

ROUGH TERRAIN CRANE

TR-250M

JAPANESE SPECIFICATIONS

TR

OUTLINE	SPEC. NO.
4-section Boom, 2-staged Standard Jib X-type Outrigger	TR-250M-6-00103

Control No. JA-02

TR-250M

CRANE SPECIFICATIONS

CRANE CAPACITY

9.5m Boom	25,000kg	at 3.5m	(8part-line)
16.5m Boom	19,000kg	at 4.0m	(6part-line)
23.5m Boom	12,500kg	at 5.0m	(4part-line)
30.5m Boom	7,000kg	at 8.0m	(4part-line)
8.0m Jib	3,000kg	at 72°	(1part-line)
13.0m Jib	2,000kg	at 76°	(1part-line)
Single top	3,500kg		(1part-line)

MAX.LIFTING HEIGHT

Boom	31.3m
Jib	44.2m

MAX.WORKING RADIUS

Boom	28.0m
Jib	37.0m

BOOM LENGTH

9.5m – 30.5m

BOOM EXTENSION

21.0m

BOOM EXTENSION SPEED

21.0m/90s

JIB LENGTH

8.0m, 13.0m

MAIN WINCH SINGLE LINE WINDING SPEED

120m/min (4th layer)

MAIN WINCH HOOK SPEED

15.0m/min (8 part-line)

AUXILIARY WINCH SINGLE LINE WINDING SPEED

120m/min (4th layer)

AUXILIARY WINCH HOOK SPEED

120m/min (1 part-line)

BOOM ELEVATION ANGLE

0° – 83°

BOOM ELEVATION SPEED

0° – 83°/45s

SWING ANGLE

360° continue

SWING SPEED

2.6rpm

WIRE ROPE

Main Winch

16mm x 170m (Diameter x Length)
Spin-resistant wire rope

Auxiliary Winch

16mm x 98m (Diameter x Length)
Spin-resistant wire rope

BOOM

4-section hydraulically telescoping boom of box construction
(stage 2: sequential; stages 3,4: synchronized)

BOOM EXTENSION

2 double-acting hydraulic cylinders
1 wire rope type telescoping device

JIB

Quick-turn type (2-staged type which stores alongside below the base boom section and extendible from under the boom (with 2nd stage being a pull-out type))
Triple offset (5°, 25°, 45°) type

SINGLE TOP

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

HOIST

Driven by hydraulic motor and via spur gear 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

1 double-acting hydraulic cylinder

With flow regulator valve with pressure compensation

SWING

Hydraulic motor driven planetary gear reducer

Swing bearing

Swing free/lock changeover type

Negative brake

OUTRIGGERS

Fully hydraulic X-type (floats mounted integrally)

Slides and jacks each provided with independent operation device.

Fully extended width 6.3m

Middle extended width 5.9m, 5.0m

Minimum extended width 3.6m

OPERATION METHOD

Hydraulic pilot valve operation

MAX. VERTICAL LOAD CAPACITY OF OUTRIGGER

26.7t

POWER TAKE-OFF

PTO wet multi-plate clutch

HYDRAULIC PUMPS

2 variable piston pumps

2 gear pumps

HYDRAULIC OIL TANK CAPACITY

380 liters

SAFETY DEVICES

Automatic moment limiter (AML) ✓

Swing automatic stop device

Over-winding cutout device

Working area control device

Free-fall interlock device

Outrigger extension width detector

Winch drum lock

Level gauge

Hook safety latch

Hydraulic safety valve

Telescopic counterbalance valve

Elevation counterbalance valve

Jack pilot check valve

Swing lock

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 6D16
(with turbo charger and air cooler)
Type 4-cycle, 6-cylinder, direct-injection, water-cooled diesel engine
Piston displacement 7,545cc
Max. output 250PS at 2,800rpm
Max. torque 72.0kg·m at 1,400rpm

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 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 (option)

EQUIPMENT

Centralized oiling device

Electric mirror

GENERAL DATA

DIMENSIONS

Overall length	11,130mm
Overall width	2,620mm
Overall height	3,410mm
Wheel base	3,500mm
Tread Front	2,170mm
Tread Rear	2,170mm

WEIGHTS

Gross vehicle weight	
Total	26,495kg
Front	13,250kg
Rear	13,245kg

PERFORMANCE

Max. traveling speed	49km/h
Gradeability (tan θ)	0.57
Min. turning radius	5.0m (4-wheel steering) 8.4m (2-wheel steering)

Note:

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

TOTAL RATED LOADS

(1) With outriggers set
[BOOM]

Unit:ton

Outriggers fully extended (6.3m) -360°-				
A \ B	9.5m	16.5m	23.5m	30.5m
2.5m	25.0	19.0	12.5	
3.0m	25.0	19.0	12.5	
3.5m	25.0	19.0	12.5	7.0
4.0m	23.0	19.0	12.5	7.0
4.5m	21.2	18.0	12.5	7.0
5.0m	19.4	16.7	12.5	7.0
5.5m	17.8	15.6	11.85	7.0
6.0m	16.3	14.6	11.2	7.0
6.5m	15.1	13.8	10.6	7.0
7.0m	13.7	13.0	10.1	7.0
8.0m		10.55	9.1	7.0
9.0m		8.5	8.2	6.4
10.0m		7.05	7.4	5.9
11.0m		5.85	6.4	5.35
12.0m		4.95	5.5	4.9
13.0m		4.2	4.75	4.5
14.0m		3.6	4.1	4.15
15.0m			3.6	3.85
16.0m			3.15	3.45
17.0m			2.8	3.05
18.0m			2.45	2.7
19.0m			2.15	2.45
20.0m			1.9	2.2
21.0m			1.7	1.95
22.0m				1.75
24.0m				1.4
26.0m				1.15
28.0m				0.95
a (°)	0 ~ 83			

Unit:ton

Outriggers middle extended (5.9m) -Over sides-				
A \ B	9.5m	16.5m	23.5m	30.5m
2.5m	25.0	19.0	12.5	
3.0m	25.0	19.0	12.5	
3.5m	25.0	19.0	12.5	7.0
4.0m	23.0	19.0	12.5	7.0
4.5m	21.2	18.0	12.5	7.0
5.0m	19.4	16.7	12.5	7.0
5.5m	17.8	15.6	11.85	7.0
6.0m	16.3	14.6	11.2	7.0
6.5m	15.1	13.8	10.6	7.0
7.0m	13.0	12.6	10.1	7.0
8.0m		9.7	9.1	7.0
9.0m		7.7	8.2	6.4
10.0m		6.3	7.0	5.9
11.0m		5.2	6.0	5.35
12.0m		4.35	5.1	4.9
13.0m		3.7	4.35	4.5
14.0m		3.15	3.8	4.05
15.0m			3.3	3.6
16.0m			2.85	3.15
17.0m			2.5	2.75
18.0m			2.2	2.45
19.0m			1.95	2.2
20.0m			1.7	1.95
21.0m			1.5	1.75
22.0m				1.55
24.0m				1.2
26.0m				0.95
27.9m				0.75
a (°)	0 ~ 83			

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

[BOOM]

Unit:ton

Outriggers middle extended (5.0m) -Over sides-				
A \ B	9.5m	16.5m	23.5m	30.5m
2.5m	25.0	19.0	12.5	
3.0m	25.0	19.0	12.5	
3.5m	25.0	19.0	12.5	7.0
4.0m	23.0	19.0	12.5	7.0
4.5m	21.2	18.0	12.5	7.0
5.0m	18.4	16.7	12.5	7.0
5.5m	15.4	15.0	11.85	7.0
6.0m	13.0	12.6	11.2	7.0
6.5m	11.2	10.8	10.6	7.0
7.0m	9.5	9.4	10.1	7.0
8.0m		7.3	8.0	7.0
9.0m		5.85	6.5	6.4
10.0m		4.75	5.4	5.6
11.0m		3.9	4.55	4.8
12.0m		3.3	3.85	4.15
13.0m		2.75	3.3	3.55
14.0m		2.3	2.85	3.1
15.0m			2.45	2.7
16.0m			2.1	2.35
17.0m			1.8	2.1
18.0m			1.55	1.8
19.0m			1.35	1.6
20.0m			1.15	1.4
21.0m			0.95	1.2
22.0m				1.05
24.0m				0.75
26.0m				0.5
a (°)	0~83			20~83

Unit:ton

Outriggers middle extended (3.6m) -Over sides-				
A \ B	9.5m	16.5m	23.5m	30.5m
2.5m	25.0	19.0	12.5	
3.0m	25.0	19.0	12.5	
3.5m	20.5	19.0	12.5	7.0
4.0m	16.0	15.7	12.5	7.0
4.5m	12.8	12.6	12.5	7.0
5.0m	10.7	10.5	11.0	7.0
5.5m	9.05	8.8	9.4	7.0
6.0m	7.7	7.6	8.2	7.0
6.5m	6.6	6.5	7.25	7.0
7.0m	5.8	5.6	6.4	6.5
8.0m		4.4	5.05	5.3
9.0m		3.4	4.05	4.35
10.0m		2.7	3.3	3.65
11.0m		2.15	2.75	3.05
12.0m		1.7	2.3	2.6
13.0m		1.3	1.9	2.2
14.0m		1.0	1.6	1.85
15.0m			1.3	1.55
16.0m			1.05	1.3
17.0m			0.85	1.05
18.0m			0.65	0.9
19.0m			0.5	0.7
20.0m				0.55
a (°)	0~83		20~83	42~83

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

[JIB]

Unit:ton

Outriggers fully extended (6.3m)												-360°-	
C	30.5m Boom + 8.0m Jib						30.5m Boom + 13.0m Jib						
	5°		25°		45°		5°		25°		45°		
E (°)	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	
83	4.3	3.0	6.9	2.1	8.9	1.6	5.7	2.0	10.0	1.2	13.0	0.8	
76	9.5	3.0	11.8	2.1	13.5	1.6	11.7	2.0	15.5	1.2	18.1	0.8	
72	12.3	3.0	14.4	2.1	15.9	1.6	14.6	1.75	18.4	1.1	20.5	0.8	
70	13.6	2.8	15.6	2.1	17.0	1.6	16.1	1.65	19.7	1.05	21.8	0.8	
65	16.6	2.35	18.5	1.8	19.7	1.5	19.6	1.4	22.8	0.95	24.5	0.78	
60	19.6	2.0	21.2	1.55	22.1	1.35	22.8	1.2	25.8	0.9	27.0	0.75	
55	22.2	1.45	23.7	1.35	24.4	1.2	25.9	1.05	28.5	0.85	29.4	0.74	
50	24.6	1.05	26.0	1.0	26.5	0.95	28.6	0.85	31.0	0.75	31.5	0.7	
45	26.9	0.75	28.1	0.7	28.3	0.7	31.1	0.6	33.1	0.55	33.3	0.55	
40	29.0	0.55	29.9	0.5			33.3	0.4	35.0	0.4			
35	30.8	0.38	31.6	0.35									
a (°)	34 ~ 83				44 ~ 83		39 ~ 83				44 ~ 83		

Unit:ton

Outriggers middle extended (5.9m)												-Over sides-	
C	30.5m Boom + 8.0m Jib						30.5m Boom + 13.0m Jib						
	5°		25°		45°		5°		25°		45°		
E (°)	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	B(m)	M	
83	4.3	3.0	6.9	2.1	8.9	1.6	5.7	2.0	10.0	1.2	13.0	0.8	
76	9.5	3.0	11.8	2.1	13.5	1.6	11.7	2.0	15.5	1.2	18.1	0.8	
72	12.3	3.0	14.4	2.1	15.9	1.6	14.6	1.75	18.4	1.1	20.5	0.8	
70	13.6	2.8	15.6	2.1	17.0	1.6	16.1	1.65	19.7	1.05	21.8	0.8	
65	16.6	2.35	18.5	1.8	19.7	1.5	19.6	1.4	22.8	0.95	24.5	0.78	
60	19.5	1.85	21.2	1.55	22.1	1.35	22.8	1.2	25.8	0.9	27.0	0.75	
55	22.1	1.3	23.7	1.15	24.4	1.1	25.9	1.05	28.5	0.85	29.4	0.74	
50	24.5	0.9	25.9	0.85	26.5	0.8	28.6	0.7	30.9	0.6	31.5	0.6	
45	26.8	0.6	28.0	0.55	28.3	0.55	31.0	0.5	33.0	0.4	33.3	0.4	
40	28.9	0.4	29.9	0.35			33.3	0.3					
a (°)	39 ~ 83				44 ~ 83		39 ~ 83				44 ~ 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)