TADANO

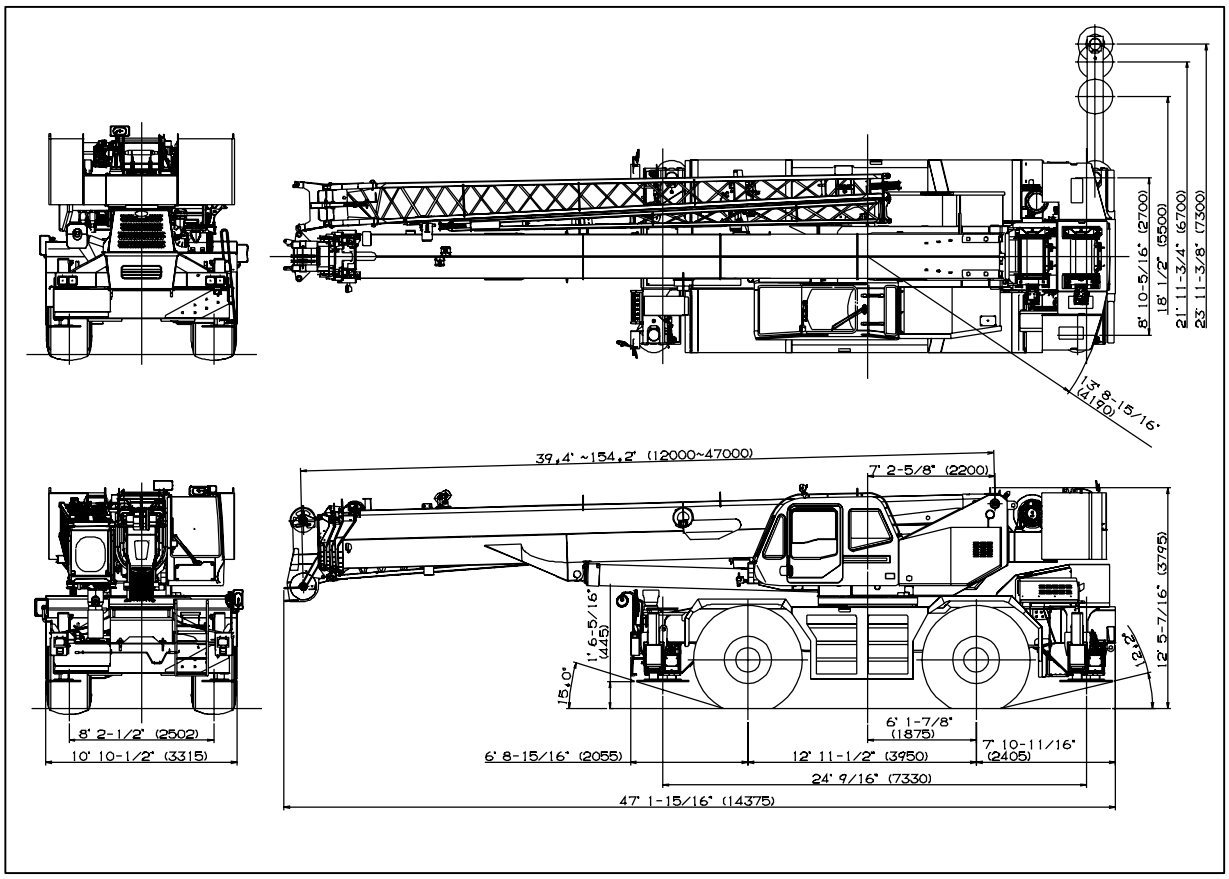
provisional

GR-1000XL-2

100 Ton Capacity (90.7 Metric Tons)

HYDRAULIC ROUGH TERRAIN CRANE

DIMENSIONS



Note : Dimension is with boom angle at -0.8 degree.

GENERAL DIMENSIONS
(29.5 X 25 Tires)

	Feet	Meters
Turning radius		
4 wheel steer	21' 11-3/4"	6.7
2 wheel steer	39' 1/2"	11.9
Tail swing of counterweight	13' 8-15/16"	4.19

Specifications are subject to change without notice.

CRANE SPECIFICATIONS

BOOM
Four section full power synchronized telescoping boom, 39.4'~154.2' (12.0m~47.0m), of round box construction with five sheaves, 17-5/16" (0.44m) root diameter, at boom head. The synchronization system consists of two telescope cylinders, an extension cable and retraction cable. Hydraulic cylinder fitted with holding valve. Two easily removable wire rope guards, rope dead end provided on both sides of boom head. Boom telescope sections are supported by wear pads both vertically and horizontally. Extension speed 114.8 in 128 seconds.

BOOM ELEVATION - By a double acting hydraulic cylinder with holding valve. Elevation -1.5°~80.5°, combination controls for hand or foot operation. Boom angle indicator.
Automatic speed reduction and soft stop function.
Boom raising speed 20° to 60° in 46 sec.

JIB - two stage bi-fold lattice type, 3.5°, 25° or 45° offset (tilt type). Single sheave, 15-5/8"(0.396m) root diameter, at the head of both jib sections. Stored alongside base boom section. Jib length is 33.2' (10.1m) or 58.1' (17.7m). Assistant cylinders for mounting and stowing, controlled at right side of superstructure.
Self stowing jib mounting pins.

AUXILIARY LIFTING SHEAVE (SINGLE TOP)
Single sheave, 15-5/8"(0.396m) root diameter. Mounted to main boom head for single line work (stowable).

ANTI-TWO BLOCK - Pendant type over-winding cut out device with audio-visual (FAILURE lamp/BUZZER) warning system.

SWING
Hydraulic axial piston motor through planetary swing speed reducer. Continuous 360° full circle swing on ball bearing turn table at 1.5rpm. Equipped with manually locked/released swing brake. A 360° positive swing lock for pick and carry and travel modes, manually engaged in cab. Twin swing system: Free swing or lock swing controlled by selector switch on front console.

HOIST

MAIN HOIST - Variable speed type with grooved drum driven by hydraulic axial piston motor through winch speed reducer. Power load lowering and raising. Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of auxiliary hoist. Equipped with cable follower and drum rotation indicator.

DRUM - Grooved 14-1/4"(0.362m) root diameter x 23-5/8" (0.6m) wide. Wire rope: 820' of 3/4"diameter rope (250m of 19mm). Drum capacity: 997' (304m) 7 layers. Maximum single line pull:1st layer 20,040 lbs (9,090kg).Maximam permissible line pull : 14,500 lbs (6,600kg).

AUXILIARY HOIST - Variable speed type with grooved drum driven by hydraulic axial piston motor through winch speed reducer. Power load lowering and raising. Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of main hoist. Equipped with cable follower and drum rotation indicator.

DRUM - Grooved 14-1/4"(0.362m) root diameter x 23-5/8" (0.6m) wide. Wire rope: 456' of 3/4"diameter rope (139m of 19mm). Drum capacity: 997' (304m) 7 layers. Maximum single line pull:1st layer 20,040 lbs (9,090kg).Maximam permissible line pull : 14,500 lbs (6,600kg).

WIRE ROPE - Non-rotating 3/4"(19mm) P•S(19)+39xP•7 Min. Breaking Strength 72,765lbs

HOOK BLOCKS
100+(90.7 metric ton)-8sheaves with swivel hook and safety latch,for 3/4"(19mm) wire rope (OPTIONAL).
7.3 ton (6.6 metric ton) - Weighted hook with swivel and safety latch, for 3/4"(19mm) wire rope.

HYDRAULIC SYSTEM

PUMPS - Two variable piston pumps for crane functions. Tandem gear pump for steering, swing and optional equipment. Powered by carrier engine. Pump disconnect for crane is engaged/ disengaged by rotary switch from operator's cab.

CONTROL VALVES - Multiple valves actuated by pilot pressure with integral pressure relief valves.

RESERVOIR - 224 gallon (840 lit.) capacity. External sight level gauge.

FILTRATION - BETA10=10 return filter, full flow with bypass protection, located inside of hydraulic reservoir. Accessible for easy replacement.

OIL COOLER - Air cooled fan type.

CAB AND CONTROLS

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. Tilt-telescoping steering wheel. Adjustable control lever stands for swing, boom hoist, boom telescoping, auxiliary hoist and main hoist. Control lever stands can change neutral positions and tilt for easy access to cab. Engine throttle knob. Foot operated controls: boom hoist, boom telescoping, service brake and engine throttle. Hot water cab heater and air conditioning.

Dash-mounted engine start/stop, monitor lamps, cigarette lighter, drive selector switch, parking brake switch, steering mode select switch, power window switch, pump engaged/ disengaged switch, swing brake switch, telescoping/auxiliary winch select switch, outrigger controls, main winch/auxiliary winch selector switch, swing stop cancel switch, slow elevation stop cancel switch, free swing / lock swing selector switch and ashtray.

Instruments - Torque converter oil temperature, engine water temperature, air pressure, fuel, speedometer, tachometer and hour meter. Hydraulic oil pressure is monitored and displayed on the AML-C display panel.

Tadano electronic LOAD MOMENT INDICATOR system (AML-C) including:

- Control lever lockout function with audible and visual pre-warning
- Boom position indicator
- Outrigger state indicator
- Boom angle / boom length / jib offset angle / load radius / rated lifting capacities / actual loads read out
- Ratio of actual load moment to rated load moment indication
- Automatic Speed Reduction and Soft Stop function on boom elevation and swing
- Working condition register switch
- Load radius / boom angle / tip height / swing range preset function
- External warning lamp
- Tare function

TADANO AML-L monitors outrigger extended length and automatically programs the corresponding "RATED LIFTING CAPACITIES" table.

TADANO AML-C monitors outrigger extended length and automatically programs the corresponding "RATED LIFTING CAPACITIES" table

Operator's right hand console includes transmission gear selector and sight level bubble. Upper console includes working light switch, roof washer and wiper switch emergency outrigger set up key switch,
drum indicator switch, jib equipped/removed select switch, boom emergency telescoping switch (2nd and 3rd･top) and air conditioning control switch. Swing lock lever.

NOTE Each crane motion speed is based on unladen conditions.

CARRIER SPECIFICATIONS

TYPE - Rear engine, left hand steering, driving axle 2-way selected type by manual switch, 4x2 front drive, 4x4 front and rear drive.

FRAME - High tensile steel, all welded mono-box construction.

TRANSMISSION - Electronically controlled full automatic transmission. Torque converter driving full powershift with driving axle selector. 6 forward and 2 reverse speeds, constant mesh.

3 speeds - high range - 2 wheel drive; 4 wheel drive
3 speeds - low range - 4 wheel drive

TRAVEL SPEED - 23 mph (37 km/h)

AXLE - Front: Full floating type, steering and driving axle with planetary reduction. Rear: Full floating type, steering and driving axle with planetary reduction and non-spin rear differential.

STEERING- Hydraulic power steering controlled by steering wheel. Four steering modes available: 2 wheel front, 2 wheel rear, 4 wheel coordinated and 4 wheel crab .

SUSPENSION - Front: Rigid mounted to frame. Rear: Pivot mounted with hydraulic lockout device.

BRAKE SYSTEMS - Service: Air over hydraulic disc brakes on all 4 wheels. Parking/Emergency: Spring applied-air released brake acting on input shaft of front axle. Auxiliary: Electro-pneumatic operated exhaust brake.

TIRES - 29.5-25 34PR(OR)

OUTRIGGERS - Four hydraulic, beam and jack outriggers. Vertical jack cylinders equipped with integral holding valve. Each outrigger beam and jack is controlled independently from cab. Beams extend to 23' 11-3/8" (7.3 m) center-line and retract to within 10' 10-1/2" (3.315 m) overall width with floats. Outrigger jack floats are attached thus eliminating the need of manually attaching and detaching them. Controls and sight bubble located in superstructure cab. Four outrigger extension lengths are provided with corresponding "RATED LIFTING CAPACITIES" for crane duty in confined areas.

Min. Extension	8' 10-5/16"(2.7m) center to center
Mid. Extension	18' 1/2"(5.5m) center to center
Mid. Extension	21' 11-3/4"(6.7m) center to center
Max. Extension	23' 11-3/8"(7.3) center to center
Float size(Diameter)	1' 11- 5/8" (0.6m)

ENGINE

Model	Mitsubishi 6M60-TLA3B
Type	Direct injection diesel
No. of cylinders	6
Combustion	4 cycle, turbo charged and after cooled
BoreXStroke, in.(mm)	4.646 X 4.528 (118X115)
Displacement, cu. in (liters)	460 (7.54)
Air inlet heater	24 volt preheat
Air cleaner	Dry type, replaceable element
Oil filter	Full flow with replaceable element
Fuel filter	Full flow with replaceable element
Fuel tank, gal.(liters)	79.2 (300), right side of carrier
Cooling	Liquid pressurized, recirculating by-pass

Radiator	Fin and tube core, thermostat controlled
Fan, in.(mm)	Suction type, 6-blade, 23.6 (600) dia.
Starting	24 volt
Charging	24 volt system, negative ground
Battery	2-120 amp. Hour
Compressor, air, CFM(l /min)	29 CFM (830) at 2,600rpm
Horsepower (kW)	Gross 267 (200) at 2,600rpm
Torque, Max. ft-lb (kgm)	579 (80) at 1,400rpm
Capacity, gal.(liters)	
Cooling water	3.4 (13)
Lubrication	3.4 ~ 4.0 (13 ~ 15)
Fuel	79.2 (300)

STANDARD EQUIPMENT

- Five section full power partially synchronized boom 36.1'~141.1' (11.0 m~43.0 m)
- 33.1' or 58.1' (10.1 m or 17.7 m) bi-fold lattice jib (tilt type) with 3.5°, 25° or 45° pinned offsets and self storing pins.
- Auxiliary lifting sheave (single top) stowable
- Variable speed main hoist with grooved drum, cable follower and 797' of 3/4" cable.
- Variable speed auxiliary hoist with grooved drum, cable follower and 436' of 3/4" cable.
- Drum rotation indicator (thumper type) main and auxiliary hoist
- Anti-Two block device (overwind cutout)
- Boom angle indicator
- Tadano electronic load moment indicator system (AML-C)
- Outrigger extension length detector
- Electronic crane monitoring system
- Tadano twin swing system and 360° positive swing lock
- Self centering finger control levers with pilot control
- Control pedals for boom hoist and boom telescoping
- 3 way adjustable cloth seat with armrests, high back and seat belt
- Tilt-telescoping steering wheel
- Tinted safety glass and sun visor
- Front windshield wiper and washer
- Roof window wiper and washer
- Power window (cab door)
- Rear view mirrors (right and left side)
- Mirror for main and auxiliary hoists
- Cigarette lighter and ashtray
- Cab floor mat
- Pump disconnect in operator's cab
- Hydraulic oil cooler
- Hot water cab heater and air conditioner
- Telecommunications terminal (HELLO-NET Owner's Site)
- Positive control
- Quick reeving type bi-fold jib
- Independently controlled outriggers
- Four outrigger extension positions
- Self-storing outrigger pads
- Outrigger hose protection
- Mitsubishi 6M60-TLA3B turbo charged after cooled engine (267HP) with exhaust brake
- Electronic controlled automatic transmission driven by torque converter
- 4 X 4 X 4 drive/steer
- Non-spin rear differential
- Automatic rear axle oscillation lockout system
- 29.5-25 22PR (OR) tires or 29.5-25 28PR (OR) tires
- Disc brakes
- Fenders
- Air dryer
- Water separator with filter(high filtration)
- Engine over-run alarm
- Back-up alarm
- Low oil pressure/high water temp. warning device (visual)
- Rear steer centering light
- Air cleaner dust indicator
- Full instrumentation package
- Complete highway light package
- Work lights
- Tool storage compartment
- Tire inflation kit
- 24 volt electric system
- 6.2 ton (5.6 metric ton) hook with swivel
- Towing hooks-Front and rear
- Lifting eyes
- Hook block tie down (front bumper)
- Weighted hook storage compartment
- Fuel consumption monitor and economy mode
- Halogen head lamp
- **2-speed hoist**

OPTIONAL EQUIPMENT

- 100 ton (90.7 metric ton) - 7 sheave with swivel hook and safety latch for 3/4"(19mm) wire rope
- Propane heater (less tank)
- Spot light

HOISTING PERFORMANCE

LINE SPEEDS AND PULLS

Layer	Main or auxiliary hoist - 14'-1/4" (0.362m) drum							
	Line speeds[1]				Line pulls Available[2]			
	Low		High		Low		High	
	F.P.M	m/min	F.P.M	m/min	Lbs.	kgf	Lbs.	kgf
1st	278	84	387	118	20,040	9,090	14,370	6,520
2nd	302	92	421	128	18,150	8,230	12,780	5,800
3rd	327	99	456	139	16,580	7,520	11,880	5,390
4th	352	107	491	149	15,250	6,920	10,930	4,960
5th	377	115	526	160	14,130	6,410	10,140	4,600
6th	402	122	560	170	13,160	5,970	9,430	4,280
7th[3]	427	130	595	181	12,320	5,590	8,840	4,010

[1] Line speeds based only on hook block, not loaded.

[2] Developed by machinery with each layer of wire rope, but not based on rope strength or other limitation in machinery or equipment.

[3] Seventh layer of wire rope are not recommended for hoisting operations.

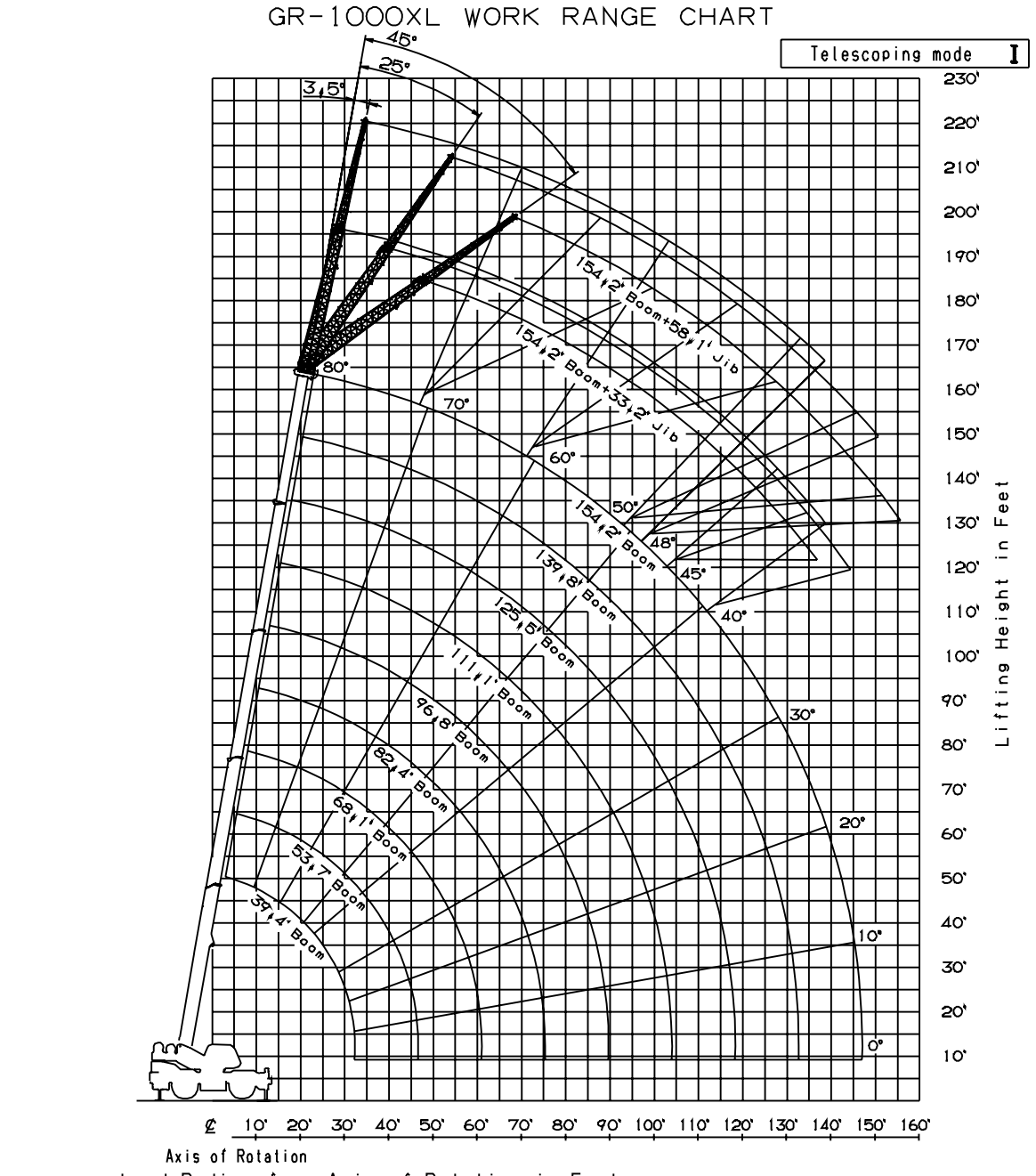
DRUM WIRE ROPE CAPACITIES

Wire rope layer	Main and auxiliary drum grooved lagging			
	3/4" (19mm) wire rope			
	Rope per layer		Total wire rope	
	Feet	Meters	Feet	Meters
1	112.2	34.2	112.2	34.2
2	122.3	37.3	234.5	71.5
3	132.2	40.3	366.8	111.8
4	142.3	43.4	509.1	155.2
5	152.2	46.4	661.4	201.6
6	162.4	49.5	823.8	251.1
7	172.5	52.6	996.4	303.7

DRUM DIMENSIONS

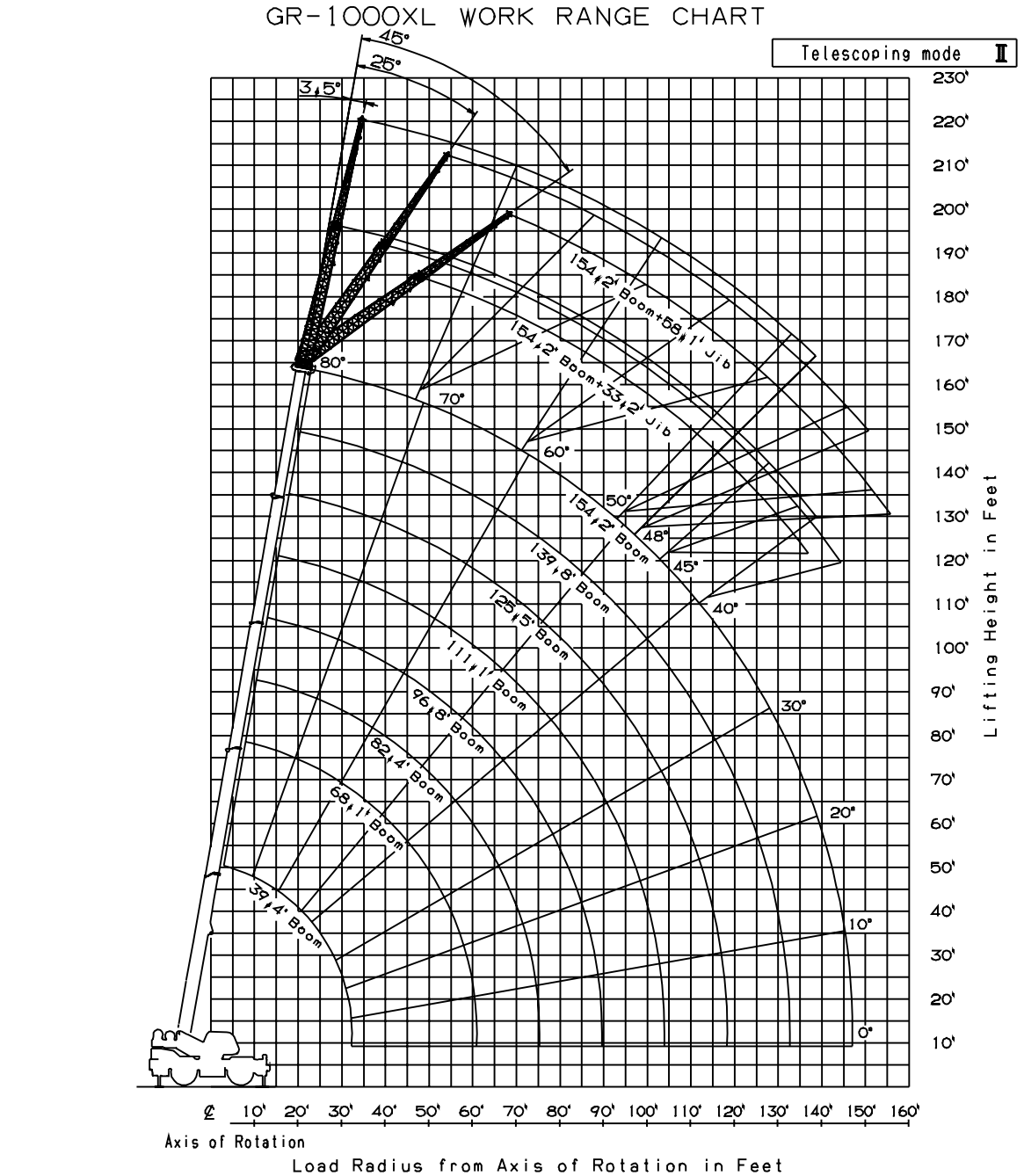
	Inch	mm
Root diameter	14-1/4"	362
Length	23-5/8"	600
Flange diameter	25-7/8"	657

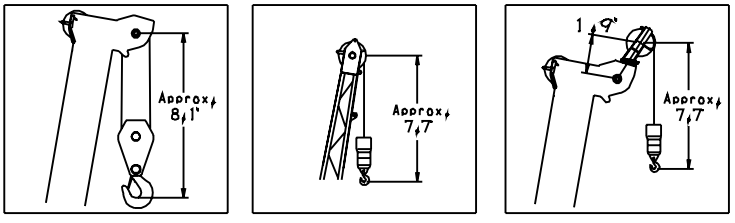
GR-1000XL WORKING RANGE CHART



NOTE: 1. Boom and jib geometry shown are for unloaded condition and machine standing level on firm supporting surface.
Boom deflection and subsequent radius and boom angle change must be accounted for when applying load to hook.

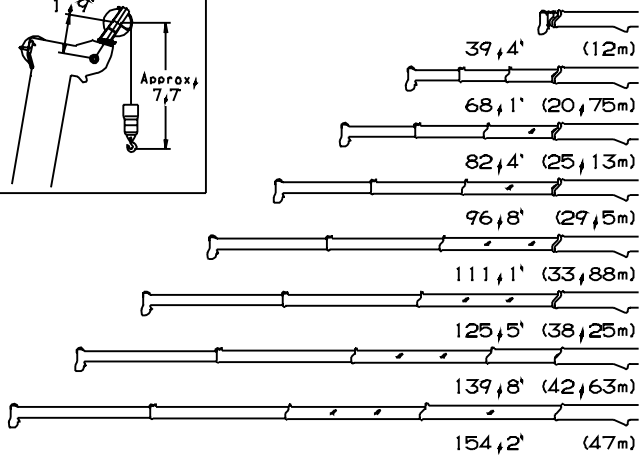
GR-1000XL WORKING RANGE CHART





NOTE: 1. Boom and jib geometry shown are for unloaded condition and machine standing level on firm supporting surface.
Boom deflection and subsequent radius and boom angle change must be accounted for when applying load to hook.

Boom Length in Feet



GR-1000XL RATED LIFTING CAPACITIES (IN POUNDS)

ON OUTRIGGERS FULLY EXTENDED 23' 11-1/2"(7.3m) SPREAD

360° ROTATION

A / B	39.4' (12m)	53.7' (16.38m)	68.1'(20.75m)		82.4'(25.13m)		96.8'(29.5m)		111.1'(33.88m)		125.5'(38.25m)		139.8'(42.63m)		154.2' (47m)
	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	200000	102700													
10	180000	102700	90200	40100											
12	157900	102700	90200	40100											
15	132300	102700	89900	40100	42500	35500									
20	99700	99100	76100	40100	42500	35500	40100	33300	35500	32200					
25	76900	76200	65600	40100	42500	35500	40100	33300	35500	32200	33300	28700			
30	50700	57700	56700	40100	42500	35500	40100	33300	35500	30200	33300	26300	26700	24300	
35		42800	41800	40100	42500	35500	39500	31600	35100	27300	30900	24000	26700	24100	20900
40		33100	32100	36400	34100	35500	34000	29300	32000	24900	28400	22000	25300	22300	20900
45		26200	25400	31100	27300	31800	28300	26500	28000	22900	26100	20200	23500	20700	20700
50			20400	25900	22200	26600	23200	24100	24000	21300	22900	18700	21800	19300	19400
55			16600	21900	18400	22600	19300	22200	20100	19600	20100	17400	19600	18000	18100
60			13600	18700	15300	19400	16200	19700	17000	18200	17300	16100	17400	16800	16800
65					12700	16800	13700	17100	14400	16600	14800	15000	15300	15800	15200
70					10600	14600	11600	15000	12300	15200	12700	13800	13200	14300	13400
75					8900	12900	9800	13200	10600	13400	10900	12700	11400	12500	11700
80							8300	11600	9100	11900	9500	11700	9900	11000	10200
85							7100	10300	7800	10500	8200	10800	8600	9700	8900
90									6600	9400	7000	9600	7500	8600	7700
95									5600	8400	6000	8600	6500	7600	6700
100									4800	7500	5200	7700	5600	6700	5900
105											4400	6900	4800	5900	5100
110											3700	6200	4100	5200	4300
115											3100	5600	3500	4500	3700
120													2900	4000	3200
125													2400	3500	2600
130													2000	3100	2200
135															1800
140															
D															

Telescoping conditions (%)

Telescoping mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II
2nd boom	0	50	100	0	100	0	100	0	100	0	100	0	100	50	100
3rd boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
4th boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
Top boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS FULLY EXTENDED

23' 11-1/2"(7.3m) SPREAD 360° ROTATION

A / C	39.4' (12m)	53.7' (16.38m)	68.1' (20.75m)	68.1' (20.75m)	82.4' (25.13m)	82.4' (25.13m)	96.8' (29.5m)	96.8' (29.5m)	111.1' (33.88m)	111.1' (33.88m)	125.5' (38.25m)	125.5' (38.25m)	139.8' (42.63m)	139.8' (42.63m)	154.2' (47m)
	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
0°															
Telescoping mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II

A :Boom length in feet
B :Load radius in feet
C :Loaded boom angle (deg.)
D :Minimum boom angle (deg.) for indicated length (no load)

NOTE: The lifting capacity data stored in The LOAD MOMENT INDICATOR(AML-I) in based on The standard number of part line listend in the chart.
Standard number of part line for outrigger operation should be according to the following table.

Telescoping mode 1

Boom length in feet	39.4'	53.7' to 68.1'	82.4' to 154.2'	Single top
(meters)	(12m)	(16.38m to 20.75m)	(25.13m to 47m)	jib
Number of part line	16	8	4	1

Telescoping mode 2

Boom length in feet	39.4'	68.1' to 154.2'	Single top
(meters)	(12m)	(20.75m to 47m)	jib
Number of part line	16	4	1

GR-1000XL RATED LIFTING CAPACITIES (IN POUNDS)

ON OUTRIGGERS FULLY EXTENDED 23' 11-1/2"(7.3m) SPREAD
360° ROTATION

C	154.2' (47.0m) Boom + 33.2' (10.1m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		10,800		10,800		9,400
79 °		10,800		10,400		9,200
78 °		10,800		10,200		9,000
77 °		10,800		9,900		8,800
76 °		10,800		9,600		8,700
75 °		10,800		9,300		8,500
73 °		10,500		8,900		8,200
70 °		9,600		8,300		7,700
68 °		9,100		7,900		7,400
65 °		8,200		7,200		6,800
63 °		7,500		6,700		6,400
60 °		6,700		6,100		5,800
58 °		5,800		5,400		5,100
55 °		4,700		4,400		4,200
53 °		4,100		3,700		3,600
50 °		3,200		3,000		2,800
48 °		2,700		2,400		2,300
45 °		2,000		1,800		1,700
43 °		1,600		1,500		
40 °		1,100		1,100		

C	154.2' (47.0m) Boom + 58.1' (17.7m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		6,800		6,300		5,100
79 °		6,800		6,200		5,100
78 °		6,800		6,000		5,000
77 °		6,800		5,900		5,000
76 °		6,800		5,800		4,900
75 °		6,800		5,700		4,800
73 °		6,800		5,500		4,700
70 °		6,800		5,200		4,600
68 °		6,700		5,100		4,500
65 °		5,900		4,900		4,500
63 °		5,400		4,500		4,200
60 °		4,500		4,100		3,800
58 °		3,900		3,600		3,400
55 °		2,900		2,800		2,600
53 °		2,300		2,200		2,100
50 °		1,600		1,500		1,400
48 °		1,100		1,100		1,000

ON OUTRIGGERS FULLY EXTENDED 23' 11-1/2"(7.3m) SPREAD
360° ROTATION

C	139.8'(42.63m) Boom(telescoping mode II) + 33.2' (10.1m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		11,700		11,600		10,000
79 °		11,700		11,200		9,800
78 °		11,700		10,900		9,600
77 °		11,700		10,600		9,400
76 °		11,700		10,300		9,200
75 °		11,700		10,100		9,100
73 °		11,500		9,500		8,700
70 °		10,400		8,900		8,200
68 °		9,700		8,400		7,800
65 °		8,600		7,500		7,100
63 °		7,900		7,000		6,700
60 °		7,100		6,400		6,100
58 °		6,600		6,000		5,800
55 °		6,000		5,500		5,300
53 °		5,600		5,200		5,000
50 °		5,100		4,700		4,600
48 °		4,700		4,400		4,200
45 °		4,000		3,800		3,600
43 °		3,600		3,400		
40 °		3,100		3,000		
38 °		2,800		2,700		
35 °		2,400		2,300		
33 °		2,200		2,100		
30 °		1,900		1,800		
25 °		1,500		1,500		
20 °		1,200				
15 °		1,000				

C	139.8'(42.63m) Boom(telescoping mode II) + 58.1' (17.7m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		7,300		6,500		5,200
79 °		7,300		6,400		5,100
78 °		7,300		6,200		5,100
77 °		7,300		6,100		5,000
76 °		7,300		6,000		5,000
75 °		7,300		5,900		5,000
73 °		7,300		5,700		4,900
70 °		7,300		5,400		4,700
68 °		7,100		5,300		4,600
65 °		6,200		5,100		4,600
63 °		5,700		4,700		4,400
60 °		5,100		4,300		4,000
58 °		4,700		4,000		3,800
55 °		4,200		3,600		3,500
53 °		3,900		3,400		3,300
50 °		3,500		3,100		3,000
48 °		3,200		2,900		2,700
45 °		2,700		2,600		2,300
43 °		2,400		2,300		
40 °		2,000		1,900		
38 °		1,700		1,700		
35 °		1,400		1,400		
33 °		1,200		1,200		
30 °		1,000		1,000		

ON OUTRIGGERS FULLY EXTENDED 23' 11-1/2"(7.3m) SPREAD
360° ROTATION

C	125.5'(38.25m) Boom(telescoping mode I) + 33.2' (10.1m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		14,600		14,000		10,700
79 °		14,600		13,600		10,600
78 °		14,600		13,300		10,500
77 °		14,600		12,900		10,300
76 °		14,600		12,700		10,200
75 °		14,600		12,400		10,100
73 °		14,600		11,900		10,000
70 °		13,700		11,200		9,700
68 °		13,000		10,800		9,600
65 °		12,100		10,300		9,500
63 °		11,600		10,000		9,300
60 °		10,100		9,100		8,500
58 °		8,900		8,100		7,600
55 °		7,500		6,900		6,500
53 °		6,700		6,200		5,900
50 °		5,700		5,300		5,000
48 °		5,100		4,800		4,500
45 °		4,300		4,100		3,800
43 °		3,900		3,700		
40 °		3,300		3,200		
38 °		3,000		2,900		
35 °		2,500		2,400		
33 °		2,300		2,200		
30 °		2,000		1,900		
25 °		1,500		1,500		
20 °		1,200				
15 °		1,000				

C	125.5'(38.25m)Boom(telescoping mode I) + 58.1' (17.7m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		8,800		7,000		5,200
79 °		8,800		6,800		5,100
78 °		8,800		6,700		5,100
77 °		8,800		6,500		5,000
76 °		8,800		6,400		5,000
75 °		8,800		6,300		5,000
73 °		8,800		6,100		4,900
70 °		8,300		5,800		4,700
68 °		7,900		5,600		4,600
65 °		7,500		5,400		4,600
63 °		7,100		5,300		4,500
60 °		6,800		5,100		4,500
58 °		6,500		5,000		4,400
55 °		5,400		4,800		4,400
53 °		4,800		4,300		4,200
50 °		4,000		3,600		3,500
48 °		3,500		3,200		3,100
45 °		2,900		2,700		2,500
43 °		2,600		2,400		
40 °		2,100		2,000		
38 °		1,800		1,700		
35 °		1,500		1,400		
33 °		1,300		1,200		
30 °		1,000		1,000		

C :Loaded boom angle (deg.)
R :Load radius in feet
W :Rated lifting capacity in pounds

GR-1000XL RATED LIFTING CAPACITIES (IN POUNDS)

ON OUTRIGGERS MID EXTENDED 21' 11-3/4"(6.7m) SPREAD

360° ROTATION

A / B	39.4' (12m)		53.7' (16.38m)		68.1'(20.75m)		82.4'(25.13m)		96.8'(29.5m)		111.1'(33.88m)		125.5'(38.25m)		139.8'(42.63m)		154.2' (47m)	
	C		C		C		C		C		C		C		C		C	
8		200000		102700														
10		175700		102700		90200		40100										
12		153600		102700		90200		40100										
15		128200		102700		89900		40100		42500		35500						
20		94800		98000		75000		40100		42500		35500		40100		33300		35500		32200
25		67800		65800		59500		40100		42500		35500		40100		33300		35500		32200		33300		28700						
30		46900		45400		44000		40100		42500		35500		40100		33300		35500		30200		33300		26300		26700		24300		
35				33400		32200		36200		34300		35500		35400		31600		35100		27300		30900		24000		26700		24100		20900
40				25400		24400		30400		26400		31100		27500		29300		28300		24900		28400		22000		25300		22300		20900
45				19800		18900		24600		20800		25300		21800		25600		22600		22900		23100		20200		23500		20700		20700
50						14800		20300		16700		21000		17700		21300		18400		20400		18900		18700		19300		19300		19400
55						11600		17000		13400		17600		14500		18000		15200		18000		15700		17400		16100		17300		16400
60						9200		14300		10800		14900		11900		15400		12600		15600		13100		15700		13400		14700		13700
65										8700		12800		9700		13200		10500		13400		11000		13600		11300		12500		11600
70										7000		11000		8000		11400		8700		11600		9200		11800		9600		10700		9900
75										5600		9500		6500		9900		7200		10100		7700		10300		8100		9300		8400
80														5200		8600		5900		8800		6400		9000		6800		8000		7100
85														4200		7500		4800		7700		5300		7800		5700		6900		6000
90																		3900		6700		4400		6900		4700		5900		5000
95																		3100		5900		3500		6000		3900		5000		4200
100																		2400		5200		2800		5200		3200		4300		3400
105																						2100		4600		2500		3600		2800
110																						1600		4000		1900		3000		2200
115																								3500		1400		2400		1600
120																												2000		
125																												1600		
130																														
135																														
140																														
D																														

Telescoping conditions (%)

Telescoping mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II
2nd boom	0	50	100	0	100	0	100	0	100	0	100	0	100	50	100
3rd boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
4th boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
Top boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED

21' 11-3/4"(6.7m) SPREAD 360 ° ROTATION

A / C	39.4' B (12m)	53.7' B (16.38m)	68.1' B (20.75m)	68.1' B (20.75m)	82.4' B (25.13m)	82.4' B (25.13m)	96.8' B (29.5m)	96.8' B (29.5m)	111.1' B (33.88m)	111.1' B (33.88m)	125.5' B (38.25m)	125.5' B (38.25m)	139.8' B (42.63m)	139.8' B (42.63m)	154.2' B (47m)
0°															
Telescoping mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II

A :Boom length in feet
B :Load radius in feet
C :Loaded boom angle (deg.)
D :Minimum boom angle (deg.) for indicated length (no load)

GR-1000XL RATED LIFTING CAPACITIES (IN POUNDS)

ON OUTRIGGERS MID EXTENDED 21' 11-3/4"(6.7m) SPREAD
360° ROTATION

C	154.2' (47.0m) Boom + 33.2' (10.1m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		10,800		10,800		9,400
79 °		10,800		10,400		9,200
78 °		10,800		10,200		9,000
77 °		10,800		9,900		8,800
76 °		10,800		9,600		8,700
75 °		10,800		9,300		8,500
73 °		10,500		8,900		8,200
70 °		9,600		8,300		7,700
68 °		8,700		7,700		7,000
65 °		6,700		6,000		5,600
63 °		5,600		5,100		4,700
60 °		4,300		3,900		3,700
58 °		3,500		3,300		3,100
55 °		2,600		2,400		2,300
53 °		2,100		1,900		1,800
50 °		1,400		1,300		1,200
48 °		1,000				

C	154.2' (47.0m) Boom + 58.1' (17.7m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		6,800		6,300		5,100
79 °		6,800		6,200		5,100
78 °		6,800		6,000		5,000
77 °		6,800		5,900		5,000
76 °		6,800		5,800		4,900
75 °		6,800		5,700		4,800
73 °		6,800		5,500		4,700
70 °		6,800		5,200		4,600
68 °		6,300		5,100		4,500
65 °		4,700		4,000		3,700
63 °		3,800		3,300		3,100
60 °		2,800		2,400		2,300
58 °		2,200		1,900		1,800
55 °		1,400		1,300		1,200
53 °		1,000				

ON OUTRIGGERS MID EXTENDED 21' 11-3/4"(6.7m) SPREAD
360° ROTATION

C	139.8'(42.63m) Boom(telescoping mode II) + 33.2' (10.1m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		11,700		11,600		10,000
79 °		11,700		11,200		9,800
78 °		11,700		10,900		9,600
77 °		11,700		10,600		9,400
76 °		11,700		10,300		9,200
75 °		11,700		10,100		9,100
73 °		11,500		9,500		8,700
70 °		10,400		8,900		8,200
68 °		9,700		8,400		7,800
65 °		8,600		7,500		7,100
63 °		7,900		7,000		6,700
60 °		6,600		6,000		5,600
58 °		5,800		5,200		5,000
55 °		4,700		4,300		4,100
53 °		4,100		3,700		3,600
50 °		3,300		3,000		2,900
48 °		2,800		2,600		2,600
45 °		2,200		2,100		2,100
43 °		1,900		1,800		
40 °		1,500		1,400		
38 °		1,200		1,100		

C	139.8'(42.63m) Boom(telescoping mode II) + 58.1' (17.7m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		7,300		6,500		5,200
79 °		7,300		6,400		5,100
78 °		7,300		6,200		5,100
77 °		7,300		6,100		5,000
76 °		7,300		6,000		5,000
75 °		7,300		5,900		5,000
73 °		7,300		5,700		4,900
70 °		7,300		5,400		4,700
68 °		7,100		5,300		4,600
65 °		6,200		5,100		4,600
63 °		5,700		4,700		4,400
60 °		4,700		4,000		3,800
58 °		4,000		3,400		3,300
55 °		3,100		2,700		2,600
53 °		2,600		2,300		2,200
50 °		2,000		1,800		1,700
48 °		1,600		1,500		1,400
45 °		1,200		1,000		1,000

ON OUTRIGGERS MID EXTENDED 21' 11-3/4"(6.7m) SPREAD
360° ROTATION

C	125.5'(38.25m) Boom(telescoping mode I) + 33.2' (10.1m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		14,600		14,000		10,700
79 °		14,600		13,600		10,600
78 °		14,600		13,300		10,500
77 °		14,600		12,900		10,300
76 °		14,600		12,700		10,200
75 °		14,600		12,400		10,100
73 °		14,600		11,900		10,000
70 °		13,700		11,200		9,700
68 °		13,000		10,800		9,600
65 °		10,700		9,000		8,400
63 °		9,200		7,800		7,400
60 °		7,400		6,400		6,100
58 °		6,400		5,600		5,400
55 °		5,200		4,600		4,400
53 °		4,500		4,000		3,900
50 °		3,600		3,200		3,200
48 °		3,100		2,800		2,700
45 °		2,400		2,200		2,100
43 °		2,000		1,800		
40 °		1,500		1,400		
38 °		1,200		1,100		

C	125.5'(38.25m)Boom(telescoping mode I) + 58.1' (17.7m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		8,800		7,000		5,200
79 °		8,800		6,800		5,100
78 °		8,800		6,700		5,100
77 °		8,800		6,500		5,000
76 °		8,800		6,400		5,000
75 °		8,800		6,300		5,000
73 °		8,800		6,100		4,900
70 °		8,300		5,800		4,700
68 °		7,900		5,600		4,600
65 °		7,500		5,400		4,600
63 °		6,500		5,300		4,500
60 °		5,100		4,400		4,100
58 °		4,400		3,700		3,600
55 °		3,400		3,000		2,900
53 °		2,900		2,500		2,400
50 °		2,200		1,900		1,900
48 °		1,800		1,600		1,500
45 °		1,300		1,100		1,100

C :Loaded boom angle (deg.)
R :Load radius in feet
W :Rated lifting capacity in pounds

GR-1000XL RATED LIFTING CAPACITIES (IN POUNDS)

ON OUTRIGGERS MID EXTENDED 18' 1/2"(5.5m) SPREAD

360° ROTATION

A / B	39.4' (12m)		53.7' (16.38m)		68.1'(20.75m)		82.4'(25.13m)		96.8'(29.5m)		111.1'(33.88m)		125.5'(38.25m)		139.8'(42.63m)		154.2' (47m)	
	C		C		C	C	C	C	C	C	C	C	C	C	C	C	C	
8		191600		102700														
10		164000		102700		90200	40100											
12		142400		102700		90200	40100											
15		113500		102700		89900	40100	42500	35500									
20		75400		73400		67200	40100	42500	35500	40100	33300	35500	32200					
25		48200		46700		45400	40100	42500	35500	40100	33300	35500	32200	33300	28700			
30		33900		32700		31500	35500	33600	35500	34800	33300	35500	30200	33300	26300	26700	24300	
35				23900		23000	28900	24900	29500	26000	29900	26800	27300	27300	24000	26700	24100	20900
40				18000		17100	22800	19000	23400	20100	23800	20800	24100	21400	22000	21800	22300	20900
45				13700		12900	18300	14800	19000	15800	19400	16500	19600	17000	19800	17400	18700	17700
50						9700	14900	11500	15600	12600	16000	13200	16300	13800	16400	14100	15300	14400
55						7200	12300	8900	13000	10000	13400	10700	13700	11200	13800	11600	12700	11900
60						5300	10300	6900	10800	7900	11300	8600	11600	9100	11700	9500	10700	9800
65								5200	9100	6200	9500	6900	9800	7500	10000	7800	9000	8100
70								3800	7700	4800	8100	5500	8300	6000	8500	6400	7500	6700
75								2600	6500	3600	6800	4300	7100	4800	7300	5200	6300	5500
80										2600	5800	3200	6000	3700	6200	4100	5200	4400
85										1700	4900	2300	5100	2800	5300	3200	4300	3500
90												1600	4300	2100	4500	2400	3500	2700
95													3700	1400	3800	1700	2800	2000
100													3100		3200	1100	2200	1400
105															2600		1700	
110															2200		1100	
115															1700			
120																		
125																		
130																		
135																		
140																		
D																		

Telescoping conditions (%)

Telescoping mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II
2nd boom	0	50	100	0	100	0	100	0	100	0	100	0	100	50	100
3rd boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
4th boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
Top boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED

18' 1/2"(5.5m) SPREAD 360 ° ROTATION

A / C	39.4'		53.7'		68.1'	68.1'	82.4'	82.4'	96.8'	96.8'	111.1'	111.1'	125.5'	125.5'	139.8'	139.8'	154.2'	
	B	(12m)	B	(16.38m)	B (20.75m)	B (20.75m)	B (25.13m)	B (25.13m)	B (29.5m)	B (29.5m)	B (33.88m)	B (33.88m)	B (38.25m)	B (38.25m)	B (42.63m)	B (42.63m)	B	(47m)
0°																		
Telescoping mode	I, II		I		I	II	I	II	I	II	I	II	I	II	I	II	I, II	

A :Boom length in feet
B :Load radius in feet
C :Loaded boom angle (deg.)
D :Minimum boom angle (deg.) for indicated length (no load)

GR-1000XL RATED LIFTING CAPACITIES (IN POUNDS)

ON OUTRIGGERS MID EXTENDED 18' 1/2"(5.5m) SPREAD
360° ROTATION

C	154.2' (47.0m) Boom + 33.2' (10.1m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		10,800		10,800		9,400
79 °		10,800		10,400		9,200
78 °		10,800		10,200		9,000
77 °		10,800		9,900		8,800
76 °		10,800		9,600		8,700
75 °		10,800		9,300		8,500
73 °		10,100		8,300		7,600
70 °		7,400		6,200		5,700
68 °		6,000		5,000		4,700
65 °		4,300		3,700		3,500
63 °		3,400		2,900		2,800
60 °		2,300		2,000		1,900
58 °		1,700		1,400		1,400

C	154.2' (47.0m) Boom + 58.1' (17.7m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		6,800		6,300		5,100
79 °		6,800		6,200		5,100
78 °		6,800		6,000		5,000
77 °		6,800		5,900		5,000
76 °		6,800		5,800		4,900
75 °		6,800		5,700		4,800
73 °		6,800		5,500		4,700
70 °		5,200		4,200		3,800
68 °		4,100		3,300		3,000
65 °		2,700		2,300		2,100
63 °		2,000		1,700		1,600
60 °		1,100				

ON OUTRIGGERS MID EXTENDED 18' 1/2"(5.5m) SPREAD
360° ROTATION

C	139.8'(42.63m) Boom(telescoping mode II) + 33.2' (10.1m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		11,700		11,600		10,000
79 °		11,700		11,200		9,800
78 °		11,700		10,900		9,600
77 °		11,700		10,600		9,400
76 °		11,700		10,300		9,200
75 °		11,700		10,100		9,100
73 °		11,500		9,500		8,700
70 °		10,200		8,600		7,800
68 °		8,500		7,300		6,700
65 °		6,600		5,800		5,400
63 °		5,600		4,900		4,600
60 °		4,300		3,800		3,600
58 °		3,600		3,200		3,000
55 °		2,700		2,400		2,300
53 °		2,200		2,000		1,900
50 °		1,500		1,400		1,300
48 °		1,100		1,000		1,000

C	139.8'(42.63m) Boom(telescoping mode II) + 58.1' (17.7m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		7,300		6,500		5,200
79 °		7,300		6,400		5,100
78 °		7,300		6,200		5,100
77 °		7,300		6,100		5,000
76 °		7,300		6,000		5,000
75 °		7,300		5,900		5,000
73 °		7,300		5,700		4,900
70 °		7,300		5,400		4,700
68 °		6,100		5,000		4,400
65 °		4,600		3,900		3,400
63 °		3,800		3,200		2,800
60 °		2,800		2,400		2,100
58 °		2,200		1,900		1,700
55 °		1,500		1,300		1,200
53 °		1,100				

ON OUTRIGGERS MID EXTENDED 18' 1/2"(5.5m) SPREAD
360° ROTATION

C	125.5'(38.25m) Boom(telescoping mode I) + 33.2' (10.1m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		14,600		14,000		10,700
79 °		14,600		13,600		10,600
78 °		14,600		13,300		10,500
77 °		14,600		12,900		10,300
76 °		14,600		12,700		10,200
75 °		14,600		12,400		10,100
73 °		14,600		11,900		10,000
70 °		11,300		9,500		8,600
68 °		9,500		8,100		7,400
65 °		7,300		6,300		5,900
63 °		6,100		5,400		5,000
60 °		4,700		4,200		3,900
58 °		3,900		3,500		3,300
55 °		2,900		2,600		2,500
53 °		2,300		2,100		2,000
50 °		1,600		1,500		1,400
48 °		1,100		1,100		1,000

C	125.5'(38.25m)Boom(telescoping mode I) + 58.1' (17.7m) Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80 °		8,800		7,000		5,200
79 °		8,800		6,800		5,100
78 °		8,800		6,700		5,100
77 °		8,800		6,500		5,000
76 °		8,800		6,400		5,000
75 °		8,800		6,300		5,000
73 °		8,800		6,100		4,900
70 °		8,300		5,800		4,700
68 °		6,900		5,500		4,600
65 °		5,200		4,200		3,900
63 °		4,300		3,500		3,300
60 °		3,100		2,600		2,500
58 °		2,500		2,100		2,000
55 °		1,700		1,400		1,400
53 °		1,200		1,000		1,000

C :Loaded boom angle (deg.)
R :Load radius in feet
W :Rated lifting capacity in pounds

GR-1000XL RATED LIFTING CAPACITIES (IN POUNDS)

ON OUTRIGGERS MIN EXTENDED 8' 10-1/4"(2.8m) SPREAD

360° ROTATION

A / B	39.4' (12m)	53.7' (16.38m)	68.1'(20.75m)		82.4'(25.13m)		96.8'(29.5m)		111.1'(33.88m)		125.5'(38.25m)		139.8'(42.63m)		154.2' (47m)
	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	143900	102700													
10	94900	93000	90200	40100											
12	66900	65200	63700	40100											
15	44700	43400	42000	40100	42500	35500									
20	26300	25400	24300	30400	26400	31000	27500	31400	28300	31700					
25	17000	16100	15300	20900	17200	21500	18200	21800	18900	22100	19500	22300			
30	11400	10400	9600	14900	11600	15700	12500	16000	13200	16200	13800	16400	14100	15300	
35		6600	5800	10900	7700	11600	8700	12100	9400	12300	9900	12500	10300	11400	10500
40		3900	3100	8100	4900	8700	5900	9200	6600	9500	7100	9600	7500	8600	7700
45		1800	1100	5900	2800	6500	3700	7000	4500	7300	5000	7500	5400	6500	5600
50				4300	1100	4900	2100	5300	2800	5600	3300	5800	3700	4800	4000
55				2900		3500		3900	1500	4200	2000	4400	2400	3500	2700
60				1900		2400		2800		3100		3300	1300	2300	1500
65						1500		1900		2200		2300		1400	
70								1100		1400		1500			
75															
80															
85															
90															
95															
100															
105															
110															
115															
120															
125															
130															
135															
140															
D															

Telescoping conditions (%)

Telescoping mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II
2nd boom	0	50	100	0	100	0	100	0	100	0	100	0	100	50	100
3rd boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
4th boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
Top boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MIN EXTENDED

8' 10-1/4"(2.8m)SPREAD 360 ° ROTATION

A / C	39.4' B (12m)	53.7' B (16.38m)	68.1' B (20.75m)	68.1' B (20.75m)	82.4' B (25.13m)	82.4' B (25.13m)	96.8' B (29.5m)	96.8' B (29.5m)	111.1' B (33.88m)	111.1' B (33.88m)	125.5' B (38.25m)	125.5' B (38.25m)	139.8' B (42.63m)	139.8' B (42.63m)	154.2' B (47m)
0°															
Telescoping mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II

A :Boom length in feet
B :Load radius in feet
C :Loaded boom angle (deg.)
D :Minimum boom angle (deg.) for indicated length (no load)

NOTE: The lifting capacity data stored in the LOAD MOMENT INDICATOR (AML-C) is based on the standard number of parts of line listed in the chart.
Standard number of part line for outrigger operation should be according to the following table.

Boom length in feet	39.4'	39.4' to68.1'		68.1' to 154.2'	Single top
(meters)	(12m)	(12m to20.75m)		(20.75m to 47m)	Jib
Telescoping mode	I, II	I	II	I, II	I, II
Number of part line	16	8	4	4	1

WARNING AND OPERATING INSTRUCTIONS FOR LIFTING CAPACITIES

GENERAL

1. RATED LIFTING CAPACITIES apply only to the machine as originally manufactured and normally equipped by TADANO LTD. Modifications to the machine or use of optional equipment other than that specified can result in a reduction of capacity.
2. Hydraulic cranes can be hazardous if improperly operated or maintained. Operation and maintenance of this machine must be in compliance with information in the ***Operation and Maintenance Manual*** supplied with the crane. If this manual is missing, order a replacement through the distributor.
3. The operator and other personnel associated with this machine shall fully acquaint themselves with the latest American National Standards Institute (ANSI) safety standards for cranes.

SET UP

1. Rated lifting capacities on the load chart are the maximum allowable crane capacities. They are based on the machine standing level on firm supporting surface under ideal job conditions. Depending on the nature of the supporting surface, it may be necessary to have structural supports under the outrigger floats or tires to spread the loads to a larger surface.
2. For outrigger operation, outriggers shall be properly extended with tires free of supporting surface before operating crane.

OPERATION

1. Rated lifting capacities have been tested to and meet minimum requirements of SAE J1063-Cantilevered Boom Crane Structures Method of Test.
2. Rated lifting capacities do not exceed 85 % of the tipping load on outriggers fully extended as determined by SAE J765-Crane Stability Test Code.
   Rated lifting capacities for partially extended outriggers are determined from the formula, Rated Lifting Capacities =(Tipping Load - 0.1 x Tip Reaction)/1.25.
3. Rated lifting capacities above bold lines in the chart are based on crane strength and those below, on its stability. They are based on actual load radius increased by boom deflection.
4. The weight of handling device such as hook blocks, slings, etc., must be considered as part of the load and must be deducted from the lifting capacities.
5. Rated lifting capacities are based on freely suspended loads and make no allowance for such factors as the effect of wind, sudden stopping of loads, supporting surface conditions, inflation of tires, operating speeds, side loads, etc. Side pull on the boom or jib is extremely dangerous.
6. Rated lifting capacities do not account for wind on lifted load or boom. We recommend against working under the condition that the load is out of control due to a strong wind.During boom lift, consider that the rated lifting capacity is reduced by 50% when the wind speed is 20mph(9m/s) to 27mph(12m/s); reduced by 70% when the wind speed is 27mph(12m/s) to 31mph(14m/s).If the wind speed is 31mph(14m/s) or over, stop operation. During jib lift, stop operation if the wind speed is 20mph(9m/s)
7. Rated lifting capacities at load radius shall not be exceeded. Do not tip the crane to determine allowable loads.
8. Do not operate at boom lengths, radii, or boom angle, where no capacities are shown. Crane may overturn without any load on the hook.
9. When boom length is between values listed, refer to the rated lifting capacities of the next longer and next shorter booms for the same radius. The lesser of the two rated lifting capacities shall be used.
10. When making lifts at a load radius not shown, use the next longer radius to determine allowable capacity.
11. Load per line should not exceed 14,600 lbs. (6,600kg) for main winch and auxiliary winch.
12. Check the actual number of parts of line with LOAD MOMENT INDICATOR (AML-C) before operation. Maximum lifting capacity is restricted by the number of parts of line of LOAD MOMENT INDICATOR (AML-C). Limited capacity is as determined from the formula, Single line pull for main winch (14,600 lbs.) x number of parts of line.
13. The boom angle before loading should be greater to account for deflection. For rated lifting capacities, the loaded boom angle and the load radius is for reference only.
14. The 39.4' (12.0m) boom length capacities are based on boom fully retracted. If not fully retracted [less than 53.7'(16.38m) boom length], use the rated lifting capacities for the 53.7' (16.38m) boom length.
15. Extension or retraction of the boom with loads may be attempted within the limits of the RATED LIFTING CAPACITIES. The ability to telescope loads is limited by hydraulic pressure, boom angle, boom length, crane maintenance, etc.
16. For lifting capacity of single top, reduce the rated lifting capacities of relevant boom according to a weight reductions for auxiliary load handling equipment. Capacities of single top shall not exceed 14,600 lbs. (6,600kg) including main hook.
17. When base jib or top jib or both jib removing, jib state switch select removed.
18. When erecting and stowing jib, be sure to retain it by hand or by other means to prevent its free movement.
19. Use "ANTI-TWO BLOCK" disable switch when erecting and stowing jib and when stowing hook block. While the switch is pushed, the hoist does not stop, even when overwind condition occurs.
20. For boom length with 33.2' (10.1m) jib, rated lifting capacities are determined by loaded boom angle only in the column headed "154.2' (47.0m) boom + 33.2' (10.1m) jib".
    For boom length with 58.1' (17.7 m) jib, rated lifting capacities are determined by loaded boom angle only in the column headed "154.2' (47.0m) boom + 58.1' (17.7m) jib".
    For angles not shown, use the next lower loaded boom angle to determine allowable capacity.
21. When lifting a load by using jib (aux. winch) and boom (main winch) simultaneously, do the following:
    - Enter the operation status as jib operation, not as boom operation.
    - Before starting operation, make sure that mass of load is within rated lifting capacity for jib.

DEFINITIONS

1. Load Radius: Horizontal distance from a projection of the axis of rotation to supporting surface before loading to the center of the vertical hoist line or tackle with load applied.
2. Loaded Boom Angle: The angle between the boom base section and the horizontal, after lifting the rated lifting capacity at the load radius.
3. Working Area: Area measured in a circular arc about the centerline of rotation.
4. Freely Suspended Load: Load hanging free with no direct external force applied except by the hoist line.
5. Side Load: Horizontal side force applied to the lifted load either on the ground or in the air.

GR-1000XL RATED LIFTING CAPACITIES (IN POUNDS)

ON RUBBER STATIONARY

A / B	Over Front 39.4' C	39.4' (12m)	68.1' C	68.1' (20.75m)	96.8' C	96.8' (29.5m)	360° Rotation 39.4' C	39.4' (12m)	68.1' C	68.1' (20.75m)	96.8' C	96.8' (29.5m)
12		60,000						38,000				
15		49,600						28,500				
20		37,500		35,000				17,500		20,000		
25		28,500		29,500		28,500		10,400		14,000		14,000
30		21,500		24,000		24,000		6,500		9,500		10,000
35				19,200		19,500				6,500		7,400
40				15,200		16,000				4,500		5,400
45				12,200		13,000				3,000		3,900
50				9,700		10,600				1,800		2,700
55				8,000		8,800						1,700
60				6,500		7,400						
65						6,100						
70						5,000						
75						4,100						
80						3,400						
85						2,700						
D												

Telescoping conditions (%)

Telescoping mode	I, II	II	II	I, II	II	II
2nd boom	0	0	0	0	0	0
3rd boom	0	33	66	0	33	66
4th boom	0	33	66	0	33	66
Top boom	0	33	66	0	33	66

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER STATIONARY

A / C	Over Front 39.4' B	39.4' (12m)	68.1' B	68.1' (20.75m)	360° Rotation 39.4' B	39.4' (12m)
0°						

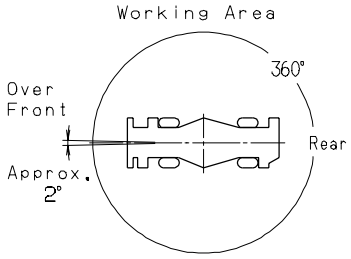
ON RUBBER CREEP

A / B	Over Front 39.4' C	39.4' (12m)	68.1' C	68.1' (20.75m)	96.8' C	96.8' (29.5m)
12		45,000				
15		36,600				
20		26,800		29,200		
25		20,500		22,800		23,400
30		15,600		18,200		18,900
35				14,800		15,500
40				12,000		12,900
45				9,800		10,600
50				7,900		8,900
55				6,500		7,300
60				5,200		6,100
65						5,000
70						4,100
75						3,200
80						2,500
D						

Telescoping conditions (%)

Telescoping mode	I, II	II	II
2nd boom	0	0	0
3rd boom	0	33	66
4th boom	0	33	66
Top boom	0	33	66

A :Boom length in feet
B :Load radius in feet
D :Minimum boom angle (deg.)
for indicated length (no load)



LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER CREEP

A / C	Over Front 39.4' B	39.4' (12m)	68.1' B	68.1' (20.75m)
0°				

NOTE: The lifting capacity data stored in the LOAD MOMENT INDICATOR (AML-C) is based on the standard number of parts of line listed in the chart.
Standard number of parts of line for on rubber operation should be according to the following table.

Boom length in feet (meters)	39.4' (12m)	39.4' to 96.8' (12m to 29.5m)	Single top
Number of parts of line	6	4	1

WARNING AND OPERATING INSTRUCTIONS FOR ON RUBBER LIFTING CAPACITIES

1. Rated lifting capacities on rubber are in pounds and do not exceed 75 % of tipping loads as determined by SAE J765-Crane Stability Test Code.
2. Rated lifting capacities shown in the chart are based on condition that crane is set on firm level surfaces with axle oscillation lockout applied. Those above bold lines are based on tire capacity and those below, on crane stability. They are based on actual load radius increased by tire deformation and boom deflection.
3. If the axle oscillation lockout cylinders contain air, the axle will not be locked completely and rated lifting capacities may not be obtainable. Bleed the cylinders according to the operation safety and maintenance manual.
4. Rated lifting capacities are based on proper tire inflation, capacity and condition. Damaged tires are hazardous to safe operation of crane.
5. Tires shall be inflated to correct air pressure.

Tires	Air Pressure
29.5-25 34PR	57 psi (4.0 kgf/cm2)

6 Over front operation shall be performed within two degrees in front of chassis.
7 On rubber lifting with "jib" is not permitted. Maximum permissible boom length is 96.8 ft. (29.5m).
8 When making lift on rubber stationary, set parking brake.
9 For creep operation, boom must be centered over front of machine, swing lock engaged, and load restrained from swinging. Travel slowly and keep the lifted load as close to the ground as possible, and especially avoid any abrupt steering, accelerating or braking.
10 Do not operate the crane while carrying the load.
11 Creep is motion for crane not to travel more than 200 ft. (60 m) in any 30 minute period and to travel at the speed of less than 1 mph (1.6km/h).
12 For creep operation, set Drive select switch to "4-WHEEL (Lo)" and set gear shift lever to "1".

WARNING AND OPERATING INSTRUCTIONS FOR USING THE LOAD MOMENT INDICATOR (AML-C)

1. When operating crane on outriggers:
   Set P.T.O. switch to "ON".
   Press the outrigger mode select key to register for the outrigger operation. Press the register key, then the outrigger mode indicative symbol changes from flashing to a solid light.
   Press the lift mode select key to select the lift status that corresponds to the actual boom configuration.
   Each time the lift mode select key is pressed, the ststus changes.
   Press the register key to register the lift status, then the lift indicative symbol changes from flashing to a solid light.
   when mounting and stowing jib, select the jib set status.
   (the jib state indicative symbol will be flashing.)
2. When operating crane on rubber:
   Set P.T.O. switch to "ON".
   Press the outrigger mode select key. The on-tire mode indicative symbol comes on. Each time the outrigger mode select key is pressed the status changes. Select the creep operation, the on-tire mode indicative symbol flicker.
   Press the lift mode select key to register the boom or single top lift.
   However, pay attention to the following.
   (1) For stationary operation.
   The front capacities are attainable only when the over front position symbol comes on. When the boom is more than 2 degrees from centered over front of chassis, 360° capacities are in effect.
   When a load is lifted in the front position and then swung to the side area, make sure the value of the LOAD MOMENT INDICATOR(AML-C) is below the 360° lifting capacity.
   (2) For creep operation.
   The creep capacities are attainable only when boom is in the straight forward position of chassis and the over front position symbol is on. If boom is not in the straight forward position of chassis , never lift load.
3. A swing does not automatically stop even if the crane becomes overloaded.
4. During crane operation, make sure that the displays on front panel are in accordance with actual operating conditions.
5. The displayed values of LOAD MOMENT INDICATOR (AML-C) are based on freely suspended loads and make no allowance for such factors as the effect of wind, sudden stopping of loads, supporting surface conditions, inflation of tire, operating speed, side loads, etc.
   For safe operation, it is recommended when extending and lowering boom or swinging, lifting loads shall be appropriately reduced.
6. LOAD MOMENT INDICATOR (AML-C) is intended as an aid to the operator. Under no condition should it be relied upon to replace use of capacity charts and operating instruction.
   Sole reliance upon LOAD MOMENT INDICATOR (AML-C) aids in place of good operating practice can cause an accident. The operator must exercise caution to assure safety.

TR-1000XL Axle weight distribution chart

		Pounds			Kilograms		
		GVW	Front	Rear	GVW	Front	Rear
Base machine		115,245	57,298	57,948	52,275	25,990	26,285
Remove: 1.	6.6metric ton hook ball	-324	-462	138	-147	-209	62
2.	100t hook block	-1,896	-3,660	1,764	-860	-1,660	800
3.	Top jib	-719	-964	245	-326	-437	111
4.	Base jib	-1,885	-3,706	1,821	-855	-1,681	826
5.	Auxiliary lifting sheave	-109	-325	216	-49	-147	98
6.	Removable Counterweihgt (with Auxiliary Hoist&wire)	-21,660	9,202	-30,862	-9,825	4,174	-13,999

MEMO

TADANO AMERICA CORPORATION

333 NORTHPARK CENTRAL DRIVE, SUITE Z
HOUSTON, TEXAS 77073, U.S.A.
PHONE: (281) 869-0030
FAX: (281) 869-0040
http://www.tadano-cranes.com/

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