

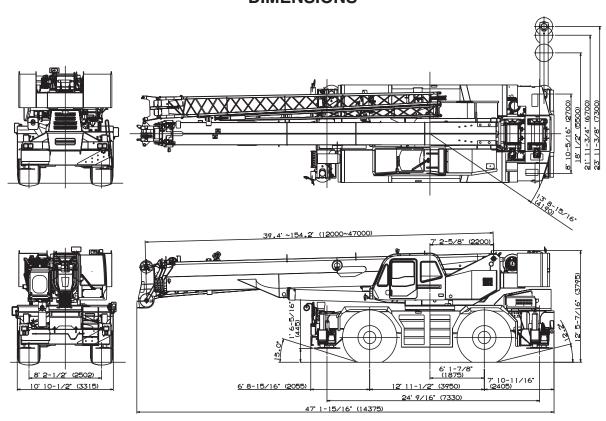


# **GR-1000XL-2**

100 Ton Capacity (90.7 Metric Tons)

## **HYDRAULIC ROUGH TERRAIN CRANE**

### **DIMENSIONS**



Note: Dimension is with boom angle at -1.5 degree.

### GENERAL DIMENSIONS

(29.5 X 25 Tires)

	Feet	Meters
Turning radius		
4 wheel steer	22' 3-3/4"	6.8
2 wheel steer	39' 1/2"	11.9
Tail swing of counterweight	13' 8-15/16"	4.19

### CRANE SPECIFICATIONS

#### **BOOM**

Five section full power synchronized telescoping boom, 39.4'~154.2' (12.0m~47.0m), of round box construction with seven 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 160 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 with 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 1.5min<sup>-1</sup>{rpm}. 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 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 21,550 lbs (9,770kg). Maximum permissible line pull wire strength: 14,600 lbs (6,600kg).

AUXILIARY HOIST - Variable speed type with grooved drum driven by hydraulic axial piston motor through 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 21,550 lbs (9,770kg). Maximum permissible line pull wire strength: 14,600 lbs (6,600kg).

WIRE ROPE - Non-rotating 3/4"(19mm) 7X35 class. Breaking Strength 72,800lbs(33,000kg)

#### **HOOK BLOCKS**

100 ton (90.7 metric ton)-8sheaves with swivel hook and safety latch. 7.3 ton (6.6 metric ton) - Weighted hook with swivel and safety latch.

### **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** - 222 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. 3 way adjustable operator's seat with high back, headrest and armrest. Engine throttle knob. Foot operated controls: boom elevating, 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 hoist select switch, outrigger controls, free swing / lock swing selector switch, eco mode switch, high speed hoist (main/aux) switch and ashtray.

Instruments - Torque converter oil temperature, engine water temperature, air pressure, fuel, speedometer, tachometer, hour meter and odometer / tripmeter. 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
- Boom position indicator
- · Outrigger state indicator
- Boom angle / boom length / jib offset angle / jib length / 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
- Fuel consumption monitor
- · Main hoist / auxiliary hoist select
- Drum rotation indicator (audible and visible type) main and auxiliary hoist

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, jib equipped/removed select switch, eco mode switch, high speed hoist (main / aux) switch, boom emergency telescoping switch (2nd and 3rd/4th/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 - 22 mph (36 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: Electropneumatic 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"(7.3m) 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 prehea

Air inlet heater
Air cleaner
Oil filter
Fuel filter
Fuel tank, gal.(liters)
Cooling

24 volt preheat
Dry type, replaceable element
Full flow with replaceable element
Fuel tank, gal.(liters)
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 2-120 amp. Hour Battery Compressor, air, CFM(I /min) Horsepower (kW) 29 CFM (830) at 2,600rpm Gross 267 (200) at 2,600rpm Torque, Max. ft-lb (kgm) 579 (80) at 1,400rpm Capacity, gal.(liters) Cooling water 3.4 (13) 3.4 ~ 4.0 (13 ~ 15) Lubrication

79.2 (300)

Fuel

### STANDARD EQUIPMENT

- Five section full power partially synchronized boom 39.4'~154.2' (12.0 m~47.0 m)
- 33.2' 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 820' of 3/4" cable.
- Variable speed auxiliary hoist with grooved drum, cable follower and 456' of 3/4" cable.
- 2-speed hoist
- Drum rotation indicator (audible, visible and 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 elevating 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
- Positive control
- Quick reeving type bi-fold jib
- Work lights

- Independently controlled outriggers
- Four outrigger extension positions
- Self-storing outrigger pads
- 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 34PR tires
- Disc brakes
- Fenders
- Air drver
- 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
- Tool storage compartment
- Tire inflation kit
- 24 volt electric system
- 7.3 ton (6.6 metric ton) hook with swivel
- 100 ton (90.7 metric ton) 8 sheave with swivel hook and safety latch for 3/4"(19mm) wire rope
- Towing hooks-Front and rear
- Lifting eves
- Hook block tie down (front bumper)
- Weighted hook storage compartment
- Halogen head lamp
- Telecommunications terminal (HELLO-NET Owner's Site)
- Fuel consumption monitor

### HOISTING PERFORMANCE

### LINE SPEEDS AND PULLS

		Mai	n or auxilia	ary hoist -	14'-1/4" (	0.362m) c	drum	
Layer		Line sı	peeds			Line pulls	Available <sup>6</sup>	2
Layer	Lo	DW	Hi	gh	Lo	)W	Hi	gh
	F.P.M.	m/min	F.P.M.	m/min	Lbs.	kgf	Lbs.	kgf
1st	278	84	387	118	21,550	9,770	15,470	7,020
2nd	302	92	421	128	19,510	8,850	14,010	6,350
3rd	327	99	456	139	17,830	8,090	12,800	5,810
4th	352	107	491	149	16,420	7,450	11,790	5,350
5th	377	115	526	160	15,210	6,900	10,920	4,950
6th	402	122	560	170	14,170	6,430	10,170	4,610
7th <sup>3</sup>	427	130	595	181	13,260	6,010	9,520	4,320

<sup>\*</sup> Maximum permissible line pull may be affected by wire rope strength. Wire rope strength (7x35 class) = 14,600lbs (6,600kg)

#### DRUM WIRE ROPE CAPACITIES

DHOIN	WINE NOT	L CAPAC	IIILO	
Wire	Main and	auxiliary d	rum groove	ed lagging
rope		3/4" (19mm	n) wire rope	)
	Rope p	er layer	Total w	ire rope
layer	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

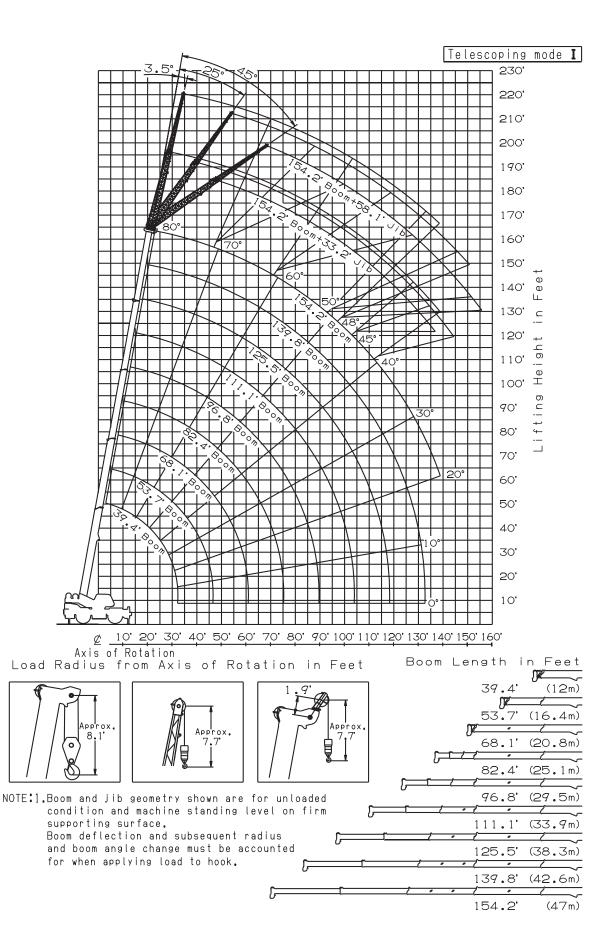
### **DRUM DIMENSIONS**

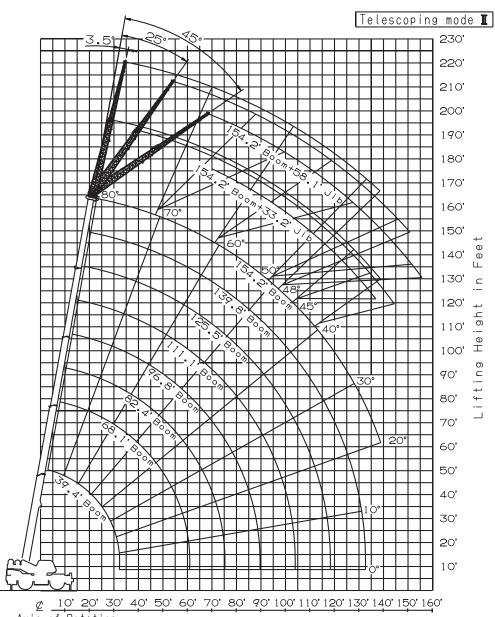
	Inch	mm
Root diameter	14-1/4"	362
Length	23-5/8"	600
Flange diameter	25-7/8"	657

<sup>&</sup>lt;sup>1</sup> Line speeds based only on hook block, not loaded.

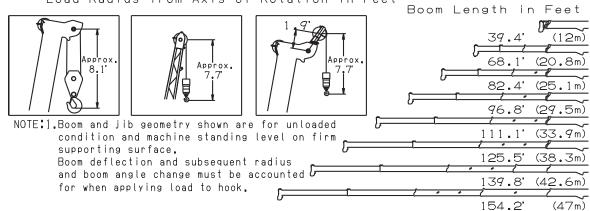
Developed by machinery with each layer of wire rope, but not based on rope strength or other limitation in machinery or equipment.

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





Axis of Rotation Load Radius from Axis of Rotation in Feet



	ON OUTF								TRIGO	ЭEF	RS FUI	LY	EXTE	ND	ED 23	3' 1	1-3/8"(	7.3	m) SPI	REA	AD .									
													3	60° R	OT/	ATION														
A		39.4'		53.7'		68.1' (2	20.8	Bm)		82.4' (2	25.1	m)		96.8' (	29.5	im)		111.1	(33.	9m)		125.5'	(38.	3m)		139.8'	(42.	6m)	1	54.2'
в	С	(12m)	С	(16.4m)	С		С		С		С		С		С		С		С		С		С		С		С		С	(47m)
8'		200,000																												
10'				102,700																										
12'	67	157,900		102,700																										
15'	_	132,300	_	102,700						,																				
20'	52	99,700	_	99,100	_	76,100	-			,				-				,	_											
25'	41	76,900	_	76,200	_	,						35,500																		
30'	25	50,700	51	-	_	56,700	-			,				-				,	_					26,300						
35'			43	,		41,800						35,500																		
40'			33			32,100				,				-					_					,						20,900
45'	Ш		18	26,200	_	-,	$\overline{}$																						-	20,700
50'	Ш				_	20,400	-		$\overline{}$		-	26,600	_														-	19,300	-	19,400
55'	Ш				28	16,600	-					22,600												,				18,000	-	18,100
60'	Ш				13	13,600	12	15,900	$\overline{}$		-	19,400	_		_												_	16,800	_	16,800
65'	Ш								-		-	16,800		-				,	_			,		15,000		15,300		15,800	_	
70'	Ш								24		-	14,600	-		-	15,000	-		_	15,200	-		_		_		-	14,300	-	13,400
75'	Ш								7	8,900	5	11,700	-		_	13,200	-		_		_		_	12,700	_	11,400	-	12,500	-	11,700
80'	Ш												29		-	11,600	-		_	11,900	_		_	11,700	_	9,900	-	11,000		10,200
85'	Ш												21	7,100	21	10,300		,	_	10,500	_		_	10,800				9,700	-	8,900
90'	Ш																31					7,000	_		_	7,500		8,600	-	7,700
95'	Ш																25	5,600	-	8,400	-	6,000	_	8,600	_	6,500		7,600	-	6,700
100'	Ш																17	4,800	19	7,500	-	5,200	-	7,700	-	5,600	-	6,700	-	5,900
105'	Ш																				29	4,400	-	6,900	_	4,800	-	5,900	-	5,100
110'	Ш																				24	3,700	-	6,200	_	4,100	-	5,200	44	4,300
115'	Ш														Ш						15	3,100	15	5,600	_	3,500	-	4,500	-	3,700
120'	Ш														Ш						Ш				27		28	4,000	-	3,200
125'	Ш																				Ш				22	2,400	-	3,500	-	2,600
130'	Ш														Ш						Ш				14	2,000	14	3,100		2,200
135'	Ш		Щ		Ш						Щ				Ш		Щ		Ш		Ш		Ш		L		Щ		26	1,800
D														0																20
T . I													ele	scoping	con	ditions (	%)													
Tele. mode		I, II		I		I		П		I		П		I		П		I		П		I		II		I		П		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' 11-3/8"(7.3m) SPREAD 360° ROTATION																												
	<b>A</b> 39.4' 53.7' 68.1' (20.8m)							m)		82.4' (	25.1	m)		96.8' (	29.5	m)		111.1' (	(33.9	9m)		125.5' (	5' (38.3m)		139.8'		42.6	Sm)	
С		<b>B</b> (12	n) <b>E</b>	<b>3</b> (16.4m	) <b>B</b>		В		В		В		В		В		В		В		В		В		В		В		
	0°	32.2 30,	00 46	19,40	60.7	12,100	60.5	15,600	75.0	8,900	75.0	11,800	89.0	6,200	89.0	8,200	102.0	4,400	103.0	6,200	117.0	3,000	116.0	5,400	131.0	2,000	130.0	3,100	
	ele.	I, II		I		I		П		I		П		I		П		I		П		I		П		I		П	
m	ode	-,		•		•		••		•		••		•				•		**		•		••		•		••	

- A :Boom length in feet
- B:Load radius in feet
- C :Loaded boom angle (°)

  D :Minimum boom angle (°) for indicated length (no load)

 ${\tt NOTE:} The \ {\tt lifting}\ capacity\ data\ stored\ in\ the\ {\tt LOAD\ MOMENT\ INDICATOR\ (AML-C)}\ is\ based\ on\ the\ standard$ number of parts of line listed in the chart.

Boom length in feet	39.4'	39.4' t	o 68.1'	68.1' to 154.2'	Single top
(meters)	(12m)	(12m to	20.8m)	(20.8m to 47m)	Jib
Telescoping mode	I, II	I	II	I, II	I, II
Number of parts of line	16	8	4	4	1

			011	OUTDIO	25005		
			ON	OUTRIGO	JERS F	ULLY EX	ΙĿ
						360°	RC
	1:	54.2' (47.0	m) Boo	m + 33.2'	(10.1m)	Jib	
С	3.5°	offset	25°	offset	45°	offset	
	R	W	R	W	R	W	
80	37.8'	10,800	51.5'	10,800	58.8'	9,400	
79	41.5'	10,800	55.3'	10,400	62.2'	9,200	
78	45.2'	10,800	58.6'	10,200	65.7	9,000	
77	49.2'	10,800	62.1'	9,900	68.4	8,800	
76	52.6'	10,800	65.3'	9,600	71.6'	8,700	
75	56.3'	10,800	69.0'	9,300	74.5'	8,500	
73	63.5'	10,500	75.2'	8,900	80.5	8,200	
70	73.4'	9,600	84.5'	8,300	88.8	7,700	
68	79.7'	9,100	90.1	7,900	94.4'	7,400	
65	88.0'	8,200	98.3'	7,200	102.0'	6,800	
63	93.9'	7,500	104.0'	6,700	106.0'	6,400	
60	102.0'	6,700	111.0'	6,100	114.0'	5,800	
58	107.0'	5,800	116.0'	5,400	118.0'	5,100	
55	114.0'	4,700	122.0'	4,400	124.0'	4,200	
53	118.0'	4,100	126.0'	3,700	128.0'	3,600	
50	125.0'	3,200	133.0'	3,000	133.0'	2,800	
48	129.0'	2,700	136.0'	2,400	137.0'	2,300	
45	136.0'	2,000	142.0'	1,800	142.0'	1,700	
43	139.0'	1,600	146.0'	1,500			
40	145.0'	1,100	151.0'	1,100			

TION	1-3/6 (/	'.3m) SPF	IEAD			
	15	54.2' (47.0	m) Boo	m + 58.1'	(17.7m	) Jib
С	3.5°	offset	25°	offset	45°	offset
	R	W	R	W	R	W
80	45.8'	6,800	71.7	6,300	83.5'	5,100
79	50.0	6,800	75.5'	6,200	87.1'	5,100
78	54.2'	6,800	79.1'	6,000	90.3'	5,000
77	58.5'	6,800	82.7'	5,900	93.3'	5,000
76	62.7'	6,800	86.4'	5,800	96.2'	4,900
75	66.8'	6,800	90.0'	5,700	99.5'	4,800
73	74.6'	6,800	96.7'	5,500	105.0'	4,700
70	87.2'	6,800	107.0	5,200	113.0'	4,600
68	94.4'	6,700	113.0	5,100	119.0'	4,500
65	104.0'	5,900	122.0'	4,900	126.0'	4,500
63	110.0'	5,400	128.0'	4,500	132.0'	4,200
60	119.0'	4,500	136.0'	4,100	139.0'	3,800
58	124.0'	3,900	141.0'	3,600	143.0'	3,400
55	131.0'	2.900	147.0'	2,800	149.0'	2,600
53	137.0'	2,300	152.0'	2,200	153.0'	2,100
50	144.0'	1,600	158.0	1,500	158.0'	1,400
48	149.0	1,100	162.0	1,100	162.0'	1,000

			ON	OUTRIG	GERS F	ULLY EX	TEND
						360°	ROT/
	139.8'(4:	2.6m) Boom	(telescop	oing mode II	) + 33.2' (	10.1m) Jib	
С		offset		offset		offset	
	R	W	R	W	R	W	
80	32.7'	11,700	45.8'		53.0'	10,000	
79	36.4'	11,700			55.8'	9,800	
78	39.6'	11,700	52.1'	10,900	59.1'	9,600	
77	43.0'	11,700	55.0'	10,600	61.6'	9,400	
76	46.4'	11,700	57.7	10,300	64.1'	9,200	
75	49.4'	11,700	60.9'	10,100	67.0	9,100	
73	55.8'	11,500	67.0'	9,500	72.6'	8,700	
70	65.1'	10,400	75.1'	8,900	80.1'	8,200	
68	70.4'	9,700	80.6'	8,400	84.9'	7,800	
65	78.4'	8,600	88.1'	7,500	91.7'	7,100	
63	83.7'	7,900	93.0'	7,000	96.4'	6,700	
60	91.0'	7,100	100.0	6,400	103.0	6,100	
58	96.0'	6,600	104.0'	6,000	107.0	5,800	
55	103.0'	6,000	111.0'	5,500	113.0	5,300	
53	108.0'	5,600	115.0'	5,200	117.0'	5,000	
50	114.0'	5,100	121.0'	4,700	122.0'	4,600	
48	119.0'	4,700	125.0'	4,400	126.0'	4,200	
45	124.0'	4,000	130.0	3,800	130.0	3,600	
43	128.0'	3,600	134.0'	3,400			
40	134.0'	3,100	138.0	3,000			
38	137.0'	2,800	141.0'	2,700			
35	142.0'	2,400	145.0'	2,300			
33	145.0'	2,200	148.0'	2,100			
30	149.0'	1,900	151.0'	1,800			
25	155.0'	1,500	156.0'	1,500			
20	159.0'	1,200			-		
15	162.0'	1,000					

END	FD 23' 1	1_3/8"/7	'.3m) SPF	FΔD			
		1-0/0 (/	.011) 01 1	LAD			
KOTA	TION			<i>(</i> - 1			
	С				oing mode II		
	C	3.5° <b>R</b>	offset W	25° <b>R</b>	offset W	45°	offset W
	00	40.8'				77.3'	
	80 79	44.7	7,300	64.6' 67.9'	6,500 6,400	80.4	5,200 5,100
		44.7	7,300	72.0	_	83.5	
	78 77	52.6	7,300	75.2 <sup>t</sup>	6,200	86.2	5,100
	76	56.5	7,300 7,300	78.1 <sup>t</sup>	6,100 6,000	89.2	5,000
	75			81.8		92.4	5,000
	73	60.0' 67.0'	7,300	88.2	5,900	97.7	5,000
		78.3	7,300		5,700	_	4,900
	70		7,300	97.5	5,400	105.0	4,700
	68	85.2'	7,100	103.0	5,300	110.0	4,600
	65	94.2'	6,200	112.0'	5,100	118.0'	4,600
	63	99.8'	5,700	117.0'	4,700	123.0'	4,400
	60	109.0	5,100	124.0'	4,300	129.0'	4,000
	58	114.0'	4,700	129.0'	4,000	133.0'	3,800
	55	122.0'	4,200	137.0'	3,600	139.0'	3,500
	53	127.0	3,900	141.0'	3,400	143.0'	3,300
	50	134.0	3,500	147.0'	3,100	148.0'	3,000
	48	139.0'	3,200	151.0'	2,900	152.0'	2,700
	45	145.0	2,700	156.0	2,600	156.0'	2,300
	43	149.0'	2,400	160.0	2,300		
	40	155.0'	2,000	165.0	1,900		
	38	159.0'	1,700	167.0	1,700		
	35	164.0'	1,400	171.0'	1,400		
	33	168.0'	1,200	174.0'	1,200		
	30	172.0	1,000	177.0	1,000		
			•				

			ON	OUTRIGO	GERS F	ULLY EXT	ΓΙ
						360° I	R
	125.5'(3	8.3m) Boon	n(telesco	oing mode I	) + 33.2'	(10.1m) Jib	
С	3.5°	offset	25°	offset	45°	offset	
	R	W	R	W	R	W	
80	30.5	14,600	43.5'	14,000	50.1	10,700	
79	33.3'	14,600	46.0'	13,600	52.6'	10,600	
78	36.0	14,600	49.2'	13,300	55.1'	10,500	
77	39.0'	14,600	51.7'	12,900	57.6'	10,300	
76	42.6'	14,600	54.1'	12,700	60.1	10,200	
75	45.5'	14,600	56.9	12,400	62.7'	10,100	
73	51.2'	14,600	62.4'	11,900	67.5'	10,000	
70	59.8'	13,700	70.0	11,200	74.6'	9,700	
68	64.6'	13,000	74.9'	10,800	78.8'	9,600	
65	72.3'	12,100	82.0'	10,300	85.3'	9,500	
63	77.1'	11,600	86.4'	10,000	89.2'	9,300	
60	84.1'	10,100	93.0'	9,100	95.3'	8,500	
58	88.2'	8,900	96.6'	8,100	99.0'	7,600	
55	94.2'	7,500	102.0'	6,900	104.0'	6,500	
53	98.4'	6,700	106.0'	6,200	108.0	5,900	
50	104.0'	5,700	111.0'	5,300	112.0'	5,000	
48	108.0	5,100	115.0	4,800	116.0	4,500	
45	113.0'	4,300	120.0'	4,100	120.0'	3,800	
43	117.0'	3,900	123.0'	3,700			
40	122.0'	3,300	127.0'	3,200			
38	125.0'	3,000	129.0'	2,900			
35	129.0'	2,500	133.0'	2,400			
33	132.0'	2,300	135.0	2,200			
30	136.0'	2,000	139.0'	1,900			
25	141.0'	1,500	143.0'	1,500			
20	145.0'	1,200					
15	148.0'	1,000					

TEND	ED 23' 1	1-3/8"(7	7.3m) SPF	READ			
ROT/	NOITA						
		125.5'(3	8.3m)Boom	(telescop	ing mode I	+ 58.1'	(17.7m) Jib
	С		offset		offset		offset
		R	W	R	W	R	W
	80	37.2'	8,800	58.7'	7,000	71.2'	5,200
	79	41.2'	8,800	61.5'	6,800	73.9'	5,100
	78	44.8'	8,800	65.4'	6,700	76.8'	5,100
	77	47.8'	8,800	68.4'	6,500	79.5'	5,000
	76	51.3'	8,800	70.8'	6,400	82.1'	5,000
	75	54.9'	8,800	74.3'	6,300	84.9'	5,000
	73	61.6'	8,800	80.5'	6,100	90.0	4,900
	70	71.3'	8,300	88.9'	5,800	97.5'	4,700
	68	77.2'	7,900	94.6'	5,600	102.0'	4,600
	65	86.1'	7,500	102.0'	5,400	109.0'	4,600
	63	92.0'	7,100	107.0'	5,300	113.0'	4,500
	60	99.9'	6,800	115.0'	5,100	120.0'	4,500
	58	105.0	6,500	119.0'	5,000	124.0'	4,400
	55	112.0'	5,400	126.0'	4,800	129.0'	4,400
	53	117.0'	4,800	130.0'	4,300	133.0'	4,200
	50	123.0'	4,000	136.0'	3,600	138.0'	3,500
	48	127.0'	3,500	139.0'	3,200	140.0'	3,100
	45	133.0'	2,900	144.0'	2,700	145.0'	2,500
•	43	137.0	2,600	147.0'	2,400		
	40	143.0'	2,100	151.0	2,000		
	38	146.0'	1,800	154.0'	1,700		
	35	151.0'	1,500	158.0	1,400		
	33	154.0'	1,300	160.0	1,200		
	30	158.0'	1,000	163.0'	1,000		

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

								10	1 O	UTRIG	iGE	ERS M	DI	EXTEN	IDE	ED 21'	11-	3/4"(6.	.7m	) SPR	EAI	D								
													3	60° R	OT/	ATION														
A		39.4'		53.7'		68.1' (	20.8	Bm)		82.4' (	25.1	m)		96.8' (	29.5	īm)		111.1'	(33.	9m)		125.5' (	(38.	3m)		139.8'	42.	6m)	1	54.2'
в	С	(12m)	С	(16.4m)	С		С		С		С		С		С		С		С		С		С		С		С		С	(47m)
8'		200,000																												
10'	70	175,700	76	102,700	80	90,200	79	40,100																						
12'	67	153,600	74	102,700	78	90,200	77	40,100																						
15'	61	128,200	70	102,700	75	89,900	75	40,100	78	42,500	78	35,500																		
20'	52	94,800	64	98,000	71	75,000	70	40,100	74	42,500	74	35,500	77	40,100	77	33,300	79	35,500	79	32,200										
25'	41	67,800	58	65,800	66	59,500	65	40,100	71	42,500	70	35,500	74	40,100	74	33,300	77	35,500	77	32,200	79	33,300	79	28,700						
30'	25	46,900	50	45,400	61	44,000	60	40,100	67	42,500	67	35,500	71	40,100	71	33,300	74	35,500	74	30,200	77	33,300	77	26,300	79	26,700	79	24,300		
35'			42	33,400	56	32,200	55	36,200	63	34,300	63	35,500	68	35,400	68	31,600	72	35,100	72	27,300	74	30,900	74	24,000	77	26,700	77	24,100	78	20,900
40'			33	25,400	50	24,400	50	30,400	58	26,400	58	31,100	65	27,500	65	29,300	69	28,300	69	24,900	72	28,400	72	22,000	75	25,300	75	22,300	77	20,900
45'			18	19,800	44	18,900	43	24,600	54	20,800	54	25,300	61	21,800	61	25,600	65	22,600	66	22,900	69	23,100	69	20,200	72	23,500	73	20,700	75	20,700
50'					37	14,800	36	20,300	49	16,700	49	21,000	57	17,700	57	21,300	62	18,400	63	20,400	67	18,900	67	18,700	70	19,300	71	19,300	73	19,400
55'					28	11,600	27	17,000	44	13,400	44	17,600	53	14,500	54	18,000	59	15,200	60	18,000	64	15,700	64	17,400	68	16,100	68	17,300	71	16,400
60'					13	9,200	12	14,300	38	10,800	38	14,900	49	11,900	49	15,400	56	12,600	56	15,600	64	13,100	61	15,700	65	13,400	66	14,700	69	13,700
65'									32	8,700	32	12,800	45	9,700	45	13,200	52	10,500	53	13,400	58	11,000	59	13,600	63	11,300	63	12,500	67	11,600
70'									23	7,000	23	11,000	40	8,000	40	11,400	49	8,700	49	11,600	55	9,200	56	11,800	60	9,600	61	10,700	64	9,900
75'									5	5,600	5	9,500	35	6,500	35	9,900	45	7,200	45	10,100	52	7,700	53	10,300	57	8,100	58	9,300	62	8,400
80'													29	5,200	29	8,600	41	5,900	41	8,800	49	6,400	49	9,000	55	6,800	55	8,000	60	7,100
85'													21	4,200	21	7,500	36	4,800	37	7,700	46	5,300	46	7,800	52	5,700	52	6,900	57	6,000
90'																	31	3,900	32	6,700	42	4,400	42	6,900	49	4,700	49	5,900	55	5,000
95'																	25	3,100	25	5,900	38	3,500	38	6,000	46	3,900	46	5,000	52	4,200
100'																	16	2,400	16	5,200	34	2,800	34	5,200	43	3,200	43	4,300	50	3,400
105'																					29	2,100	29	4,600	40	2,500	40	3,600	47	2,800
110'																					24	1,600	23	4,000	36	1,900	36	3,000	44	2,200
115'																							14	3,500	32	1,400	32	2,400	41	1,600
120'																											27	2,000		
125'																											21	1,600		
D												0														27		11		38
T.1.													ele	scoping	con	ditions (	%)													
Tele. 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

				LIF	TING	CAP	ACIT	IES	AT Z	ER	O DEG	iRE	E BO	MC	ANGL	ΕC	DO NO	TR	IGGEF	RS I	MID EX	KTE	NDED	)			
									21' 1	11-3	3/4"(6.7	7m)	SPRE	EAD	36	0°	ROTA	ATIO	NC								
A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m) 111.1' (33.9m) 125.5' (38.3m)																											
	<b>B</b> (12m)	В (	16.4m)	В		В		В		В		В		В		В		В		В		В					
)	32.2 28,300	46.5'	18,300	60.7°	8,900	60.6' 1	4,100	75.0	5,600	75.0	9,500	89.2	3,400	89.1	6,700	103.0	2,000	102.0	4,900	117.0	800	116.0	3,300				
le. de	I, II		Ι		I	]	II		I		П		I		II		I		II		I		II				
	e.	B (12m) 32.2 28,300 e. I II	B (12m) B ( 32.2' 28,300 46.5' e. I II	A 39.4' 53.7' B (12m) B (16.4m) szz 28,300 4s5 18,300 e. I II I	A 39.4' 53.7' B (12m) B (16.4m) B  22 28,300 46.8 18,300 60.7  E. I II I	A 39.4' 53.7' 68.1' (2 B (12m) B (16.4m) B 22 28,300 65 18,300 65 8,900 6.	A 39.4' 53.7' 68.1' (20.8n B (12m) B (16.4m) B B szz 28,300 46.5 18,300 60.7 8,900 60.6 1	A 39.4' 53.7' 68.1' (20.8m) B (12m) B (16.4m) B B  32z 28,300 65 18,300 607 8,900 608 14,100 e. I III I I I II	A 39.4' 53.7' 68.1' (20.8m) B B B B B S2 2 28,300 46.5 18,300 60.7 8,900 60.6 14,100 75.0 e.	A 39.4' 53.7' 68.1' (20.8m) 82.4' (20.8m) 82	A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1 B (12m) B (16.4m) B B B B B B B B B B B B B B B B B B B	21' 11-3/4"(6.5   A   39.4'   53.7'   68.1' (20.8m)   82.4' (25.1m)     B   (12m)   B   (16.4m)   B   B   B   B   B   B     szz   28,300   66.5   18,300   60.7   8,900   60.8   14,100   75.0   5,600   75.0   9,500     E   F   F   F   F   F   F   F   F   F	A   39.4'   53.7'   68.1' (20.8m)   82.4' (25.1m)   B   (12m)   B   (16.4m)   B   B   B   B   B   B   B   B   B	21' 11-3/4"(6.7m)   SPRE     A   39.4'   53.7'   68.1' (20.8m)   82.4' (25.1m)   96.8' (10.8m)     B   (12m)   B   (16.4m)   B   B   B   B   B   B	A   39.4'   53.7'   68.1' (20.8m)   82.4' (25.1m)   96.8' (29.5	21' 11-3/4"(6.7m) SPREAD 36  A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m)  B (12m) B (16.4m) B B B B B B B B  szz 28,300 4s.5 18,300 6s.7 8,900 6s.6 14,100 75.0 5,600 75.0 9,500 8s.2 3,400 8s.7 6,700  e. I I I I I I I I I I I I I I I I I I I	21' 11-3/4"(6.7m) SPREAD 360°  A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m)  B (12m) B (16.4m) B B B B B B B B B B B B B B B B B B B	21' 11-3/4"(6.7m) SPREAD 360° ROTA    A	21' 11-3/4"(6.7m) SPREAD 360° ROTATION 360°	21' 11-3/4"(6.7m)   SPREAD   360°   ROTATION     A   39.4'   53.7'   68.1' (20.8m)   82.4' (25.1m)   96.8' (29.5m)   111.1' (33.9m)     B   (12m)   B   (16.4m)   B   B   B   B   B   B   B   B   B	21	21' 11-3/4"(6.7m) SPREAD 360° ROTATION  A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m) 111.1' (33.9m) 125.5' ( B (12m) B (16.4m) B B B B B B B B B B B B B B B B B B B	21' 11-3/4"(6.7m) SPREAD 360° ROTATION  A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m) 111.1' (33.9m) 125.5' (38.3 m)  B (12m) B (16.4m) B B B B B B B B B B B B B B B B B B B	21' 11-3/4"(6.7m) SPREAD 360° ROTATION  A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m) 111.1' (33.9m) 125.5' (38.3m)  B (12m) B (16.4m) B B B B B B B B B B B B B B B B B B B	A       39.4'       53.7'       68.1' (20.8m)       82.4' (25.1m)       96.8' (29.5m)       111.1' (33.9m)       125.5' (38.3m)         B       (12m)       B       (16.4m)       B	21¹ 11-3/4"(6.7m) SPREAD 360° ROTATION  A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m) 111.1' (33.9m) 125.5' (38.3m)  B (12m) B (16.4m) B B B B B B B B B B B B B B B B B B B	21' 11-3/4"(6.7m) SPREAD 360° ROTATION  A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m) 111.1' (33.9m) 125.5' (38.3m)  B (12m) B (16.4m) B B B B B B B B B B B B B B B B B B B

- A :Boom length in feet
- B:Load radius in feet
- $\boldsymbol{C}$  :Loaded boom angle (°)
- **D**: Minimum boom angle (°) 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.

Boom length in feet	39.4'	39.4' t	o 68.1'	68.1' to 154.2'	Single top
(meters)	(12m)	(12m to	20.8m)	(20.8m to 47m)	Jib
Telescoping mode	I, II	I	II	I, II	I, II
Number of parts of line	16	8	4	4	1

			OI	N OUTRIG	GERS	MID EXT	ENDE	D 21' 11	-3/4"(6.7	7m) SPRE	AD			
						360°	ROTA	ATION	•	,				
	1:	54.2' (47.0	m) Boo	m + 33.2'	(10.1m)	) Jib			15	54.2' (47.0	m) Boo	m + 58.1'	(17.7m)	) Jib
С		offset		offset		offset		С		offset		offset		offset
	R	W	R	W	R	W			R	W	R	W	R	W
80	37.8'	10,800	51.5'	10,800	58.8'	9,400		80	45.8'	6,800	71.7'	6,300	83.5'	5,100
79	41.5'	10,800	55.3'	10,400	62.2'	9,200		79	50.0'	6,800	75.5'	6,200	87.1'	5,100
78	45.2'	10,800	58.6'	10,200	65.7'	9,000		78	54.2'	6,800	79.1'	6,000	90.3'	5,000
77	49.2'	10,800	62.1'	9,900	68.4'	8,800		77	58.5'	6,800	82.7'	5,900	93.3'	5,000
76	52.6'	10,800	65.3'	9,600	71.6'	8,700		76	62.7'	6,800	86.4'	5,800	96.2'	4,900
75	56.3'	10,800	69.0'	9,300	74.5'	8,500		75	66.8'	6,800	90.0'	5,700	99.5'	4,800
73	63.5'	10,500	75.2'	8,900	80.5'	8,200		73	74.6'	6,800	96.7'	5,500	105.0'	4,700
70	73.4'	9,600	84.5'	8,300	88.8'	7,700		70	87.2'	6,800	107.0'	5,200	113.0'	4,600
68	79.0'	8,700	89.8'	7,700	94.0'	7,000		68	93.8'	6,300	113.0'	5,100	119.0'	4,500
65	86.7'	6,700	96.9'	6,000	101.0'	5,600		65	102.0'	4,700	120.0'	4,000	125.0'	3,700
63	91.8'	5,600	102.0'	5,100	105.0	4,700		63	108.0'	3,800	125.0'	3,300	130.0'	3,100
60	99.3'	4,300	109.0'	3,900	112.0'	3,700		60	116.0'	2,800	133.0'	2,400	137.0'	2,300
58	104.0'	3,500	114.0'	3,300	116.0'	3,100		58	121.0'	2,200	138.0'	1,900	141.0'	1,800
55	112.0'	2,600	121.0'	2,400	122.0'	2,300		55	129.0'	1,400	145.0'	1,300	147.0'	1,200
53	116.0'	2,100	125.0'	1,900	126.0'	1,800		53	134.0'	1,000				
50	123.0'	1,400	131.0'	1,300	132.0'	1,200								
48	128 0'	1 000		•		•								

			OI	N OUTRIG	GERS	MID EXT	ENDE	D 21' 11	-3/4"(6.7	m) SPRE	AD			
						360°	ROTA	TION						
	139.8'(42	2.6m) Boom	(telescop	ing mode II	) + 33.2' (	(10.1m) Jib			139.8'(42	2.6m) Boom	(telescop	ing mode II	) + 58.1' (	(17.7m) Jib
С		offset	25°	offset		offset		С		offset		offset		offset
	R	W	R	W	R	W			R	W	R	W	R	W
80	32.7'	11,700	45.8'	11,600	53.0'	10,000		80	40.8'	7,300	64.6'	6,500	77.3'	5,200
79	36.4'	11,700	49.0'	11,200	55.8'	9,800		79	44.7'	7,300	67.9'	6,400	80.4'	5,100
78	39.6'	11,700	52.1'	10,900	59.1'	9,600		78	48.7'	7,300	72.0'	6,200	83.5'	5,100
77	43.0'	11,700	55.0'	10,600	61.6'	9,400		77	52.6'	7,300	75.2'	6,100	86.2'	5,000
76	46.4'	11,700	57.7'	10,300	64.1'	9,200		76	56.5'	7,300	78.1'	6,000	89.2'	5,000
75	49.4'	11,700	60.9'	10,100	67.0'	9,100		75	60.0'	7,300	81.8'	5,900	92.4'	5,000
73	55.8'	11,500	67.0'	9,500	72.6'	8,700		73	67.0'	7,300	88.2'	5,700	97.7'	4,900
70	65.1'	10,400	75.1'	8,900	80.1'	8,200		70	78.3'	7,300	97.5'	5,400	105.0'	4,700
68	70.4'	9,700	80.6'	8,400	84.9'	7,800		68	85.2'	7,100	103.0'	5,300	110.0'	4,600
65	78.4'	8,600	88.1'	7,500	91.7'	7,100		65	94.2'	6,200	112.0'	5,100	118.0'	4,600
63	83.7'	7,900	93.0'	7,000	96.4'	6,700		63	99.8'	5,700	117.0'	4,700	123.0'	4,400
60	91.1'	6,600	99.4'	6,000	102.0'	5,600		60	108.0'	4,700	124.0'	4,000	129.0'	3,800
58	95.6'	5,800	104.0'	5,200	106.0'	5,000		58	113.0'	4,000	128.0'	3,400	133.0'	3,300
55	102.0'	4,700	110.0'	4,300	112.0'	4,100		55	120.0'	3,100	135.0'	2,700	139.0'	2,600
53	107.0'	4,100	114.0'	3,700	116.0'	3,600		53	125.0'	2,600	139.0'	2,300	142.0'	2,200
50	113.0'	3,300	120.0'	3,000	121.0'	2,900		50	132.0'	2,000	145.0'	1,800	147.0'	1,700
48	117.0'	2,800	124.0'	2,600	125.0'	2,600		48	137.0'	1,600	149.0'	1,500	151.0'	1,400
45	123.0'	2,200	129.0'	2,100	129.0'	2,100		45	143.0'	1,200	155.0'	1,000	155.0'	1,000
43	127.0'	1,900	132.0'	1,800			•							
40	132.0'	1,500	137.0'	1,400										
38	136.0'	1,200	140.0'	1,100										

			01	N OUTRIC	CEDE	MID EVE	NDE	D 041 44	0/4"/6 =	7m\ CDDE	. A D			
			Oi	N OUT HIG	JUENO			TION	-3/4 (6.7	III) SPRE	:AD			
	125 51/3	8.3m) Boom	(toloccor	oina mode I)	1 33 2' (		HUIF	TION	125 51/38	3m\Room	(telescor	ing mode I	+ 58 1' /	17.7m) lih
С		offset		offset		offset		С		offset		offset		offset
_	Ř	W	R	W	R	W		_	R	W	R	W	R	W
80	30.5'	14,600	43.5'	14,000	50.1'	10,700		80	37.2'	8,800	58.7'	7,000	71.2'	5,200
79	33.3'	14,600	46.0'	13,600	52.6'	10,600		79	41.2'	8,800	61.5'	6,800	73.9'	5,100
78	36.0'	14,600	49.2'	13,300	55.1'	10,500		78	44.8'	8,800	65.4'	6,700	76.8'	5,100
77	39.0'	14,600	51.7'	12,900	57.6'	10,300		77	47.8'	8,800	68.4'	6,500	79.5'	5,000
76	42.6'	14,600	54.1'	12,700	60.1'	10,200		76	51.3'	8,800	70.8'	6,400	82.1'	5,000
75	45.5'	14,600	56.9'	12,400	62.7'	10,100		75	54.9'	8,800	74.3'	6,300	84.9'	5,000
73	51.2'	14,600	62.4'	11,900	67.5'	10,000		73	61.6'	8,800	80.5'	6,100	90.0'	4,900
70	59.8'	13,700	70.0'	11,200	74.6'	9,700		70	71.3'	8,300	88.9'	5,800	97.5'	4,700
68	64.6'	13,000	74.9'	10,800	78.8'	9,600		68	77.2'	7,900	94.6'	5,600	102.0'	4,600
65	71.7'	10,700	81.2'	9,000	84.9'	8,400		65	86.1'	7,500	102.0'	5,400	109.0'	4,600
63	76.3'	9,200	85.4'	7,800	88.8'	7,400		63	91.5'	6,500	107.0'	5,300	113.0'	4,500
60	82.7'	7,400	91.5'	6,400	94.6'	6,100		60	98.5'	5,100	114.0'	4,400	120.0'	4,100
58	86.8'	6,400	95.3'	5,600	98.1'	5,400		58	104.0'	4,400	118.0'	3,700	123.0'	3,600
55	93.1'	5,200	101.0'	4,600	104.0'	4,400		55	111.0'	3,400	124.0'	3,000	129.0'	2,900
53	97.2'	4,500	105.0'	4,000	107.0'	3,900		53	115.0'	2,900	129.0'	2,500	132.0'	2,400
50	103.0'	3,600	110.0'	3,200	112.0'	3,200		50	122.0'	2,200	134.0'	1,900	137.0'	1,900
48	107.0'	3,100	114.0'	2,800	115.0'	2,700		48	126.0'	1,800	138.0'	1,600	140.0'	1,500
45	112.0'	2,400	119.0'	2,200	120.0'	2,100		45	132.0'	1,300	143.0'	1,100	144.0'	1,100
43	116.0'	2,000	122.0'	1,800										
40	121.0'	1,500	126.0'	1,400										
38	124.0'	1,200	129.0'	1,100										

- C :Loaded boom angle (°)
  R :Load radius in feet
- $\boldsymbol{W}$  :Rated lifting capacity in pounds

								C	NC	OUTR	IGO	BERS I						/2"(5.5	m)	SPRE	AD									
													3	60° R	_															
A	-	39.4'		53.7'		68.1' (2		Bm)		82.4' (	-	m)		96.8' (	29.5	im)		111.1' (	—	9m)		125.5'	(38.	3m)		139.8' (	(42.	6m)	1	54.2'
В	С	. ,		(16.4m)	С		С		С		С		С		С		С		С		С		С		С		С		С	(47m)
8'		191,600		,																										
10'		,		102,700		,																								
12'	67	142,400	74	102,700	78	90,200	77	40,100																						
15'	61	113,500	70	102,700	75	89,900	75	40,100	78	42,500	78	35,500																		
20'	52	75,400	64	73,400	71	67,200	70	40,100	74	42,500	74	35,500	77	40,100	77	33,300	79	35,500	79	32,200										
25'	41	48,200	57	46,700	66	45,400	65	40,100	71	42,500	70	35,500	74	40,100	74	33,300	77	35,500	77	32,200	79	33,300	79	28,700						
30'	25	33,900	50	32,700	61	31,500	60	35,500	67	33,600	67	35,500	71	34,800	71	33,300	74	35,500	74	30,200	77	33,300	77	26,300	79	26,700	79	24,300		
35'			42	23,900	55	23,000	55	28,900	63	24,900	62	29,500	68	26,000	68	29,900	71	26,800	72	27,300	74	27,300	74	24,000	77	26,700	77	24,100	78	20,900
40'			33	18,000	50	17,100	50	22,800	58	19,000	58	23,400	64	20,100	64	23,800	68	20,800	69	24,100	71	21,400	72	22,000	74	21,800	75	22,300	77	20,900
45'			18	13,700	44	12,900	43	18,300	54	14,800	54	19,000	61	15,800	61	19,400	65	16,500	65	19,600	69	17,000	69	19,800	72	17,400	72	18,700	75	17,700
50'					36	9,700	36	14,900	49	11,500	49	15,600	57	12,600	57	16,000	62	13,200	62	16,300	66	13,800	67	16,400	70	14,100	70	15,300	73	14,400
55'					27	7,200	27	12,300	44	8,900	44	13,000	53	10,000	53	13,400	59	10,700	59	13,700	63	11,200	64	13,800	67	11,600	68	12,700	70	11,900
60'					12	5,300	12	10,300	38	6,900	38	10,800	49	7,900	49	11,300	55	8,600	56	11,600	61	9,100	61	11,700	65	9,500	65	10,700	68	9,800
65'									32	5,200	32	9,100	45	6,200	45	9,500	52	6,900	52	9,800	58	7,500	58	10,000	62	7,800	63	9,000	66	8,100
70'									23	3,800	23	7,700	40	4,800	40	8,100	48	5,500	49	8,300	55	6,000	55	8,500	60	6,400	60	7,500	64	6,700
75'									6	2,600	5	6,500	35	3,600	35	6,800	45	4,300	45	7,100	52	4,800	52	7,300	57	5,200	57	6,300	61	5,500
80'													29	2,600	28	5,800	41	3,200	41	6,000	49	3,700	49	6,200	55	4,100	55	5,200	59	4,400
85'													21	1,700	20	4,900	36	2,300	36	5,100	45	2,800	46	5,300	52	3,200	52	4,300	57	3,500
90'																	31	1,600	31	4,300	42	2,100	42	4,500	49	2,400	49	3,500	54	2,700
95'																			25	3,700	38	1,400	38	3,800	46	1,700	46	2,800	52	2,000
100'																			16	3,100			34	3,200	43	1,100	43	2,200	49	1,400
105'																							29	2,600			40	1,700		
110'																							23	2,200			36	1,100		
115'																							14	1,700						
D								0										18		0		29		0		40		27		47
												1	Γele	scoping	con	ditions (	%)								_					
Tele.		I, II		I		I		II		I		II		I		II		I		II		I		II		I		II		I, II
mode 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

Γ						LIF	TING	CA	PACIT	IES	AT ZI	ΞR	O DEG	iRE	E BOO	DM	ANGL	E ON OU	TR	IGGEF	RS MID EX	ΚΤΙ	ENDED	)	
											18'	1/2	2"(5.5n	ո) ։	SPREA	٩D	360	° ROTA1	ΠO	N					
	A		39.4'		53.7'		68.1' (2	20.8	m)		82.4' (2	25.1	m)		96.8' (2	29.5	m)		1	111.1'			125.5'		
(	: \	В	(12m)	В	(16.4m)	В		В		В		В		В		В			В	(33.9m)		В	(38.3m)		
	0	32.2	29,200	46.4	12,600	60.7	5,000	60.7	10,000	75.0	2,600	75.0	6,500	89.2	1,100	89.1	4,300		103.0	2,800		116.0	1,500		
Г	Tele.		I. II		Ţ		I		П		I		П		ĭ		П			П			II		
	node		1, 11		•				**		•		11		•		11			11			11		

- A :Boom length in feet
- $\boldsymbol{\mathsf{B}}$  :Load radius in feet
- C :Loaded boom angle (°)
- **D**:Minimum boom angle (°) 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.

Boom length in feet	39.4'	39.4'	to68.1'	68.1' to 154.2'	Single top
(meters)	(12m)	(12m to	20.8m)	(20.8m to 47m)	Jib
Telescoping mode	I, II	I	II	I, II	I, II
Number of parts of line	16	8	4	4	1

			(	ON OUTR	IGGER	S MID EX	TEND	ED 18'	1/2"(5.5r	n) SPREA	νD			
						360°	ROTA	TION						
	1:	54.2' (47.0	m) Boo	m + 33.2'	(10.1m	) Jib			1:	54.2' (47.0	m) Boo	m + 58.1'	(17.7m)	) Jib
С	3.5°	offset	25°	offset	45°	offset		С	3.5°	offset	25°	offset	45°	offset
	R	W	R	W	R	W			R	W	R	W	R	W
80	37.8'	10,800	51.5'	10,800	58.8'	9,400		80	45.8'	6,800	71.7'	6,300	83.5'	5,100
79	41.5'	10,800	55.3'	10,400	62.2'	9,200		79	50.0'	6,800	75.5'	6,200	87.1'	5,100
78	45.2'	10,800	58.6'	10,200	65.7'	9,000		78	54.2'	6,800	79.1'	6,000	90.3'	5,000
77	49.2'	10,800	62.1'	9,900	68.4'	8,800		77	58.5'	6,800	82.7'	5,900	93.3'	5,000
76	52.6'	10,800	65.3'	9,600	71.6'	8,700		76	62.7'	6,800	86.4'	5,800	96.2'	4,900
75	56.3'	10,800	69.0'	9,300	74.5'	8,500		75	66.8'	6,800	90.0'	5,700	99.5'	4,800
73	63.2'	10,100	74.4'	8,300	80.1'	7,600		73	74.6'	6,800	96.7'	5,500	105.0'	4,700
70	71.2'	7,400	82.4'	6,200	87.4'	5,700		70	84.5'	5,200	105.0'	4,200	112.0'	3,800
68	76.6'	6,000	87.3'	5,000	92.0'	4,700		68	90.3'	4,100	109.0'	3,300	117.0'	3,000
65	84.6'	4,300	95.2'	3,700	98.9'	3,500		65	98.8'	2,700	117.0'	2,300	123.0'	2,100
63	90.0'	3,400	100.0'	2,900	103.0'	2,800		63	105.0'	2,000	122.0'	1,700	128.0'	1,600
60	97.6'	2,300	107.0'	2,000	110.0'	1,900		60	113.0'	1,100		-		
58	103.0	1 700	112.0'	1 400	115.0	1 400	1	•		•				

			(	ON OUTR	IGGER	S MID EX	TENE	DED 18'	1/2"(5.5n	n) SPREA	ND.			
								ATION		,				
	139.8'(4	2.6m) Boom	(telescop	ing mode II	) + 33.2' (	(10.1m) Jib			139.8'(42	2.6m) Boom	(telescop	ing mode II	) + 58.1'	17.7m) Jib
С	3.5°	offset	25°	offset	45°	offset		С	3.5°	offset	25°	offset	45°	offset
	R	W	R	W	R	W			R	W	R	W	R	W
80	32.7'	11,700	45.8'	11,600	53.0'	10,000		80	40.8'	7,300	64.6'	6,500	77.3'	5,200
79	36.4'	11,700	49.0'	11,200	55.8'	9,800		79	44.7'	7,300	67.9'	6,400	80.4'	5,100
78	39.6'	11,700	52.1'	10,900	59.1'	9,600		78	48.7'	7,300	72.0'	6,200	83.5'	5,100
77	43.0'	11,700	55.0'	10,600	61.6'	9,400		77	52.6'	7,300	75.2'	6,100	86.2'	5,000
76	46.4'	11,700	57.7'	10,300	64.1'	9,200		76	56.5'	7,300	78.1'	6,000	89.2'	5,000
75	49.4'	11,700	60.9'	10,100	67.0'	9,100		75	60.0'	7,300	81.8'	5,900	92.4'	5,000
73	55.8'	11,500	67.0'	9,500	72.6'	8,700		73	67.0'	7,300	88.2'	5,700	97.7'	4,900
70	64.6'	10,200	74.9'	8,600	79.7'	7,800		70	78.3'	7,300	97.5'	5,400	105.0'	4,700
68	69.3'	8,500	79.7'	7,300	84.0'	6,700	1	68	83.8'	6,100	103.0'	5,000	110.0'	4,400
65	76.8'	6,600	86.4'	5,800	90.4'	5,400		65	91.6'	4,600	110.0'	3,900	116.0'	3,400
63	81.8'	5,600	91.1'	4,900	94.7'	4,600		63	97.1'	3,800	114.0'	3,200	120.0'	2,800
60	89.1'	4,300	97.6'	3,800	101.0'	3,600		60	105.0'	2,800	121.0'	2,400	127.0'	2,100
58	93.6'	3,600	102.0'	3,200	105.0	3,000	l	58	110.0'	2,200	126.0'	1,900	131.0'	1,700
55	101.0'	2,700	108.0'	2,400	111.0'	2,300	l	55	118.0'	1,500	133.0'	1,300	137.0'	1,200
53	105.0'	2,200	113.0'	2,000	115.0'	1,900	l	53	123.0'	1,100				
50	111.0'	1,500	119.0'	1,400	120.0'	1,300	Ī				•			
48	116.0'	1,100	122.0'	1,000	124.0'	1,000	1							

ON OUTDIOGEDS MID EXTENDED 40(4/01/5 5-r) CDDF AD																		
	ON OUTRIGGERS MID EXTENDED 18' 1/2"(5.5m) SPREAD																	
						360°	ROTA	NOITA										
	125.5'(3	8.3m) Boom	(telesco	oing mode I)	) + 33.2' (	10.1m) Jib			125.5'(38.3m)Boom(telescoping mode I) + 58.1' (17.7m) J									
С	3.5°	offset	25°	offset	45°	offset		С	3.5°	offset		offset		offset				
	R	W	R	W	R	W			R	W	R	W	R	W				
80	30.5'	14,600	43.5'	14,000	50.1'	10,700		80	37.2'	8,800	58.7'	7,000	71.2'	5,200				
79	33.3'	14,600	46.0'	13,600	52.6'	10,600		79	41.2'	8,800	61.5'	6,800	73.9'	5,100				
78	36.0'	14,600	49.2'	13,300	55.1'	10,500		78	44.8'	8,800	65.4'	6,700	76.8'	5,100				
77	39.0'	14,600	51.7'	12,900	57.6'	10,300		77	47.8'	8,800	68.4'	6,500	79.5'	5,000				
76	42.6'	14,600	54.1'	12,700	60.1'	10,200		76	51.3'	8,800	70.8'	6,400	82.1'	5,000				
75	45.5'	14,600	56.9'	12,400	62.7'	10,100		75	54.9'	8,800	74.3'	6,300	84.9'	5,000				
73	51.2'	14,600	62.4'	11,900	67.5'	10,000		73	61.6'	8,800	80.5'	6,100	90.0'	4,900				
70	58.2'	11,300	68.9'	9,500	73.7'	8,600		70	71.3'	8,300	88.9'	5,800	97.5'	4,700				
68	63.0'	9,500	73.2'	8,100	77.8'	7,400		68	76.1'	6,900	94.0'	5,500	102.0'	4,600				
65	69.9'	7,300	79.6'	6,300	83.5'	5,900		65	84.0'	5,200	101.0'	4,200	108.0'	3,900				
63	74.5'	6,100	83.7'	5,400	87.5'	5,000		63	89.2'	4,300	105.0'	3,500	112.0'	3,300				
60	81.0'	4,700	90.0'	4,200	93.5'	3,900		60	96.6'	3,100	112.0'	2,600	118.0'	2,500				
58	85.4'	3,900	93.9'	3,500	97.1'	3,300		58	102.0'	2,500	116.0'	2,100	122.0'	2,000				
55	91.8'	2,900	99.7'	2,600	103.0'	2,500		55	108.0'	1,700	123.0'	1,400	128.0'	1,400				
53	95.7'	2,300	104.0'	2,100	106.0'	2,000		53	113.0'	1,200	127.0'	1,000	131.0'	1,000				
50	102.0'	1,600	109.0'	1,500	111.0'	1,400							•					
48	105.0'	1,100	113.0'	1,100	114.0'	1,000												

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

	ON OUTRIGGERS MIN EXTENDED 8' 10-5/16"(2.7m) SPREAD																													
													3	60° R	ЭΤ	ATION														
A		39.4'		53.7'		68.1'(2	20.8	m)		82.4'(2	25.1	m)		96.8'(2	29.5	m)		111.1'(	(33.9	9m)		125.5'(	38.3	3m)		139.8'(	42.6	im)	1	54.2'
В	С			(16.4m)			С		С		С		С		С		С		С		С		С		С		С		С	(47m)
8'	-		_	102,700	_																									
10'	70	94,900	-		_	90,200	-																							
12'	66	66,900	-		_	63,700	_																							
15'	61	44,700	-		_	42,000	_		_		_																			
20'	52	26,300	-		_	24,300	_		_		-				_		_		_		_									
25'	41	17,000	-		-	15,300																								
30'	25	11,400	-	_	-								-		_		_		_	16,200			_		_		_			
35'	Ш		42	6,600	_		_	10,900	_		-	11,600			_	12,100	_		_	12,300	$\overline{}$		_	12,500	_		_		-	
40'	Ш		33	3,900	-		_		_		-				_		_	6,600	_		$\overline{}$	7,100	_	9,600	-	7,500	-	8,600	75	7,700
45'	Ш		18	1,800	43	1,100	-		_		-				_		_		_		$\overline{}$	5,000	-	7,500	-	5,400	-	6,500	-	5,600
50'	Ш						36	4,300	49	1,100	-	4,900	56	2,100	_	-,	_	2,800	_		$\overline{}$	3,300	-	5,800	-	3,700	-	4,800	$\overline{}$	4,000
55'	Ш						27	2,900			44	3,500			53	3,900	58	1,500	-	,	63	2,000	63	4,400	-	2,400	-	3,500	-	2,700
60'	Ш						13	1,900			38	2,400			49	2,800			55	-,			60	3,300	-	1,300	_	2,300	67	1,500
65'	Ш										31	1,500			44	1,900			52	,			57	2,300	-		62	1,400		
70'	Ш														40	.,			48	.,			54	1,500						
D			0			28		0		44		5		49		35		55		45		58		52		62		57		65
													ele	scoping	cor	nditions (	%)													
Tele. mode		I, II		I		I		II		I		П		I		П		I		II		I		П		I		II		I, II
2nd boom	1	0		50		100		0		100		0		100		0		100		0		100		0		100		50	_	100
3rd boom	ı	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	1	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' 10-5/16"(2.7m)SPREAD 360° ROTATION																
A	A 39.4' 53.7' 68.1'																
c \	<b>B</b> (12m)	<b>B</b> (16.4m)		<b>B</b> (20.8m)													
0	32.2' 9,200	46.5' 1,300		60.8 1,700													
Tele.	ele. I.II I II																
mode	1, 11	1		node 1,11 1 1 11 11 1 11 1 1 1 1 1 1 1 1 1													

- A :Boom length in feet
- B:Load radius in feet
- C :Loaded boom angle (°)
- **D**: Minimum boom angle (°) 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.

Boom length in feet	39.4'	39.4' t	o 68.1'	68.1' to 154.2'	Single top
(meters)	(12m)	(12m to	20.8m)	(20.8m to 47m)	Jib
Telescoping mode	I, II	I	II	I, II	I, II
Number of parts of line	16	8	4	4	1

# WARNING AND OPERATING INSTRUCTIONS FOR LIFTING CAPACITIES

#### **GENERAL**

- 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.
- 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.
- The operator and other personnel associated with this machine shall fully acquaint themselves with the latest OSHA 29 CFR Part 1926 crane safety standards.

#### **SET UP**

- 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.
- For outrigger operation, outriggers shall be properly extended with tires free of supporting surface before operating crane.

### **OPERATION**

- Rated lifting capacities have been tested to and meet minimum requirements of SAE J1063-Cantilevered Boom Crane Structures Method of Test.
- 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.
- 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)
- Rated lifting capacities at load radius shall not be exceeded. Do not tip the crane to determine allowable loads.
- Do not operate at boom lengths, radii, or boom angle, where no capacities are shown. Crane may overturn without any load on the hook.

- 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.
- When making lifts at a load radius not shown, use the next longer radius to determine allowable capacity.
- Load per line should not exceed 14,600 lbs. (6,600kg) for main hoist and auxiliary hoist.
- 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 hoist 14,600 lbs.(6,600kg) 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.
- When base jib or top jib or both jib removing, jib state switch select removed.
- When erecting and stowing jib, be sure to retain it by hand or by other means to prevent its free movement.
- 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. hoist) and boom (main hoist) 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**

- 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.
- Loaded Boom Angle: The angle between the boom base section and the horizontal, after lifting the rated lifting capacity at the load radius.
- 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.
- Side Load: Horizontal side force applied to the lifted load either on the ground or in the air.

	ON RUBBER																	
A						Statio	onary								C	reep		
			Ove	er Front					360°	Rotation					Ove	er Front		
	()	39.4'		38.1'		96.8'	(	39.4'		68.1'		96.8'		39.4'	(	68.1'		96.8'
B \	С	(12m)	С	(20.8m)	С	(29.5m)	С	(12m)	С	(20.8m)	С	(29.5m)	С	(12m)	С	(20.8m)	С	(29.5m)
12'	66	60,000					66	38,000					66	45,000				
15'	61	49,600					61	28,500					61	36,600				
20'	52	37,500	70	35,000			52	17,500	70	20,000			52	26,800	70	29,200		
25'	41	28,500	65	29,500	74	28,500	40	10,400	65	14,000	73	14,000	40	20,500	65	22,800	74	23,400
30'	25	21,500	60	24,000	71	24,000	25	6,500	60	9,500	70	10,000	25	15,600	60	18,200	71	18,900
35'			55	19,200	67	19,500			55	6,500	67	7,400			55	14,800	67	15,500
40'			49	15,200	64	16,000			49	4,500	63	5,400			49	12,000	64	12,900
45'			43	12,200	60	13,000			43	3,000	60	3,900			43	9,800	60	10,600
50'			36	9,700	57	10,600			36	1,800	56	2,700			36	7,900	57	8,900
55'			27	8,000	53	8,800					53	1,700			27	6,500	53	7,300
60'			13	6,500	49	7,400									13	5,200	49	6,100
65'					45	6,100											44	5,000
70'					40	5,000											40	4,100
75'					35	4,100											34	3,200
80'					28	3,400											28	2,500
85'					20	2,700												
D				0				0		28		45				0		
								Telescopi	ng cor	nditions (%)								
Tele. mode	I, II II II		II		I, II		II		II		I, II		II		II			
2nd boom		0		0		0		0		0		0		0		0		0
3rd boom		0		33		66		0		33		66		0		33		66
4th boom		0		33		66		0		33		66		0		33		66
Top boom		0		33		66	0			33		66		0	33		66	

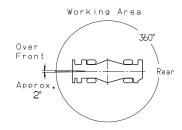
Г		LISTING OADAGITISS AT JEDG DEGDES DOOM ANGLE ON BURDED OPERATION															
1		LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER OPERATION															
ľ	$\overline{\ \ }$	Α	Stationary Creep														
		ſ			Ove	r Front			360° Rotation	Over Front							
		⋰	3	39.4'	6	8.1'	(	96.8'	3	39.4'		3	39.4'	6	68.1' 9		96.8'
L	С		В	(12m)	В	(20.8m)	В	(29.5m)	В	(12m)		В	(12m)	В	(20.8m)	В	(29.5m)
ſ	0	T	32.2' 19,300 60.8' 6,300 89.1' 2,10							5,100		32.2'	14,100	60.8'	5,000	89.1'	1,400

- A:Boom length in feet
- B:Load radius in feet
- C :Loaded boom angle (°)
- **D**: Minimum boom angle (°) 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 parts of line for rubber operation should be according to the following table.

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



# WARNING AND OPERATING INSTRUCTIONS FOR ON RUBBER LIFTING CAPACITIES

- 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.
- 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.
- 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.
- 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)

- Over front operation shall be performed within two degrees in front of chassis.
- 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.
- 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).
- For creep operation, choose the drive mode and proper gear according to the road or working condition.

# 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 status 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.
- A swing does not automatically stop even if the crane becomes overloaded.
- During crane operation, make sure that the displays on front panel are in accordance with actual operating conditions.
- 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.

**GR-1000XL** Axle weight distribution chart

			Pounds			Kilograms	
		GVW	Front	Rear	GVW	Front	Rear
Base macl	hine	115,235	57,300	57,935	52,270	25,990	26,280
Remove:	1. 7.3ton(6.6metric ton) hook ball	-360	-515	155	-164	-233	69
	2. 100ton(90.7metric ton) hook block	-1,900	-3,665	1,765	-862	-1,664	802
	3. Top jib	-740	-990	250	-336	-450	114
	4. Base jib	-1,910	-3,755	1,845	-867	-1,704	837
	5. Auxiliary lifting sheave	-110	-330	220	-50	-149	99
	6. Removable Counterweight	-22,000	9,350	-31,350	-9,979	4,240	-14,219
	(with Auxiliary Hoist & wire rope)						

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