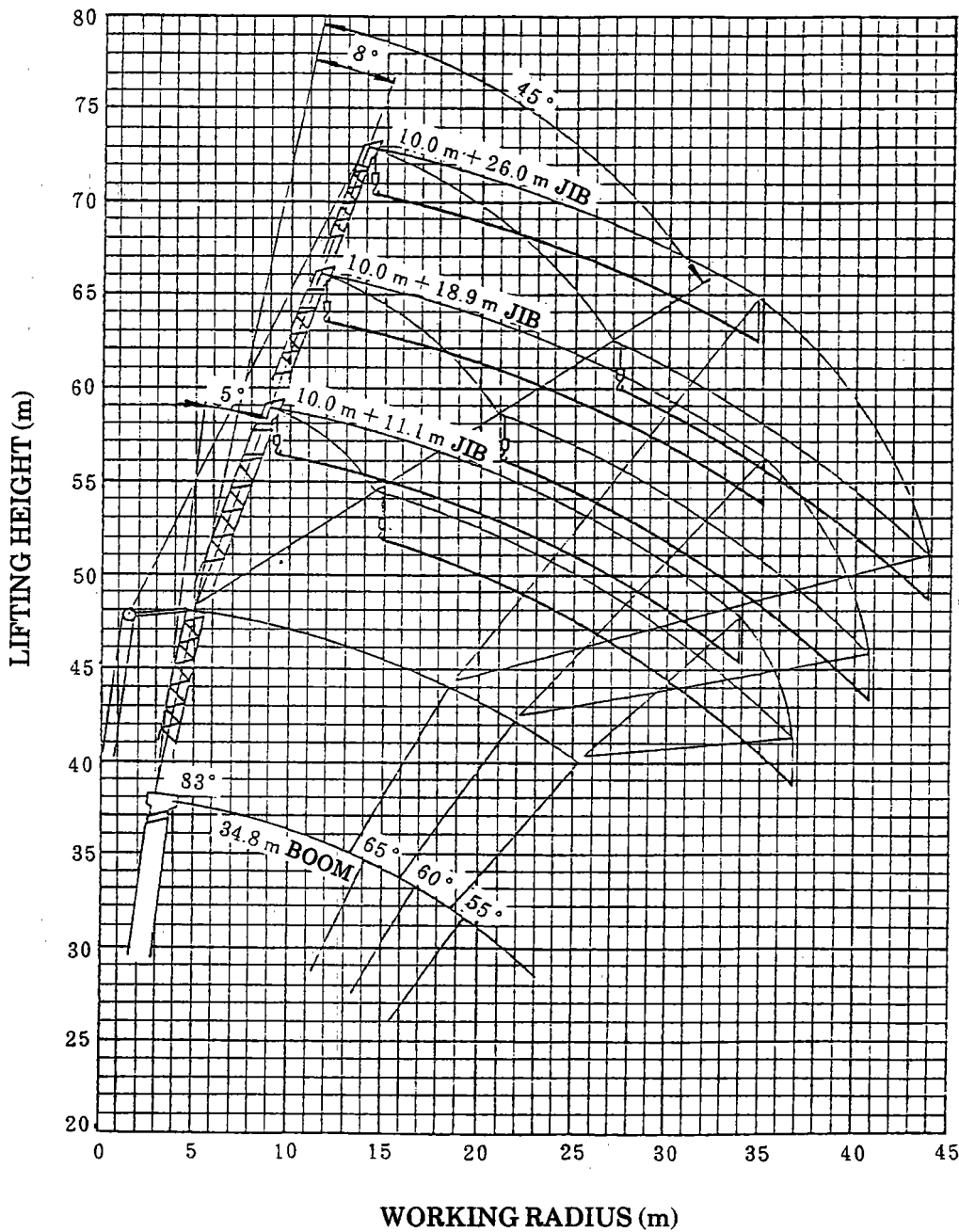
B (m) = Working radius C = Jib length E = Boom angle

M (t) = Total rated loads P = Tilt angle

**NOTES:**

1. 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.
2. The weights of slings and hooks (250kg for a 6 ton capacity hook) are included in the total rated loads shown.
3. The working radii shown above are reference values.
4. The number of part lines for the hook is 1.

## WORKING RADIUS - LIFTING HEIGHT



**NOTES:**

1. The deflection of the boom is not incorporated in the figure above.
2. The above chart is for the case where the outriggers are fully extended and where the front and rear jacks are used (over  $360^\circ$ ).

# TRUCK CRANE

**TG-1200M**

**Optional  
Extension Jib**

**TG**

*JAPANESE SPECIFICATIONS*

These specifications are for the optional jib for the TG-1200M type crane.  
Refer to these specifications along with specification sheet no. TG-1200M-1-20101.

Control No. TG-1200M-36MJ-01

# TG-1200M

## CRANE SPECIFICATIONS

### JIB

4-stage jib (stage 1: Extension jib; stages 2-4: Standard jib)

### JIB LENGTH

1-stage 10.0m

2-stage 10.0m + 11.1m (Standard jib)

3-stage 10.0m + 18.9m (Standard jib)

4-stage 10.0m + 26.0m (Standard jib)

### JIB OFFSET

5° (1st stage) + 5°-30° (2nd - 4th stages)

### MAXIMUM TOTAL RATED LOAD

10.0m + 11.1m Jib 3,200kg (1 part-line)

10.0m + 18.9m Jib 2,000kg (1 part-line)

10.0m + 26.0m Jib 1,500kg (1 part-line)

### MAX. LIFTING HEIGHT

86.0m

### MAX. WORKING RADIUS

41.6m

### WINCH SINGLE LINE SPEED

High range: 94m/min (2nd layer)

Low range: 47m/min (2nd layer)

### WINCH HOOK SPEED

High range: 94m/min (1 part-line)

Low range: 47m/min (1 part-line)

### HOOK

6t hook (Standard) (for 1 part-line)

### WEIGHT

Approx. 900kg (Body of extension jib only).

# TOTAL RATED LOADS

Unit : ton

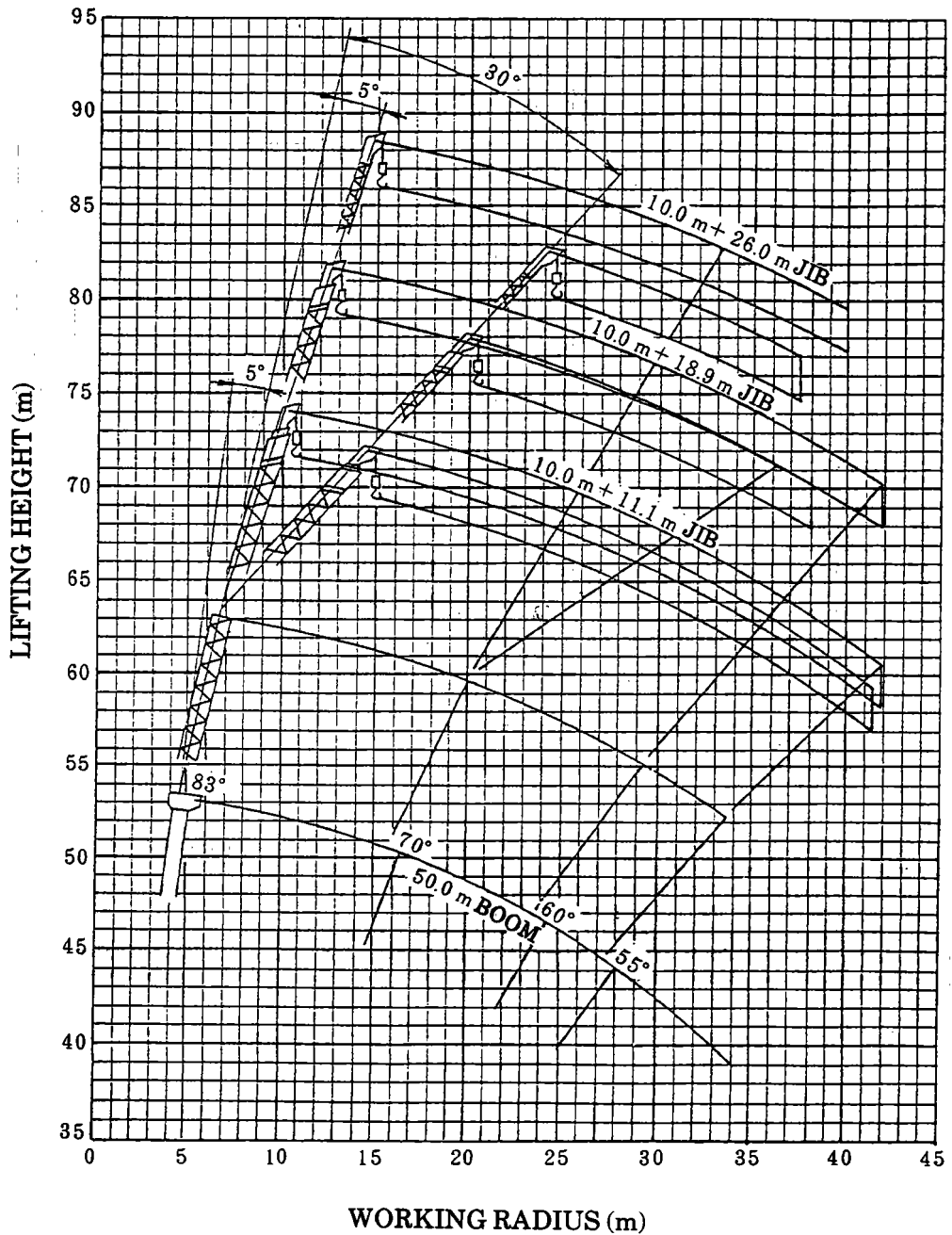
Outriggers fully extended + Front jack + Rear jack (360°)							Outriggers middle extended (360°)							
E (°)	C		D		E (°)		C	D		E (°)		C	D	
	10.0 m + 11.1 m JIB	10.0 m + 18.9 m JIB	10.0 m + 26.0 m JIB	5°+5°	5°+30°	5°+5°		5°+30°	10.0 m + 11.1 m JIB	10.0 m + 18.9 m JIB	10.0 m + 26.0 m JIB		5°+5°	5°+30°
80	3.20	2.40	2.00	1.05	1.50	0.75	80	3.20	2.40	2.00	1.05	1.50	0.75	
79	3.20	2.25	2.00	1.05	1.50	0.70	79	3.20	2.25	2.00	1.05	1.50	0.70	
78	3.20	2.10	2.00	1.05	1.50	0.65	78	3.20	2.10	2.00	1.05	1.50	0.65	
77	3.10	1.95	2.00	1.00	1.50	0.60	77	3.10	1.95	2.00	1.00	1.50	0.60	
75	2.65	1.75	1.70	0.90	1.30	0.55	75	2.65	1.75	1.70	0.90	1.30	0.55	
72	2.15	1.45	1.35	0.75	1.05	0.50	72	2.15	1.45	1.35	0.75			
70	1.85	1.30	1.15	0.65	0.90		70	1.50	1.20					
68	1.60	1.15	0.95	0.55	0.75									
65	1.30	0.95	0.75		0.55									
62	1.05	0.80	0.60											
60	0.90	0.70	0.50											
58	0.75	0.60												
55	0.60													

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 above the bold lines are based on the crane strength while those below are based on the crane stability.
2. The weights of slings and hooks (250kg for a 6 ton capacity hook) are included in the total rated loads shown.
3. The number of part lines for the hook is 1 for each jib length.
4. The total rated loads for free-fall operations is 1/5 of the total rated loads given above.
5. The "Over front" performance for the case when the front jack is not used and the "Over rear" performance for the case when the rear jack is not used are equivalent to the performance for the case when the "outriggers are extended to the middle".

**WORKING RADIUS - LIFTING HEIGHT**



**NOTES:**

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