

DATA SHEET FOR TADANO GR-500EXL ROUGH TERRAIN CRANE

Type and name of Crane : TADANO ROUGH TERRAIN CRANE (GR-500EXL) LEFT HAND DRIVE

Name of Manufacturer & Origin : Tadano , Japan

Crane Capacity : 51 TON @ 2.5 m refer to loading chart as attached

Completely brand new , Suitable for tropical area , dusty area ,off road ,Suitable for Iraqi fuel.

Carrier specification:

Engine:

Model : MITSUBISHI 6M60-1L

Max. power : 200 kW (267 HP) at 2,600 rpm

Type and description : Direct injection diesel , 4 cycle, turbo charged and after cooled

Numbers of cylinders(Bore x stroke) : - 6 cylinder (118 x 115 mm)

Total displacement : 7.54 liters.

Air cleaner type : Dry type , replaceable element.

Air intake : up to engine .

Fuel filter : Full flow with replaceable element with water separator.

Air filter : Dust And Particulate filter, inner & outer element filter.

Electric system

Starter motor : (24 volt)

Batteries : (24 V) X 2-120 AMP

Lights(no. & location) : 4 lights (2 Front & 2 Rear).

Power Train & Transmission Equipment:

Type of Transmission : Electronically controlled full automatic transmission. Torque converter driving full power shift with driving axle selector

Number of speeds : 6 forward & 2 reverse

Maximum Traveling speed : 48 km/h

Suspensions:

Front (type) : Rigid mounted to the frame.

Rear (type) : Semi-elliptic leaf springs.

Outriggers : 4 Hydraulic beam and jack outriggers.

Axle and Wheels (mentioned according to any standard & codes):

Drive system type driving axle 2 way selected type by manual switch , 4x2 front drive , 4x4 front and rear drive

Type of Front axle , capacity : Full floating type, steering and driving axle with planetary reduction ,

Capacity: 18,220 KG

Type of Rear axle , capacity : Full Floating type, steering and driving axle with planetary reduction and inter-wheel rear differential lock, Capacity: 19,800 KG

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MAHMOUD
5/11/2021

مهندس اقدم
عمار مصطفى عبد الرسول
رئيس اللجنة

مهندس
ايسر محمود سليم
عضو

مهندس
ماجد حايث عبد راضي
عضو

مهندس
مخاد خليل اسماعيل
عضو

مهندس
احسان فيصل عباس
عضو

Tire size :

Front tire : 505/95R25

Rear tire : 505/95R25.

Brake system:

Service brake type : Air over hydraulic disc brakes on all 4 wheels.

Parking & Emergency : Spring applied-air released brake acting on input shaft of front axle, Electro-pneumatic operated exhaust brake.

Steering system:

Steering type : Hydraulic power steering controlled by steering wheel. 3 steering modes available: 2 wheel front, 4 wheel coordinated and 4 wheel crab.

Minimum turning radius (center of extreme outer tire) : 4 wheel steer : 6 m , 2 wheel steer : 10.3 m

Automatic Moment Limiter (AML-C) including: all necessary instruments , indicators, monitoring systems, levers, pedals, gauges, switches and lamps.

Boom:

Main boom (sections & type) : 5 section full power partially synchronized telescoping boom of round hexagonal box construction with 5 sheaves at boom head.

Fully retracted length : 11.1 m

Fully extended length : 42 m

Extension speed : 30.9 m in 150s

Sheaves at boom head : 5 sheaves at boom head.

Main Boom cylinders : 1 telescopic cylinder.

Hoist :

Hoist main winch: variable speed type with grooved drum driven by hydraulic axle piston motor through speed reduce , Power load lowering and raising .

Hoisting motor type : hydraulic axial piston motor.

Pull : maximum single line pull: 56.0 kN, max. permissible line pull wire strength: 55.1 KN

Line Speed (winch up) : 150 m/min (6th layer).Hook speed (winch up) : Hoist-up speed 132m/min (4th layer).

Hoist auxiliary winch: variable speed type with grooved drum driven by hydraulic axle piston motor through speed reducer. Power load lowering and raising.


Hoisting motor type : hydraulic axial piston motor.

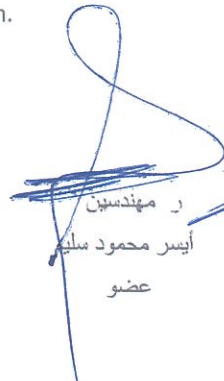
Pull KN : 56 KN , max. permissible line pull wire strength: 55.1 KN


Line speed (winch up) : 150 m/min (6th layer).Hook speed (winch up) : Hoist-up speed 124m/min (3rd layer).

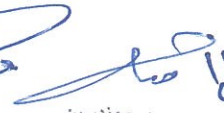
Wire rope : Nufex wire (no-spin), extra improved plow steel, preformed, independent wire rope core, right regular lay 16 mm.


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 ر مهندس اقدم
 امار مصطفى عبد الرسول
 رئيس اللجنة


 ر مهندس
 ايسر محمود
 عضو


 ر مهندس
 ماجد حايف عبد راضي
 عضو


 ر مهندس
 محمد خليل اسماعيل
 عضو


 ر مهندس
 احسان فيصل عباس
 عضو

Main winch type : Variable speed type with grooved drum driven by hydraulic axle piston motor.
 Diameter : 0.32 m
 Length : for main drum 225 m .
 Auxiliary winch type : Variable speed type with grooved drum driven by hydraulic axial piston motor
 Diameter : 0.32 m
 Length : for auxiliary winch 117 m.
 Hook block capacity : 4.5 , 25 ton and 51 ton .

Swing system:

Swing motor Type : hydraulic axial piston motor driven through planetary speed reducer ,Continuous 360° . full circle slewing on ball bearing.
 Swing brake : Manually locked, released slewing brake.
 Swing speed : 2.1 (rpm)
 Swing lock : a positive swing lock for travel modes, manually engaged in cab.

Hydraulic system:

Boom elevation cylinder type : By a pair double acting hydraulic cylinders with holding valve.
 Boom angle indicator.
 Boom angle - 1° - 80.5°
 Quantity : 1
 Arm cylinder type : the synchronization system consist of 2 Telescopic cylinder.
 Quantity : 2
 Hydraulic motor drive(Quantity & type) : 3 and axial piston motor .
 Boom elevation Oil pump type : variable piston pumps.
 Discharge of oil pump : Hydraulic pump (P2) displacement 63.0cm³ *P2 operating Telescoping, elevation
 Max. pressure of oil pump: Hydraulic cylinder for elevation working pressure 27.4Mpa.

Operator Station:

Both crane and drive operations can be performed from one cab mounted on rotating superstructure. Left side, 1 man type, steel construction with sliding door access and safety glass windows opening at side. Door window is powered control. Windshield glass window and roof glass window are shatter-resistant. Wiper and washer (front windshield and roof window). Tinted safety glass and sun visor. Tilt-telescoping steering wheel. Adjustable control lever stands for slewing, boom elevating, boom telescoping, auxiliary winch and main winch. Control lever stands can change neutral positions and tilt for easy access to cab. Foot operated controls: boom telescoping, service brake and engine throttle. 3 way adjustable operator's seat with high back, headrest and armrest. Cab floor mat. Engine throttle knob. Hot water cab heater and air conditioning. Dash-mounted engine start/stop, monitor lamps, cigarette lighter, drive mode selector switch, parking brake switch, steering mode select switch, power window switch, pump engaged/ disengaged switch, slewing brake switch, boom telescoping/auxiliary winch select switch, outrigger control panel, and slewing free/ lock selector switch.

Safety devices :

Instruments - Torque converter oil temperature, engine water temperature, air pressure, fuel, speedometer, tachometer, hour meter and odometer / tripmeter. Engine over-run alarm. Back-up alarm. Low oil pressure/high water temp. Warning device (visual). Rear steer centering light. Hydraulic oil pressure is monitored and displayed on the AML-C display panel.

ر مهندسين اقدم
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 عضو

ر مهندسين
 احسان فيصل عباس
 عضو

Truck crane Measurement:

Overall length : 13,390 mm

Overall width : 2,960 mm

Overall height : 3,865 mm

Wheel Base : 3,800 mm.

Gross vehicle weight (G . V . W) : 38,020 kg

Center to center of extended outriggers :

Min. Extension 2.48 m center to center

Mid. Extension 5.0 m center to center

Mid. Extension 6.5 m center to center

Max. Extension 7.0 m center to center


Additional equipment:

Set of catalog for(maintenance & spare parts , operation (user)guide)& spare tire


Year of manufacture : Year by year according to order .

And all necessary TADANO standard equipment.


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8/11/2021



ر. مهندسين اقدم
عمار مصطفى عبد الرسول
رئيس اللجنة



ر. مهندسين
أيمن محمود سليم
عضو



ر. مهندسين
ماجد حاييف عبد راضي
عضو



ر. مهندسين
مخالد خليل اسماعيل
عضو

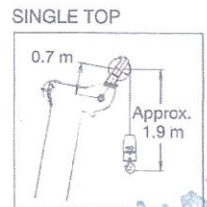
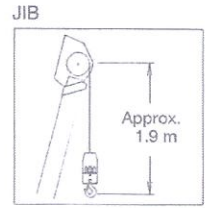
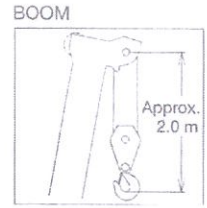
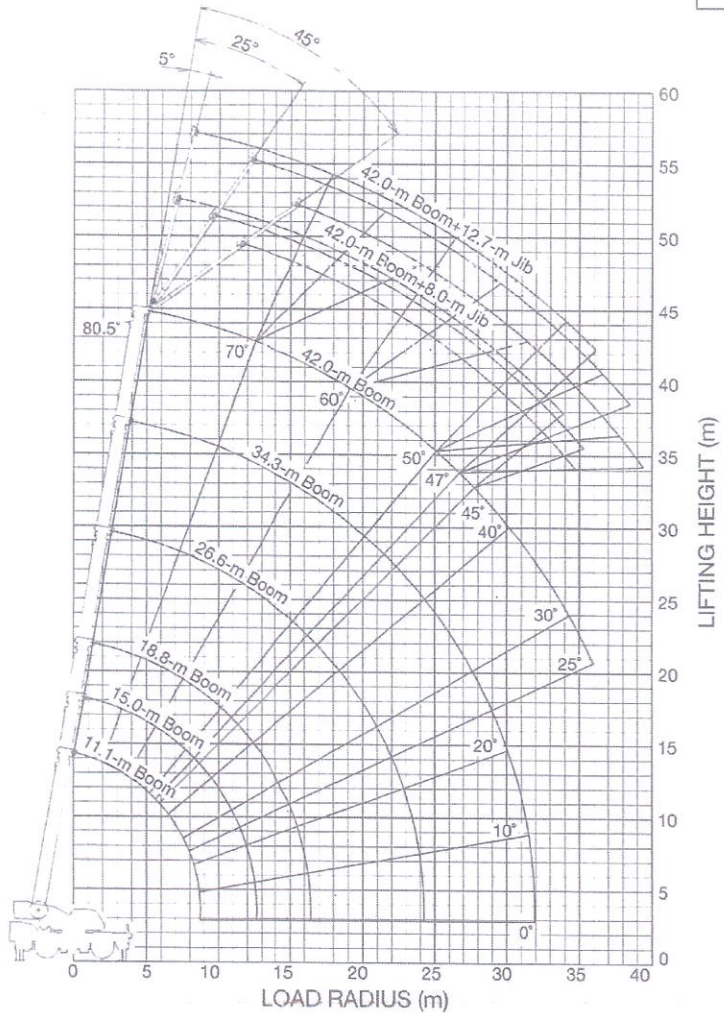


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احسان فيصل عباس
عضو

GR-500EXL WORKING RANGE CHART




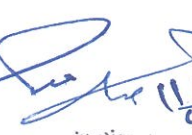

5-6

Telescoping mode I



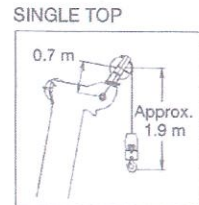
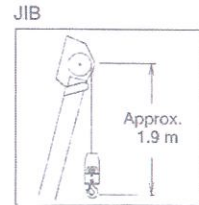
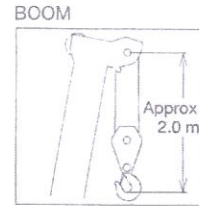
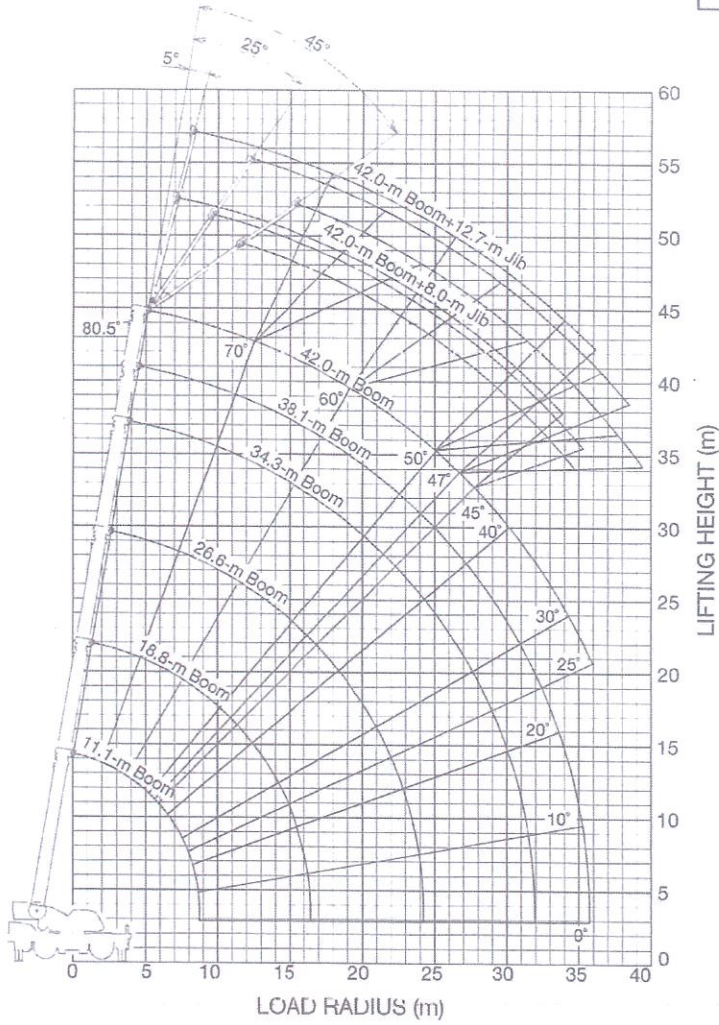
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Handwritten signature and date: 8/11/2021


 ر. مهندسين اقدم عمار مصطفى عبد الرسول رئيس اللجنة	 ر. مهندسين أيسر محمود سليم عضو	 ر. مهندسين ماجد حاييف عبد راضي عضو	 ر. مهندسين محمد خليل اسماعيل عضو	 ر. مهندسين احسان فيصل عباس عضو
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GR-500EXL WORKING RANGE CHART

Telescoping mode II



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مهندس م. م. م. م.
8/11/2021

 ر. مهندسين اقدم عمار مصطفى عبد الرسول رئيس اللجنة	 ر. مهندسين ايمن محمود سليم عضو	 ر. مهندسين ماجد حاييف عبد راضي عضو	 ر. مهندسين مaged خليل اسماعيل عضو	 ر. مهندسين احسان فيصل عباس عضو
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GR-500EXL RATED LIFTING CAPACITIES

6-6

ON OUTRIGGERS FULLY EXTENDED 7.0 m SPREAD 360° ROTATION (Unit: ×1000 kg)															
B	A	11.1 m		15.0 m		18.8 m		26.6 m		34.3 m		38.1 m		42.0 m	
		c	c	c	c	c	c	c	c	c	c	c	c	c	c
2.5	87	51.0													
3.0	81	50.0	71	30.0	76	20.0	75	13.0							
3.5	61	45.0	69	30.0	74	20.0	74	13.0	79	13.0	79	13.0			
4.0	58	41.6	67	30.0	72	20.0	72	13.0	78	13.0	78	13.0			
4.5	55	37.7	65	30.0	71	20.0	71	13.0	77	13.0	77	13.0			
5.0	52	33.5	63	29.5	69	20.0	69	13.0	76	13.0	76	13.0	80	13.0	80
5.5	48	30.9	61	27.4	63	20.0	67	13.0	75	13.0	75	13.0	79	13.0	79
6.0	44	27.5	59	25.6	66	20.0	66	13.0	74	13.0	74	12.3	78	13.0	78
6.5	40	24.8	56	24.0	64	19.7	64	13.0	73	13.0	73	11.6	77	13.0	77
7.0	36	22.5	54	22.1	63	18.4	62	13.0	71	11.0	77	13.0	76	8.0	78
7.5	31	20.5	51	20.1	61	17.3	61	13.0	70	13.0	70	10.5	76	12.7	76
8.0	24	18.8	49	18.4	59	16.4	59	13.0	69	13.0	69	10.0	75	12.1	75
9.0			43	15.7	55	14.6	55	13.0	67	12.9	67	9.1	73	11.1	73
10.0			37	12.8	51	12.6	51	13.0	65	11.6	64	8.3	71	10.2	71
11.0			29	10.6	47	10.4	47	12.5	62	10.5	62	7.6	70	9.3	69
12.0			19	8.8	43	8.6	43	10.7	60	9.5	59	7.0	68	8.6	68
13.0					38	7.3	38	9.2	57	8.2	57	6.5	66	7.9	66
14.0					32	6.2	32	8.1	64	7.0	64	6.0	64	7.3	64
16.0					15	4.3	15	6.3	48	5.3	48	5.3	48	5.8	48
18.0									42	4.0	42	4.7	56	4.5	56
20.0									35	3.1	35	4.2	52	3.5	52
22.0									26	2.35	26	3.5	47	2.75	47
24.0									6	1.7	6	2.9	41	2.1	41
26.0													36	1.65	37
28.0													30	1.25	30
30.0													22	0.9	22
32.0															
34.0															
D															

Telescoping conditions (%)										
Telescoping Mode	I, II	I	I	II	I	II	I	II	II	I, II
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS FULLY EXTENDED 7.0 m SPREAD 360° ROTATION (Unit: ×1000 kg)													
C	A	11.1 m		15.0 m		18.8 m		26.6 m		34.3 m		38.1 m	
		B	B	B	B	B	B	B	B	B	B	B	
0°	8.7	15.9	12.6	7.9	16.4	4.0	16.4	5.9	24.2	1.7	24.2	2.8	31.9
Telescoping Mode	I, II	I	I	II	I	II	I	II	I	II	II	II	

SARITAR
MACHINERY

محمد خلیل اسماعیل
8/11/2021






ر. مهندسين اقدم
 عمار مصطفى عبد الرسول
 رئيس اللجنة

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 عضو