

# TRUCK CRANE

## TG-600M

TG

### *JAPANESE SPECIFICATIONS*

CARRIER MODEL	OUTLINE	SPEC. NO.
NISSAN DIESEL W-KG520WN	5-section Boom, 3-stage Jib	TG-600M-4-10101
mitsubishi W-KA606U		TG-600M-4-20101

Control No. JA-01

# TG-600M

## CRANE SPECIFICATIONS

### CRANE CAPACITY

11.0m Boom	60,000kg	at 3.5m	(12 part-line)
18.8m Boom	35,000kg	at 5.0m	( 7 part-line)
26.5m Boom	23,000kg	at 6.0m	( 5 part-line)
34.3m Boom	15,000kg	at 8.0m	( 4 part-line)
42.0m Boom	8,000kg	at 12.0m	( 2 part-line)
9.0m Jib	4,500kg	at 78°	( 1 part-line)
15.0m Jib	2,800kg	at 78°	( 1 part-line)
20.2m Jib	1,700kg	at 78°	( 1 part-line)
Single top	4,500kg		( 1 part-line)

### MAX. LIFTING HEIGHT

Boom	41.5m
Jib	61.0m

### MAX. WORKING RADIUS

Boom	28.0m (Standard)
	34.0m (With device for heavy-duty work)
Jib	38.5m (Standard)
	42.2m (With device for heavy-duty work)

### BOOM LENGTH

11.0m – 42.0m

### BOOM EXTENSION

31.0m

### BOOM EXTENSION SPEED

31.0m / 128s

### JIB LENGTH

9.0m, 15.0m, 20.2m

### MAIN WINCH SINGLE LINE SPEED

High range:	93m/min	(3rd layer)
Low range:	43m/min	(3rd layer)

### MAIN WINCH HOOK SPEED

High range:	7.8m/min	(12 part-line)
Low range:	3.6m/min	(12 part-line)

### AUXILIARY WINCH SINGLE LINE SPEED

High range:	98m/min	(2nd layer)
Low range:	45m/min	(2nd layer)

### AUXILIARY WINCH HOOK SPEED

High range:	98m/min	(1 part-line)
Low range:	45m/min	(1 part-line)

### BOOM ELEVATION ANGLE

-2° – 83°

### BOOM ELEVATION SPEED

-2° – 83° / 67s

### SWING ANGLE

360° continue

### SWING SPEED

1.9 rpm

### WIRE ROPE

Main Winch

20mm × 195m (Diameter×Length)  
7×7+6×WS(31) Class C ordinary · Z twist  
Spin-resistant wire rope  
Breaking strength 29.3t

Auxiliary Winch

18mm × 140m (Diameter×Length)  
7×7+6×WS(31) Class C ordinary · Z twist  
Spin-resistant wire rope  
Breaking strength 24.3t

### HOOK

60 t hook	(12 part-line)
15 t hook	( 3 part-line)
5 t hook	( 1 part-line)

### BOOM

5-section power telescoping boom of hexagonal box construction

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

### BOOM EXTENSION

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

### JIB

3-staged swingaround boom extensions.

(stages 2,3: pull-out type)

Triple offset (5°, 25°, 45°) 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.

With free-fall device.

Automatic brake (with foot brake for free-fall device)

2 single winches

With flow regulator valve with pressure compensation

### BOOM ELEVATION

2 double-acting hydraulic cylinders

### SWING

Hydraulic motor driven planetary gear reducer

Swing bearing

Hand brake

Swing free/lock changeover type

### OUTRIGGERS

Fully hydraulic H-type (Floats mounted integrally)

Slides and jacks each provided with independent operation device.

Full extended width 7.3m

Middle extended width 4.6m

### MAX. OUTRIGGER LOAD

57t

### FRONT JACK

Hydraulic operated type

### HYDRAULIC PUMPS

4 gear pumps

### HYDRAULIC OIL TANK CAPACITY

820 liters

### SAFETY DEVICES

Automatic moment limiter (AML)

With working range function

Over-winding cutout

Level gauge

Working area control device

Hook safety latch

Cable follower

Winch drum lock

Winch drum rotation indicator

Hydraulic safety valve

Telescopic counterbalance valve

Elevation counterbalance valve

Jack pilot check valve

Front jack over load alarm

### EQUIPMENTS

Crane cab heater

Oil cooler

Boom angle indicator

Radio

Fan

### OPTIONAL EQUIPMENT

Device for heavy-duty work

## CARRIER SPECIFICATIONS

### MANUFACTURER

NISSAN DIESEL MOTOR CO., LTD

### CARRIER MODEL

W-KG520WN

### ENGINE

Model RF8

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

Piston displacement 16,991cc

Max. output 340PS at 2,200rpm

Max. torque 120kg·m at 1,200rpm

### CLUTCH

Dry single-plate type

### TRANSMISSION

7-forward and 1-reverse speeds

Constant-mesh gear(2nd-7th speeds gears synchromeshed)

### REDUCER

2-stage speed reduction type

### FRONT AXLE

Reverse Elliot-type steel pipe cross section

### REAR AXLE

Full floating, cast torque rods

### SUSPENSION

Front REYCO type

Rear Equalizer and torque rods

### STEERING

Recirculating ball screw type with linkage power assistance

### BRAKE SYSTEM

Service Brake

2-circuit air brake, 8-wheels internal expanding brake

Parking Brake

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

Auxiliary Brake

Electro-pneumatic operated exhaust brake

### ELECTRIC SYSTEM

24 V DC, 2 batteries of 12V-115F51(96Ah)

### FUEL TANK CAPACITY

300 liters

### CAB

Two-man type

### TIRES

Front 14.00-24-24PR

Rear 12.00-20-18PR

### STANDARD EQUIPMENTS

Car heater

Car radio

## GENERAL DATA

### DIMENSIONS

Overall length 13,950mm

Overall width 3,000mm

Overall height 3,790mm

Wheel base 1,500mm + 4,400mm + 1,400mm = 7,300mm

Tread Front 2,480mm

Rear 2,280mm

### WEIGHTS

Gross vehicle weight

Total 43,550kg

Front 21,520kg

Rear 22,030kg

### PERFORMANCE

Max. traveling speed 60km/h

Gradeability (tan  $\theta$ ) 0.53

Min. turning radius (Outermost wheel) 11.6m

## CARRIER SPECIFICATIONS

### MANUFACTURER

MITSUBISHI MOTOR CORPORATION

### CARRIER MODEL

W-KA606U

### ENGINE

Model 8DC10

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

Piston displacement 16,752cc

Max. output 335PS at 2,200rpm

Max. torque 120kg·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 (3rd-10th speeds)

### REDUCER

Spiral bevel gear

Planetary gear hub reduction

### FRONT AXLE

Reverse-elliot type steering knuckles

### REAR AXLE

Full floating type, Cast iron 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 12- 145F51

### FUEL TANK CAPACITY

400 liters

### CAB

Two-man type

### TIRES

Front 14.00-24-24PR

Rear 12.00-20-18PR

### STANDARD EQUIPMENTS

Car heater

Car radio

Car cooler

## GENERAL DATA

### DIMENSIONS

Overall length 13,950mm

Overall width 3,000mm

Overall height 3,790mm

Wheel base 1,550mm + 4,350mm + 1,350mm = 7,250mm

Tread Front 2,500mm

Rear 2,275mm

### WEIGHTS

Gross vehicle weight

Total 43,340kg

Front 21,505kg

Rear 21,835kg

### PERFORMANCE

Max. traveling speed 70km/h

Gradeability (tan  $\theta$ ) 0.37

Min. turning radius (Outermost wheel) 11.8m

**TOTAL RATED LOADS**

(1) Standard specifications  
 (i)

Unit:ton

· Outriggers fully extended + Front jack (360°) · Outriggers fully extended (Over the Rear · Over the Sides)					
A \ B (m)	11.0m	18.8m	26.5m	34.3m	42.0m
3.0	60.0	35.0			
3.5	60.0	35.0			
4.0	51.8	35.0			
4.5	45.4	35.0			
5.0	40.4	35.0	23.0		
5.5	36.1	32.3	23.0		
6.0	32.6	29.7	23.0		
6.5	29.7	27.5	21.8	15.0	
7.0	26.4	25.2	20.4	15.0	
7.5	23.0	23.0	19.1	15.0	
8.0	20.3	20.3	18.0	15.0	8.0
9.0	16.0	16.0	16.0	13.4	8.0
10.0		12.75	12.75	12.2	8.0
11.0		10.4	10.4	11.0	8.0
12.0		8.55	8.55	9.45	8.0
14.0		6.0	6.0	6.85	7.0
16.0		4.2	4.2	5.1	5.85
18.0			2.75	3.8	4.55
20.0			1.65	2.75	3.55
22.0			0.8	1.85	2.7
24.0				1.2	2.0
26.0				0.6	1.4
28.0					0.9

A = Boom length

B = Working radius

(ii)

Unit:ton

· Outriggers fully extended + Front jack (360°) · Outriggers fully extended (Over the Rear · Over the Sides)									
C D E (°)	9.0m			15.0m			20.2m		
	5°	25°	45°	5°	25°	45°	5°	25°	45°
83	4.5	2.8	1.7	2.8	1.5	1.0	1.7	0.8	0.6
80	4.5	2.8	1.7	2.8	1.5	1.0	1.7	0.8	0.6
78	4.5	2.7	1.7	2.8	1.4	1.0	1.7	0.8	0.6
75	3.7	2.4	1.65	2.5	1.25	0.95	1.5	0.7	0.58
73	3.3	2.2	1.6	2.2	1.15	0.9	1.38	0.65	0.56
70	2.8	1.95	1.55	1.85	1.03	0.85	1.25	0.62	0.54
68	2.5	1.8	1.5	1.67	0.95	0.8	1.16	0.6	0.53
65	2.1	1.6	1.4	1.45	0.85	0.75	1.05	0.57	0.51
63	1.65	1.45	1.2	1.05	0.81	0.7	0.8	0.55	0.49
60	1.0	0.95	0.75	0.55	0.5	0.45			
58	0.7	0.63	0.45						

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

(iii)

Unit:ton

· Outriggers middle extended (360°) · Outriggers fully extended (Over the Front)										
A B (m)	11.0m	18.8m	26.5m	34.3m	42.0m	C		9.0m		
						E (°)	D	5°	25°	45°
3.0	40.0	24.0				83		4.5	2.8	1.7
3.5	40.0	24.0				80		4.5	2.8	1.7
4.0	37.0	24.0				78		3.2	2.3	1.7
4.5	29.5	24.0								
5.0	23.4	23.95	15.0							
5.5	18.45	18.45	15.0							
6.0	14.6	14.6	14.6							
6.5	11.95	11.95	11.95	10.0						
7.0	9.9	9.9	9.9	10.0						
7.5	8.35	8.35	8.35	9.25						
8.0	7.05	7.05	7.05	7.95	5.5					
9.0	5.1	5.1	5.1	5.95	5.5					
10.0		3.65	3.65	4.55	5.5					
11.0		2.6	2.5	3.5	4.4					
12.0				2.6	3.5					
14.0					2.15					

Without outriggers (Over the Rear)	
A B (m)	11.0m
3.0	9.0
3.5	7.7
4.0	6.1
4.5	5.25
5.0	4.7
5.5	4.25
6.0	3.8
6.5	3.4
7.0	3.0
7.5	2.6
8.0	2.3
9.0	1.5

- 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 (600kg for a 60 ton capacity hook, 260kg for a 15 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 5t for the main winch and 4.5t for the auxiliary winch.

<b>A</b>	11. 0m	18. 8m	26. 5m	34. 3m	42. 0m	<b>J</b>
<b>H</b>	12	7	5	4	2	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 1t for the main winch and 0.9t for the auxiliary winch. Free-fall operations should not be performed without the outriggers.
6. The total rated load for the single top is the same as that of the boom and must not exceed 4.5 tons. However, when hooks, slings, etc. are mounted on the boom, one should work with the to rated load obtained by subtracting the weights of the hooks, slings, etc. mounted on the boomtal from the total rated load of the boom.



(2) Specifications for the case  
when the device for heavy-duty work (option) is mounted

(i)

Unit:ton

· Outriggers fully extended + Front jack (360°) · Outriggers fully extended (Over the Rear · Over the Sides)					
A \ B (m)	11.0m	18.8m	26.5m	34.3m	42.0m
3.0	60.0	35.0			
3.5	60.0	35.0			
4.0	53.0	35.0			
4.5	46.5	35.0			
5.0	42.0	35.0	23.0		
5.5	37.5	32.3	23.0		
6.0	34.0	29.7	23.0		
6.5	30.5	27.5	21.8	15.0	
7.0	27.5	25.2	20.4	15.0	
7.5	24.8	23.3	19.1	15.0	
8.0	22.5	21.4	18.0	15.0	8.0
9.0	19.0	18.5	16.0	13.4	8.0
10.0		16.0	14.5	12.2	8.0
11.0		13.4	13.0	11.0	8.0
12.0		11.2	11.2	10.0	8.0
14.0		8.1	8.1	8.4	7.0
16.0		6.0	6.0	6.9	6.0
18.0			4.45	5.35	5.3
20.0			3.15	4.2	4.5
22.0			2.15	3.15	3.9
24.0			1.3	2.35	3.2
26.0				1.7	2.5
28.0				1.1	1.9
30.0				0.65	1.4
32.0					1.0
34.0					0.6

A = Boom length

B = Working radius

(ii)

Unit:ton

· Outriggers fully extended + Front jack (360°) · Outriggers fully extended (Over the Rear · Over the Sides)										
E (°)	9.0m			15.0m			20.2m			
	D	5°	25°	45°	5°	25°	45°	5°	25°	45°
83	C	4.5	2.8	1.7	2.8	1.5	1.0	1.7	0.8	0.6
80		4.5	2.8	1.7	2.8	1.5	1.0	1.7	0.8	0.6
78		4.5	2.7	1.7	2.8	1.4	1.0	1.7	0.8	0.6
75		3.7	2.4	1.65	2.5	1.25	0.95	1.5	0.7	0.58
73		3.3	2.2	1.6	2.2	1.15	0.9	1.38	0.65	0.56
70		2.8	1.95	1.55	1.85	1.03	0.85	1.25	0.62	0.54
68		2.5	1.8	1.5	1.67	0.95	0.8	1.16	0.6	0.53
65		2.2	1.6	1.4	1.45	0.85	0.75	1.05	0.57	0.51
63		2.0	1.5	1.3	1.3	0.81	0.7	0.96	0.55	0.49
60		1.8	1.4	1.2	1.15	0.75	0.65	0.85	0.52	0.47
58		1.65	1.3	1.15	1.05	0.7	0.6	0.77	0.49	0.45
55		1.15	1.05	0.9	0.75	0.65	0.55	0.56	0.45	
53		0.9	0.85	0.65	0.55	0.5				
50		0.55	0.5							

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

(iii)

Unit:ton

· Outriggers middle extended (360°) · Outriggers fully extended (Over the Front)						Without outriggers (Over the Rear)	
A B (m)	11.0m	18.8m	26.5m	34.3m	42.0m	A	11.0m
							B (m)
3.0	40.0	24.0				3.0	8.0
3.5	40.0	24.0				3.5	6.4
4.0	40.0	24.0				4.0	5.1
4.5	38.0	24.0				4.5	4.55
5.0	30.0	24.0	15.0			5.0	4.05
5.5	24.8	24.0	15.0			5.5	3.6
6.0	20.8	20.8	15.0			6.0	3.15
6.5	17.55	17.55	15.0	10.0		6.5	2.8
7.0	14.8	14.8	14.8	10.0		7.0	2.4
7.5	12.65	12.65	12.65	10.0		7.5	2.1
8.0	10.95	10.95	10.95	10.0	5.5	8.0	1.8
9.0	8.35	8.35	8.35	9.25	5.5	9.0	1.0
10.0		6.5	6.5	7.35	5.5		
11.0		5.1	5.1	5.95	5.5		
12.0		3.95	3.95	4.85	5.5		
14.0		2.15	2.15	3.2	4.0		
16.0		0.95	0.9	1.95	2.8		
18.0				1.0	1.85		
20.0					1.1		

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

Unit:ton

· Outriggers middle extended (360°) · Outriggers fully extended (Over the Front)									
C D E (°)	9.0m			15.0m			20.2m		
	5°	25°	45°	5°	25°	45°	5°	25°	45°
83	4.5	2.8	1.7	2.8	1.5	1.0	1.7	0.8	0.6
80	4.5	2.8	1.7	2.8	1.5	1.0	1.7	0.8	0.6
78	4.5	2.7	1.7	2.8	1.4	1.0	1.7	0.8	0.6
75	3.6	2.4	1.65	1.9	1.25	0.95	1.4	0.7	0.58
73	2.6	2.0	1.6	1.35	1.05	0.9	0.95		
70	1.5								

**NOTES:**

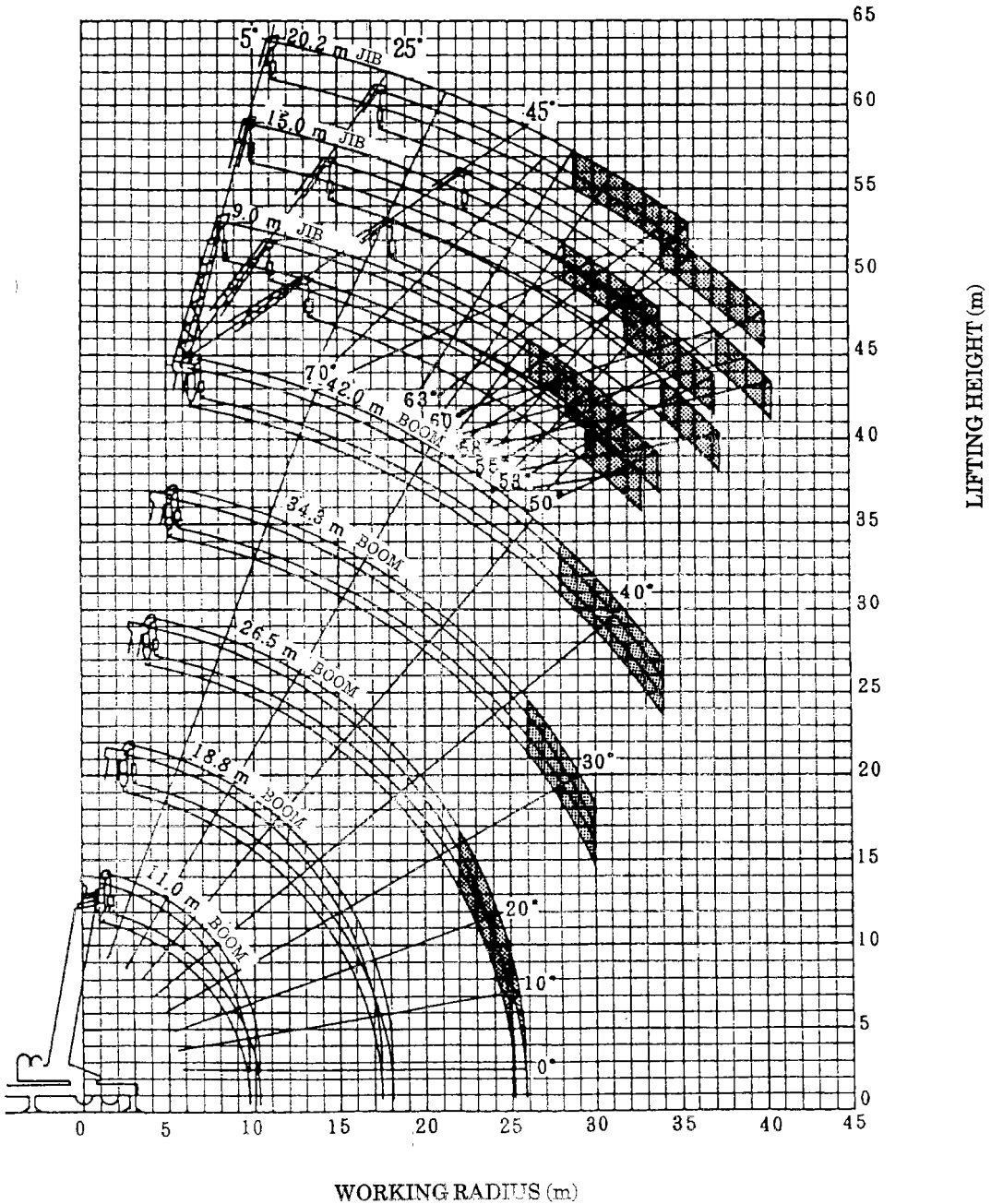
1. The total rated loads shown are for the case when the outriggers are set horizontally on firm ground. The values are based on the crane strength.
2. The weights of slings and hooks (600kg for a 60 ton capacity hook, 260kg for a 15 ton capacity hook and 140kg for a 5 ton capacity hook) are included 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 5t for the main winch and 4.5t for the auxiliary winch.

A	11.0m	18.8m	26.5m	34.3m	42.0m	J
H	12	7	5	4	2	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 1t for the main winch and 0.9t for the auxiliary winch. Free-fall operations should not be performed without the outriggers.
6. The total rated load for the single top is the same as that of the boom and must not exceed 4.5 tons. However, when hooks, slings, etc. are mounted on the boom, one should work with the total rated load obtained by subtracting the weights of the hooks, slings, etc. mounted on the boom from the total rated load of the boom.

**WORKING RADIUS - LIFTING HEIGHT**

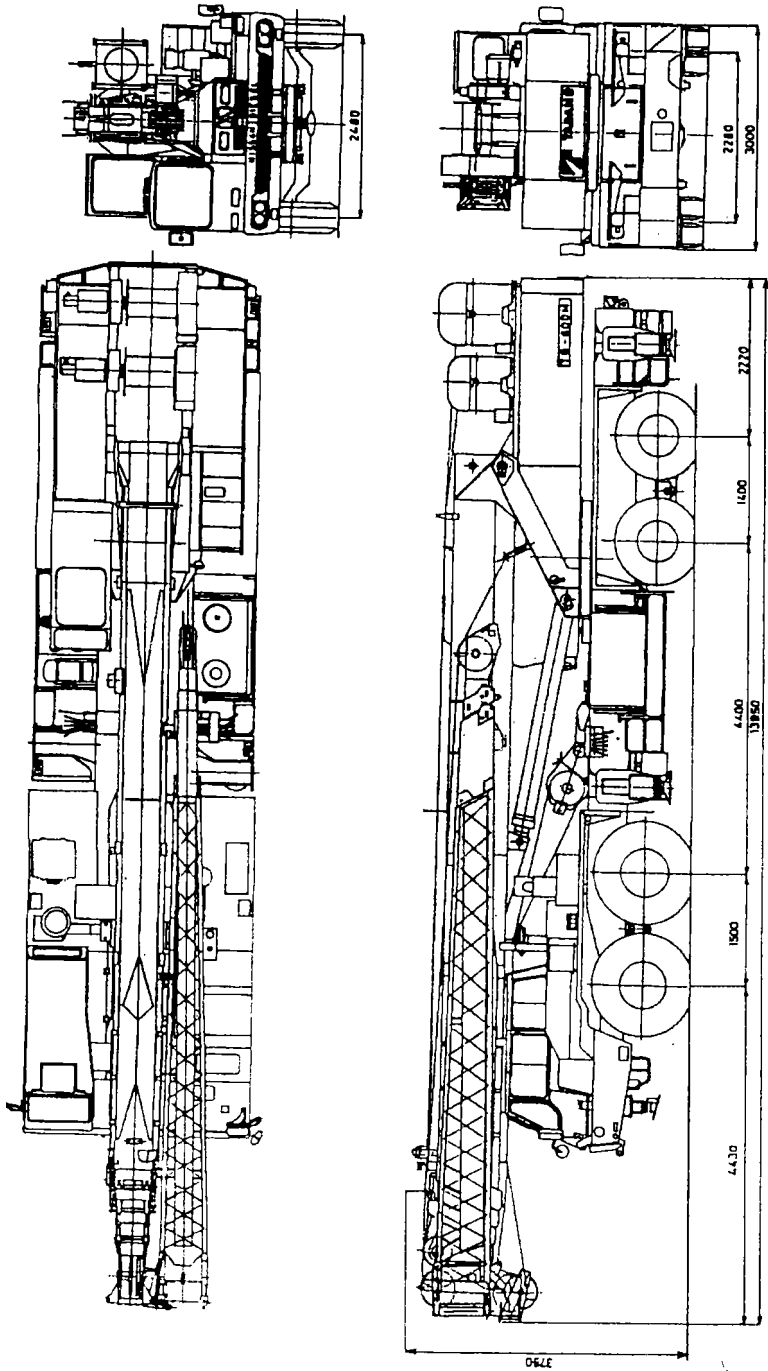


**NOTES:**

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 jack are used (over 360°)
3. The shaded area in the diagram applies only to the case when the device for heavy-duty work (option) is mounted.

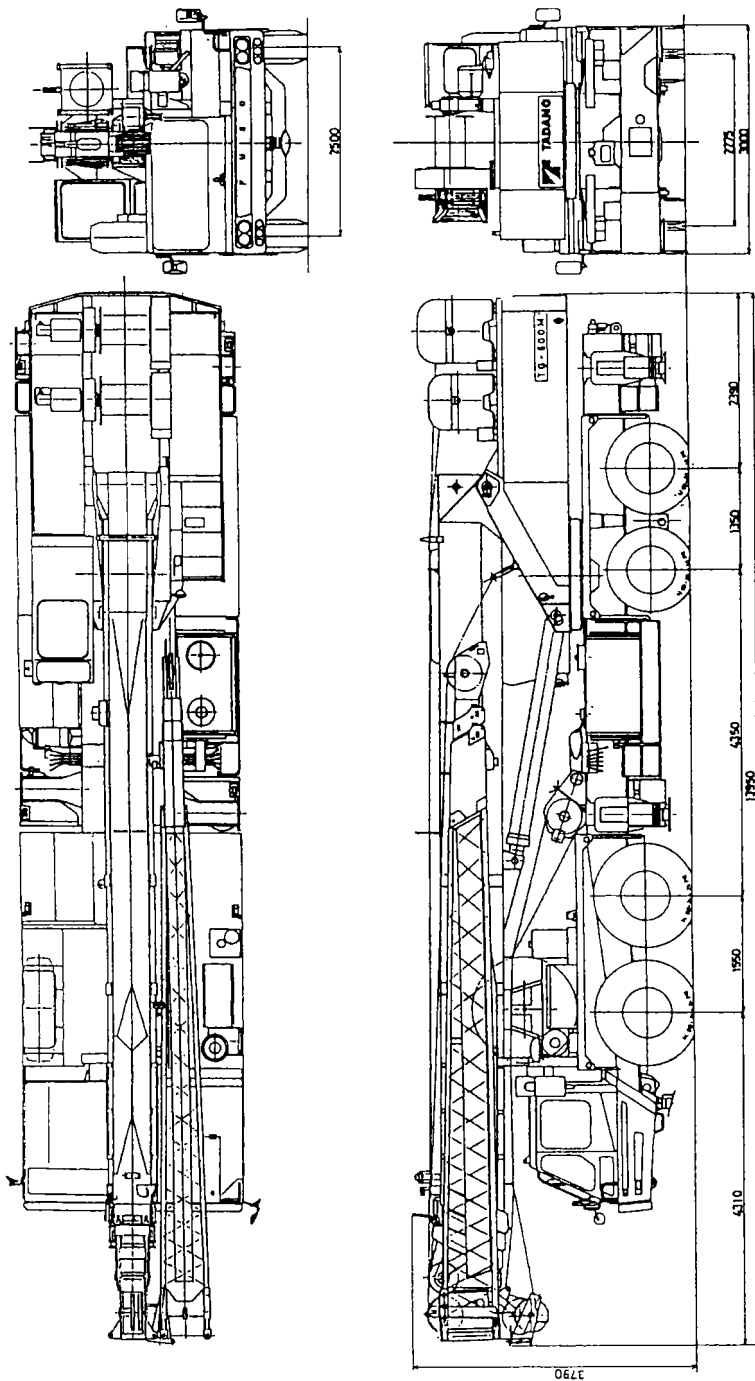
**DIMENSIONS** (1/100)

W-KG520WN



**DIMENSIONS** (1/100)

W-KA606U



◆ MEMO ◆

A series of horizontal dashed lines for writing a memo.