# **ROUGH TERRAIN CRANE**

# **GR-250N**

# JAPANESE SPECIFICATIONS

OUTLINE	SPEC. NO.
4-section Boom, 2-stage Power-tilt Jib, H-type Outriggers	GR-250N-2-00102

Control No. JA-01

# GR-250N

### 1. Crane Specifications

### ◎ Crane

#### **Crane Capacity**

25,000 kg x 3.5 m (8-part line) 9.35 m boom 16.4 m boom 15,000 kg x 6.5 m (6-part line) 23.45 m boom 12,000 kg x 6.0 m (4-part line) x 8.0 m (4-part line) 30.5 m boom 8,000 kg 8.0 m jib 3,300 kg x 72° (single-part line) (single-part line) 13.0 m jib x 78° 2,000 kg (single-part line) Single top 4,000 kg Max. Lifting Height Boom 31.3 m Jib 44.2 m Max. Working Radius Boom 27.9 m Jib 33.9 m **Boom Length** 9.35m to 30.5m Boom Extension 21.15 m **Boom Extension Speed** 21.15 m/80 s Jib Length 8.0 m, 13.0 m Main Winch Single Line Winding Speed 120 m/min (4 layers) **Main Winch Hook Speed** 15.0 m/min (8-part line) Main Winch Single Line Unwinding Speed <Reference> 120 m/min (4 layers) Standard<sup>.</sup> High-speed: 160 m/min (4 layers) **Auxiliary Winch Single Line Winding Speed** 120 m/min (4 layers) **Auxiliary Winch Hook Speed** 120 m/min (single-part line) Auxiliary Winch Single Line Unwinding Speed <Reference> Standard<sup>.</sup> 120 m/min (4 layers) High-speed: 160 m/min (4 layers) **Boom Elevation Angle** 0° to 84° **Boom Elevation Speed** 0° to 84°/45 s Swing Angle 360° continuous Swing Speed 2.6 min<sup>-1</sup> (rpm) Wire Rope Main winch 16 mm dia. x 170 m long Spin-resistant wire rope Auxiliary winch 16 mm dia. x 98 m long Spin-resistant wire rope Boom 4-section box structure synchronously telescoping hydraulic boom **Boom Extension** Single double-acting hydraulic cylinder 2 wire rope type telescoping devices Jib Quick-turn type (stored alongside and below boom)

2-stage (pull-out 2nd stage)

hydraulic non-stage inclined

Offset 5° to 60°

### Single Top

Fixed on top boom section Hoist Hydraulic motor driven planetary gear reducer Automatic brake High-speed unwind function 2 single winches With flow regulator valve with pressure compensation **Boom Elevation** Single double-acting hydraulic cylinder With flow regulator valve with pressure compensation Swina Hydraulic motor driven planetary gear reducer Swing bearing Swing free/lock changeover type Negative brake Outriggers Fully hydraulic H-type (floats mounted integrally) Slides and jacks each provided with independent operation device. Fully extended width 6.5 m Middle extended width 6.1 m, 5.0 m, 3.6 m Minimum extended width 2.3 m **Operation Method** Hydraulic pilot valve operation Max. Vertical Load Capacity of Outrigger 26.9 t **Power Take-Off** PTO wet multi-plate clutch **Hydraulic Pumps** 2 variable piston pumps 3 gear pumps **Hydraulic Tank Capacity** 380 L Safety Devices Automatic moment limiter (AML) Swing automatic stop device Elevation slow down and stop device Over-winding cutout device Working area control device Outrigger extension width detector Level gauge Hook safety latch Hydraulic safety valve Telescoping cylinder check valve Extension cylinder check valve Power tilt counterbalance valve Jack pilot check valve Swing lock Equipment Air-conditioner with dehumidifier Hydraulic oil temperature indication lamp Radio Oil cooler Visual-type winch drum rotation indicator Operation pedals ISO arrangement: for telescoping/auxiliary hoisting Tadano arrangement: for elevating/telescoping Satellite Communications Equipment (HELLO-NET Owner's Site) Ancilliary Equipment Wood blocks (x 4) Aluminum deck plates (x 4)

#### Carrier

#### **Manufacturer and Model**

Tadano JDS-T003	

### Engine

Model Mitsubishi 6M60-TLE3A (with turbo and air cooler) Water-cooled 4-cycle, in-line 6 cylinder, direct-injection Type diesel

#### Piston displacement 7.545 L

Max. output 200 kW (272PS)/2,600 min<sup>-1</sup> (rpm) Max. torque 785 N.m (80.0 kgf.m)/1,400 min<sup>-1</sup> (rpm)

#### **Torque Converter**

3-element, 1-stage unit (with automatic lock-up mechanism) Transmission

#### Automatic and manual transmission

Power shift type (wet multi-plate clutch)

4 forward gears, 1 reverse gear (with Hi and Lo)

#### Reducer

Axle dual-ratio reduction

#### Drive

2-wheel drive (4 x 2)/4-wheel drive (4 x 4) selection

#### **Front Axle**

Full floating type

#### **Rear Axle**

Full floating type

#### Suspension

- Hydro-pneumatic suspension (with hydraulic lock Front cylinder)
- Rear Hydro-pneumatic suspension (with hydraulic lock cylinder)

#### Steering

Fully hydraulic power steering

### **Brake System**

Service Brake

Hydro-pneumatic disk brake

Parking Brake

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

Auxiliary Brake

Permanent magnet retarder Electro-pneumatic operated exhaust brake

Auxiliary braking device for operations

#### Frame

Welded box-shaped structure

#### **Electric System** 12 V/120 Ah x 2 (24 V)

**Fuel Tank Capacity** 

300 L

Tires

385/95R25 170E Road Front 385/95R25 170E Road Rear

#### Cab

One-man type With interior equipment Sealed-fluid rubber mounted type Fully adjustable folding seat (with head rest, arm rest, seat belt) Adjustable wheel (tilt, telescoping)

#### Intermittent windshield/roof wiper (with washer) Power window

Side visor

#### Safety Devices

Emergency steering device Suspension lock device Rear wheel steering lock device Engine over-run alarm Overshift prevention device Parking brake alarm Monitor television on left and right sides of boom Equipment Centralized oiling device Electric mirror

#### O Dimensions

Overall	length	11,410 mm
Overall	width	2,620 mm
Overall height Wheel base		3,470 mm
Wheel b	base	3,880 mm
Tread	Front	2,170 mm
	Rear	2,170 mm

#### O Weights

Gross vehicle weight	25,595 kg
Front	12,800 kg
Rear	12,795 kg

#### O Performance

Max. traveling speed Gradeability (tanθ) Min. turning radius

49 km/h 0.57 5.1 m (4-wheel steering) 8.5 m (2-wheel steering)

### Optional equipment

Winch drum monitoring camera Rear view monitoring camera Loudspeaker AML external warning lamp Roadside lamp Identification lamp

\* This crane has a compliance certificate ('Weight under basic transit conditions: A') under the new vehicle certification system, however in practice, conditions imposed for transit are in accordance with the assessment of each route by the road controller.

# 2. Total Rated Loads

### 2-(1) Outrigger Used [Boom]

Unit: ton

U	nit:	ton

Outriggers	fully exter	nded (6.5 i	m)	-360°-
Boom length Working radius	9.35 m	16.4 m	23.45 m	30.5 m
2.5 m	25.0	15.0	12.0	
3.0 m	25.0	15.0	12.0	
3.5 m	25.0	15.0	12.0	8.0
4.0 m	23.5	15.0	12.0	8.0
4.5 m	21.5	15.0	12.0	8.0
5.0 m	19.6	15.0	12.0	8.0
5.5 m	17.8	15.0	12.0	8.0
6.0 m	16.3	15.0	12.0	8.0
6.5 m	15.1	15.0	11.5	8.0
7.0 m		14.0	10.8	8.0
8.0 m		11.3	9.6	8.0
9.0 m		9.2	8.6	7.6
10.0 m		7.5	7.6	6.9
11.0 m		6.3	6.5	6.3
12.0 m		5.35	5.5	5.6
13.0 m		4.6	4.75	4.9
13.5 m		4.25	4.45	4.55
14.0 m			4.15	4.25
15.0 m			3.65	3.8
16.0 m			3.2	3.4
17.0 m			2.85	3.0
18.0 m			2.5	2.65
19.0 m			2.2	2.4
20.0 m			2.0	2.15
20.5 m			1.9	2.0
21.0 m				1.9
22.0 m				1.7
24.0 m				1.35
26.0 m				1.1
27.9 m				0.9
A (°)		0-	84	

Outriggers middle extended (6.1 m) -Over sides-									
Boom length Working radius	9.35 m	16.4 m	23.45 m	30.5 m					
2.5 m	25.0	15.0	12.0						
3.0 m	25.0	15.0	12.0						
3.5 m	25.0	15.0	12.0	8.0					
4.0 m	23.5	15.0	12.0	8.0					
4.5 m	21.5	15.0	12.0	8.0					
5.0 m	19.6	15.0	12.0	8.0					
5.5 m	17.8	15.0	12.0	8.0					
6.0 m	16.3	15.0	12.0	8.0					
6.5 m	15.0	15.0	11.5	8.0					
7.0 m		13.3	10.8	8.0					
8.0 m		10.3	9.6	8.0					
9.0 m		8.3	8.5	7.6					
10.0 m		6.8	7.0	6.9					
11.0 m		5.7	5.9	6.0					
12.0 m		4.9	5.0	5.1					
13.0 m		4.2	4.35	4.4					
13.5 m		3.9	4.0	4.1					
14.0 m			3.8	3.85					
15.0 m			3.3	3.4					
16.0 m			2.9	3.0					
17.0 m			2.6	2.65					
18.0 m			2.3	2.35					
19.0 m			2.05	2.1					
20.0 m			1.85	1.85					
20.5 m			1.75	1.75					
21.0 m				1.65					
22.0 m				1.5					
24.0 m				1.2					
26.0 m				0.95					
27.8 m				0.75					
A (°)		0-	84	L					

### [Boom]

				Unit: ton
Outriggers middle	e extended	d (5.0 m)	-Over	sides-
Boom length Working radius	9.35 m	16.4 m	23.45 m	30.5 m
2.5 m	25.0	15.0	12.0	
3.0 m	25.0	15.0	12.0	
3.5 m	25.0	15.0	12.0	8.0
4.0 m	23.5	15.0	12.0	8.0
4.5 m	21.2	15.0	12.0	8.0
5.0 m	17.2	15.0	12.0	8.0
5.5 m	14.2	15.0	12.0	8.0
6.0 m	12.0	12.7	12.0	8.0
6.5 m	10.3	10.9	10.8	8.0
7.0 m		9.5	9.7	8.0
8.0 m		7.4	7.6	7.5
9.0 m		6.0	6.2	6.2
10.0 m		4.9	5.1	5.2
11.0 m		4.1	4.3	4.35
12.0 m		3.5	3.65	3.7
13.0 m		3.0	3.15	3.2
13.5 m		2.8	2.9	2.95
14.0 m			2.7	2.75
15.0 m			2.35	2.4
16.0 m			2.05	2.1
17.0 m			1.75	1.8
18.0 m			1.55	1.6
19.0 m			1.35	1.4
20.0 m			1.2	1.2
20.5 m			1.1	1.1
21.0 m				1.05
22.0 m				0.9
24.0 m				0.65
A (°)		0-84		32-84

				Unit: ton
Outriggers middle	e extende	d (3.6 m)	-Over	sides-
Boom length Working radius	9.35 m	16.4 m	23.45 m	30.5 m
2.5 m	25.0	15.0	12.0	
3.0 m	25.0	15.0	12.0	
3.5 m	19.5	15.0	12.0	8.0
4.0 m	14.8	15.0	12.0	8.0
4.5 m	11.8	12.7	12.0	8.0
5.0 m	9.8	10.5	10.6	8.0
5.5 m	8.1	8.8	9.0	8.0
6.0 m	6.9	7.6	7.7	7.5
6.5 m	5.9	6.5	6.7	6.8
7.0 m		5.7	5.9	6.0
8.0 m		4.5	4.6	4.7
9.0 m		3.6	3.75	3.8
10.0 m		2.9	3.05	3.1
11.0 m		2.4	2.5	2.6
12.0 m		1.95	2.1	2.15
13.0 m		1.60	1.75	1.8
13.5 m		1.45	1.6	1.65
14.0 m			1.45	1.5
15.0 m			1.2	1.25
16.0 m			1.0	1.05
17.0 m			0.8	0.85
18.0 m			0.65	0.7
19.0 m			0.5	0.55
A (°)	0-	84	25-84	47-84

	-	-				
				Unit: ton		
Outriggers minimu	m extende	ed (2.3 m)	-Over sides-			
Boom length Working radius	9.35 m	16.4 m	23.45 m	30.5 m		
2.5 m	12.2	12.0	10.0			
3.0 m	12.2	12.0	10.0			
3.5 m	9.8	10.0	10.0	6.0		
4.0 m	7.6	8.0	8.5	6.0		
4.5 m	6.1	6.7	7.0	6.0		
5.0 m	5.0	5.5	5.8	5.8		
5.5 m	4.1	4.6	4.9	5.0		
6.0 m	3.4	4.0	4.25	4.4		
6.5 m	2.8	3.4	3.65	3.8		
7.0 m		2.95	3.15	3.3		
8.0 m		2.2	2.4	2.6		
9.0 m		1.65	1.85	2.0		
10.0 m		1.2	1.4	1.6		
11.0 m		0.9	1.1	1.25		
12.0 m		0.65	0.8	0.95		
A (°)	0-84	30-84	54-84	64-84		

# [Boom]

Outriggers fully extended (								(6.5 m)	)				-36	0°-		
Jib length	30.5 m boom + 8.0 m jib							30.5 m boom + 13.0 m jib								
Offset	5	0	2	5°	4	5°	60	)°	5	0	2	5°	4	45°		)°
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	4.2	3.3	6.8	2.3	8.8	1.7	9.7	1.05	5.2	2.0	9.6	1.25	12.8	0.85	14.4	0.55
80	7.4	3.3	9.8	2.3	11.6	1.7	12.2	1.05	9.0	2.0	13.0	1.25	15.8	0.85	16.9	0.55
78	8.9	3.3	11.2	2.3	12.8	1.7	13.3	1.05	10.6	2.0	14.5	1.2	17.2	0.85	18.2	0.55
76	10.4	3.3	12.5	2.3	14.1	1.7	14.5	1.05	12.3	1.9	15.9	1.15	18.4	0.85	19.4	0.55
74	11.8	3.3	13.9	2.3	15.2	1.65	15.6	1.05	13.9	1.8	17.3	1.1	19.7	0.85	20.5	0.55
72	13.2	3.3	15.1	2.3	16.4	1.65	16.7	1.05	15.3	1.65	18.7	1.1	20.9	0.85	21.6	0.55
70	14.6	3.25	16.4	2.3	17.5	1.6	17.7	1.05	16.8	1.6	20.0	1.05	22.1	0.85	22.7	0.55
68	15.8	3.0	17.6	2.25	18.6	1.55	18.7	1.0	18.2	1.5	21.2	1.0	23.3	0.85	23.7	0.55
65	17.4	2.55	19.2	2.05	20.1	1.55	20.2	1.0	20.3	1.4	23.1	1.0	24.9	0.84	25.1	0.55
60	20.2	1.85	21.9	1.65	22.7	1.5	22.7	1.0	23.6	1.25	26.2	0.95	27.6	0.81	27.5	0.54
55	22.7	1.35	24.2	1.2	24.9	1.2			26.7	1.1	28.9	0.91	29.9	0.79		
53	23.7	1.2	25.1	1.1	25.7	1.05			27.8	0.98	29.9	0.87	30.8	0.79		
50	25.1	1.0	26.5	0.92	26.9	0.92			29.3	0.81	31.3	0.72	32.0	0.7		
47	26.4	0.81	27.7	0.75	28.0	0.75			30.8	0.65	32.6	0.58	33.0	0.57		
45	27.3	0.7	28.4	0.65	28.6	0.65			31.7	0.56	33.4	0.5	33.7	0.49		
40	29.3	0.47	30.2	0.43					33.9	0.36						
A (°)		39	-84		44	-84	59·	-84	39-	-84		44	-84		59·	-84
					utrigge		dle ex	tended	(6.1 n					-Over	sides-	
Jib length				n boor								1 boom				
Offset	5	0	2	5°	4	5°	60	)°	5	0	2	5°	4	5°	60	)°

# [Jib (30.5 m Boom)]

	Outriggers middle extended (6.1 m) -Over si										sides-					
Jib length									30.5 m boom + 13.0 m jib							
Offset	5	0	2		4		60	)°	5	0	2	5°	4	<u>,</u> 5°	60	)°
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	4.2	3.3	6.8	2.3	8.8	1.7	9.7	1.05	5.2	2.0	9.6	1.25	12.8	0.85	14.4	0.55
80	7.4	3.3	9.8	2.3	11.6	1.7	12.2	1.05	9.0	2.0	13.0	1.25	15.8	0.85	16.9	0.55
78	8.9	3.3	11.2	2.3	12.8	1.7	13.3	1.05	10.6	2.0	14.5	1.2	17.2	0.85	18.2	0.55
76	10.4	3.3	12.5	2.3	14.1	1.7	14.5	1.05	12.3	1.9	15.9	1.15	18.4	0.85	19.4	0.55
74	11.8	3.3	13.9	2.3	15.2	1.65	15.6	1.05	13.9	1.8	17.3	1.1	19.7	0.85	20.5	0.55
72	13.2	3.3	15.1	2.3	16.4	1.65	16.7	1.05	15.3	1.65	18.7	1.1	20.9	0.85	21.6	0.55
70	14.6	3.25	16.4	2.3	17.5	1.6	17.7	1.05	16.8	1.6	20.0	1.05	22.1	0.85	22.7	0.55
68	15.8	3.0	17.6	2.25	18.6	1.55	18.7	1.0	18.2	1.5	21.2	1.0	23.3	0.85	23.7	0.55
65	17.3	2.4	19.2	2.05	20.1	1.55	20.2	1.0	20.3	1.4	23.1	1.0	24.9	0.84	25.1	0.55
60	20.0	1.7	21.8	1.5	22.7	1.45	22.7	1.0	23.6	1.25	26.2	0.95	27.6	0.81	27.5	0.54
55	22.6	1.2	24.2	1.1	24.9	1.1			26.6	1.0	28.9	0.88	29.9	0.79		
53	23.6	1.05	25.1	0.99	25.7	0.98			27.7	0.88	29.9	0.78	30.8	0.75		
50	25.0	0.88	26.4	0.8	26.9	0.81			29.3	0.71	31.2	0.62	31.9	0.61		
47	26.4	0.69	27.6	0.63	27.9	0.64			30.7	0.55	32.5	0.48	32.9	0.48		
45	27.2	0.58	28.4	0.53	28.6	0.54			31.6	0.46	33.3	0.4	33.6	0.4		
40	29.2	0.36														
A (°)	39	-84		44	-84		59	-84			44	-84			59	-84

					Outriggers middle extende								ed (5.0 m) -Over sides-					
30.5 m boom + 8.0 m jib										30.5 m	n boorr	n + 13.	0 m jib					
5	0	25	5°	45	5°	6	)°	5	0	25	5°	4	5°	60	С			
R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)			
4.2	3.3	6.8	2.3	8.8	1.7	9.7	1.05	5.2	2.0	9.6	1.25	12.8	0.85	14.4	0.55			
7.4	3.3	9.8	2.3	11.6	1.7	12.2	1.05	9.0	2.0	13.0	1.25	15.8	0.85	16.9	0.55			
8.9	3.3	11.2	2.3	12.8	1.7	13.3	1.05	10.6	2.0	14.5	1.2	17.2	0.85	18.2	0.55			
10.4	3.3	12.5	2.3	14.1	1.7	14.5	1.05	12.3	1.9	15.9	1.15	18.4	0.85	19.4	0.55			
11.8	3.3	13.9	2.3	15.2	1.65	15.6	1.05	13.9	1.8	17.3	1.1	19.7	0.85	20.5	0.55			
13.1	3.15	15.1	2.3	16.4	1.65	16.7	1.05	15.3	1.65	18.7	1.1	20.9	0.85	21.6	0.55			
14.3	2.6	16.3	2.15	17.5	1.6	17.7	1.05	16.8	1.6	20.0	1.05	22.1	0.85	22.7	0.55			
15.4	2.2	17.4	1.85	18.6	1.55	18.7	1.0	18.2	1.5	21.2	1.0	23.3	0.85	23.7	0.55			
17.0	1.7	18.9	1.45	20.0	1.35	20.2	1.0	20.2	1.35	23.1	1.0	24.9	0.84	25.1	0.55			
19.7	1.1	21.5	0.98	22.5	0.94	22.6	0.93	23.3	0.9	26.0	0.74	27.5	0.7	27.5	0.54			
22.4	0.71	24.0	0.62	24.7	0.61			26.2	0.55	28.6	0.45	29.8	0.43					
23.3	0.56	24.9	0.49	25.5	0.48			27.3	0.43									
24.8	0.37																	
49-	-84	52-84 59-84				52-	-84		54	-84		59	-84					
			0	utrigge	rs mid	dle ex	ended							sides-				
		30.5 r	n boor	n + 8.0	m jib			30.5 m boom + 13.0 m jil					0 m jib					
5	0	25	5°	45	5°	60	)°	5° 25°				4	5°	60	С			
R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)			
4.2	3.3	6.8	2.3	8.8	1.7	9.7	1.05	5.2	2.0	9.6	1.25	12.8	0.85	14.4	0.55			
7.4	3.3	9.8	2.3	11.6	1.7	12.2	1.05	9.0	2.0	13.0	1.25	15.8	0.85	16.9	0.55			
8.9	3.3	11.2	2.3	12.8	1.7	13.3	1.05	10.6	2.0	14.5	1.2	17.2	0.85	18.2	0.55			
10.3	2.9	12.4	2.25	14.1	1.7	14.5	1.05	12.3	1.9	15.9	1.15	18.4	0.85	19.4	0.55			
11.4	2.35	13.6	1.85	15.3	1.6	15.6	1.05	13.9	1.8	17.3	1.1	19.7	0.85	20.5	0.55			
12.5	1.85	14.7	1.5	16.2	1.3	16.7	1.05	15.2	1.45	18.7	1.1	20.9	0.85	21.6	0.55			
13.6	1.45	15.8	1.2	17.3	1.1	17.7	1.05	16.5	1.15	19.9	0.92	22.1	0.82	22.7	0.55			
14.8	1.15	16.9	0.98	18.3	0.89	18.8	0.87	17.7	0.93	21.0	0.74	23.1	0.67	23.7	0.55			
16.5	0.81	18.5	0.69	19.7	0.63	20.2	0.62	19.7	0.64	22.7	0.51	24.6	0.47	25.1	0.46			
19.3	0.35																	
59-84 64-84								64	-84									
	4.2 7.4 8.9 10.4 11.8 13.1 14.3 15.4 17.0 19.7 22.4 23.3 24.8 49 5 8 (m) 4.2 7.4 8.9 10.3 11.4 12.5 13.6 14.8 16.5 19.3	4.2       3.3         7.4       3.3 $7.4$ 3.3         10.4       3.3         11.8       3.3         11.8       3.3         13.1       3.15         14.3       2.6         15.4       2.2         17.0       1.7         19.7       1.1         22.4       0.71         23.3       0.56         24.8       0.37         49-84         S°         R(m)       W(t)         4.2       3.3         7.4       3.3         8.9       3.3         10.3       2.9         11.4       2.35         12.5       1.85         13.6       1.45         14.8       1.15         16.5       0.81         19.3       0.35	4.2       3.3       6.8         7.4       3.3       9.8         8.9       3.3       11.2         10.4       3.3       12.5         11.8       3.3       13.9         13.1       3.15       15.1         14.3       2.6       16.3         15.4       2.2       17.4         17.0       1.7       18.9         19.7       1.1       21.5         22.4       0.71       24.0         23.3       0.56       24.9         24.8       0.37	4.2         3.3         6.8         2.3           7.4         3.3         9.8         2.3           8.9         3.3         11.2         2.3           10.4         3.3         12.5         2.3           11.8         3.3         13.9         2.3           11.8         3.3         13.9         2.3           11.3         3.15         15.1         2.3           14.3         2.6         16.3         2.15           15.4         2.2         17.4         1.85           17.0         1.7         18.9         1.45           19.7         1.1         21.5         0.98           22.4         0.71         24.0         0.62           23.3         0.56         24.9         0.49           24.8         0.37	4.23.36.82.38.87.43.39.82.311.68.93.311.22.312.810.43.312.52.314.111.83.313.92.315.213.13.1515.12.316.414.32.616.32.1517.515.42.217.41.8518.617.01.718.91.4520.019.71.121.50.9822.522.40.7124.00.6224.723.30.5624.90.4925.524.80.37 $$	4.2       3.3       6.8       2.3       8.8       1.7         7.4       3.3       9.8       2.3       11.6       1.7         8.9       3.3       11.2       2.3       12.8       1.7         10.4       3.3       12.5       2.3       14.1       1.7         11.8       3.3       13.9       2.3       15.2       1.65         13.1       3.15       15.1       2.3       16.4       1.65         14.3       2.6       16.3       2.15       17.5       1.6         15.4       2.2       17.4       1.85       18.6       1.55         17.0       1.7       18.9       1.45       20.0       1.35         19.7       1.1       21.5       0.98       22.5       0.94         22.4       0.71       24.0       0.62       24.7       0.61         23.3       0.56       24.9       0.49       25.5       0.48         24.8       0.37	4.2       3.3       6.8       2.3       8.8       1.7       9.7         7.4       3.3       9.8       2.3       11.6       1.7       12.2         8.9       3.3       11.2       2.3       12.8       1.7       13.3         10.4       3.3       12.5       2.3       14.1       1.7       14.5         11.8       3.3       13.9       2.3       15.2       1.65       15.6         13.1       3.15       15.1       2.3       16.4       1.65       16.7         14.3       2.6       16.3       2.15       17.5       1.6       17.7         15.4       2.2       17.4       1.85       18.6       1.55       18.7         17.0       1.7       18.9       1.45       20.0       1.35       20.2         19.7       1.1       21.5       0.98       22.5       0.94       22.6         22.4       0.71       24.0       0.62       24.7       0.61       23.3       0.56       24.9       0.49       25.5       0.48         24.8       0.37	4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05         11.8       3.3       13.9       2.3       15.2       1.65       15.6       1.05         13.1       3.15       15.1       2.3       16.4       1.65       16.7       1.05         14.3       2.6       16.3       2.15       17.5       1.6       17.7       1.05         15.4       2.2       17.4       1.85       18.6       1.55       18.7       1.0         17.0       1.7       18.9       1.45       20.0       1.35       20.2       1.0         19.7       1.1       21.5       0.98       22.5       0.48       2.26       0.93         22.4       0.71       24.0       0.62       24.7       0.61       2.4       2.6       0.93         24.8       0.37	4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05       5.2         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05       9.0         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05       10.6         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05       12.3         11.8       3.3       13.9       2.3       15.2       1.65       15.6       1.05       13.9         13.1       3.15       15.1       2.3       16.4       1.65       16.7       1.05       16.8         15.4       2.2       17.4       1.85       18.6       1.55       18.7       1.0       18.2         17.0       1.7       18.9       1.45       20.0       1.35       20.2       1.0       20.2         19.7       1.1       21.5       0.98       22.5       0.94       22.6       0.93       23.3         22.4       0.71       24.0       0.62       24.7       0.61       26.2       23.3         23.3       0.56       24.9       0.49	4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05       5.2       2.0         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05       9.0       2.0         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05       10.6       2.0         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05       12.3       1.9         11.8       3.3       13.9       2.3       15.2       1.65       15.6       1.05       13.9       1.8         13.1       3.15       15.1       2.3       16.4       1.65       16.7       1.05       15.3       1.65         14.3       2.6       16.3       2.15       17.5       1.6       17.7       1.05       16.8       1.6         15.4       2.2       17.4       1.85       18.6       1.55       18.7       1.0       18.2       1.5         17.0       1.7       18.9       1.45       20.0       1.35       20.2       1.0       20.2       1.35         19.7       1.1       21.5       0.98       2	4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05       5.2       2.0       9.6         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05       9.0       2.0       13.0         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05       10.6       2.0       14.5         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05       12.3       1.9       15.9         11.8       3.3       13.9       2.3       15.2       1.65       15.6       1.05       13.9       1.8       17.3         13.1       3.15       15.1       2.3       16.4       1.65       16.7       1.05       16.8       1.6       20.0         15.4       2.2       17.4       1.85       18.6       1.55       18.7       1.0       18.2       1.5       21.2         17.0       1.7       18.9       1.45       20.0       1.35       20.2       1.0       20.2       1.35       23.1         19.7       1.1       21.5       0.98       22.6       0.93       23.3 <td< td=""><td>4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05       5.2       2.0       9.6       1.25         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05       9.0       2.0       13.0       1.25         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05       10.6       2.0       14.5       1.2         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05       12.3       1.9       15.9       1.15         11.8       3.3       13.9       2.3       15.2       1.65       16.7       1.05       15.3       1.65       18.7       1.1         14.3       2.6       16.3       2.15       17.5       1.6       17.7       1.05       16.8       1.6       20.0       1.05         15.4       2.2       17.4       1.85       18.6       1.55       18.7       1.0       18.2       1.5       21.2       1.0         17.0       1.7       18.9       1.45       20.0       1.35       20.2       1.0       20.2       1.35       23.1       1.0</td><td>4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05       5.2       2.0       9.6       1.25       12.8         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05       9.0       2.0       13.0       1.25       15.8         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05       10.6       2.0       14.5       1.2       17.2         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05       12.3       1.9       1.5       1.15       1.8         11.1       3.1       3.15       15.1       2.3       16.4       1.65       16.7       1.05       15.3       1.65       18.7       1.1       1.97         13.1       3.15       15.1       2.3       16.4       1.65       16.7       1.05       16.8       1.6       20.0       1.05       22.1         14.3       2.6       16.3       2.15       1.35       18.7       1.0       18.2       1.5       21.2       1.0       23.3         17.0       1.7       18.9       1.45       20.0</td><td>4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05       5.2       2.0       9.6       1.25       12.8       0.85         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05       9.0       2.0       13.0       1.25       12.8       0.85         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05       10.6       2.0       14.5       1.2       17.2       0.85         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05       15.3       1.65       18.7       1.1       19.7       0.85         13.1       3.15       15.1       2.3       16.4       1.65       16.7       1.05       16.8       1.6       20.0       1.05       22.1       0.85         13.3       2.6       16.3       2.15       17.5       1.6       17.7       1.05       16.8       1.6       20.0       1.05       22.1       0.83       1.0       24.9       0.84         17.0       1.7       1.89       1.45       20.0       1.35       20.2       1.0       20.2       1.35</td><td>4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05       5.2       2.0       9.6       1.25       12.8       0.85       14.4         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05       9.0       2.0       13.0       1.25       12.8       0.85       16.9         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05       10.6       2.0       14.5       1.2       17.2       0.85       18.2         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05       12.3       1.9       15.9       1.15       18.4       0.85       19.4         11.8       3.3       13.9       2.3       15.2       1.65       15.6       1.05       13.9       1.8       17.3       1.1       19.7       0.85       22.7         13.1       3.15       15.1       2.3       1.64       1.65       18.7       1.0       18.2       15.2       1.0       22.1       1.0       23.3       0.85       23.7         17.0       1.7       1.89       1.45       20.0       1.35</td></td<>	4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05       5.2       2.0       9.6       1.25         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05       9.0       2.0       13.0       1.25         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05       10.6       2.0       14.5       1.2         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05       12.3       1.9       15.9       1.15         11.8       3.3       13.9       2.3       15.2       1.65       16.7       1.05       15.3       1.65       18.7       1.1         14.3       2.6       16.3       2.15       17.5       1.6       17.7       1.05       16.8       1.6       20.0       1.05         15.4       2.2       17.4       1.85       18.6       1.55       18.7       1.0       18.2       1.5       21.2       1.0         17.0       1.7       18.9       1.45       20.0       1.35       20.2       1.0       20.2       1.35       23.1       1.0	4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05       5.2       2.0       9.6       1.25       12.8         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05       9.0       2.0       13.0       1.25       15.8         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05       10.6       2.0       14.5       1.2       17.2         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05       12.3       1.9       1.5       1.15       1.8         11.1       3.1       3.15       15.1       2.3       16.4       1.65       16.7       1.05       15.3       1.65       18.7       1.1       1.97         13.1       3.15       15.1       2.3       16.4       1.65       16.7       1.05       16.8       1.6       20.0       1.05       22.1         14.3       2.6       16.3       2.15       1.35       18.7       1.0       18.2       1.5       21.2       1.0       23.3         17.0       1.7       18.9       1.45       20.0	4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05       5.2       2.0       9.6       1.25       12.8       0.85         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05       9.0       2.0       13.0       1.25       12.8       0.85         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05       10.6       2.0       14.5       1.2       17.2       0.85         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05       15.3       1.65       18.7       1.1       19.7       0.85         13.1       3.15       15.1       2.3       16.4       1.65       16.7       1.05       16.8       1.6       20.0       1.05       22.1       0.85         13.3       2.6       16.3       2.15       17.5       1.6       17.7       1.05       16.8       1.6       20.0       1.05       22.1       0.83       1.0       24.9       0.84         17.0       1.7       1.89       1.45       20.0       1.35       20.2       1.0       20.2       1.35	4.2       3.3       6.8       2.3       8.8       1.7       9.7       1.05       5.2       2.0       9.6       1.25       12.8       0.85       14.4         7.4       3.3       9.8       2.3       11.6       1.7       12.2       1.05       9.0       2.0       13.0       1.25       12.8       0.85       16.9         8.9       3.3       11.2       2.3       12.8       1.7       13.3       1.05       10.6       2.0       14.5       1.2       17.2       0.85       18.2         10.4       3.3       12.5       2.3       14.1       1.7       14.5       1.05       12.3       1.9       15.9       1.15       18.4       0.85       19.4         11.8       3.3       13.9       2.3       15.2       1.65       15.6       1.05       13.9       1.8       17.3       1.1       19.7       0.85       22.7         13.1       3.15       15.1       2.3       1.64       1.65       18.7       1.0       18.2       15.2       1.0       22.1       1.0       23.3       0.85       23.7         17.0       1.7       1.89       1.45       20.0       1.35			

# [Jib (30.5 m Boom)]

	Outriggers fully extended (							(6.5 m)	)				-36	60°-		
Jib length			23.45	m boo	m + 8.0	) m jib					23.45 r	n boor	n + 13	.0 m jil	0	
Offset	5	0	2	5°	4	5°	60	)°	5	0	2	5°	4	5°	6	0°
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	3.0	3.3	5.6	2.3	7.6	1.7	8.6	1.05	4.2	2.0	8.5	1.25	11.6	0.85	13.2	0.55
80	5.4	3.3	7.8	2.3	9.7	1.7	10.5	1.05	7.0	2.0	11.1	1.25	13.9	0.85	15.3	0.55
78	6.5	3.3	8.9	2.3	10.7	1.7	11.4	1.05	8.3	2.0	12.2	1.2	15.0	0.85	16.2	0.55
76	7.6	3.3	9.9	2.3	11.6	1.7	12.3	1.05	9.6	1.9	13.4	1.15	16.0	0.85	17.1	0.55
74	8.7	3.3	11.0	2.3	12.5	1.65	13.2	1.05	10.9	1.8	14.5	1.1	17.0	0.85	18.1	0.55
72	9.8	3.3	12.0	2.3	13.4	1.65	14.0	1.05	12.1	1.65	15.6	1.1	18.0	0.85	18.9	0.55
70	10.9	3.3	13.0	2.3	14.3	1.6	14.8	1.05	13.3	1.6	16.7	1.05	19.0	0.85	19.8	0.55
68	11.9	3.3	13.9	2.3	15.2	1.55	15.6	1.0	14.4	1.5	17.8	1.0	19.9	0.85	20.5	0.55
65	13.4	3.3	15.4	2.3	16.4	1.55	16.7	1.0	16.1	1.4	19.3	1.0	21.2	0.84	21.7	0.55
60	15.9	2.9	17.6	2.3	18.4	1.5	18.5	1.0	18.9	1.25	21.8	0.95	23.3	0.81	23.5	0.54
55	18.1	2.6	19.7	2.15	20.2	1.45			21.5	1.15	24.0	0.91	25.2	0.79		
53	18.9	2.35	20.4	2.1	20.9	1.45			22.5	1.1	24.9	0.9	25.9	0.79		
50	20.2	2.05	21.5	1.85	21.9	1.45			23.9	1.05	26.1	0.88	26.8	0.78		
47	21.3	1.8	22.5	1.65	22.7	1.45			25.2	1.0	27.2	0.87	27.7	0.78		
45	22.0	1.65	23.1	1.55	23.2	1.45			26.0	1.0	27.9	0.87	28.2	0.78		
40	23.6	1.35	24.5	1.3					28.0	0.95	29.4	0.86				
35	25.1	1.15	25.7	1.1					29.6	0.91	30.6	0.85				
30	26.3	1.0	26.8	0.97					31.0	0.81	31.7	0.76				
25	27.3	0.88		0.86					32.2	0.71		0.67				
20	28.1	0.79							33.0	0.63						
15	28.7	0.73							33.6	0.59						
10	29.0	0.7							33.9	0.56						
5	29.0	0.7							33.9	0.56						
A (°)	4-	84	24	-84	44	-84	59	-84	4-	84	24	-84	44	-84	59	-84

	Outriggers middle extended								ded (6.1 m) -Over sides-							
Jib length			23.45	m boo	m + 8.0	) m jib				2	23.45 r	n boor	n + 13	.0 m jik	)	
Offset	5	0	2	5°	45	5°	60	)°	5	0	2	5°	4	5°	60	)°
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	3.0	3.3	5.6	2.3	7.6	1.7	8.6	1.05	4.2	2.0	8.5	1.25	11.6	0.85	13.2	0.55
80	5.4	3.3	7.8	2.3	9.7	1.7	10.5	1.05	7.0	2.0	11.1	1.25	13.9	0.85	15.3	0.55
78	6.5	3.3	8.9	2.3	10.7	1.7	11.4	1.05	8.3	2.0	12.2	1.2	15.0	0.85	16.2	0.55
76	7.6	3.3	9.9	2.3	11.6	1.7	12.3	1.05	9.6	1.9	13.4	1.15	16.0	0.85	17.1	0.55
74	8.7	3.3	11.0	2.3	12.5	1.65	13.2	1.05	10.9	1.8	14.5	1.1	17.0	0.85	18.1	0.55
72	9.8	3.3	12.0	2.3	13.4	1.65	14.0	1.05	12.1	1.65	15.6	1.1	18.0	0.85	18.9	0.55
70	10.9	3.3	13.0	2.3	14.3	1.6	14.8	1.05	13.3	1.6	16.7	1.05	19.0	0.85	19.8	0.55
68	11.9	3.3	13.9	2.3	15.2	1.55	15.6	1.0	14.4	1.5	17.8	1.0	19.9	0.85	20.5	0.55
65	13.4	3.3	15.4	2.3	16.4	1.55	16.7	1.0	16.1	1.4	19.3	1.0	21.2	0.84	21.7	0.55
60	15.9	2.9	17.6	2.3	18.4	1.5	18.5	1.0	18.9	1.25	21.8	0.95	23.3	0.81	23.5	0.54
55	18.1	2.4	19.6	2.1	20.2	1.45			21.5	1.15	24.0	0.91	25.2	0.79		
53	18.9	2.15	20.4	1.9	20.9	1.45			22.5	1.1	24.9	0.9	25.9	0.79		
50	20.0	1.85	21.4	1.7	21.9	1.45			23.9	1.05	26.1	0.88	26.8	0.78		
47	21.2	1.65	22.4	1.5	22.7	1.45			25.2	1.0	27.2	0.87	27.7	0.78		
45	22.0	1.5	23.0	1.35	23.3	1.37			26.0	1.0	27.9	0.87	28.2	0.78		
40	23.6	1.2	24.5	1.15					28.0	0.95	29.4	0.86				
35	25.0	1.0	25.7	0.97					29.6	0.82	30.7	0.76				
30	26.3	0.87	26.8	0.83					31.0	0.69	31.7	0.65				
25	27.3	0.75	27.6	0.72					32.2	0.59	32.4	0.57				
20	28.1	0.66							33.0	0.52						
15	28.6	0.59							33.6	0.46						
10	28.9	0.55							33.9	0.43						
5	29.0	0.55							33.9	0.43						
A (°)	4-	84	24	-84	44-	-84	59	-84	4-	84	24	-84	44	-84	59	-84

	Outriggers middle exte								nded (5.0 m) -Over sides-							
Jib length			23.45		m + 8.0					,	23.45 r	n boor	n + 13.	0 m jit	<u> </u>	
Offset	5	0	2!	5°	4	5°	6	С	5		2!		4		60	0°
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	3.0	3.3	5.6	2.3	7.6	1.7	8.6	1.05	4.2	2.0	8.5	1.25	11.6	0.85	13.2	0.55
80	5.4	3.3	7.8	2.3	9.7	1.7	10.5	1.05	7.0	2.0	11.1	1.25	13.9	0.85	15.3	0.55
78	6.5	3.3	8.9	2.3	10.7	1.7	11.4	1.05	8.3	2.0	12.2	1.2	15.0	0.85	16.2	0.55
76	7.6	3.3	9.9	2.3	11.6	1.7	12.3	1.05	9.6	1.9	13.4	1.15	16.0	0.85	17.1	0.55
74	8.7	3.3	11.0	2.3	12.5	1.65	13.2	1.05	10.9	1.8	14.5	1.1	17.0	0.85	18.1	0.55
72	9.8	3.3	12.0	2.3	13.4	1.65	14.0	1.05	12.1	1.65	15.6	1.1	18.0	0.85	18.9	0.55
70	10.9	3.3	13.0	2.3	14.3	1.6	14.8	1.05	13.3	1.6	16.7	1.05	19.0	0.85	19.8	0.55
68	11.9	3.3	13.9	2.3	15.2	1.55	15.6	1.0	14.4	1.5	17.8	1.0	19.9	0.85	20.5	0.55
65	13.4	3.1	15.4	2.3	16.4	1.55	16.7	1.0	16.1	1.4	19.3	1.0	21.2	0.84	21.7	0.55
60	15.7	2.2	17.5	1.9	18.4	1.5	18.5	1.0	18.9	1.25	21.8	0.95	23.3	0.81	23.5	0.54
55	17.8	1.65	19.5	1.45	20.2	1.35			21.5	1.15	24.0	0.91	25.2	0.79		
53	18.6	1.45	20.2	1.3	20.9	1.2			22.5	1.1	24.9	0.9	25.9	0.79		
50	19.8	1.2	21.3	1.1	21.8	1.05			23.9	0.98	26.0	0.84	26.8	0.78		
47	21.0	1.0	22.3	0.94	22.7	0.92			25.1	0.83	27.1	0.71	27.7	0.69		
45	21.8	0.93	22.9	0.85	23.2	0.83			25.9	0.74	27.8	0.64	28.2	0.63		
40	23.4	0.71	24.4	0.65					27.8	0.55	29.3	0.49				
35	24.8	0.53	25.7	0.5					29.5	0.41	30.6	0.36				
30	26.1	0.39	26.7	0.36												
A (°)		29	-84		44	-84	59 <sup>.</sup>	-84		34	-84		44	-84	59	-84
					utrigge		dle ex	tended	(3.6 n	· ·					sides-	
Jib length					m + 8.0						23.45 r					
Offset	5	0	2!	5°	4	5°	6	)°	5	0	25	5°	4	5°	60	0°
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	30	33	56	23	76	17	86	1.05	12	20	85	1 25	11 6	0.95	13.2	0.55

# [Jib (23.45 m Boom)]

	Outriggers mid								Idle extended (3.6 m) -Ove						r sides-		
Jib length			23.45	m boo	m + 8.0	0 m jib				4	23.45 r	n boor	n + 13.	.0 m jit	)		
Offset	5	0	2	5°	4	5°	60	С°	5	0	25	5°	4	5°	60	)°	
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	
84	3.0	3.3	5.6	2.3	7.6	1.7	8.6	1.05	4.2	2.0	8.5	1.25	11.6	0.85	13.2	0.55	
80	5.4	3.3	7.8	2.3	9.7	1.7	10.5	1.05	7.0	2.0	11.1	1.25	13.9	0.85	15.3	0.55	
78	6.5	3.3	8.9	2.3	10.7	1.7	11.4	1.05	8.3	2.0	12.2	1.2	15.0	0.85	16.2	0.55	
76	7.6	3.3	9.9	2.3	11.6	1.7	12.3	1.05	9.6	1.9	13.4	1.15	16.0	0.85	17.1	0.55	
74	8.7	3.3	11.0	2.3	12.5	1.65	13.2	1.05	10.9	1.8	14.5	1.1	17.0	0.85	18.1	0.55	
72	9.8	3.3	12.0	2.3	13.4	1.65	14.0	1.05	12.1	1.65	15.6	1.1	18.0	0.85	18.9	0.55	
70	10.8	2.8	12.9	2.2	14.3	1.6	14.8	1.05	13.3	1.6	16.7	1.05	19.0	0.85	19.8	0.55	
68	11.7	2.3	13.8	1.85	15.2	1.55	15.6	1.0	14.4	1.5	17.8	1.0	19.9	0.85	20.5	0.55	
65	13.1	1.8	15.2	1.45	16.4	1.3	16.7	1.0	16.1	1.35	19.3	1.0	21.2	0.84	21.7	0.55	
60	15.4	1.15	17.3	0.99	18.3	0.91	18.5	0.9	18.8	0.9	21.7	0.74	23.3	0.67	23.5	0.54	
55	17.6	0.75	19.3	0.65	20.1	0.61			21.2	0.57	23.9	0.48	25.1	0.44			
53	18.4	0.62	20.1	0.54	20.8	0.5			22.2	0.46	24.7	0.39	25.8	0.37			
50	19.6	0.45	21.2	0.39	21.7	0.37											
A (°)	49-84			59-84 52-84						59	-84						

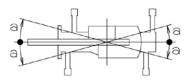
### PRECAUTIONS TO BE TAKEN WHEN THE OUTRIGGERS ARE EXTENDED:

- 1 The total rated loads shown are for the case where the crane is set horizontally on firm level ground. They include the weights of the slings and main winch hook (220 kg) when using the boom, and the weights of the slings and auxiliary winch hook (60 kg) when using the jib. The values above the bold lines are based on the crane strength while those below are based on the crane stability.
- 2 Since the working radii are based on the actual values including deflection of the boom, boom operations should be performed in accordance with the working radii.
- 3 The total rated load for the jib differs for boom lengths of 23.45 m or less and more than 23.45 m.
- 4 Use the boom angle as a reference when using the jib. The working radii are reference values for the case where a jib is mounted to a 23.45 m or a 30.5 m boom.
- 5 The total rated load for the single top is obtained by subtracting 160 kg from total rated load of the boom. It includes the weight of the sling and auxiliary hook (60 kg), and must not exceed 4.0 t.
- 6 High-speed unwind should be performed only when lowering the hook alone, and sudden braking operations must be avoided.
- 7 The table below shows the standard number of part lines for each boom length. When using with other than this number of part lines, the load per line should not exceed 3.6 t for the main winch, and 4.0 t for the auxiliary winch.

Boom length	9.35 m	16.4 m	23.45 m	30.5 m	Jib/Single top
Number of part lines	8	6	4	4	1

- 8 A single-part line is used for the hook on the jib.
- 9 The hoisting performance for the "Over sides" range will differ according to the extended width of the outriggers. Operations should be performed in accordance with the performance corresponding to the extended width. Also, although the hoisting performances for the "Over front" and "Over rear" ranges are equivalent to those of the outriggers fully extended condition, the front and rear ranges (angle a) will differ according to the width to which the outriggers are extended in the left and right directions.

Extended width	Middle extended	Middle extended	Middle extended	Minimum extended
	(6.1 m)	(5.0 m)	(3.6 m)	(2.3 m)
Angle a°	35	25	10	5



2-(2) Outrigger	Not Used
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Unit: ton

			Statio	onary			Ve	hicle mo	oving (a	t 1.6 km	h or les	ss)
Boom length	9.3	5 m	16.	4 m	23.4	l5 m	9.3	5 m	16.	4 m	23.4	5 m
Working radius	Front	-360°-	Front	-360°-	Front	-360°-	Front	-360°-	Front	-360°-	Front	-360°-
3.0 m	14.0	8.3	9.0	7.3			10.0	6.5	7.5	5.1		
3.5 m	14.0	6.8	9.0	7.3	6.5	4.5	10.0	5.2	7.5	5.1	5.5	3.2
4.0 m	12.5	5.3	9.0	5.85	6.5	4.5	9.0	4.2	7.5	4.4	5.5	3.2
4.5 m	10.9	4.3	9.0	4.75	6.5	4.5	8.2	3.4	7.5	3.7	5.5	3.2
5.0 m	9.55	3.5	8.2	4.0	6.5	4.0	7.4	2.8	7.0	3.1	5.5	3.2
5.5 m	8.3	2.8	7.4	3.3	6.1	3.4	6.7	2.4	6.2	2.7	5.15	2.8
6.0 m	7.2	2.3	6.6	2.8	5.65	2.9	5.9	1.9	5.5	2.3	4.8	2.4
6.5 m	6.25	1.8	5.9	2.35	5.25	2.5	5.1	1.5	4.9	1.9	4.45	2.05
7.0 m			5.25	1.95	4.85	2.15			4.35	1.6	4.15	1.8
8.0 m			4.1	1.4	4.1	1.6			3.4	1.1	3.5	1.4
9.0 m			3.25	0.95	3.5	1.2			2.7	0.7	2.95	1.0
10.0 m			2.6	0.6	3.0	0.85			2.15		2.45	0.65
11.0 m			2.1		2.55	0.55			1.7		2.05	
12.0 m			1.7		2.2				1.35		1.7	
13.0 m			1.35		1.85				1.1		1.45	
13.5 m			1.15		1.7				1.0		1.3	
14.0 m					1.55						1.2	
15.0 m					1.3						1.0	
16.0 m					1.05						0.85	
17.0 m					0.85						0.7	
18.0 m					0.65						0.55	
19.0 m					0.5							
A (°)		0-80		42-80	25-80	56-80		0-80		48-80	30-80	59-80

### PRECAUTIONS TO BE TAKEN WHEN THE OUTRIGGERS ARE NOT USED:

1 The total rated loads shown are for the case where the tire pressure on firm level ground is as specified (900 kPa (9.00 kgf/cm<sup>2</sup>)) and the crane is completely spring-locked (minimum telescoped length). They include the weights of the sling and main hook (220 kg).

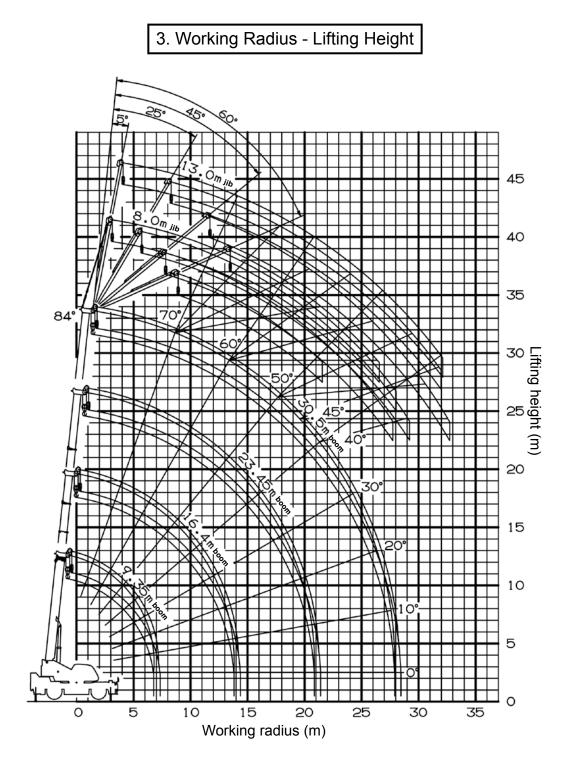
The values above the bold lines are based on the crane strength while those below are based on the crane stability. The foundation, working conditions, etc. should be taken into consideration for actual work.

- 2 Since the working radii are based on the actual values including the deflection of the boom and the tires, operations should be performed in accordance with the working radii.
- 3 The table below shows the standard number of part lines for each boom length.When using with other than this number of part lines, the load per line should not exceed 3.6 t for the main winch, and 4.0 t for the auxiliary winch.

Boom length	9.35 m	16.4 m	23.45 m	Single top
Number of part lines	4	4	4	1

- 4 High-speed lowering, work with booms exceeding 23.45 m, and work using jibs, should not be performed without outriggers.
- 5 "Over front" crane operations should be performed only when the AML "over-front area indicator lamp" is lit. The boom must be kept inside a 2° area over front of the carrier when performing "Over front" crane operations without the outriggers.

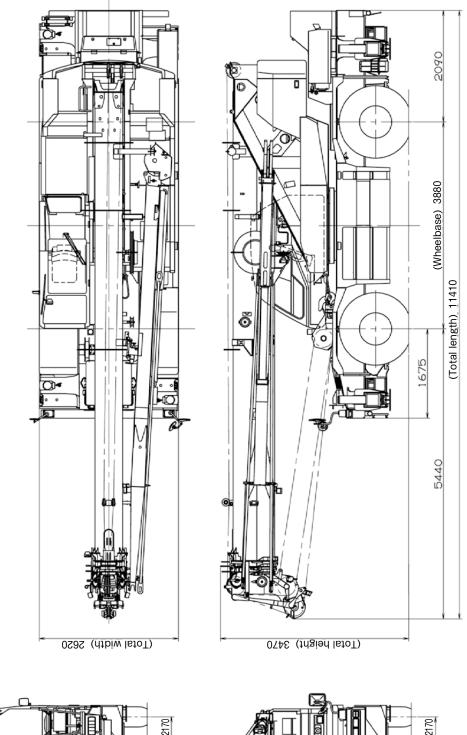
- 6 The total rated load for the single top is obtained by subtracting 160 kg from total rated load of the boom. It includes the weight of the sling and auxiliary hook (60 kg), and must not exceed 4.0 t.
- 7 The "Drive Mode Selection" switch should be set to "4-wheel / Lo" for travelling while hoisting a load and the shift lever should be set to first.
- 8 When travelling while hoisting a load, the swing brake should be applied, the load should be kept as close to the ground as possible but not touching the ground and the speed should be kept at 1.6 km/h or less. In particular, any abrupt steering, starting or braking must be avoided.
- 9 Crane operations should not be performed when travelling while hoisting a load.



Note:

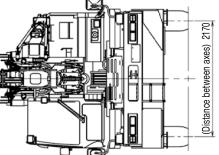
1. The deflection of the boom is not incorporated in the figure above.

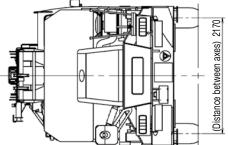
2. The figure above shows the crane with the maximum outrigger extension (6.5 m).



4. Dimensions

\* The AML external indicator lamp, loudspeaker, rear view monitoring camera, identification lamp, and roadside lamp are optional equipment.







### TADANO ROUGH TERRAIN CRANE

# MODEL: GR-300EX

(Left-hand steering)

### **GENERAL DATA**

CRANE CAPACITY	30,000 kg at 3.0 m			
BOOM	4-section,	9.7 m - 31.0 m		
DIMENSION				
Overall length Overall width Overall height	approx. approx. approx.	11,245 mm 2,620 mm 3,535 mm		
MASS				
Gross vehicle mass -front axle -rear axle	approx. approx. approx.	26,920 kg 13,170 kg 13,750 kg		
PERFORMANCE				
Max. traveling speed Gradeability (tan θ)	computed computed	50 km/h 78% (at stall) *57%		

\*Machine should be operated within the limit of engine crankcase design (30° :Cummins QSB6.7).

Specifications are subject to change without notice.

# CRANE SPECIFICATIONS

MODEL	GR-300EX
<u>CAPACITY</u>	30,000kg at 3.0m
BOOM	Four section full power partially synchronized telescoping boom of round hexagonal box construction with 3 sheaves at boom head. The synchronization system consists of 2 telescope cylinders, extension cables and retraction cables. Hydraulic cylinders fitted with holding valves. Fully retracted length 9.7m Fully extended length 31.0m Extension speed
<u>JIB</u>	Two staged swingaround boom extension. Triple offset (5°/25°/45°) type. Box type top section telescopes from lattice type base section which stows alongside base boom section. Single sheave at jib head. Length
<u>SINGLE TOP (AUXILIARY</u> <u>BOOM SHEAVE)</u>	Single sheave. Mounted to main boom head for single line work.
<u>ELEVATION</u>	By a double-acting hydraulic cylinder, fitted with holding valve. Automatic speed reduction and soft stop function. Boom angle
<u>HOIST - Main winch</u>	Variable speed type with grooved drum driven by hydraulic axial piston motor through winch speed reducer. Power load lowering and hoisting. Equipped with automatic brake (Neutral brake)and counterbalance valve. Controlled independently of auxiliary winch. Single line pull
HOOK BLOCK(Optional) - <u>30 t capacity</u>	4 sheaves, swivel type hook with safety latch.

<u>HOIST -</u> <u>Auxiliary winch</u>	<ul> <li>Variable speed type with grooved drum driven by hydraulic axial piston motor through winch speed reducer. Power load lowering and hoisting.</li> <li>Equipped with automatic brake (Neutral brake) and counterbalance valve.</li> <li>Controlled independently of main winch.</li> <li>Single line pull</li></ul>
HOOK BLOCK- 4.0 t capacity	Swivel hook with safety latch for single line use.
<u>SWING</u>	Hydraulic axial piston motor driven through planetary speed reducer. Continuous 360° full circle swing on ball bearing slew ring. Equipped with manually locked/released swing brake. Swing speed3.2min <sup>-1</sup> {rpm}
HYDRAULIC SYSTEM	<ul> <li>Pumps</li></ul>
CRANE CONTROL	By 4 control levers for swing, boom hoist, main winch, boom telescoping or auxiliary winch with 2 control pedals for boom hoist and boom telescoping based on ISO standard layout. Control lever stands can change neutral positions and tilt for easy access to cab.

<u>CAB</u>	Both crane and drive operations can be performed from one cab mounted on rotating superstructure. One sided one-man type, steel construction with sliding door access and tinted safety glass windows opening at side. Door window is powered control. Operator's 3 way adjustable seat with headrest and armrest. Hot water cab heater and air conditioning.
TADANO Automatic Moment Limiter (Model:AML-C)	Main unit in crane cab gives audible and visual warning of approach to overload. Automatically cuts out crane motions before overload. With working range (load radius and/or boom angle and/or tip height and/or swing range) limit function. Automatic Speed Reduction and Soft Stop function on boom elevation and swing. Following functions are displayed. Load as percentage Number of parts of line of rope Boom angle Boom length Load radius Outriggers position On-tire indicator Actual hook load Permissible load Boom position indicator Potential hook height Swing angle Main hydraulic oil pressure Jib length and jib offset angle (only when jib operation)
OUTRIGGERS	Hydraulically operated H-type outriggers. Each outrigger controlled simultaneously or independently from the cab. Equipped with sight level gauge. Floats mounted integrally with the jacks retract to within vehicle width. All cylinders fitted with pilot check valves. Crane operation with different extended length of each outrigger. Equipped with extension width detector for each outrigger. Extended width Fully
<u>COUNTERWEIGHT</u>	Integral with swing frame Mass 2,380kg

# CARRIER SPECIFICATIONS

<u>TYPE</u>	Rear engine, left hand steering, driving axle 2-way selected type (by manual switch). 4 x 2 front drive 4 x 4 front and rear drive							
<u>FRAME</u>	High-tensile steel, all welded mono-box construction.							
<u>ENGINE</u>	<ul> <li>Model Cummins QSB6.7 [EUROMOT Stage III A] Type 4 cycle, turbo charged and after cooled, 6 cylinder in line, direct injection, water cooled diesel engine.</li> <li>Piston displacement6,700cm<sup>3</sup></li> <li>Bore x stroke107mm x 124mm Max. output</li></ul>							
TRANSMISSION	<ul> <li><u>ON</u> Electronically controlled full automatic transmission. Torque converter driving full powershift with driving axle selector. 6 forward and 2 reverse speeds.</li> <li>2 speeds - High range - 2 wheel drive ; 4 wheel drive 4 speeds - Low range - 4 wheel drive</li> </ul>							
<u>AXLES</u>	<ul><li>FrontFull floating type, steering and driving axle with planetary reduction.</li><li>Rear Full floating type, steering and driving axle with planetary reduction.</li><li>Non-spin differential.</li></ul>							
<u>STEERING</u>	Hydraulic power steering controlled by steering wheel. Three steering modes available: 2-wheel front 4-wheel coordinated 4-wheel crab							
SUSPENSION	FrontSemi-elliptic leaf springs with hydraulic lockout device.							
	RearSemi-elliptic leaf springs with hydraulic lockout device.							
<u>BRAKE SYSTEM</u>	ServiceAir over hydraulic disc brakes on all 4 wheels. Parking / Emergency Spring applied-air released brake acting on input shaft of front axle. AuxiliaryElectro-pneumatic operated exhaust brake.							
ELECTRIC SYSTEM	24 V DC. 2 batteries of 12 V - 120 Ah capacity.							
FUEL TANK CAPACITY	300 liters							
TIRES	Front445 / 95 R 25(OR), Single x 2 Air pressure: 900kPa Rear445 / 95 R 25(OR), Single x 2 Air pressure: 900kPa							
TURN RADIUS	Min. turning radius (at center of extreme outer tire) 2-wheel steering9.8m 4-wheel steering5.8m							

# EQUIPMENT

STANDARD EQUIPMENT	Automatic moment limiter(AML) External lamp (AML) Pendant type over-winding cutout Winch automatic fail-safe brake Hook safety latch Pilot check valves Holding valves Counterbalance valves Hydraulic pressure relief valves Swing brake Swing lock Boom angle indicator Boom elevation foot pedal Boom telescoping foot pedal Outrigger extension width detector Hot water cab heater, air conditioner and defroster Sight level gauge Hydraulic oil cooler Electric windshield wiper and washer Roof window wiper and washer Power window (Cab door) Tachometer/Speedometer 3 way adjustable cloth seat with seat belt, headrest and armrest Cab floor mat Sun visor (Front and roof) Automatic drive system Transmission neutral position engine start Overshift prevention Parking braked travel warning Tilt-telescope steering wheel Back-up alarm Air cleaner dust indicator Air dryer Water separator with filter Engine over-run alarm Hydraulic lockout suspension Non-spin differential (Rear) Towing eyes - front and rear Winch drum rotation indicator (Audible and visual type) Fuel consumption monitor Positive control
OPTIONAL EQUIPMENT	Over-unwinding prevention Cable follower Tire inflation kit Emergency steering Red warning lamp (Top boom) Hook block - 30t capacity (4 sheaves, swivel type with safety latch. Mass : approx. 270 kg)

### ISO 4305

	ON OUTRIGGERS FULLY EXTENDED 6.3m SPREAD									
	360° ROTATION (Unit: ×1000kg)									
A	9.	.7m	16	5.8m	24	.4m	31.0m			
В	С		С		C		С			
3.0	60.6	30.0	74.4	19.2	79.7	12.5				
3.5	57.0	27.2	72.5	19.2	78.5	12.5				
4.0	53.1	23.4	70.9	19.2	77.5	12.5	80.8	8.4		
4.5	49.2	21.3	68.9	18.3	76.3	12.5	80.0	8.4		
5.0	44.7	19.6	67.1	17.0	75.0	12.5	79.1	8.4		
5.5	40.3	18.1	65.1	15.8	74.0	12.5	78.3	8.4		
6.0	34.9	16.6	63.3	14.7	72.8	12.5	77.3	8.4		
6.5	28.7	15.2	61.4	13.6	71.5	11.7	76.6	8.4		
7.0	18.3	14.1	59.4	12.9	70.3	11.0	75.6	8.1		
8.0			54.9	10.9	67.7	9.75	73.7	7.5		
9.0			50.5	9.0	65.0	8.75	71.8	6.8		
10.0			45.8	7.05	62.4	7.9	69.8	6.2		
11.0			40.3	5.8	59.5	6.6	67.6	5.8		
12.0			34.3	4.8	56.5	5.6	65.6	5.4		
13.0			27.0	4.05	53.6	4.75	63.5	5.0		
14.0			15.7	3.4	50.4	4.15	61.3	4.4		
15.0					47.0	3.6	59.0	3.85		
16.0					43.4	3.2	56.6	3.45		
17.0					39.6	2.75	54.2	3.05		
18.0					35.5	2.45	51.8	2.65		
19.0					30.7	2.05	49.2	2.4		
20.0					25.6	1.8	46.6	2.1		
22.0							40.8	1.7		
24.0							34.4	1.3		
26.0							26.2	1.0		
28.0							13.4	0.5		
D				(	)°					

Unit: ×1000kg

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE									
ON OUTRIGGERS FULLY EXTENDED 6.3m SPREAD 360° ROTATION										
A /	<b>A</b> 9.7m			16.8m		.4m	31.0m			
C 🔨	В		В		В		В			
0 <sup>°</sup>	7.2	7.2         13.4         14.3         3.2         21.9         1.2         28.5         0.5								

A :Boom length (m)

B:Load radius (m)

**C** :Loaded boom angle (°)

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

#### ISO 4305

	ON OUTRIGGERS FULLY EXTENDED 6.3m SPREAD												
	360° ROTATION												
		31.0r	n Boor	n + 7.2ı	n Jib			31.0m Boom + 12.8m Jib					
С	5°	Tilt	25 <sup>°</sup>	Tilt	45 <sup>°</sup>	Tilt	С	5°	Tilt	25 <sup>°</sup>	Tilt	45 <sup>°</sup>	Tilt
	R	W	R	W	R	W		R	W	R	W	R	W
80 <sup>°</sup>	5.9	3.5	8.1	2.4	9.8	1.7	80 <sup>°</sup>	7.7	2.2	11.7	1.2	14.6	0.8
77.5°	7.7	3.5	9.8	2.3	11.4	1.65	77.5 <sup>°</sup>	9.8	2.15	13.5	1.15	16.3	0.78
75 <sup>°</sup>	9.4	3.5	11.4	2.2	12.9	1.6	75 <sup>°</sup>	11.8	2.1	15.3	1.1	17.9	0.75
72.5°	11.2	3.23	13.0	2.1	14.4	1.55	72.5°	13.6	1.93	17.1	1.05	19.4	0.73
70 <sup>°</sup>	12.7	2.95	14.6	2.0	15.8	1.5	70 <sup>°</sup>	15.5	1.75	18.8	1.0	21.0	0.7
67.5°	14.3	2.75	16.1	1.93	17.2	1.45	67.5 <sup>°</sup>	17.2	1.63	20.5	0.95	22.5	0.68
65 <sup>°</sup>	15.8	2.55	17.5	1.85	18.6	1.4	65°	18.9	1.5	22.0	0.9	23.9	0.65
62.5°	17.3	2.35	19.0	1.8	19.9	1.38	62.5 <sup>°</sup>	20.6	1.4	23.6	0.88	25.2	0.65
60 <sup>°</sup>	18.7	2.15	20.4	1.75	21.2	1.35	60 <sup>°</sup>	22.3	1.3	25.1	0.85	26.6	0.65
57.5°	20.0	1.95	21.6	1.65	22.4	1.33	57.5°	23.8	1.23	26.4	0.8	27.8	0.65
55°	21.4	1.75	22.9	1.55	23.6	1.3	55°	25.4	1.15	27.9	0.75	29.0	0.65
52.5°	22.6	1.55	24.0	1.38	24.7	1.23	52.5°	26.8	1.1	29.2	0.73	30.2	0.63
50 <sup>°</sup>	23.9	1.35	25.2	1.2	25.7	1.15	50°	28.3	1.05	30.5	0.7	31.4	0.6
47.5°	25.0	1.18	26.3	1.1	26.7	1.1	47.5 <sup>°</sup>	29.6	0.9	31.7	0.68	32.5	0.6
45 <sup>°</sup>	26.0	1.0	27.3	1.0	27.7	1.0	45 <sup>°</sup>	30.8	0.75	32.8	0.65	33.5	0.6
42.5°	27.1	0.9	28.2	0.9			42.5°	32.0	0.68	33.8	0.6		
40 <sup>°</sup>	28.1	0.8	29.1	0.8			40 <sup>°</sup>	33.1	0.6	34.8	0.55		
37.5°	29.0	0.7	30.0	0.7			37.5°	34.2	0.53	35.7	0.48		
35°	30.0	0.6	30.8	0.6			35°	35.2	0.45	36.5	0.4		
32.5°	30.8	0.53	31.5	0.53			32.5°	36.1	0.4				
30 <sup>°</sup>	31.6	0.45	32.2	0.45			30°	37.0	0.35				
27.5°	32.3	0.4	32.8	0.38									
25°	33.0	0.35	33.4	0.3									

C :Boom angle (°)
R :Load radius (m)
W :Rated lifting capacity (Unit:×1000kg)

### ISO 4305

	ON OUTRIGGERS MID EXTENDED 5.9m SPREAD									
	360 <sup>°</sup> ROTATION (Unit: ×1000kg)									
A	9.	.7m	16	3.8m	24	.4m	31.0m			
В	С		С		С		С			
3.0	60.6	30.0	74.4	19.2	79.7	12.5				
3.5	57.0	27.2	72.5	19.2	78.5	12.5				
4.0	53.1	23.4	70.9	19.2	77.5	12.5	80.8	8.4		
4.5	49.2	21.3	68.9	18.3	76.3	12.5	80.0	8.4		
5.0	44.7	19.6	67.1	17.0	75.0	12.5	79.1	8.4		
5.5	40.3	18.1	65.1	15.8	74.0	12.5	78.3	8.4		
6.0	34.9	16.6	63.3	14.7	72.8	12.5	77.3	8.4		
6.5	28.7	15.2	61.4	13.6	71.5	11.7	76.6	8.4		
7.0	18.3	12.9	59.4	12.6	70.3	11.0	75.6	8.1		
8.0			54.9	9.65	67.7	9.75	73.7	7.5		
9.0			50.5	7.7	65.0	8.75	71.8	6.8		
10.0			45.8	6.25	62.1	7.05	69.8	6.2		
11.0			40.3	5.15	59.4	5.95	67.6	5.8		
12.0			34.3	4.2	56.5	4.95	65.5	5.3		
13.0			27.0	3.5	53.4	4.2	63.2	4.5		
14.0			15.7	2.9	50.2	3.55	61.1	3.85		
15.0					46.9	3.05	58.8	3.35		
16.0					43.3	2.6	56.5	2.85		
17.0					39.5	2.25	54.0	2.5		
18.0					35.2	1.85	51.6	2.2		
19.0					30.6	1.6	49.1	1.85		
20.0					25.1	1.35	46.4	1.6		
22.0							40.4	1.15		
24.0							33.6	0.8		
26.0							25.6	0.55		
D				(	)°					

Unit: ×1000kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE									
ON OUTRIGGERS MID EXTENDED 5.9m SPREAD 360° ROTATION									
A	9.	7m	16	.8m	24	.4m	31.0m		
c 🔪	В		В		В		В		
0°	7.2	12.0	14.3	2.7	21.9	0.9	28.5	0.3	

A :Boom length (m)

**B**:Load radius (m)

**C** :Loaded boom angle (°)

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

#### ISO 4305

	ON OUTRIGGERS MID EXTENDED 5.9m SPREAD												
	360° ROTATION												
		31.0r	n Boor	n + 7.2ı	n Jib				31.0n	n Boom	ı + 12.8	lm Jib	
С	5°	Tilt	25 <sup>°</sup>	Tilt	45 <sup>°</sup>	Tilt	С	5 <sup>°</sup>	Tilt	25 <sup>°</sup>	Tilt	45 <sup>°</sup>	<sup>o</sup> Tilt
	R	W	R	W	R	W		R	W	R	W	R	W
80 <sup>°</sup>	5.9	3.5	8.1	2.4	9.8	1.7	80°	7.7	2.2	11.7	1.2	14.6	0.8
77.5°	7.7	3.5	9.8	2.3	11.4	1.65	77.5°	9.8	2.15	13.5	1.15	16.3	0.78
75 <sup>°</sup>	9.4	3.5	11.4	2.2	12.9	1.6	75°	11.8	2.1	15.3	1.1	17.9	0.75
72.5°	11.2	3.23	13.0	2.1	14.4	1.55	72.5 <sup>°</sup>	13.6	1.93	17.1	1.05	19.4	0.73
70 <sup>°</sup>	12.7	2.95	14.6	2.0	15.8	1.5	70 <sup>°</sup>	15.5	1.75	18.8	1.0	21.0	0.7
67.5°	14.3	2.75	16.1	1.93	17.2	1.45	67.5 <sup>°</sup>	17.2	1.63	20.5	0.95	22.5	0.68
65 <sup>°</sup>	15.8	2.55	17.5	1.85	18.6	1.4	65 <sup>°</sup>	18.9	1.5	22.0	0.9	23.9	0.65
62.5°	17.3	2.35	19.0	1.8	19.9	1.38	62.5°	20.6	1.4	23.6	0.88	25.2	0.65
60 <sup>°</sup>	18.7	2.15	20.4	1.75	21.2	1.35	60 <sup>°</sup>	22.3	1.3	25.1	0.85	26.6	0.65
57.5°	20.0	1.88	21.6	1.6	22.4	1.33	57.5°	23.8	1.23	26.4	0.8	27.8	0.65
55°	21.4	1.6	22.9	1.45	23.6	1.3	55°	25.4	1.15	27.9	0.75	29.0	0.65
52.5°	22.6	1.35	24.0	1.25	24.7	1.15	52.5°	26.8	1.0	29.2	0.73	30.2	0.63
50 <sup>°</sup>	23.9	1.1	25.1	1.05	25.7	1.0	50°	28.2	0.85	30.4	0.7	31.3	0.6
47.5°	25.0	0.95	26.1	0.9	26.7	0.88	47.5°	29.5	0.73	31.6	0.63	32.3	0.55
45°	26.0	0.8	27.1	0.75	27.7	0.75	45°	30.7	0.6	32.7	0.55	33.3	0.5
42.5°	27.1	0.68	28.1	0.63			42.5°	31.9	0.48	33.7	0.45		
40 <sup>°</sup>	28.1	0.55	29.0	0.5			40 <sup>°</sup>	33.1	0.35	34.7	0.35		
37.5°	29.0	0.48	29.8	0.43									
35°	30.0	0.4	30.7	0.35									

C :Boom angle (°)
R :Load radius (m)
W :Rated lifting capacity (Unit:×1000kg)

### ISO 4305

ON OUTRIGGERS MID EXTENDED 5.0m SPREAD									
	ONC						KEAD		
	360° ROTATION (Unit: ×1000kg)								
A		.7m		5.8m		.4m		.0m	
В	С		С		С		С		
3.0	60.6	30.0	74.4	19.2	79.7	12.5			
3.5	57.0	27.2	72.5	19.2	78.5	12.5			
4.0	53.1	23.4	70.9	19.2	77.5	12.5	80.8	8.4	
4.5	49.2	21.3	68.9	18.3	76.3	12.5	80.0	8.4	
5.0	44.7	19.6	67.1	17.0	75.0	12.5	79.1	8.4	
5.5	40.3	15.7	65.1	15.0	74.0	12.5	78.3	8.4	
6.0	34.9	13.2	63.3	12.65	72.8	12.5	77.3	8.4	
6.5	28.7	11.3	61.4	10.85	71.5	11.7	76.6	8.4	
7.0	18.2	9.65	59.4	9.5	70.1	10.4	75.6	8.1	
8.0			54.9	7.3	67.5	8.2	73.7	7.5	
9.0			50.5	5.8	64.8	6.7	71.8	6.8	
10.0			45.8	4.7	62.0	5.5	69.5	5.8	
11.0			40.3	3.8	59.3	4.65	67.3	4.9	
12.0			34.3	3.1	56.3	3.9	65.2	4.25	
13.0			27.0	2.55	53.0	3.25	63.0	3.6	
14.0			15.7	1.9	49.9	2.75	60.8	3.1	
15.0					46.6	2.3	58.5	2.65	
16.0					43.0	1.9	56.1	2.25	
17.0					39.4	1.6	53.8	1.95	
18.0					35.2	1.35	51.3	1.65	
19.0					30.5	1.1	48.7	1.4	
20.0					24.9	0.75	46.0	1.2	
22.0							40.3	0.8	
D				0 <sup>°</sup>			2	26°	
							Unit:	×1000kg	

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE										
ON OUTRIGGERS MID EXTENDED 5.0m SPREAD 360° ROTATION											
A	9.	.7m	16	6.8m	24	.4m					
C 🔨	В		В	ВВ							
0 <sup>°</sup>	7.2	9.0	14.3	1.8	21.9	0.5					

A:Boom length (m)

B :Load radius (m)

**C** :Loaded boom angle (°)

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

#### ISO 4305

			ON O	UTRIG	GERS	6 MID E	XTEN	DED 5	.0m SF	PREAD	)				
					3	60° R0	DTATIC	N							
		31.0r	m Boor	n + 7.2ı	m Jib			31.0m Boom + 12.8m J					ı Jib		
С	5°	Tilt	25 <sup>°</sup>	<sup>o</sup> Tilt	45 <sup>°</sup>	Tilt	С	5 <sup>°</sup>	Tilt	25 <sup>°</sup>	<sup>°</sup> Tilt	45 <sup>°</sup>	Tilt		
	R	W	R	W	R	W		R	W	R	W	R	W		
80 <sup>°</sup>	5.9	3.5	8.1	2.4	9.8	1.7	80 <sup>°</sup>	7.7	2.2	11.7	1.2	14.6	0.8		
77.5 <sup>°</sup>	7.7	3.5	9.8	2.3	11.4	1.65	77.5 <sup>°</sup>	9.8	2.15	13.5	1.15	16.3	0.78		
75°	9.4	3.5	11.4	2.2	12.9	1.6	75°	11.8	2.1	15.3	1.1	17.9	0.75		
72.5°	11.2	3.23	13.0	2.1	14.4	1.55	72.5 <sup>°</sup>	13.6	1.93	17.1	1.05	19.4	0.73		
70 <sup>°</sup>	12.7	2.95	14.6	2.0	15.8	1.5	70 <sup>°</sup>	15.5	1.75	18.8	1.0	21.0	0.7		
67.5°	14.3	2.7	16.1	1.93	17.2	1.45	67.5°	17.2	1.63	20.5	0.95	22.5	0.68		
65 <sup>°</sup>	15.8	2.45	17.5	1.85	18.6	1.4	65°	18.9	1.5	22.0	0.9	23.9	0.65		
62.5°	17.1	2.05	18.9	1.65	19.9	1.38	62.5 <sup>°</sup>	20.6	1.38	23.6	0.88	25.2	0.65		
60 <sup>°</sup>	18.6	1.65	20.2	1.45	21.1	1.35	60 <sup>°</sup>	22.2	1.25	25.1	0.85	26.6	0.65		
57.5°	19.8	1.38	21.5	1.23	22.3	1.15	57.5 <sup>°</sup>	23.7	1.03	26.5	0.75	27.8	0.65		
55°	21.1	1.1	22.7	1.0	23.4	0.95	55°	25.1	0.8	27.7	0.65	29.0	0.65		
52.5°	22.4	0.93	23.9	0.83	24.5	0.8	52.5°	26.5	0.65	29.0	0.55	30.2	0.55		
50 <sup>°</sup>	23.6	0.75	25.0	0.65	25.5	0.65	50 <sup>°</sup>	27.9	0.5	30.3	0.45	31.2	0.45		
47.5°	24.8	0.6	26.1	0.5	26.6	0.5									
45 <sup>°</sup>	25.9	0.45	27.1	0.35	27.5	0.35									

C :Boom angle (°)
R :Load radius (m)
W :Rated lifting capacity (Unit:×1000kg)

### ISO 4305

	ON C	UTRIGG					READ	
			ROTAT		nit: ×10	0/		
<b>A</b>	-	.7m	16.8m			.4m		.0m
В	С		С		С		С	
3.0	60.6	13.2	74.2	13.0	79.5	12.5		
3.5	57.0	10.25	72.2	9.8	78.4	10.9		
4.0	53.1	8.0	70.5	7.8	77.2	8.8	79.9	8.0
4.5	49.2	6.7	68.4	6.45	75.9	7.25	79.0	7.2
5.0	44.7	5.7	66.8	5.3	74.6	6.2	77.9	6.05
5.5	40.3	4.7	64.6	4.4	73.3	5.2	77.0	5.45
6.0	34.9	3.85	62.8	3.65	72.0	4.4	76.1	4.8
6.5	28.7	3.3	60.9	3.05	70.6	3.8	75.1	4.25
7.0	18.3	2.7	58.7	2.6	69.5	3.3	74.1	3.65
8.0			54.6	1.85	66.7	2.4	72.3	2.75
9.0			50.2	1.2	64.1	1.75	70.3	2.05
10.0			45.1	0.55	61.3	1.35	68.3	1.5
11.0					58.7	0.95	66.2	1.2
12.0					55.9	0.55	64.3	0.9
13.0							62.2	0.5
D		0°	4	40°	5	$53^{\circ}$	6	60°
Unit: ×1000kg								

-											
	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE										
ON OUTRIGGERS MIN EXTENDED 2.2m SPREAD 360° ROTATION											
	9.	.7m									
C	В										
0 <sup>0</sup>	7.2	2.5									

A:Boom length (m)

**B**:Load radius (m)

 $\boldsymbol{\mathsf{C}}$  :Loaded boom angle (°)

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

### NOTES FOR "ON OUTRIGGERS" TABLE

- 1. Rated lifting capacities shown in the table are based on condition that crane is set on firm level surface. Those above thick lines are based on crane strength and those below, on its stability.
- 2. Rated lifting capacities based on crane stability are according to ISO 4305.
- 3. The mass of the hook (270kg for 30t capacity,100kg for 4.0t capacity),slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
- 4. For rated lifting capacity of single top, reduce the rated lifting capacities of relevant boom according to a weight reduction for auxiliary load handling equipment. Capacities of single top shall not exceed 4,000kg including main boom hook mass and the net capacity must be so reduced.
- 5. Standard number of parts of line for each boom length is as shown below. Load per line should not surpass 39.2kN {4,000kgf} for main winch and auxiliary winch.

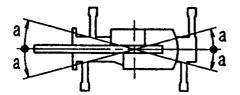
Boom length	9.7m	9.7m to 16.8m	16.8m to 31.0m	Single top Jib
Number of parts of line	8	6	4	1

The lifting capacity data stored in the AUTOMATIC MOMENT LIMITER (AML) is based on the standard number of parts of line listed in the chart.

Maximum lifting capacity is restricted by the number of parts of line of AUTOMATIC MOMENT LIMITER (AML).

6. The lifting capacity for over-side area differs depending on the outrigger extension width. Work with the capacity corresponding to the extension width. The lifting capacities for over-front and over-rear areas are for "outriggers fully extended". However, the areas (angle **a**) differ depending on the outrigger extension width.

Outriggers extended width	5.9m	5.0m	2.2m
	(middle)	(middle)	(minimum)
Angle <b>a</b> °	45	40	15



### ISO 4305

			ON R	UBBER	STAT	IONAR	Y (Uni	it: ×100	Okg)			
			Over	Front					360° F	Rotation		
Α /	9.	7m	16	.8m	24.4m		9.7m		16	.8m	24.4m	
В	С		С		С		С		С		С	
3.0	60.6	18.0					60.6	11.0				
3.5	56.8	17.0					57.1	9.0				
4.0	53.0	15.0					53.5	7.3				
4.5	49.2	12.7	68.8	11.0			49.7	5.7	68.5	5.5		
5.0	44.9	10.6	66.9	9.5			45.4	4.9	66.3	4.5		
5.5	39.9	9.0	64.9	8.0			40.8	4.0	64.6	3.7		
6.0	34.6	7.7	63.1	7.0			35.3	3.2	62.5	3.1		
6.5	27.7	6.6	61.1	6.1			28.9	2.75	60.9	2.5		
7.0	17.7	5.7	59.0	5.3			20.5	2.27	58.6	2.1		
8.0			54.6	4.25	67.2	5.0			54.6	1.4	66.9	2.2
9.0			50.0	3.45	64.3	3.9			49.9	0.85	64.3	1.6
10.0			45.2	2.65	61.6	3.15					61.6	1.1
11.0			40.1	2.1	58.8	2.55					58.7	0.8
12.0			33.8	1.6	55.9	2.1						
13.0			26.5	1.2	52.9	1.75						
14.0			15.7	0.75	49.7	1.4						
15.0					46.7	1.1						
16.0					43.1	0.85						
17.0					39.4	0.6						
D		0°			2	28°	(	Со	4	4 <sup>0</sup>	5	6°

										l	Unit: ×	1000kg
	LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE											
ON RUBBER STATIONARY												
			Over	Front			360° Rotation					
Α /	9.	9.7m 16.8m				_	9.	7m		_		_
C 🔪	В		В				В					
0°	7.2	5.4	14.3	0.7			7.2	2.1				

A:Boom length (m)

B :Load radius (m)

**C** :Loaded boom angle (°)

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

### ISO 4305

			O	I RUBB	ER CF	REEP (	Unit: ×	1000kg	)											
			Over	Front			360° Rotation													
<b>A</b>	9.	7m	16	.8m	24	.4m	9.7m		16.8m		24.4m									
в	С		С		С		С		С		С									
3.0	60.6	18.0					60.6	10.0												
3.5	56.8	15.45					57.0	8.0												
4.0	53.0	13.0					53.3	6.5												
4.5	49.0	11.1	68.6	9.7			49.2	5.1	68.6	5.1										
5.0	44.7	9.3	66.6	8.4			44.4	4.3	66.6	4.2										
5.5	39.8	7.95	64.6	7.0			39.6	3.7	64.7	3.5										
6.0	34.7	6.7	62.8	6.0			34.0	3.0	62.7	2.7										
6.5	28.0	5.75	60.8	5.3			27.0	2.5	60.7	2.35										
7.0	18.2	5.0	58.7	4.65			18.1	1.95	58.9	1.85										
8.0			54.4	3.6	67.0	4.3			54.5	1.3	67.0	1.9								
9.0			49.9	2.8	64.3	3.4			50.2	0.75	64.3	1.35								
10.0			45.1	2.3	61.7	2.8					61.7	0.9								
11.0			39.6	1.8	58.8	2.25					58.8	0.6								
12.0			33.3	1.35	56.0	1.8														
13.0			26.0	1.0	52.9	1.5														
14.0			14.6	0.6	49.7	1.2														
15.0					46.4	0.95														
16.0					42.9	0.6														
D	<b>D</b> 0°					1°		0°	2	14 <sup>°</sup>		56°								
										l	Jnit: ×′	Unit: ×1000kg								

	LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE ON RUBBER CREEP											
	Over Front 360° Rotation											
Α /	9.	9.7m 16.8m					9.	7m				
C 🔪	В	ВВ										
0°	7.2	4.7	14.3	0.5			7.2	1.8				

A:Boom length (m)

B :Load radius (m)

**C** :Loaded boom angle (°)

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

### NOTES FOR "ON RUBBER" TABLES

- 1. Rated lifting capacities shown in the table are based on condition that crane is set on firm level surface, with suspension lock applied. Those above thick 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.
- 2. Rated lifting capacities based on crane stability are according to ISO 4305.
- 3. The mass of the hook (270kg for 30t capacity,100kg for 4.0t capacity), slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
- 4. For rated 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 4,000kg including main hook.
- 5. On rubber lifting with "jib" is not permitted. Maximum permissible boom length is 24.4 m.
- 6. CREEP is motion for crane not to travel more than 60 m in any 30 minute period and to travel at the speed of less than 1.6km/h.
- 7. During "CREEP" duties travel slowly and keep the lifting load as close to the ground as possible, and especially avoid any abrupt steering, accelerating or braking.
- 8. Do not operate the crane while carrying the load.
- 9. Tires should be inflated to their correct air pressure of 900kPa.
- 10. For CREEP operation, choose the drive mode and proper gear according to the road or working condition.
- 11. Standard number of parts of line for on rubber operation should be according to the following table.

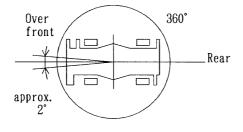
Load per line should not surpass 39.2kN {4,000kgf} for main winch and auxiliary winch.

Boom length	9.7m	9.7m to 24.4m	Single top
Number of parts of line	6	4	1

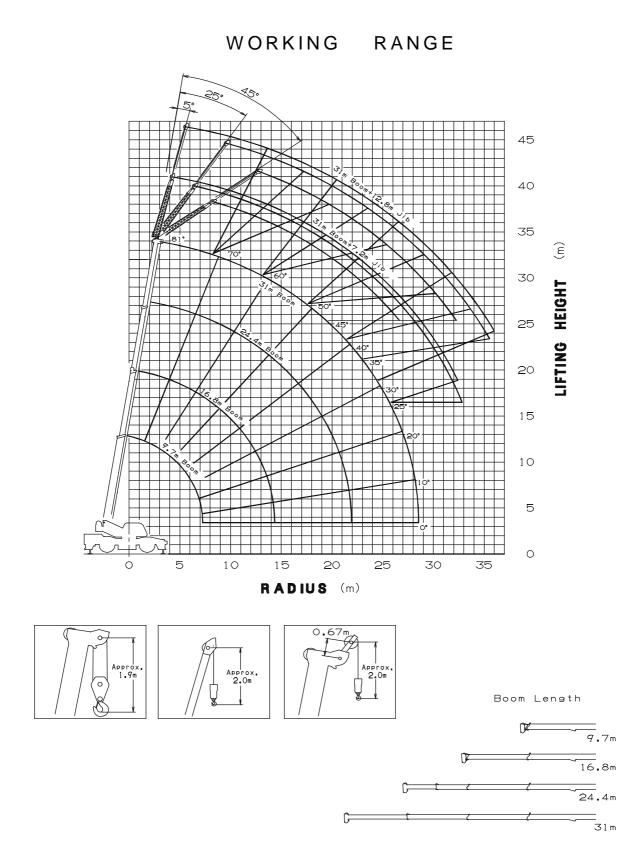
The lifting capacity data stored in the AUTOMATIC MOMENT LIMITER (AML) is based on the standard number of parts of line listed in the chart.

Maximum lifting capacity is restricted by the number of parts of line of AUTOMATIC MOMENT LIMITER (AML).

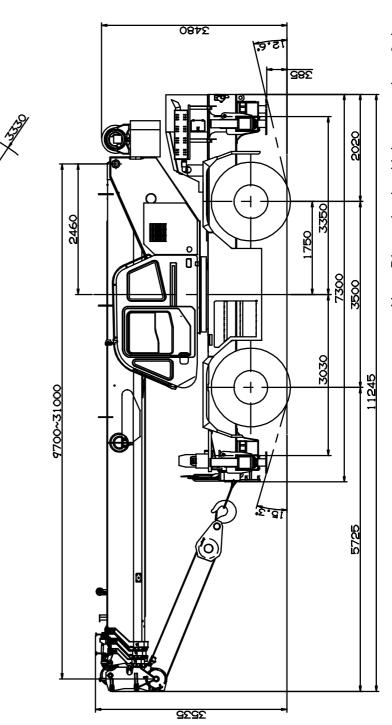
### WORKING AREA

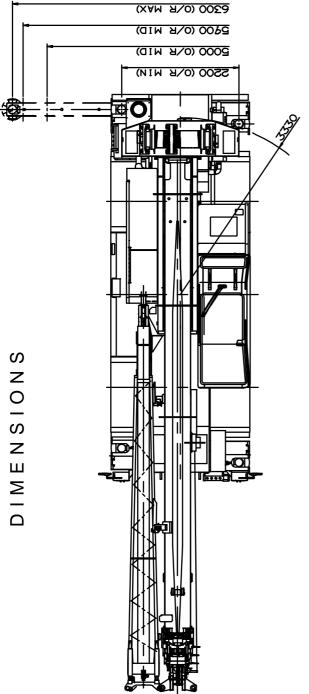


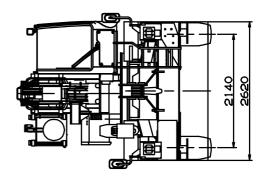
Without outriggers "Over front" operation should be performed within 2 degrees in front of chassis.



NOTE: The above lifting height and boom angle are based on a straight (unladen) boom, and allowance should be made for boom deflection obtained under laden conditions. The above working range is shown on condition with outriggers fully(6.3m) extended.



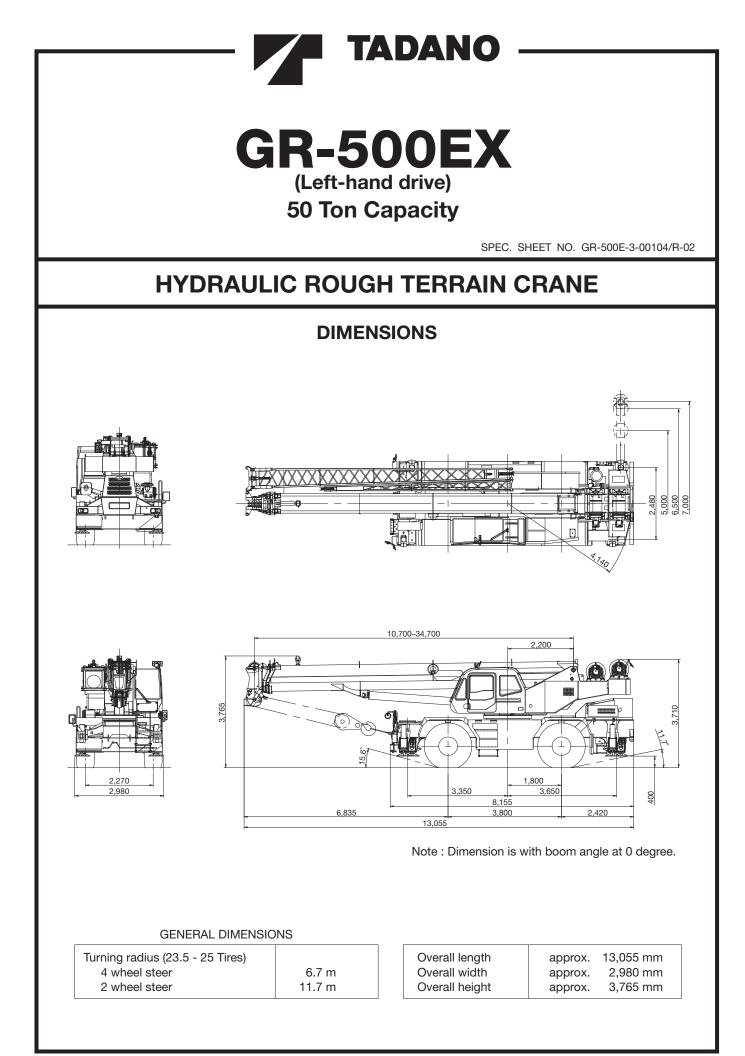




SPEC. SHEET No. GR-300E-2-00102/C-02

			UNIT : kg
	GVW	Front	Rear
Basic standard machine includes: 4-section boom (9.7m - 31.0m) 2-stage jib (7.2m, 12.8m) Cummins QSB6.7 445 / 95 R 25 tires Single top 4.0ton hook ball	26,920	13,170	13,750
Add: 1. 30ton 4 sheaves hook block	+270	+480	-210
Remove: 1. 2-stage jib (7.2m, 12.8m) 2. 4.0ton hook ball	-630 -100	-1,085 -140	+455 +40

# GR-300EX Axle Weight Distribution Chart



### BOOM

4 section full power partially synchronized telescoping boom of round box construction with 4 sheaves at boom head. The synchronization system consists of a telescope cylinder, 2 extension cables and retraction cables. Hydraulic cylinder fitted with holding valve. 2 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.

Fully retracted length...... 10.7 m Fully extended length ..... 34.7 m Extension speed...... 24.0 m in 72 s Root diameter..... 0.44 m

### BOOM ELEVATION

By a double acting hydraulic cylinder with holding valve. Combination controls for hand or foot operation. Boom angle indicator.

Automatic speed reduction and slow stop function. Boom angle ..... -0.8°- 81° Boom raising speed ...... 20° to 60° in 27 s

### JIB

2 stage swing around boom extention swing around type with triple offset (tilt type). Single sheave at jib head. Stows alongside base boom section

Length	
Offset	5°, 25°, 45°
Root diameter	

### **AUXILIARY LIFTING SHEAVE (SINGLE TOP)**

Single sheave mounted to main boom head for single line work(stowable).

Root diameter..... 0.396 m

### ANTI-TWO-BLOCK DEVICE

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

### SLEWING

Hydraulic axial piston motor driven through planetary slewing speed reducer. Continuous 360° full circle slewing on ball bearing.

Equipped with manually locked/released slewing brake. A positive slewing lock for pick and carry and travel modes, manually engaged in cab. Twin slewing system : Free slewing or lock slewing controlled by selector switch on front console. Slewing speed ..... 2.7 min<sup>-1</sup> {rpm}

### WINCH

MAIN WINCH

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 winch. Equipped with cable follower and drum rotation indicator.

### MAIN DRUM

Root diameter x wide	0.362 m x 0.6 m
Wire rope diameter x length	19 mm x 193 m
Drum capacity	304 m, 7 layers
Maximum single line pull (1st layer)	73.3 kN (7,480 kgf)
Maximum permissible linepull wire strength	. 69.4 kN (7,085 kgf)

### AUXILIARY WINCH

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 winch. Equipped with cable follower and drum rotation indicator.

#### AUXILIARY DRUM

Root diameter x wide	0.362 m x 0.6 m
Wire rope diameter x length	19 mm x 110 m
Drum capacity	304 m, 7 layers
Maximum single line pull (1st layer)	73.3 kN (7,480 kgf)
Maximum permissible linepull wire strength	69.4 kN (7,085 kgf)

#### WIRE ROPE

Non-rotating wire (no-spin), extra improved plow steel, preformed, independent wire rope core, right regular lay.

Main & Auxillary ..... 19 mm 6 x 31 class

### HOOK BLOCKS

- 50 ton (option)
- 5 sheaves with swivel hook and safety latch
- 20 ton (option)
- 3 sheaves with swivel hook and safety latch 5.6 ton
- Weighted hook with swivel and safety latch

### **HYDRAULIC SYSTEM**

### PUMPS

2 variable piston pumps for crane functions. Tandem gear pump for steering, slewing 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

560 liters capacity. External sight level gauge.

#### **FII TRATION**

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. Wiper and washer (front indshield and roof window). Tinted safety glass and sun visor. Tilt-telescoping steering wheel. Adjustable control lever stands for slewing, boom elevating, boom telescoping, auxiliary winch and main winch. Control lever stands can change neutral positions and tilt for easy access to cab. Foot operated controls: boom elevating, boom telescoping, service brake and engine throttle. 3 way adjustable operator's seat with high back, headrest and armrest. Cab floor mat. Engine throttle knob. Hot water cab heater and air conditioning.

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

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

### **CRANE SPECIFICATIONS**

TADANO Automatic Moment Limiter

(AML-C) including:

- Control lever lockout function with audible and visual pre-warning
- Number of parts of line
- Boom position indicator
- Outrigger state indicator
- Slewing angle
- Boom angle / boom length / jib offset angle / jib length / load radius / rated lifting capacities / actual loads read out
- · Potential lifting height
- Ratio of actual load moment to rated load moment indication
- Permissible load
- Automatic Speed Reduction and Slow Stop function on boom elevation and slewing
- Working condition register switch
- Load radius / boom angle / tip height / slewing range preset function
- External warning lamp
- Tare function
- Main hydraulic oil pressure

### **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.

### ENGINE

TypeDirect injection dieselNo. of cylinders6	ed
	ed
	ed
Combustion 4 cycle, turbo charged and after coole	
Bore x Stroke, mm 118 x 115	
Displacement, liters 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, liters 300, right side of carrier	
Cooling Liquid pressurized, recirculating by-pa	ass
Radiator Fin and tube core, thermostat controll	lled
Fan, mm Suction type, 6-blade, 600 dia.	
Starting 24 volt	
Charging 24 volt system, negative ground	
Battery 2-120 amp. Hour	
Compressor, air, I /min 830 at 2,600 min <sup>-1</sup>	
Output, Max. kW (HP) Gross 200 (267) at 2,600 min <sup>-1</sup>	
Torque, Max. N•m 785 at 1,400 min <sup>-1</sup>	
Capacity, liters	
Cooling water 13	
Lubrication 13–15	
Fuel 300	

### TRANSMISSION

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

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

### TRAVEL SPEED - 50 km/h

### **GRADE ABILITY (tan** $\theta$ ) - 69% (at stall), 30% \*

\* Machine should be operated within the limit of engine crankcase design (17°: MITSUBISHI 6M60-TL)

- Fuel consumption monitor
- Main winch / auxiliarly winch select
- Drum rotation indicator (audible and visible type) main and auxiliary winch
- On-rubber indicator

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, slewing lock lever 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, boom emergency telescoping switch (2nd and 3rd-top) and air conditioning control switch.

NOTE: Each crane motion speed is based on unladen conditions.

### 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. 3 steering modes available: 2 wheel front, 4 wheel coordinated and 4 wheel crab.

### SUSPENSION

Front: Semi-elliptic leaf springs with hydraulic lockout device. Rear: Semi-elliptic leaf springs 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 - 23.5-25 (OR) Air pressure: 450 kPa

### OUTRIGGERS

4 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 7.0 m center-line and retract to within 2.98 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. 4 outrigger extension lengths are provided with corresponding "RATED LIFTING CAPACITIES" for crane duty in confined areas. Min. Extension 2.48 m center to center

Min. Extension	2.48 m center to cente
Mid. Extension	5.0 m center to center
Mid. Extension	6.5 m center to center
Max. Extension	7.0 m center to center
Float size (Diameter)	0.5 m

### COUNTERWEIGHT

Integral with slewing frame Mass... 2,900 kg

### STANDARD EQUIPMENT

- Telematics (machine data logging and monitoring system) with - HELLO-NET via internet (availability depends on countries)
- Eco mode system
- Positive control
- Over unwinding prevention
- Emergency steering system
- Transmission neutral position engine start
- Overshift prevention
- Parking braked travel warning
- Tilt-telescope steering wheel
- Halogen head lamp
- Fenders

# **OPTIONAL EQUIPMENT**

- Wind speed indicator
- Hook block-50t capacity
- (5 sheaves with swivel hook and safety latch) - Hook block-20t capacity
- HOOK DIOCK-201 Capacity
   (3 sheaves with swivel hook and safety latch)

# HOISTING PERFORMANCE

### LINE SPEEDS AND PULLS

	Main or auxiliary winch - 0.362 m drum				
Layer	Line speeds <sup>1</sup>	Line pulls Available <sup>2</sup>			
	m/min	kN (kgf)			
1st	101	77.3 (7,480)			
2nd	110	0 70.4 (6,900)			
3rd	119	63.9 (6,260)			
4th	128	58.8 (5,760)			
5th	137	55.1 (5,400)			
6th	146	50.9 (4,990)			
7th <sup>3</sup>	155	47.7 (4,670)			

- Maximum permissible line pull wire strength. Main & Auxiliary: 72.3 kN (7,085 kgf) with 6 x 31 class rope.

<sup>1</sup> Line speed based only on hook block, not loaded.

- <sup>2</sup> Developed by machinery with each layer of wire rope, but not based on rope strength or other limitations in machinery or equipment.
- <sup>3</sup> Seventh layer of wire rope are not recommended for hoisting operations.

- Air dryer

- Water separator with filter (high filtration)
- Air cleaner dust indicator
- Full instrumentation package
   Complete highway light package
- Complete nighway light packag
- Towing hooks-Front and rear
- Lifting eyes
- Hook block tie down (front bumper)
- Weighted hook storage compartment
- Winch drum mirror
- Tool storage compartment
- Beacon lamp

- Radiator cover

- Outrigger control box (Both side of carrier)
- Engine coolant heater
- Air heater
- Fuel filter heater

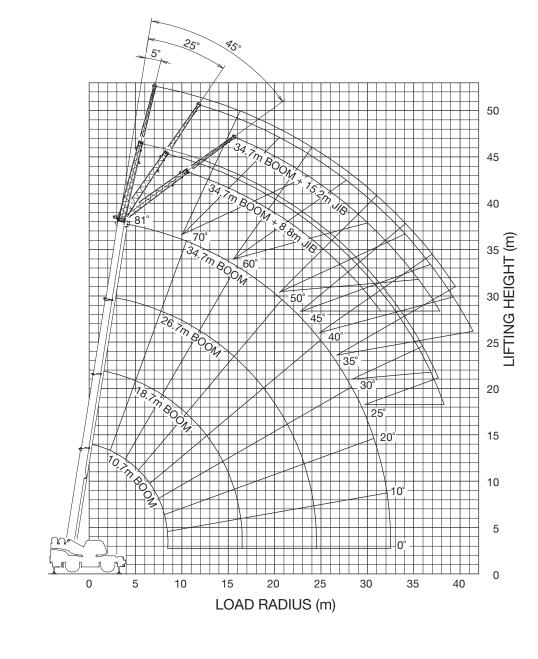
### DRUM WIRE ROPE CAPACITIES

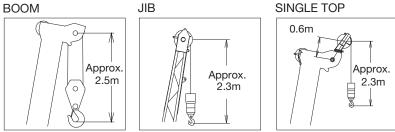
	Main and auxiliary drum grooved lagging				
Wire	19 mm v	vire rope			
rope layer	Rope per layer	Total wire rope			
layer	m	m			
1	34.2	34.2			
2	37.3	71.5			
3	40.3	111.8			
4	43.4	155.2			
5	46.4	201.6			
6	49.5	251.1			
7	52.6	303.7			

### DRUM DIMENSIONS

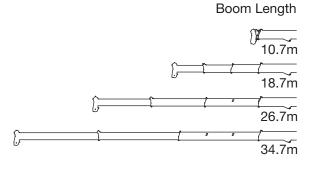
Root diameter	362 mm
Length	600 mm
Flange diameter	657 mm

### **GR-500EX WORKING RANGE CHART**





The above lifting height and boom angle are based on a straight (unloaded) boom and machine standing level on firm supporting surface. Allowance should be made for boom deflection obtained under loaded conditions. The above working range is shown on condition with outriggers fully (7.0 m) extended.



ON OUTRIGGERS FULLY EXTENDED 7.0 m SPREAD										
	360° ROTATION (Unit: ×1000 kg)									
		10.7 m	1	8.7 m		26.7 m		34.7 m		
В	С		С		С		С			
2.5	69.3	50.0								
3.0	66.4	46.2	76.9	21.6						
3.5	63.6	41.3	75.4	21.6	80.8	18.7				
4.0	60.2	37.2	73.8	21.6	79.8	18.7				
4.5	56.9	33.7	72.2	21.6	78.8	18.3				
5.0	53.5	29.2	70.7	21.6	77.7	17.8				
5.5	49.9	26.7	69.0	21.6	76.7	17.1				
6.0	45.8	24.6	67.3	21.6	75.6	16.4	79.7	11.4		
6.5	41.6	22.7	65.6	21.6	74.5	15.7	79.0	11.4		
7.0	36.9	21.0	64.0	21.5	73.4	15.1	78.3	11.3		
8.0	24.8	16.0	60.4	17.8	71.2	14.4	76.7	10.5		
9.0			56.7	14.8	68.9	13.2	75.0	9.9		
10.0			52.9	12.4	66.5	12.1	73.3	9.3		
11.0			48.8	10.6	64.0	10.3	71.6	9.05		
12.0			44.3	9.05	61.4	9.0	69.9	8.75		
13.0			39.4	7.8	58.9	7.75	68.1	7.6		
14.0			33.8	6.75	56.1	6.85	66.0	6.85		
15.0			27.2	5.85	53.4	6.05	64.1	6.05		
16.0			18.0	5.15	50.4	5.3	62.1	5.35		
17.0					47.4	4.75	60.0	4.75		
18.0					44.2	4.2	57.8	4.25		
19.0					40.8	3.75	55.7	3.8		
20.0					37.1	3.35	53.5	3.4		
22.0					28.2	2.7	49.0	2.75		
24.0					14.4	2.2	44.2	2.25		
26.0							38.8	1.8		
28.0							32.6	1.45		
30.0							25.0	1.2		
32.0							12.2	0.95		
D					)°					

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS FULLY EXTENDED 7.0 m SPREAD 360° ROTATION (Unit: ×1000 kg)									
A	A 10.7 m 18.7 m 26.7 m 34.7 m								
C	C B B B B								
0°	0° 8.6 7.5 16.6 3.2 24.4 1.5 32.1 0.6					0.6			

ON OUTRIGGERS MID EXTENDED 6.5 m SPREAD								
		01100111		SIDE (Unit:				
A		10.7 m		18.7 m		26.7 m		34.7 m
В	С		С		С		С	
2.5	69.3	50.0						
3.0	66.4	46.2	76.9	21.6				
3.5	63.6	41.3	75.4	21.6	80.8	18.7		
4.0	60.2	37.2	73.8	21.6	79.8	18.7		
4.5	56.9	33.7	72.2	21.6	78.8	18.3		
5.0	53.5	29.2	70.7	21.6	77.7	17.8		
5.5	49.9	26.7	69.0	21.6	76.7	17.1		
6.0	45.8	24.6	67.3	21.6	75.6	16.4	79.7	11.4
6.5	41.6	22.7	65.6	21.6	74.5	15.7	79.0	11.4
7.0	36.9	20.9	63.9	19.6	73.4	15.1	78.3	11.3
8.0	24.8	15.8	60.4	16.0	71.2	14.4	76.7	10.5
9.0			56.7	13.4	68.9	12.3	75.0	9.9
10.0			52.9	10.9	66.4	10.6	73.3	9.3
11.0			48.7	9.15	63.9	9.2	71.6	8.6
12.0			44.3	7.8	61.3	8.1	69.7	7.6
13.0			39.4	6.7	58.7	6.95	67.8	6.8
14.0			33.8	5.8	56.0	6.05	65.8	6.15
15.0			27.2	5.05	53.3	5.3	63.9	5.4
16.0			18.0	4.45	50.3	4.7	61.9	4.75
17.0					47.3	4.15	59.8	4.2
18.0					44.1	3.7	57.7	3.75
19.0					40.7	3.3	55.6	3.35
20.0					37.0	2.9	53.4	3.0
22.0					28.1	2.35	48.8	2.4
24.0					14.4	1.85	44.0	1.9
26.0							38.6	1.5
28.0							32.5	1.2
30.0							24.9	0.95
32.0							12.0	0.7
D					)°			

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE								
	ON OUTRIGGERS MID EXTENDED 6.5 m SPREAD OVER SIDE (Unit: ×1000kg)								
	A 10.7 m 18.7 m 26.7 m 34.7 m								34.7 m
С		В		В		В		В	
	0°	8.6	7.5	16.6	3.2	24.4	1.5	32.1	0.6

A: Boom length (m) B: Load radius (m)

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

			CCEDO	MID EXTEND				
				IDE (Unit: ×		ISFALAD		
<hr/>					1000 kg)	00.7.m	1	047.00
B A		10.7 m		8.7 m		26.7 m		34.7 m
- ~	C 69.3	50.0	С		С		С	
2.5	66.4	50.0 46.2	76.9	21.6				
<u>3.0</u> 3.5	63.6	40.2	76.9	21.6	80.8	18.7		
	60.2		73.8		79.8			
4.0	56.9	36.4	73.8	21.6	79.8	18.7		
4.5		29.7		21.6		18.3		
5.0	53.4	24.9	70.7	21.6	77.7	17.8		
5.5	49.7	21.3	69.0	18.3	76.6	16.0	70.7	
6.0	45.7	<u>18.4</u> 15.7	67.3	16.1	75.5	14.3	79.7	11.4
6.5	41.5		65.6	14.4	74.3	12.9	79.0	11.4
7.0	36.7	13.6	63.9	13.0	73.2	11.7	78.2	10.5
8.0	24.4	10.6	60.3	10.8	70.8	9.6	76.5	8.9
9.0			56.6	8.95	68.5	8.3	74.6	7.6
10.0			52.8	7.35	66.1	7.1	72.8	6.5
11.0			48.6	6.25	63.6	6.3	71.0	5.8
12.0			44.2	5.2	61.1	5.5	69.1	5.1
13.0			39.3	4.45	58.4	4.75	67.2	4.5
14.0			33.8	3.8	55.8	4.05	65.2	4.0
15.0			27.2	3.2	53.0	3.5	63.4	3.55
16.0			18.0	2.8	50.2	3.05	61.3	3.1
17.0					47.1	2.6	59.3	2.65
18.0					43.9	2.3	57.3	2.35
19.0					40.5	1.95	55.1	2.0
20.0					36.8	1.75	52.9	1.75
22.0					28.0	1.25	48.5	1.3
24.0					14.4	0.9	43.6	0.9
26.0							38.3	0.6
D		·		0°		·		25°

			LIFTING CA	PACITIE	ES AT ZERO D	EGREE	BOOM ANGL	E						
	ON OUTRIGGERS MID EXTENDED 5.0 m SPREAD OVER SIDE (Unit: ×1000 kg)													
	A		10.7 m	1	8.7 m		26.7 m							
- 1	c —	В		В		В								
	0° 8.6 7.5 16.6 2.5 24.5 0.8													

	ON OUTRIGGERS MIN EXTENDED 2.48 m SPREAD OVER SIDE (Unit: ×1000 kg)														
В	С		С		С		С								
2.5	69.1	23.0													
3.0	66.2	18.2	76.9	14.9											
3.5	63.1	14.8	75.3	12.5	80.5	10.7									
4.0	59.9	12.4	73.8	10.7	79.3	9.3									
4.5	56.6	10.3	72.2	9.3	78.2	8.2									
5.0	53.2	8.5	70.6	8.2	77.1	7.3									
5.5	49.5	7.05	68.9	7.1	76.1	6.5									
6.0	45.5	5.95	67.2	6.4	74.9	5.8	78.9	5.2							
6.5	41.2	5.05	65.5	5.7	73.8	5.2	78.0	4.7							
7.0	36.4	4.3	63.8	5.1	72.7	4.7	77.2	4.2							
8.0	24.1	3.15	60.2	3.9	70.3	3.8	75.4	3.5							
9.0			56.5	3.0	68.0	3.2	73.6	2.9							
10.0			52.6	2.3	65.6	2.5	71.8	2.4							
11.0			48.5	1.75	63.1	2.05	70.0	1.9							
12.0			44.0	1.35	60.7	1.6	68.2	1.5							
13.0			39.1	0.95	58.1	1.2	66.3	1.15							
14.0			33.6	0.65	55.4	0.9	64.4	0.9							
15.0					52.7	0.65	62.5	0.65							
D		0°		18°		44°		0°							

	ON	OUTRI			ES AT ZERO DI ED 2.48 m SPF				00kg)					
C	A	В	10.7 m						1					
	0°	0° 8.6 2.6												

A: Boom length (m) B: Load radius (m) C: Loaded boom angle ( °)

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

Boom length	10.7 m	10.7 m to 18.7 m	18.7 m to 34.7 m	Single top / Jib
Number of parts of line	10	6	4	1

				ON O		RS FULLY				PREAD
					360° I	ROTATION		(Unit: ×10	)00 kg)	
				om + 8.8-r						
C [	5°	Tilt	25	' Tilt	45	° Tilt		С	5°	Tilt
	R	W	R	W	R	W			R	W
80	7.6	5.6	10.5	3.8	12.5	2.75		80	9.7	2.88
77.5	9.8	5.18	12.5	3.63	14.3	2.65		77.5	12.2	2.8
75	11.8	4.78	14.3	3.48	16.1	2.58		75	14.7	2.75
72.5	13.7	4.38	16.2	3.33	17.7	2.5		72.5	16.9	2.53
70	15.5	4.03	17.9	3.2	19.3	2.45		70	19.0	2.35
67.5	17.3	3.73	19.7	3.05	20.9	2.4		67.5	21.0	2.2
65	19.1	3.5	21.3	2.93	22.4	2.35		65	23.0	2.08
62.5	20.7	3.2	22.8	2.75	23.9	2.33		62.5	24.9	1.98
60	22.3	2.9	24.3	2.58	25.4	2.3		60	26.7	1.88
57.5	23.7	2.5	25.8	2.25	26.7	2.05		57.5	28.4	1.7
55	25.2	2.15	27.1	1.95	27.9	1.85		55	30.1	1.55
52.5	26.7	1.88	28.4	1.7	29.0	1.63		52.5	31.7	1.33
50	28.0	1.63	29.7	1.5	30.2	1.45		50	33.2	1.13
47.5	29.3	1.4	30.9	1.3	31.2	1.28		47.5	34.6	0.95
45	30.6	1.23	32.0	1.15	32.3	1.13		45	35.9	0.8
42.5	31.8	1.08	33.1	1.0				42.5	37.2	0.68
40	33.0	0.95	34.1	0.9				40	38.4	0.58
37.5	34.1	0.83	35.0	0.78				37.5	39.6	0.48
35	35.0	0.73	35.9	0.68				35	40.7	0.4
32.5	35.9	0.63	36.7	0.6			'			
30	36.8	0.55	37.4	0.53						
27.5	37.6	0.48	38.1	0.45						
25	38.3	0.43	38.7	0.4						

XTENDE		PREAD												
(Unit: ×1000 kg) C 34.7-m Boom + 15.2-m Jib C 5° Tilt 25° Tilt 45° Tilt														
с	5° '	÷ -				Tilt								
Ŭ	R	W	23	W	R	W								
80	9.7	2.88	14.4	1.85	17.8	1.25								
	-				-	-								
77.5	12.2	2.8	16.6	1.75	19.7	1.2								
75	14.7	2.75	18.7	1.68	21.7	1.18								
72.5	16.9	2.53	20.7	1.6	23.4	1.15								
70	19.0	2.35	22.6	1.53	25.2	1.13								
67.5	21.0	2.2	24.5	1.45	26.8	1.1								
65	23.0	2.08	26.3	1.4	28.4	1.1								
62.5	24.9	1.98	28.0	1.35	30.0	1.08								
60	26.7	1.88	29.7	1.3	31.4	1.05								
57.5	28.4	1.7	31.3	1.25	32.9	1.03								
55	30.1	1.55	33.0	1.23	34.2	1.03								
52.5	31.7	1.33	34.3	1.1	35.4	0.98								
50	33.2	1.13	35.6	0.98	36.5	0.93								
47.5	34.6	0.95	36.9	0.85	37.5	0.8								
45	35.9	0.8	38.0	0.73	38.5	0.68								
42.5	37.2	0.68	39.1	0.6										
40	38.4	0.58	40.1	0.5										
37.5	39.6	0.48	41.1	0.43										
35	40.7	0.4	42.0	0.35										

				ON	OUTRIGG	ERS MID	EX	TENDED	6.5m SPI	READ				
					OV	ER SIDE	(U	nit: ×1000	) kg)					
		3	4.7-m Boo	om + 8.8-n	n Jib					34.7-	m Boom	+ 15.2-m J	lib	
С	5° .	Tilt	25	° Tilt	45	° Tilt	]	С	5°	Tilt	25	° Tilt	45	° Tilt
	R	W	R	W	R	W			R	W	R	W	R	W
80	7.6	5.6	10.5	3.8	12.5	2.75		80	9.7	2.88	14.4	1.85	17.8	1.25
77.5	9.8	5.18	12.5	3.63	14.3	2.65		77.5	12.2	2.8	16.6	1.75	19.7	1.2
75	11.8	4.78	14.3	3.48	16.1	2.58	] [	75	14.7	2.75	18.7	1.68	21.7	1.18
72.5	13.7	4.38	16.2	3.33	17.7	2.5	] [	72.5	16.9	2.53	20.7	1.6	23.4	1.15
70	15.5	4.03	17.9	3.2	19.3	2.45	] [	70	19.0	2.35	22.6	1.53	25.2	1.13
67.5	17.3	3.73	19.7	3.05	20.9	2.4	] [	67.5	21.0	2.2	24.5	1.45	26.8	1.1
65	19.1	3.5	21.3	2.93	22.4	2.35	1 [	65	23.0	2.08	26.3	1.4	28.4	1.1
62.5	20.6	3.0	22.8	2.6	23.8	2.25	] [	62.5	24.9	1.98	28.0	1.35	30.0	1.08
60	22.1	2.55	24.2	2.3	25.3	2.15	] [	60	26.7	1.88	29.7	1.3	31.4	1.05
57.5	23.6	2.2	25.6	1.98	26.6	1.88	] [	57.5	28.3	1.58	31.4	1.2	32.9	1.03
55	25.1	1.88	27.0	1.7	27.8	1.63		55	29.9	1.33	32.9	1.15	34.2	1.03
52.5	26.5	1.6	28.3	1.48	28.9	1.4		52.5	31.4	1.1	34.2	0.95	35.3	0.88
50	27.9	1.38	29.6	1.28	30.1	1.23	] [	50	33.0	0.93	35.5	0.8	36.4	0.75
47.5	29.2	1.2	30.8	1.1	31.2	1.05	] [	47.5	34.4	0.78	36.8	0.65	37.5	0.63
45	30.5	1.03	31.9	0.95	32.3	0.93		45	35.8	0.65	37.9	0.55	38.5	0.53
42.5	31.7	0.88	33.0	0.8			] `							
40	32.9	0.75	34.0	0.7										
37.5	33.9	0.63	35.0	0.6										
35	34.9	0.55	35.9	0.5										

C: Boom angle ( °) R: Load radius (m)

W :Rated lifting capacity

				C		GERS MID	EΧ	TENDED 5	.0 m SPRE	AD				
					C	VER SIDE	(L	Jnit: ×1000	kg)					
		34.7-	m Boom +	8.8-m Jib			Γ			34.7-ı	n Boom +	15.2-m Jib		
C	5° -	Filt	25	5° Tilt	45	° Tilt		C	5°	Tilt	25	5° Tilt	45	° Tilt
	R	W	R	W	R	W			R	W	R	W	R	W
80	7.6	5.6	10.5	3.8	12.5	2.75		80	9.7	2.88	14.4	1.85	17.8	1.25
77.5	9.8	5.18	12.5	3.63	14.3	2.65	1	77.5	12.2	2.8	16.6	1.75	19.7	1.2
75	11.8	4.78	14.3	3.48	16.1	2.58	]	75	14.7	2.75	18.7	1.68	21.7	1.18
72.5	13.6	4.0	16.2	3.16	17.7	2.5	]	72.5	16.8	2.5	20.7	1.6	23.4	1.15
70	15.3	3.3	17.8	2.85	19.3	2.45	]	70	18.9	2.3	22.5	1.53	25.2	1.13
67.5	16.9	2.73	19.4	2.38	20.8	2.1	]	67.5	20.7	1.85	24.6	1.38	26.8	1.1
65	18.7	2.2	20.9	1.95	22.2	1.78		65	22.5	1.48	26.2	1.25	28.4	1.1
62.5	20.2	1.8	22.4	1.6	23.6	1.48		62.5	24.3	1.18	27.8	1.0	29.9	0.9
60	21.8	1.48	23.8	1.3	25.0	1.23		60	25.9	0.93	29.4	0.8	31.2	0.73
57.5	23.3	1.18	25.3	1.05	26.3	1.0		57.5	27.7	0.7	30.9	0.6	32.6	0.55
55	24.7	0.95	26.7	0.85	27.5	0.8	]	55	29.3	0.55	32.4	0.45	33.8	0.4
52.5	26.2	0.75	28.0	0.68	28.8	0.63								
50	27.6	0.58	29.3	0.53	29.9	0.5	]							

C: Boom angle (  $\ensuremath{^\circ}\xspace$ 

R: Load radius (m)

W :Rated lifting capacity

				ON RUE	BBER	STATIONAR	Y (Unit	: ×1000 kg)				
			Over	Front					360° F	lotation		
_ <u> </u>		10.7 m		18.7 m		26.7 m		10.7 m		18.7 m		26.7 m
В	С		С		С		С		С		С	
3.0	66.2	22.1					66.1	12.6				
3.5	63.2	19.7					63.1	10.4				
4.0	60.0	17.5	73.8	15.6			59.9	7.95	73.8	8.65		
4.5	56.7	15.8	72.2	14.0			56.5	6.25	72.1	7.15		
5.0	53.2	14.3	70.6	12.5			53.1	5.15	70.5	5.85		
5.5	49.6	13.0	69.0	11.6			49.4	4.25	68.9	4.95		
6.0	45.6	11.9	67.3	10.7			45.5	3.5	67.2	4.25		
6.5	41.4	11.0	65.6	9.95	73.9	7.4	41.2	2.85	65.5	3.65	73.6	3.95
7.0	36.6	9.65	63.9	9.15	72.7	6.8	36.4	2.3	63.8	3.05	72.5	3.35
8.0	24.3	7.4	60.3	7.85	70.5	5.8	24.1	1.5	60.2	2.15	70.2	2.45
9.0			56.5	6.7	68.1	5.05			56.5	1.55	67.9	1.8
10.0			52.7	5.55	65.7	4.45			52.6	1.1	65.5	1.35
11.0			48.6	4.5	63.3	4.0			48.4	0.7	63.0	0.95
12.0			44.1	3.75	60.8	3.7					60.5	0.6
13.0			39.2	3.15	58.4	3.4						
14.0			33.7	2.65	55.6	2.9						
15.0			27.1	2.25	52.9	2.5						
16.0			17.6	1.9	50.1	2.15						
17.0					47.0	1.85						
18.0					43.8	1.55						
19.0					40.4	1.3						
20.0					36.7	1.1						
22.0					27.9	0.75						
		(	)°							39°		55°

						Y AT ZERO D ER CREEP (L			àLE					
$\searrow$	Over Front 360° Rotation													
A	10.	7 m		18.7 m		26.7 m		10.7 m						
C	В		В		В		В							
0° 8.6 6.7 16.6 1.7 24.5 0.4 8.6 1.2														

A: Boom length (m)

B: Load radius (m)

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

		10	N RL	JBBER	CR	EEP (l	Jnit:	x 1,00	0 kg	)		
			Ove	r Front	t			3	860° F	Rotatio	n	
A	1	0.7 m	18	3.7 m	26	.7 m	10	).7 m	18	3.7 m	26	6.7 m
В	С		С				С		С		С	
3.0	66.2	16.4					66.1	9.55				
3.5	63.1	14.4					63.0	8.0				
4.0	59.9	12.7	73.7	13.4			59.8		73.7			
4.5	56.6	11.4	72.1	12.1			56.5	5.35	72.1	6.35		
5.0	53.2	10.3	70.5	10.9			53.1	4.5	70.5	5.2		
5.5	49.5	9.4	68.9	9.95			49.4	3.65	68.9	4.25		
6.0	45.6	8.5	67.2	9.05			45.5	3.0	67.2	3.5		
6.5	41.3	7.75	65.5	8.25	73.9	7.4	41.2	2.4	65.5	2.95	73.6	3.4
7.0	36.5	7.05	63.8	7.6	72.7	6.8	36.4	1.95	63.8	2.55	72.5	2.85
8.0	24.2	5.95	60.3	6.5	70.5	5.7	24.1	1.25	60.2	1.9	70.2	2.05
9.0			56.5	5.6	68.1	4.75			56.5	1.35	67.8	1.55
10.0			52.7	4.65	65.7	4.2			52.6	0.9	65.4	1.15
11.0			48.5	3.8	63.3	3.65			48.4	0.55	63.0	0.8
12.0			44.1	3.15	60.8	3.15					60.5	0.5
13.0			39.2	2.65	58.3	2.75						
14.0			33.7	2.2	55.6	2.45						
15.0			27.1	1.85	52.9	2.05						
16.0			17.6	1.55	50.1	1.75						
17.0					47.0	1.5						
18.0					43.8	1.3						
19.0					40.4	1.05						
20.0					36.7	0.9						
22.0					27.8	0.55						
			0°			14°		0°	4	14°	Į	58°

	LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE										
	ON RUBBER STATIONARY (Unit: ×1000kg)										
$\square$		Over Front			360° Rotation						
	A	10	.7 m	18	.7 m			10	.7 m		
C		В		В			]	В			
	0°	8.6	5.4	16.6	1.4			8.6	0.9		

A: Boom length (m)

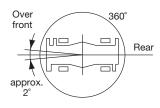
- B: Load radius (m)
- C: Loaded boom angle ( °)
- D: Minimum boom angle ( ) for indicated boom length (no load)

### WARNING AND OPERATING INSTRUCTIONS FOR ON RUBBER LIFTING CAPACITIES

- 1. Rated lifting capacities based on crane stability are according to ISO4305.
- 2. Rated lifting capacities shown in the chart are based on the condition that crane is set on firm level surfaces with suspension lock applied. Those above thick 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 suspension lock 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

   23.5-25
   450 kPa
- 6. Over front operation shall be performed within 2 degrees in front of chassis.



- 7. On rubber lifting with "jib" is not permitted. Maximum permissible boom length is 26.7 m.
- 3. When making lift on rubber stationary, set parking brake.
- 9. For creep operation, 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 60 m in any 30 minute period and to travel at the speed of less than 1.6 km/h.
- 12. For creep operation, choose the drive mode and proper gear according to the road or working condition.
- 13. The mass of the hook (500 kg for 50 t capacity, 400 kg for 20 t capacity, 150 kg for 5.6 t capacity), slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
- 14. For rated 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 5,600 kg including main hook.
- 15. The lifting capacity data stowed in the Automatic Moment Limiter (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	10.7 m	18.7 m to 26.7 m	Single top
Number of parts of line	6	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.

### SET UP

- 1. Rated lifting capacities on the chart are the maximum allowable crane capacities and 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 bearing surface.
- 2. For outrigger operation, outriggers shall be properly extended with tires free of supporting surface before operating crane.

### **OPERATION**

- 1. Rated lifting capacities on outriggers fully extended as determined by ISO4305.
- 2. Rated lifting capacities above thick 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.
- 3. The weight of handling device such as hook blocks (500 kg for 50 t capacity, 400 kg for 20 t capacity, 150 kg for 5.6 t capacity), slings, etc., must be considered as part of the load and must be deducted from the lifting capacities.
- 4. 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. Such action can damage the boom, jib or slewing mechanism, and lead to overturning of the crane.
- 5. Rated lifting capacities do not account for wind on lifted load or boom. We recommend against working under the conditions 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 9 m/s to 12 m/s; reduced by 70 % when the wind speed is 12 m/s to 14 m/s. If the wind speed is 14 m/s or over, stop operation. During jib lift, stop operation if the wind speed is 9 m/s or over.
- 6. 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 angles, where no capacities are shown. Crane may overturn without any load on the hook.
- 8. 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.
- 9. When making lifts at a load radius not shown, use the next longer radius to determine allowable capacity.
- 10. Load per line should not exceed. 57.1 kN (5,600 kgf) for main winch and auxiliary winch.
- 11. Check the actual number of parts of line with Automatic Moment Limiter (AML-C) before operation. Maximum lifting capacity is restricted by the number of parts of line of Automatic Moment Limiter (AML-C). Limited capacity is as determined from the formula, Single line pull for main winch 57.1 kN (5,600 kgf) x number of parts of line.
- 12. 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.

- The 10.7-m Boom length capacities are based on boom fully retracted.
- 14. 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.
- 15. For lifting capacity of single top, deduct the weight of the load handling equipment from the rated lifting capacity of the boom. For the lifting capacity of single top, the net capacity shall not exceed 5,600 kg including the main boom hook mass attached to the boom.
- 16. When a jib is removed, set the jib state switch to the REMOVED position.
- 17. 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 DEVICE" 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.
- 19. For boom length with 8.8-m Jib, rated lifting capacities are determined by loaded boom angle only in the column headed "34.7-m Boom + 8.8-m Jib".
  For boom length with 15.2-m Jib, rated lifting capacities

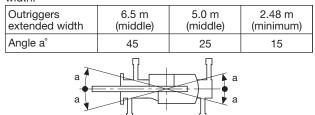
are determined by loaded boom angle only in the column headed "34.7-m Boom + 15.2-m Jib".

For angles not shown, use the next lower loaded boom angle to determine allowable capacity.

- 20. 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.
- 21. The lifting capacity data stowed in the Automatic Moment Limiter (AML-C) is based on the standard number of parts of line listed in the chart. Standard number of parts of line for on outrigger operation should be according to the following table.

Boom length	10.7 m	10.7 m to 18.7 m	18.7 m to 34.7 m	Single top/ jib
Number of parts of line	10	6	4	1

22. The lifting capacity for over side area differs depending on outrigger extension width. Work with capacity corresponding to the extension width. The lifting capacity for over front and over rear areas are for "outriggers fully extended". However, the areas (angle a) differ depending on the outrigger extension width.



### 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.
- 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.
- 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.

### WARNING AND OPERATING INSTRUCTIONS FOR USING THE AUTOMATIC MOMENT LIMITER (AML-C)

- 1. Set AML select keys in accordance with the actually operating crane conditions and don't fail to make sure, before crane operation, that the displays on front panel are correct.
- 2. When operating crane on outriggers:
  - Set P.T.O. switch to "ON".
  - Press the outrigger state select key to register for the outrigger operation. If the display agrees with the actual state, press the set key to register. After the completion of the registration, the pop-up window closes.
  - Press the lift state select key to register the lift state to be used (single top / jib / boom).
  - Each time the lift state select key is pressed, the display changes. If the display agrees with the actual state, press the set key to register. After the completion of the registration, the pop-up window closes.
  - When erecting and stowing jib, select the status of jib set (Jib lift indicative symbol flickers).
- 3. When operating crane on rubber:
- Set P.T.O. switch to "ON".
  - Press the outrigger state select key to register for the on rubber operation. Each time the outrigger state select key is pressed, the display changes. Select the creep operation, the on rubber state indicative symbol flickers.
  - Press the lift state select key to register the lift state. However, pay attention to the following.

For stationary and creep 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 slewed to the side area, make sure the value of the AUTOMATIC MOMENT LIMITER (AML-C) is below the 360° lifting capacity.
- 4. This machine is equipped with an automatic slewing stop device.

(For the details, see Operation and Maintenance Manual.) But, operate very carefully because the automatic slewing stop does not work in the following cases.

- During on rubber operation.
- When the "P.T.O." switch is set to "OVERRIDE" and the "OVERRIDE" key switch outside the cab is on.
- 5. During crane operation, make sure that the displays on front panel are in accordance with actual operating conditions.
- The displayed values of AUTOMATIC MOMENT LIMITER (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 slewing, lifting loads shall be appropriately reduced.

7. AUTOMATIC MOMENT LIMITER (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 AUTOMATIC MOMENT LIMITER (AML-C) aids in place of good operating practice can cause an accident. The operator must exercise caution to assure safety.

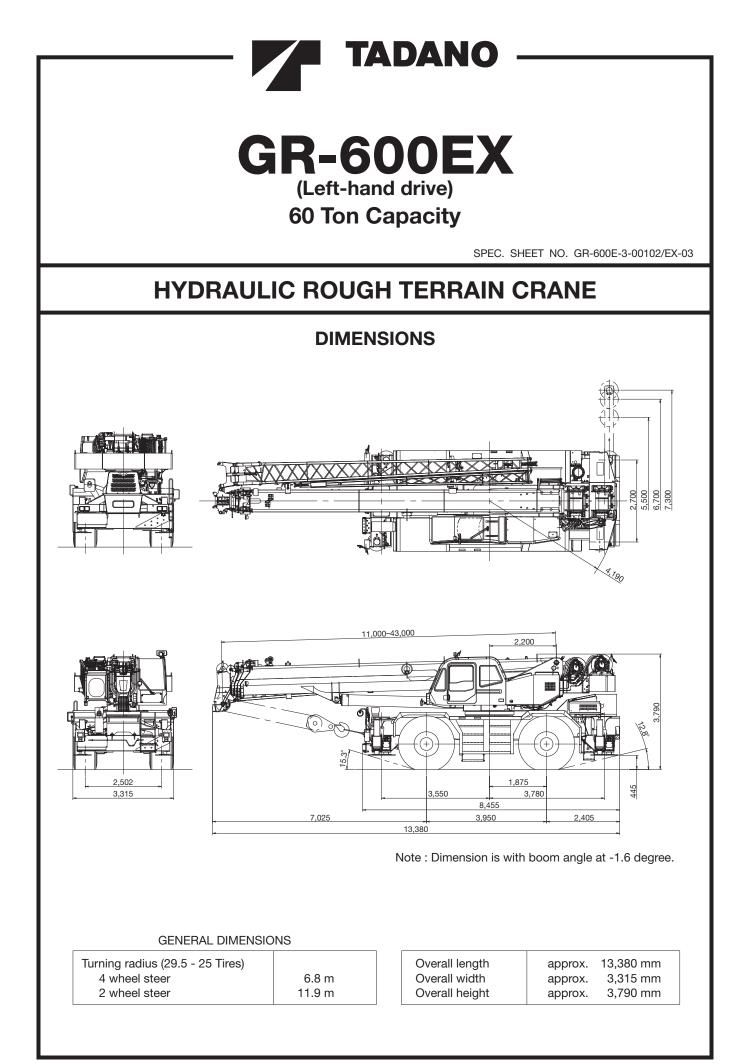
### **GR-500EX Axle weight distribution chart**

		Kilograms	
	GVW	Front	Rear
Basic machine	33,445	16,430	17,015
Add: 1. 50 ton hook block	500	920	-420
2. 20 ton hook block	400	740	340
Remove: 1. 5.6 ton hook block	-150	-210	60
2. Top jib	-225	-285	60
3. Base jib	-625	-1,140	515

# TADANO

TADANO LTD. (International Division)

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### CRANE SPECIFICATIONS

### BOOM

5 section full power partially synchronized telescoping boom of round box construction with 5 sheaves at boom head. The synchronization system consists of 2 telescope cylinder, extension cables and retraction cables. Hydraulic cylinder fitted with holding valve. 2 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.

Fully retracted length...... 11.0 m Fully extended length ..... 43.0 m Extension speed...... 32.0 m in 128 s Root diameter..... 0.44 m

### BOOM ELEVATION

By a double acting hydraulic cylinder with holding valve. Combination controls for hand or foot operation. Boom angle indicator.

Automatic speed reduction and slow stop function. 

#### JIB

2 stage swing around boom extention swing around type with triple offset (tilt type). Single sheave at jib head. Stows alongside base boom section

to no alongolao baco boolin	000010111
Length	10.1 m, 17.7 m
Offset	
Root diameter	

### **AUXILIARY LIFTING SHEAVE (SINGLE TOP)**

Single sheave mounted to main boom head for single line work(stowable).

Root diameter..... 0.396 m

### ANTI-TWO-BLOCK DEVICE

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

### SLEWING

Hydraulic axial piston motor driven through planetary slewing speed reducer. Continuous 360° full circle slewing on ball bearing.

Equipped with manually locked/released slewing brake. A positive slewing lock for pick and carry and travel modes, manually engaged in cab. Twin slewing system : Free slewing or lock slewing controlled by selector switch on front console. Slewing speed ..... 2.4 min<sup>-1</sup> {rpm}

### WINCH

MAIN WINCH

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 winch. Equipped with cable follower and drum rotation indicator.

#### MAIN DRUM

Root diameter x wide	0.362 m x 0.6 m
Wire rope diameter x length	19 mm x 235 m
Drum capacity	304 m, 7 layers
Maximum single line pull (1st layer)	
Maximum permissible linepull wire strength	69.4 kN (7,085 kgf)

### AUXILIARY WINCH

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 winch. Equipped with cable follower and drum rotation indicator.

#### AUXILIARY DRUM

Root diameter x wide	0.362 m x 0.6 m
Wire rope diameter x length	19 mm x 133 m
Drum capacity	304 m, 7 layers
Maximum single line pull (1st layer)	73.3 kN (7,480 kgf)
Maximum permissible linepull wire strength	69.4 kN (7,085 kgf)

#### WIRE ROPE

Filler or warrington seal wire (spin-resistant), extra improved plow steel, preformed, independent wire rope core, right regular lay. Main & Auxillary ...... 19 mm 6 x 31 class

### HOOK BLOCKS

- 60 ton (option)
- 6 sheaves with swivel hook and safety latch
- 35 ton (option)
- 3 sheaves with swivel hook and safety latch 5.6 ton

### Weighted hook with swivel and safety latch

#### HYDRAULIC SYSTEM PUMPS

2 variable piston pumps for crane functions. Tandem gear pump for steering, slewing 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

763 liters capacity. External sight level gauge.

#### **FII TRATION**

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. Wiper and washer (front indshield and roof window). Tinted safety glass and sun visor. Tilt-telescoping steering wheel. Adjustable control lever stands for slewing, boom elevating, boom telescoping, auxiliary winch and main winch. Control lever stands can change neutral positions and tilt for easy access to cab. Foot operated controls: boom elevating, boom telescoping, service brake and engine throttle. 3 way adjustable operator's seat with high back, headrest and armrest. Cab floor mat. Engine throttle knob. Hot water cab heater and air conditioning.

Dash-mounted engine start/stop, monitor lamps, cigarette lighter, drive selector switch, parking brake switch, steering mode select switch, power window switch, pump engaged/ disengaged switch, slewing brake switch, boom telescoping/auxiliary winch select switch, outrigger control panel, and slewing free/ lock selector switch.

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

### **CRANE SPECIFICATIONS**

TADANO Automatic Moment Limiter

(AML-C) including:

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

### **CARRIER SPECIFICATIONS**

### TYPE

Rear engine, left-hand drive, 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.

### ENGINE

Model	MITSUBISHI 6M60-TL
Туре	Direct injection diesel
No. of cylinders	6
Combustion	4 cycle, turbo charged and after cooled
Bore x Stroke, mm	118 x 115
Displacement, liters	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, liters	300, right side of carrier
Cooling	Liquid pressurized, recirculating by-pass
Radiator	Fin and tube core, thermostat controlled
Fan, mm	Suction type, 6-blade, 600 dia.
Starting	24 volt
Charging	24 volt system, negative ground
Battery	2-120 amp. Hour
Compressor, air, I /min	830 at 2,600 min <sup>-1</sup>
Output, Max. kW (HP)	Gross 200 (267) at 2,600 min <sup>-1</sup>
Torque, Max. Nm	785 at 1,400 min <sup>-1</sup>
Capacity, liters	,
Cooling water	13
Lubrication	13–15
Fuel	300
1 001	

### 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 - 36 km/h

### **GRADE ABILITY (tan** $\theta$ ) - 147% (at stall), 30% \*

\* Machine should be operated within the limit of engine crankcase design (17°: MITSUBISHI 6M60-TL)

- Main hydraulic oil pressure
- Fuel consumption monitor
- Main winch / auxiliarly winch select
- Drum rotation indicator (audible and visible type) main and auxiliary winch
- On-rubber indicator

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, slewing lock lever and sight level bubble.

Upper right console includes flood lamp switch, roof washer and wiper switch, emergency outrigger set up key switch, jib status switch, eco mode switch, and air conditioning control switch. Lower right console includes boom emergency telescoping switch (2nd and 3rd-top)

NOTE: Each crane motion speed is based on unladen conditions.

### 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. 4 steering modes available: 2 wheel front, 2 wheel rear, 4 wheel coordinated and 4 wheel crab.

### SUSPENSION

Front: Rigid mounted to the 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 22PR (OR) Air pressure: 350 kPa or 29.5-25 28PR (OR) Air pressure: 330 kPa

### OUTRIGGERS

4 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 7.3 m center-line and retract to within 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. 4 outrigger extension lengths are provided with corresponding "RATED LIFTING CAPACITIES" for crane duty in confined areas.

Min. Extension	2.7 m center to center
Mid. Extension	5.5 m center to center
Mid. Extension	6.7 m center to center
Max. Extension	7.3 m center to center
Float size (Diameter)	0.6 m

### COUNTERWEIGHT

Integral with slewing frame Mass... 5,670 kg (Containing weight with auxiliary winch and wire rope)

# STANDARD EQUIPMENT

- Telematics (machine data logging and monitoring system) with - HELLO-NET via internet (availability depends on countries)
- Eco mode system
- Positive control
- Over unwinding prevention
- Emergency steering system
- Transmission neutral position engine start
- Overshift prevention
- Parking braked travel warning
- Tilt-telescope steering wheel
- Halogen head lamp
- Fenders

# **OPTIONAL EQUIPMENT**

- Wind speed indicator
- Hook block-60 t capacity
- (6 sheaves, swivel type with safty latch. Mass: approx. 540 kg) - Hook block-35 t capacity
- (3 sheaves, swivel type with safty latch. Mass: approx. 450 kg)

### HOISTING PERFORMANCE

### LINE SPEEDS AND PULLS

	Main or auxiliary winch - 0.362 m drum			
Layer	Line speeds <sup>1</sup>	Line pulls Available <sup>2</sup>		
	m/min	kN (kgf)		
1st	101	73.3 (7,480)		
2nd	110	67.6 (6,900)		
3rd	119	61.4 (6,260)		
4th	128	56.5 (5,760)		
5th	137	52.9 (5,400)		
6th	146	48.9 (4,990)		
7th <sup>3</sup>	155	45.8 (4,670)		

- Maximum permissible line pull wire strength. Main & Auxiliary: 69.4 kN (7,085 kgf) with 6 x 31 class rope.
- <sup>1</sup> Line speed based only on hook block, not loaded.
- <sup>2</sup> Developed by machinery with each layer of wire rope, but not based on rope strength or other limitations in machinery or equipment.
- <sup>3</sup> Eighth layer of wire rope are not recommended for hoisting operations.

### - Air dryer

- Water separator with filter (high filtration)
- Air cleaner dust indicator
- Full instrumentation package
- Complete highway light package - Tire inflation kit
- Towing hooks-Front and rear
- Lifting eyes
- Hook block tie down (front bumper)
- Weighted hook storage compartment - Winch drum mirror
- Tool storage compartment

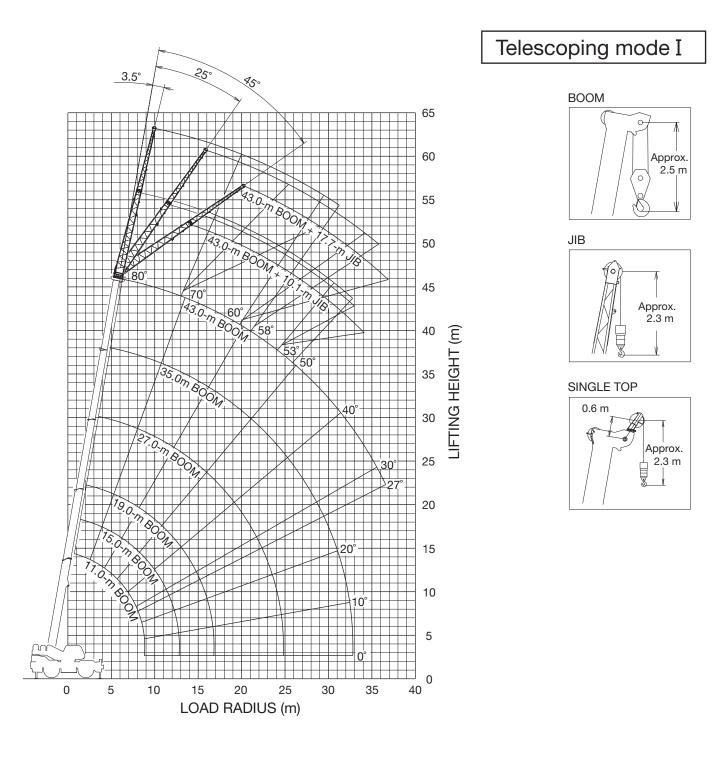
### **DRUM WIRE ROPE CAPACITIES**

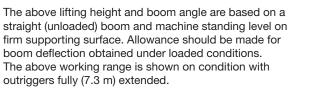
	Main and auxiliary drum grooved lagging			
Wire	19 mm wire rope			
rope	Rope per layer	Total wire rope		
layer	m	m		
1	34.2	34.2		
2	37.3	71.5		
3	40.3	111.8		
4	43.4	155.2		
5	46.4	201.6		
6	49.5	251.1		
7	52.6	303.7		

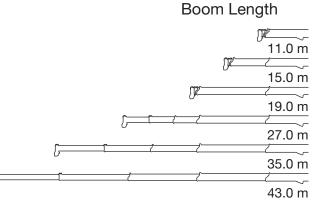
### **DRUM DIMENSIONS**

Root diameter	362 mm
Length	600 mm
Flange diameter	657 mm

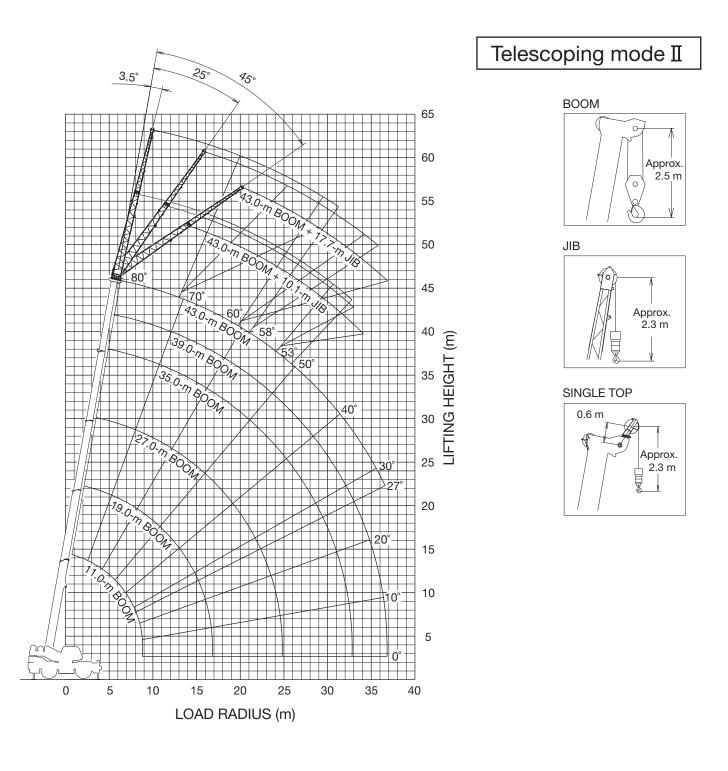
### **GR-600EX WORKING RANGE CHART**



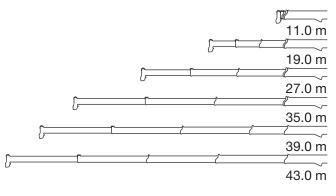




### **GR-600EX WORKING RANGE CHART**



The above lifting height and boom angle are based on a straight (unloaded) boom and machine standing level on firm supporting surface. Allowance should be made for boom deflection obtained under loaded conditions. The above working range is shown on condition with outriggers fully (7.3 m) extended.



						ON OU		GERS F 0° ROTA				0 7.3 m 000 kg)	SPRI	EAD						
	1	1.0 m	1	5.0 m		10	.0 m	0 11017		(-	.0 m	joo kgj	1	35	.0 m		3	9.0 m	1	3.0 m
в	C	11.0 111	C	5.0 111		15				21			C	- 55			C	19.0 m		5.0 11
3.0	68	60.0	74	40.8	78	32.0	78	22.0												
3.5	65	54.9	72	40.8	76	32.0	76	22.0												
4.0	62	53.8	70	40.8	75	32.0	75	22.0												
4.5	59	47.7	68	40.8	73	32.0	73	22.0	78	22.0	78	17.0								
5.0	56	42.8	66	40.8	72	32.0	72	22.0	77	21.3	77	17.0								
5.5	52	38.7	64	37.5	70	32.0	70	22.0	76	20.3	76	17.0								
6.0	48	35.3	61	34.6	68	31.9	68	22.0	75	19.4	75	17.0								
6.5	44	32.4	59	32.0	67	30.3	67	22.0	74	18.6	74	16.2	79	14.0	79	12.0				
7.0	39	29.9	57	29.6	65	28.8	65	22.0	73	17.8	73	15.6	78	13.5	78	11.7				
7.5	34	27.7	54	27.4	64	25.8	63	22.0	72	17.7	72	14.9	77	13.0	77	11.3				
8.0	28	25.7	52	24.9	62	23.2	61	22.0	71	17.6	71	14.4	76	12.6	76	10.9	78	10.0		
8.5	20	22.6	49	22.0	60	21.0	60	22.0	70	17.5	70	13.9	75	12.2	76	10.5	77	10.0		
9.0			47	19.5	58	19.1	58	21.7	68	17.4	69	13.4	75	11.9	75	10.2	76	10.0	80	9.0
10.0			40	15.8	54	15.3	54	17.8	66	15.7	66	12.4	73	11.8	73	9.5	75	9.6	78	8.7
11.0			34	13.0	50	12.6	50	15.0	64	13.6	64	11.5	71	11.6	71	8.9	73	9.1	77	8.3
12.0			25	10.9	46	10.5	46	12.8	62	11.6	62	10.6	69	11.4	70	8.5	72	8.6	75	7.9
14.0					36	7.6	36	9.7	56	8.6	56	9.3	66	9.1	66	7.7	69	7.9	72	7.4
16.0					22	5.5	21	7.5	51	6.5	51	7.9	62	7.0	62	6.7	66	7.4	71	7.3
18.0									45	5.0	45	6.4	58	5.5	58	5.9	62	6.1	66	5.7
20.0									39	3.9	38	5.2	54	4.4	54	5.2	59	4.9	63	4.6
22.0									30	3.1	29	4.3	50	3.5	50	4.5	55	4.1	60	3.7
24.0									17	2.4	17	3.6	45	2.8	46	3.7	51	3.3	56	3.0
26.0													40	2.2	40	3.2	47	2.8	53	2.4
28.0													34	1.7	34	2.7	43	2.3	49	1.9
30.0													27	1.3	27	2.3	38	1.9	45	1.5
32.0													16	1.0	16	1.9	32	1.5	41	1.2
34.0																	25	1.2	36	0.9
36.0																	14	1.0		
D			-						C	)°					_					27°
								Telesc	opin	g condit	ions	(%)								
Telescoping		Ι, Π		T		T		п		T		П		T		п		Π		Ι, Π

Mode	1,Ш	1	1	ш	1	ш	1	ш	ш	1,Ш
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100
									-	

	LIFTIN	IG CAPACII	7.3 m SI			DN (Unit: ×10			ED	
C A	11.0 m	15.0 m	19.	0 m	27	.0 m	В 35	.0 m	39.0 m	
0°	8.8 13.6	12.9 7.5	16.9 4.8	16.8 6.2	24.9 2.1	24.6 3.4	32.9 0.9	32.7 <b>1.7</b>	36.3 0.8	
Telescoping Mode	Ι,Π	I	I	П	I	П	I	П	П	

						ON OL		GGERS OVER S		EXTENI (Unit: >			PRE	٩D						
	1	1.0 m	1	5.0 m		19	.0 m				.0 m			35	.0 m	1	3	9.0 m	4	3.0 m
В	c	1.0 111	C	0.0 111	C	10		ĺ		21			C	00			C	0.0 111	С	0.0 111
3.0	68	59.6	75	40.8	78	32.0	78	22.0												
3.5	65	53.3	72	40.8	76	32.0	76	22.0												
4.0	62	48.0	70	40.8	75	32.0	75	22.0												
4.5	59	43.5	68	40.8	73	32.0	73	22.0	78	22.0	79	17.0								
5.0	56	39.7	66	39.5	71	32.0	71	22.0	77	21.3	77	17.0								
5.5	52	36.4	64	36.2	70	32.0	70	22.0	76	20.3	77	17.0								
6.0	48	33.5	62	33.3	68	31.8	68	22.0	75	19.4	75	17.0								
6.5	44	31.0	59	30.8	67	27.9	66	22.0	74	18.6	74	16.2	79	14.0	79	12.0				
7.0	40	28.8	57	27.4	65	24.8	65	22.0	73	17.8	73	15.6	78	13.5	78	11.7				
7.5	34	25.5	54	24.4	63	22.2	63	22.0	72	17.7	72	14.9	78	13.0	77	11.3				
8.0	28	22.3	52	21.6	61	20.0	61	22.0	71	17.6	71	14.4	76	12.6	77	10.9	78	10.0		
8.5	20	19.7	49	19.0	59	18.1	60	20.9	70	17.4	70	13.9	75	12.2	76	10.5	77	10.0		
9.0			47	17.0	58	16.5	58	19.1	68	16.0	69	13.4	74	11.9	75	10.2	76	10.0	79	9.0
10.0			41	13.7	54	13.3	54	15.7	66	13.7	66	12.4	73	11.8	73	9.5	75	9.6	78	8.7
11.0			34	11.3	50	11.0	50	13.2	64	11.9	64	11.5	71	11.5	71	8.9	74	9.1	76	8.3
12.0			25	9.4	45	9.1	46	11.3	62	10.2	62	10.6	69	10.1	70	8.5	72	8.6	75	7.9
14.0					38	6.5	36	8.6	56	7.5	57	8.9	66	8.0	66	7.7	69	7.9	72	7.4
16.0					21	4.7	21	6.7	51	5.7	51	7.0	62	6.2	63	6.7	66	6.8	69	6.4
18.0									45	4.4	45	5.7	58	4.8	59	5.8	62	5.4	66	5.1
20.0									38	3.4	38	4.6	54	3.8	54	4.8	59	4.4	63	4.0
22.0									30	2.6	29	3.8	49	3.0	50	3.9	55	3.6	59	3.2
24.0									17	1.9	16	3.2	44	2.4	45	3.3	51	2.9	56	2.6
26.0													40	1.8	40	2.8	47	2.4	52	2.0
28.0													34	1.4	34	2.3	42	1.9	48	1.6
30.0													27	1.0	27	1.9	37	1.5	44	1.2
32.0															17	1.6	32	1.2	40	0.9
34.0																	25	0.9		0.0°
D								·		, 		(0()								30°
T-lesses'								relesc	opin	g condit	ions	(%)					1			
Telescoping Mode		Ι,Π		Ι		Ι		П		Ι		П		Ι		П		П		Ι,Π
2nd boom		0		50		100		0		100		0	-	00		0		50		100
3rd boom		0		0		0		33		33		66		66		100		100		100
4th boom		0		0		0		33		33		66		66		100		100		100
Top boom		0		0		0		33		33		66		66		100		100		100

Top boom	0	0	0	33	33	66	66	100	100	100
r					DOOM ANG					
	LIFI	ING CAPAC	ITIES AT ZEI 6.7 m S		OVER SIDE (			ID EXTENDE	D	
A	<u>1</u> 1.0 m	<u>1</u> 5.0 m		<u>.0 m</u>		<u>.0 m</u>		<u>.0 m</u>	<u>3</u> 9.0 m	
	в 8.8 13.5	B 12.9 7.5	в 16.8 4.2	в 16.8 <b>6.1</b>	в 24.9 <b>1.7</b>	B 24.6 <b>3.0</b>	в 32.8 <b>0.6</b>	в 32.7 <b>1.4</b>	B 36.4 0.6	
<u> </u>		12.9 7.5	16.8 4.2	10.8 0.1	24.9 1.7	24.6 3.0	32.8 0.0	32.7 1.4	36.4 0.0	
Telescoping Mode	Ι,Π	I	I	П	I	П	I	П	П	

A: Boom length (m) B: Load radius (m) C: Loaded boom angle ( °) D: Minimum boom angle ( °) for indicated boom length (no load)

						ON OL		GGERS OVER S		EXTENI (Unit: >		5.5 m S 0 ka)	PRE	٩D						
	1	1.0 m	1	5.0 m		19	.0 m			· ·	.0 m	- 5/		35	.0 m		3	9.0 m	Δ	3.0 m
В	С		С		С		C		С				С	00	C		C		С	0.0
3.0	68	55.6	74	40.8	78	32.0	78	22.0												
3.5	65	49.4	72	40.8	76	32.0	76	22.0												
4.0	62	44.3	70	40.8	75	32.0	75	22.0												
4.5	59	40.0	68	39.5	73	32.0	73	22.0	78	22.0	79	17.0								
5.0	56	36.3	66	33.2	72	29.6	71	22.0	77	21.3	77	17.0								
5.5	52	32.7	64	28.5	70	25.5	70	22.0	76	20.3	76	17.0								
6.0	48	28.4	62	24.9	69	22.4	68	22.0	75	19.4	75	17.0								
6.5	44	24.2	59	21.9	67	19.8	66	22.0	74	18.5	74	16.2	79	14.0	79	12.0				
7.0	40	20.8	57	19.5	65	17.7	65	20.4	73	16.8	73	15.6	78	13.5	78	11.7				
7.5	34	18.1	54	17.5	63	15.9	63	18.5	72	15.2	72	14.9	77	13.0	77	11.3				
8.0	28	16.0	52	15.5	62	14.3	61	16.9	71	13.9	71	14.4	76	12.6	77	10.9	78	10.0		
8.5	20	14.2	50	13.7	60	13.0	59	15.5	70	12.8	70	13.9	75	12.1	76	10.5	77	10.0		
9.0			47	12.3	58	11.8	58	14.2	68	11.7	69	13.4	74	11.2	75	10.2	77	10.0	79	9.0
10.0			40	9.9	54	9.6	54	11.8	66	10.0	66	11.6	73	9.7	73	9.5	75	9.6	78	8.7
11.0			33	8.1	50	7.8	50	10.0	64	8.6	64	10.2	71	8.5	71	8.9	74	8.9	77	8.2
12.0			24	6.7	46	6.5	45	8.5	61	7.5	61	8.9	69	7.4	70	8.5	72	7.9	75	7.2
14.0					36	4.4	35	6.4	56	5.4	56	6.8	66	5.8	66	6.9	69	6.3	72	5.7
16.0					22	3.0	21	4.9	51	4.0	51	5.3	62	4.4	62	5.4	65	5.0	69	4.6
18.0									45	2.9	45	4.2	58	3.4	59	4.3	62	3.9	66	3.6
20.0									38	2.1	37	3.3	54	2.6	55	3.5	58	3.1	62	2.8
22.0									30	1.5	29	2.7	49	1.9	50	2.8	55	2.5	59	2.1
24.0									18	0.9	15	2.1	45	1.4	45	2.3	51	1.9	55	1.6
26.0													39	0.9	40	1.8	46	1.5	52	1.2
28.0															34	1.5	42	1.1		
30.0															27 16	1.2				
32.0							~							<u> </u>	16	0.9 0°		0.18		40%
D							0°	<b>T</b> -1-				(0()		26°		U		31°		43°
· · · · · · · · · · · · · · · · · · ·								Telesc	opin	g condit	ions	(%)								
Telescoping Mode	]	Ι,Π		Ι		Ι		П		Ι		П		Ι		П		П	I	, <b>∏</b>
2nd boom		0		50		100		0	1	00		0		100		0		50	1	00
3rd boom		0		0		0	:	33		33		66		66		100	1	00	1	00
4th boom		0		0		0	:	33		33		66		66		100	1	00	1	00
Top boom		0		0		0		33		33		66		66		100	1	00	1	00

	LIFTIN	NG CAPACIT	IES AT ZERO 5.5 m SI			E ON OUTRI Init: ×1000 kç	GGERS MID EXTENDE	)	
C A	11.0 m	<u>1</u> 5.0 m	19. 	0 m в	В	.0 m B	35.0 m		
0°	8.8 12.5	12.9 5.6	16.9 2.5	16.8 4.5	24.9 0.7	24.5 2.0	32.8 0.6		
Telescoping Mode	I, II	I	I	П	I	П	П		

						ON OL	JTRI	GGERS	MIN	EXTEN	DED	2.7 m S	PRE	AD						
								OVER S	IDE	(Unit: >	(100	0 kg)								
A	1	1.0 m	1	5.0 m		19	.0m			27	.0 m			35	.0 m		3	9.0 m		3.0 m
В	С		С		С		С	]	С		С		С	]	С		С		С	
3.0	68	26.3	74	22.3	78	19.3	78	22.0												
3.5	65	21.4	72	18.3	76	16.0	76	18.7												
4.0	62	17.8	70	15.4	75	13.5	75	16.1												
4.5	59	15.0	68	13.1	73	11.5	73	14.0	78	10.9	78	12.5								
5.0	55	12.9	66	11.3	72	9.9	71	12.3	77	9.5	77	11.1								
5.5	52	11.2	64	9.8	70	8.6	69	10.9	76	8.4	76	10.0								
6.0																				
6.5	6.5         44         8.6         59         7.4         67         6.6         66         8.8         74         6.7         74         8.2         78         6.4         79         7.5																			
7.0	7.0         40         7.6         57         6.5         65         5.7         64         7.9         73         6.0         72         7.4         77         5.8         78         6.9         Image: Comparison of the second seco																			
7.5	34	6.6	55	5.7	63	5.0	63	7.1	71	5.3	71	6.8	76	5.2	77	6.3				
8.0	28	5.7	52	5.0	61	4.3	61	6.5	70	4.8	70	6.2	75	4.7	76	5.8	77	5.1		
8.5	19	5.0	49	4.4	59	3.8	59	5.9	69	4.3	69	5.7	75	4.3	75	5.4	77	4.7		
9.0			47	3.9	58	3.3	57	5.3	68	3.8	68	5.3	74	3.9	74	5.0	76	4.3	78	3.8
10.0			41	2.9	54	2.4	53	4.4	66	3.1	65	4.5	72	3.2	72	4.3	74	3.7	76	3.2
11.0			33	2.2	49	1.7	49	3.7	63	2.4	63	3.8	70	2.6	71	3.7	73	3.1	75	2.6
12.0			25	1.5	45	1.1	45	3.1	61	1.9	60	3.2	69	2.1	69	3.2	71	2.6	73	2.2
14.0							35	2.0	56	1.0	55	2.3	65	1.3	65	2.3	68	1.8	70	1.4
16.0							20	1.3			49	1.6			62	1.7	64	1.2		
18.0									1		38	1.1			58	1.2				
D		(	D° (			21°		0°		44°		27°		57°		49°		57°		64°
								Telesc	opin	g condit	ions	(%)								

Telescoping Mode	Ι, П	I	I	П	I	П	I	П	П	Ι,Π
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100

	LIF	TING CAPA	CITIES AT ZE					MIN EXTEND	ED	
			2.7 m	SPREAD	OVER SID	E (Unit: ×100	)0 kg)			
C A	<u>11.0 m</u>	15.0 m	19.0	в						
0°	8.7 4.5	12.9 <b>0.9</b>		16.7 <b>1.1</b>						
Telescoping Mode	I, II	Ι		П						

A: Boom length (m) B: Load radius (m) C: Loaded boom angle (°) D: Minimum boom angle (°) for indicated boom length (no load)

				ON		ERS FULLY			AD
					360°	ROTATION	(Unit: ×100	0kg)	
		4:	3.0m Boom	ו + 10.1m Ji	b				
С	3.	5°Tilt	25~	Tilt	45°	Tilt	С	3.5	ö℃ilt
	R	W	R	W	R	W		R	
80	10.1	4.2	13.4	3.5	15.7	2.9	80	11.6	2
79	11.0	4.2	14.4	3.3	16.6	2.9	79	12.9	2
78	12.2	4.2	15.2	3.2	17.5	2.8	78	13.9	2
77	13.1	4.1	16.3	3.1	18.3	2.7	77	15.0	2
76	14.0	3.9	17.1	3.0	19.2	2.7	76	16.2	2
75	14.9	3.8	18.1	3.0	20.1	2.6	75	17.3	2
73	16.8	3.5	20.0	2.8	21.7	2.5	73	19.4	2
70	19.5	3.2	22.6	2.6	24.1	2.3	70	22.7	2
68	21.3	3.0	24.2	2.5	25.7	2.3	68	24.5	2
65	23.9	2.8	26.6	2.3	27.9	2.2	65	27.6	1
63	25.5	2.7	28.2	2.3	29.4	2.1	63	29.3	1
60	27.8	2.2	30.3	1.9	31.3	1.8	60	32.2	1
58	29.3	1.9	31.6	1.6	32.6	1.5	58	33.8	1
55	31.2	1.4	33.6	1.3	34.4	1.2			
53	32.6	1.2	34.9	1.1	35.5	1.0			
50	34.5	0.9							

(01	III. × 100	ury)					
Τ			43	.0m Boom	+ 17.7m Jik	2	
	С	3.5	Tilt	25°T	īlt	45°T	ïlt
		R	W	R	W	R	W
	80	11.6	2.6	17.5	2.1	21.7	1.7
	79	12.9	2.6	18.5	2.0	22.6	1.7
	78	13.9	2.6	19.8	2.0	23.6	1.6
	77	15.0	2.6	20.6	1.9	24.5	1.6
	76	16.2	2.5	21.7	1.9	25.4	1.6
	75	17.3	2.4	22.8	1.8	26.3	1.5
	73	19.4	2.3	24.7	1.7	28.0	1.5
	70	22.7	2.1	27.7	1.6	30.5	1.4
	68	24.5	2.0	29.4	1.5	32.0	1.3
	65	27.6	1.8	32.2	1.4	34.4	1.3
	63	29.3	1.7	33.8	1.4	35.8	1.2
	60	32.2	1.4	36.4	1.2	37.9	1.0
	58	33.8	1.2	37.7	0.9		

				ON	OUTRIGG	ERS FULLY	' FX	TENDED 7	7.3m SPBE	AD				
				011		ROTATION		(Unit: ×100						
	:	39.0m Boon	n(telescopii	ng mode II)	+ 10.1m Jil	0	Π			39.0m Boor	n(telescopi	ng mode II)	+ 17.7m Ji	b
C	3.5	5°Tilt	25°	Tilt	45°	Tilt	1	С	3.5	5°Tilt	25°	Tilt	45°	Tilt
	R	W	R	W	R	W	1		R	W	R	W	R	W
80	9.5	4.6	13.1	3.8	15.5	3.2	11	80	10.9	2.8	17.2	2.3	21.1	1.8
79	10.5	4.6	13.9	3.6	16.2	3.1	11	79	12.0	2.8	18.2	2.2	21.9	1.8
78	11.4	4.6	14.8	3.5	17.1	3.0	11	78	13.1	2.8	19.0	2.1	22.8	1.7
77	12.5	4.5	15.8	3.4	17.9	2.9	11	77	14.4	2.8	20.0	2.1	23.7	1.7
76	13.3	4.4	16.6	3.3	18.6	2.9	11	76	15.3	2.7	20.9	2.0	24.4	1.7
75	14.2	4.2	17.4	3.2	19.5	2.8	1 [	75	16.4	2.7	21.9	1.9	25.4	1.6
73	15.9	3.9	19.1	3.1	21.0	2.7	] [	73	18.3	2.5	23.7	1.8	26.9	1.6
70	18.4	3.6	21.5	2.8	23.2	2.5		70	21.3	2.3	26.3	1.7	29.2	1.5
68	20.1	3.4	23.0	2.7	24.7	2.4		68	23.1	2.2	28.1	1.6	30.7	1.4
65	22.5	3.1	25.3	2.6	26.5	2.3		65	26.0	2.0	30.7	1.5	32.9	1.4
63	24.0	3.0	26.7	2.5	27.9	2.3		63	27.8	1.9	32.4	1.5	34.4	1.3
60	26.3	2.8	28.6	2.3	29.6	2.2		60	30.1	1.8	34.4	1.4	36.3	1.3
58	27.8	2.7	30.2	2.3	31.1	2.1		58	32.1	1.7	36.2	1.4	37.6	1.3
55	29.8	2.3	32.0	2.0	32.8	1.9		55	34.4	1.5	38.3	1.3	39.7	1.2
53	31.0	2.0	33.1	1.8	33.8	1.7		53	35.8	1.3	39.6	1.1	40.6	1.0
50	32.8	1.7	34.8	1.5	35.3	1.5		50	37.9	1.1	41.4	0.9		
48	33.9	1.5	35.8	1.4	36.2	1.3		48	39.2	0.9				
45	35.6	1.2	37.0	1.1	37.6	1.1								
43	36.7	1.1	38.2	1.0										
40	38.1	0.9												

				ON		ERS FULLY ° ROTATION		TENDED 7 (Unit: ×100		AD				
		35m Boom	n(telescopin	ng mode I) +						35m Boon	ntelescopin	ig mode I) +	17.7m Jib	
С	3.	5°Tilt	25	<u> </u>		Tilt		С	3.5	5°Tilt	25°1	<u> </u>	45°	
	R	W	R	W	R	W			R	W	R	W	R	W
80	8.1	5.6	11.7	4.5	14.0	3.7	-	80	9.6	3.2	15.8	2.6	20.1	2.1
79	9.1	5.6	12.4	4.4	14.7	3.6		79	10.5	3.2	16.7	2.6	20.8	1.9
78	9.9	5.6	13.2	4.3	15.3	3.6		78	11.5	3.2	17.6	2.5	21.6	1.9
77	10.7	5.6	14.0	4.2	16.1	3.5		77	12.5	3.2	18.3	2.4	22.4	1.9
76	11.5	5.5	14.8	4.0	16.8	3.4		76	13.5	3.2	19.4	2.4	23.2	1.9
75	12.4	5.3	15.5	3.9	17.5	3.4		75	14.4	3.2	20.1	2.3	24.0	1.9
73	13.9	5.0	16.9	3.7	18.9	3.2		73	16.3	3.1	21.9	2.2	25.5	1.9
70	16.2	4.6	19.1	3.5	20.8	3.1		70	19.0	2.9	24.5	2.1	27.7	1.8
68	17.8	4.3	20.6	3.4	22.1	3.0		68	20.7	2.7	26.0	2.0	29.1	1.7
65	19.9	4.0	22.6	3.2	24.0	2.9		65	23.2	2.5	28.3	1.9	31.1	1.7
63	21.3	3.8	24.0	3.1	25.2	2.8		63	24.9	2.4	29.8	1.8	32.3	1.6
60	23.4	3.6	25.8	2.9	26.9	2.7		60	27.3	2.2	31.8	1.7	34.2	1.6
58	24.6	3.2	27.8	2.8	28.1	2.6		58	28.9	2.1	33.3	1.7	35.4	1.5
55	26.4	2.6	28.7	2.3	29.6	2.2		55	30.9	1.8	35.1	1.5	37.0	1.3
53	27.5	2.3	29.7	2.1	30.5	1.9		53	32.5	1.5	36.4	1.3	38.0	1.2
50	29.3	1.9	31.4	1.7	32.0	1.6		50	34.7	1.2	38.2	1.0	39.5	0.9
48	30.4	1.7	32.3	1.5	32.8	1.5		48	36.0	1.0	39.2	0.9		
45	32.0	1.4	33.7	1.3	34.1	1.2								
43	33.0	1.2	34.6	1.1										
40	34.5	1.0	35.9	0.9										
38	35.3	0.9												

C: boom angle ( °) R: Load radius (m)

W: Rated lifting capacity (Unit: ×1,000 kg)

				С		GERS MID		TENDED 6 nit: ×1000		AD
	1	10.0	D	10.4	0	VER SIDE		mt. x 1000	ky)	
				10.1-m Jib		-		-		
C	3.5	ö° Tilt	25	5° Tilt	45	° Tilt		С	3.	5° Til
	R	W	R	W	R	W			R	
80	9.9	4.2	13.4	3.5	15.8	2.9		80	11.5	
79	11.0	4.2	14.3	3.3	16.7	2.9	1	79	12.7	
78	12.1	4.2	15.3	3.2	17.6	2.8	1	78	14.0	
77	13.1	4.1	16.3	3.1	18.4	2.7	1	77	15.1	
76	14.0	3.9	17.2	3.0	19.4	2.7	1	76	16.2	
75	15.0	3.8	18.2	3.0	20.0	2.6	1	75	17.3	
73	16.8	3.5	19.9	2.8	21.9	2.5		73	19.4	
70	19.5	3.2	22.6	2.6	24.1	2.3		70	22.6	
68	21.2	3.0	24.2	2.5	25.7	2.3	1	68	24.7	
65	23.8	2.8	26.6	2.3	28.0	2.2	1	65	27.5	
63	25.4	2.4	28.0	2.0	29.3	1.9		63	29.1	
60	27.4	1.8	30.0	1.6	31.1	1.5		60	31.7	
58	29.1	1.5	31.5	1.3	32.5	1.2		58	33.4	
55	31.2	1.1	33.5	1.0	34.3	0.9	'			
53	32.6	0.9					1			

$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	nit: ×1000 kg) //3.0-m Boom + 17.7-m lib													
R         W         R         W         R         W           80         11.5         2.6         17.9         2.1         21.9         1.7           79         12.7         2.6         18.6         2.0         22.8         1.7           78         14.0         2.6         19.8         2.0         23.7         1.6           77         15.1         2.6         20.7         1.9         24.5         1.6           76         16.2         2.5         21.7         1.9         25.4         1.6           75         17.3         2.4         22.8         1.8         26.3         1.5           73         19.4         2.3         24.7         1.7         27.9         1.5			43.0-r	m Boom +	17.7-m Jib									
80         11.5         2.6         17.9         2.1         21.9         1.7           79         12.7         2.6         18.6         2.0         22.8         1.7           78         14.0         2.6         19.8         2.0         23.7         1.6           77         15.1         2.6         20.7         1.9         24.5         1.6           76         16.2         2.5         21.7         1.9         25.4         1.6           75         17.3         2.4         22.8         1.8         26.3         1.5           73         19.4         2.3         24.7         1.7         27.9         1.5	C	3.	5° Tilt	25	5° Tilt	45	' Tilt							
79         12.7         2.6         18.6         2.0         22.8         1.7           78         14.0         2.6         19.8         2.0         23.7         1.6           77         15.1         2.6         20.7         1.9         24.5         1.6           76         16.2         2.5         21.7         1.9         25.4         1.6           75         17.3         2.4         22.8         1.8         26.3         1.5           73         19.4         2.3         24.7         1.7         27.9         1.5		R	W	R	W	R	W							
78         14.0         2.6         19.8         2.0         23.7         1.6           77         15.1         2.6         20.7         1.9         24.5         1.6           76         16.2         2.5         21.7         1.9         25.4         1.6           75         17.3         2.4         22.8         1.8         26.3         1.5           73         19.4         2.3         24.7         1.7         27.9         1.5	80	11.5	2.6	17.9	2.1	21.9	1.7							
77         15.1         2.6         20.7         1.9         24.5         1.6           76         16.2         2.5         21.7         1.9         25.4         1.6           75         17.3         2.4         22.8         1.8         26.3         1.5           73         19.4         2.3         24.7         1.7         27.9         1.5	79	12.7	2.6	18.6	2.0	22.8	1.7							
76         16.2         2.5         21.7         1.9         25.4         1.6           75         17.3         2.4         22.8         1.8         26.3         1.5           73         19.4         2.3         24.7         1.7         27.9         1.5	78	14.0	2.6	19.8	2.0	23.7	1.6							
75         17.3         2.4         22.8         1.8         26.3         1.5           73         19.4         2.3         24.7         1.7         27.9         1.5	77	15.1	2.6	20.7	1.9	24.5	1.6							
73 19.4 2.3 24.7 1.7 27.9 1.5	76	16.2	2.5	21.7	1.9	25.4	1.6							
	75	17.3	2.4	22.8	1.8	26.3	1.5							
	73	19.4	2.3	24.7	1.7	27.9	1.5							
10 22.0 2.1 27.0 1.0 30.4 1.4	70	22.6	2.1	27.6	1.6	30.4	1.4							
68         24.7         2.0         29.5         1.5         32.1         1.3	68	24.7	2.0	29.5	1.5	32.1	1.3							
65         27.5         1.8         32.1         1.4         34.2         1.3	65	27.5	1.8	32.1	1.4	34.2	1.3							
63 29.1 1.5 33.7 1.2 35.7 1.1	63	29.1	1.5	33.7	1.2	35.7	1.1							
60 31.7 1.1 36.1 0.9	60	31.7	1.1	36.1	0.9									
58 33.4 0.9	58	33.4	0.9											

				C			EXTENDED 6 (Unit: ×1000		AD	
	3	9.0-m Boor	n (telescop	ing mode II)	-	-			9.0-m Boo	m (teles
С	3.5	5° Tilt	25	° Tilt	45	5° Tilt		3.	5° Tilt	
	R	W	R	W	R	W	1	R	W	R
80	9.5	4.6	13.0	3.8	15.4	3.2	80	11.0	2.8	17.
79	10.5	4.6	13.8	3.6	16.1	3.1	79	12.1	2.8	17.
78	11.4	4.6	14.7	3.5	17.0	3.0	78	13.2	2.8	19.
77	12.4	4.5	15.6	3.4	17.9	2.9	77	14.3	2.8	19.
76	13.4	4.4	16.6	3.3	18.8	2.9	76	15.5	2.7	21.
75	14.2	4.2	17.4	3.2	19.5	2.8	75	16.4	2.7	21.
73	16.0	3.9	19.1	3.1	20.9	2.7	73	18.4	2.5	23.
70	18.5	3.6	21.4	2.8	23.1	2.5	70	21.4	2.3	26.
68	20.1	3.4	23.1	2.7	24.4	2.4	68	23.2	2.2	28.
65	22.5	3.1	25.2	2.6	26.6	2.3	65	26.0	2.0	30.
63	24.0	3.0	26.8	2.5	27.8	2.3	63	27.8	1.9	32.
60	26.3	2.7	28.9	2.3	29.7	2.2	60	30.3	1.8	34.
58	27.5	2.4	29.9	2.1	30.9	2.0	58	31.8	1.6	36.
55	29.5	1.9	31.8	1.7	32.6	1.6	55	34.1	1.3	38.
53	30.8	1.7	32.9	1.5	33.7	1.4	53	35.5	1.1	
50	32.6	1.4	34.6	1.2	35.2	1.2	]			•
48	33.7	1.2	35.7	1.1	36.1	1.0	1			
45	35.4	1.0					]			

	nit: ×1000 kg) 39.0-m Boom (telescoping mode II) + 17.7-m Jib												
٦		3	9.0-m Boor	n (telescop	ing mode II	) + 17.7-m	Jib						
	С	3	.5° Tilt	25	° Tilt	45	° Tilt						
		R	W	R	W	R	W						
	80	11.0	2.8	17.1	2.3	21.1	1.8						
	79	12.1	2.8	17.9	2.2	22.0	1.8						
	78	13.2	2.8	19.0	2.1	22.8	1.7						
	77	14.3	2.8	19.9	2.1	23.6	1.7						
	76	15.5	2.7	21.0	2.0	24.5	1.7						
	75	16.4	2.7	21.9	1.9	25.3	1.6						
	73	18.4	2.5	23.8	1.8	27.0	1.6						
	70	21.4	2.3	26.4	1.7	29.2	1.5						
	68	23.2	2.2	28.1	1.6	30.7	1.4						
	65	26.0	2.0	30.5	1.5	32.8	1.4						
	63	27.8	1.9	32.3	1.5	34.2	1.3						
	60	30.3	1.8	34.7	1.4	36.4	1.3						
	58	31.8	1.6	36.1	1.3	37.7	1.2						
	55	34.1	1.3	38.1	1.0	39.4	0.9						
	53	35.5	1.1										

						GERS MID				<u>۸</u> ۵				
				C		VER SIDE		nit: ×1000		AD.				
	35-	m Boom (te	elescopina	mode I) + 1(			Ŭ			m Boom (te	elescopina	mode I) + 1	7.7-m Jib	
С		5° Tilt		5° Tilt		5° Tilt	1	С		° Tilt		Tilt		Tilt
	R	W	R	W	R	W	1		R	W	R	W	R	W
80	8.2	5.6	11.6	4.5	13.9	3.7		80	9.6	3.2	15.8	2.6	20.0	2.1
79	9.0	5.6	12.4	4.4	14.7	3.6		79	10.6	3.2	16.7	2.6	20.8	1.9
78	9.9	5.6	13.3	4.3	15.6	3.6		78	11.6	3.2	17.5	2.5	21.6	1.9
77	10.8	5.6	14.1	4.2	16.2	3.5		77	12.5	3.2	18.5	2.4	22.3	1.9
76	11.6	5.5	14.8	4.0	16.8	3.4		76	13.5	3.2	19.4	2.4	23.1	1.9
75	12.4	5.3	15.5	3.9	17.6	3.4		75	14.4	3.2	20.2	2.3	23.9	1.9
73	14.0	5.0	17.2	3.7	19.0	3.2		73	16.3	3.1	22.1	2.2	25.6	1.9
70	16.2	4.6	19.2	3.5	20.9	3.1		70	19.1	2.9	24.4	2.1	27.7	1.8
68	17.8	4.3	20.6	3.4	22.2	3.0		68	20.7	2.7	26.0	2.0	29.1	1.7
65	20.0	4.0	22.7	3.2	24.1	2.9		65	23.3	2.5	28.2	1.9	31.1	1.7
63	21.4	3.8	24.0	3.1	25.2	2.8		63	25.0	2.4	29.8	1.8	32.3	1.6
60	23.3	3.1	25.9	2.7	26.9	2.5		60	27.3	2.2	31.8	1.7	34.1	1.5
58	24.5	2.7	26.9	2.4	27.9	2.2		58	28.9	1.8	33.1	1.5	35.3	1.3
55	26.2	2.2	28.6	2.0	29.5	1.8		55	31.2	1.5	35.1	1.2	37.0	1.1
53	27.5	1.9	29.7	1.7	30.4	1.6		53	32.6	1.2	36.3	1.0	38.0	0.9
50	29.2	1.6	31.2	1.4	31.9	1.3		50	34.7	1.0				
48	30.3	1.4	32.3	1.2	32.8	1.2								
45	32.0	1.1	33.7	1.0	34.1	0.9								
43	33.0	0.9					J							

C: Loaded boom angle ( °) R: Load radius (m) W: Rated lifting capacity (Unit:×1,000 kg)

				C		GERS MID				٨D				
					C	VER SIDE	(Un	it: ×1000	kg)					
		43.0r	n Boom + <sup>·</sup>	10.1m Jib						43.0n	1 Boom + 1	7.7m Jib		
С	3.5	ö°Tilt	25	5°Tilt	45	°Tilt		С	3.5	õ°⊤ilt	25	ö°Tilt	45	°Tilt
	R	W	R	W	R	W			R	W	R	W	R	W
80	9.9	4.2	13.2	3.5	15.7	2.9	1 Г	80	11.5	2.6	17.9	2.1	22.0	1.7
79	10.9	4.2	14.3	3.3	16.5	2.9	1 Г	79	12.6	2.6	18.4	2.0	22.5	1.7
78	12.1	4.2	15.4	3.2	17.7	2.8	1 Г	78	13.8	2.6	19.8	2.0	23.6	1.6
77	13.1	4.1	16.3	3.1	18.4	2.7	1 Г	77	14.9	2.6	20.7	1.9	24.4	1.6
76	14.0	3.9	17.2	3.0	19.4	2.7	1 Г	76	16.2	2.5	21.7	1.9	25.4	1.6
75	15.0	3.8	18.2	3.0	20.1	2.6	1 Г	75	17.3	2.4	22.8	1.8	26.4	1.5
73	16.7	3.5	19.9	2.8	21.8	2.5	1 Г	73	19.5	2.3	24.8	1.7	28.0	1.5
70	19.3	2.8	22.3	2.4	24.1	2.2	] [	70	22.3	1.8	27.4	1.4	30.3	1.3
68	20.9	2.3	23.9	2.0	25.5	1.9	1 [	68	24.0	1.4	29.1	1.1	31.8	1.0
65	23.2	1.7	26.1	1.5	27.6	1.4	1 [	65	26.9	1.0				
63	24.7	1.4	27.5	1.2	28.9	1.1								
60	27.0	1.0					]							

#### ON OUTRIGGERS MID EXTENDED 5.5m SPREAD (U

					C	VER SIDE
	39.	0m Boom(te	elescoping	mode II) + 1	0.1m Jib	
C	3.5	5°Tilt	25	°Tilt	45	°Tilt
	R	W	R	W	R	W
80	9.6	4.6	13.1	3.8	15.5	3.2
79	10.5	4.6	13.8	3.6	16.1	3.1
78	11.4	4.6	14.7	3.5	17.0	3.0
77	12.4	4.5	15.6	3.4	17.8	2.9
76	13.4	4.4	16.6	3.3	18.7	2.9
75	14.2	4.2	17.4	3.2	19.4	2.8
73	15.9	3.9	19.1	3.1	21.0	2.7
70	18.5	3.6	21.4	2.8	23.1	2.5
68	20.1	3.4	22.9	2.7	24.5	2.4
65	22.5	2.8	25.2	2.3	26.4	2.1
63	24.1	2.3	26.8	2.0	27.8	1.8
60	25.8	1.8	28.4	1.6	29.5	1.4
58	27.2	1.5	29.6	1.3	30.7	1.2
55	29.2	1.2	31.4	1.0	32.4	0.9
53	30.5	1.0				

Jnit: ×1000	kg)					
	39.	0m Boom(te	elescoping	mode II) + 1	7.7m Jib	
C	3.	.5°Tilt	25	°Tilt	45	Tilt
	R	W	R	W	R	W
80	11.0	2.8	17.1	2.3	21.1	1.8
79	12.1	2.8	18.1	2.2	22.0	1.8
78	13.2	2.8	18.9	2.1	22.6	1.7
77	14.3	2.8	20.0	2.1	23.6	1.7
76	15.3	2.7	20.8	2.0	24.5	1.7
75	16.4	2.7	21.8	1.9	25.3	1.6
73	18.4	2.5	23.7	1.8	26.9	1.6
70	21.2	2.3	26.4	1.7	29.2	1.5
68	23.2	2.2	28.2	1.6	30.7	1.4
65	25.8	1.8	30.5	1.4	32.6	1.2
63	27.8	1.5	32.4	1.2	34.2	1.0
60	29.9	1.1				
58	31.4	0.9				

				(		GERS MID	EX	TENDED 5	5.5m SPRE/	٩D				
					-	OVER SIDE	U)	nit: ×1000	0/					
	35r	m Boom(tele	escoping m	ode I) + 10.					35r	n Boom(tele	escoping m	ode I) + 17.		
С	3.5	5°Tilt	25	õ°Tilt	4	5°Tilt		С	3.5	°Tilt	25°	Tilt	45°	Tilt
	R	W	R	W	R	W	11		R	W	R	W	R	W
80	8.2	5.6	11.7	4.5	14.1	3.7	1 [	80	9.6	3.2	15.9	2.6	20.1	2.1
79	9.0	5.6	12.4	4.4	14.7	3.6	1 [	79	10.6	3.2	16.6	2.6	20.8	1.9
78	9.9	5.6	13.2	4.3	15.5	3.6	1 [	78	11.6	3.2	17.7	2.5	21.7	1.9
77	10.7	5.6	14.0	4.2	16.1	3.5	1 [	77	12.4	3.2	18.4	2.4	22.3	1.9
76	11.6	5.5	14.8	4.0	16.8	3.4	1 [	76	13.5	3.2	19.3	2.4	23.2	1.9
75	12.4	5.3	15.5	3.9	17.5	3.4	1 [	75	14.4	3.2	20.2	2.3	24.0	1.9
73	14.0	5.0	17.0	3.7	18.9	3.2	1 [	73	16.2	3.1	22.0	2.2	25.6	1.9
70	16.3	4.6	19.2	3.5	20.0	3.1	1 [	70	19.0	2.9	24.0	2.1	27.6	1.8
68	17.7	3.9	20.6	3.3	22.2	3.0	1 [	68	20.6	2.7	25.9	2.0	29.0	1.7
65	19.7	3.1	22.4	2.6	23.8	2.4	1 [	65	23.3	2.2	28.1	1.6	31.0	1.4
63	21.0	2.7	23.7	2.3	25.0	2.1	1 [	63	24.9	1.8	29.5	1.4	32.3	1.2
60	22.9	2.1	25.5	1.8	26.7	1.6	1 [	60	27.3	1.3	31.5	1.0		
58	24.2	1.7	26.6	1.5	27.7	1.4	1	58	28.7	1.1				
55	26.0	1.3	28.4	1.2	29.3	1.1	1							
53	29.2	1.1	29.5	1.0			]							

C: Loaded boom angle (°) R: Load radius (m)

W: Rated lifting capacity (Unit:×1,000 kg)

				ON RU	BBER	STATIONARY	′ (Unit: ×'	1000 kg)				
			Over	Front					360° Rot	ation		
_ \ A [		11.0 m		19.0 m		27.0 m		11.0 m		19.0 m		27.0 m
В	С		С		С		С		С		С	
3.0	68	29.5					68	18.6				
3.5	65	27.8					65	14.8				
4.0	62	25.5	75	15.9			62	12.5	75	10.0		
4.5	59	23.0	73	15.9			59	10.6	73	10.0		
5.0	55	20.7	71	15.9			55	9.1	71	9.0		
5.5	52	18.2	70	15.9			52	7.7	70	7.8		
6.0	48	15.7	68	15.9	75	10.0	49	6.6	68	6.6	75	7.5
6.5	44	14.0	66	14.5	74	10.0	44	5.6	66	5.8	74	6.5
7.0	40	12.5	65	13.0	73	10.0	39	4.8	65	5.1	73	5.5
7.5	34	11.0	63	11.6	72	10.0	34	4.2	63	4.5	72	4.7
8.0	28	9.8	61	10.5	71	9.7	29	3.6	61	4.0	71	4.2
8.5	20	8.5	59	9.4	70	9.2	20	3.1	59	3.5	70	3.8
9.0			58	8.4	69	8.8			58	3.0	68	3.3
10.0			54	7.0	66	7.6			54	2.4	66	2.7
11.0			50	6.0	64	6.5			50	1.8	64	2.1
12.0			46	5.1	61	5.5			46	1.3	61	1.7
14.0			36	3.4	56	4.1					56	0.9
16.0			22	2.4	51	3.0						
18.0					45	2.3						
20.0					38	1.5						
22.0					30	1.0						
D 0°						18°	0°		21°			45°
					Teles	coping condit	ions (%)					
Telesconing		т <del>п</del>	1	π				τ <del>Π</del>		Π.		-

Telescoping Mode	Ι,Π	П	П	Ι,Π	П	П
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												
		Over Front						360° Rotation				
A	1	I1.0 m	19.0 m			11.0 m						
В	В		В				В					
0	8.8	8.0	16.9	2.1			8.8	2.8				

				ON	RUBBEI	R CREEP (Ur	nit: ×100	0 kg)				
			Over	Front					360° Ro	tation		
A [	1	11.0 m	1	9.0 m		27.0 m	1	1.0 m		19.0 m	2	27.0 m
В	С		С		С		С		С		С	
3.0	68	22.7					68	15.0				
3.5	65	20.2					65	13.0				
4.0	62	18.2	74	15.9			62	11.2	74	10.0		
4.5	59	16.5	73	15.9			59	9.5	73	9.8		
5.0	55	15.1	72	15.0			56	8.2	71	8.4		
5.5	52	13.6	70	13.9			52	7.0	70	7.2		
6.0	48	12.4	68	12.8	75	10.0	48	5.9	68	6.2	75	6.7
6.5	44	11.4	66	11.9	74	10.0	44	5.0	66	5.4	74	5.9
7.0	39	10.5	65	11.0	73	10.0	40	4.3	65	4.7	73	5.2
7.5	34	9.5	63	10.1	72	10.0	35	3.7	63	4.1	72	4.6
8.0	28	8.5	61	9.0	71	9.3	28	3.1	61	3.6	71	4.1
8.5	20	7.6	59	8.0	70	8.6	20	2.5	60	3.1	70	3.6
9.0			58	7.3	69	8.0			58	2.7	68	3.2
10.0			54	6.0	66	6.8			54	2.0	66	2.6
11.0			50	5.1	64	5.8			50	1.5	64	2.0
12.0			45	4.2	61	4.9			46	1.1	61	1.5
14.0			36	2.9	56	3.6						
16.0			21	1.8	51	2.6						
18.0					45	1.9						
20.0					38	1.3						
D			18°		0°		21°		50°			
					Teleso	coping conditi	ons (%)					
Telescoping Mode		I,∏		Π		П		Ι,Π		П		П
2nd boom		0		0		0		0		0		0

Ivioue				,				
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								
K								

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER STATIONARY												
		Over Front					360° Rotation					
_ <u> </u>	-	11.0 m	1	9.0 m			1	1.0 m				
В	В		В				В					
0	8.8	7.3	16.9	1.5			8.8	2.3				

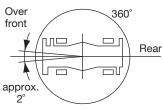
A: Boom length (m) B: Load radius (m) C: Loaded boom angle ( °) D: Minimum boom angle ( °) for indicated boom length (no load)

### WARNING AND OPERATING INSTRUCTIONS FOR ON RUBBER LIFTING CAPACITIES

- 1. Rated lifting capacities based on crane stability are according to ISO4305.
- 2. Rated lifting capacities shown in the chart are based on the condition that crane is set on firm level surfaces with suspension lock applied. Those above thick 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 suspension lock 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 22PR	420 kPa
29.5-25 28PR	450 kPa

6. Over front operation shall be performed within 2 degrees in front of chassis.



7. On rubber lifting with "jib" is not permitted. Maximum permissible boom length is 27.0 m.

- 8. When making lift on rubber stationary, set parking brake.
- 9. For creep operation, 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 60 m in any 30 minute period and to travel at the speed of less than 1.6 km/h.
- 12. For creep operation, choose the drive mode and proper gear according to the road or working condition.
- 13. The mass of the hook (540 kg for 60 t capacity, 450 kg for 35 t capacity, 150 kg for 5.6 t capacity), slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
- 14. For rated 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 5,600 kg including main hook.
- 15. The lifting capacity data stowed in the Automatic Moment Limiter (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	11.0 m	11.0 m to 27.0 m	Single top
Telescoping mode	Ι, Π	П	Ι, Π
Number of parts of line	6	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.

### SET UP

- Rated lifting capacities on the chart are the maximum allowable crane capacities and 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 bearing surface.
- 2. For outrigger operation, outriggers shall be properly extended with tires free of supporting surface before operating crane.

### OPERATION

- 1. Rated lifting capacities on outriggers fully extended as determined by ISO4305.
- 2. Rated lifting capacities above thick 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. 3. The weight of handling device such as hook blocks (540 kg for 60 t capacity, 450 kg for 35 t capacity, 150 kg for 5.6 t capacity), slings, etc., must be considered as part of the load and must be deducted from the lifting capacities.
- 4. 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.

Such action can damage the boom, jib or slewing mechanism, and lead to overturning of the crane.

- 5. Rated lifting capacities do not account for wind on lifted load or boom. We recommend against working under the conditions 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 9 m/s to 12 m/s; reduced by 70 % when the wind speed is 12 m/s to 14 m/s. If the wind speed is 14 m/s or over, stop operation. During jib lift, stop operation if the wind speed is 9 m/s or over.
- 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 angles, 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.
- 10. Load per line should not exceed 54.9 kN (5,600 kgf) for main winch and auxiliary winch.
- 11. Check the actual number of parts of line with Automatic Moment Limiter (AML-C) before operation. Maximum lifting capacity is restricted by the number of parts of line of Automatic Moment Limiter (AML-C). Limited capacity is as determined from the formula, Single line pull for main winch 54.9 kN(5,600 kgf) x number of parts of line.
- 12. 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.
- 13. The 11.0-m Boom length capacities are based on boom fully retracted.
- 14. 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.
- 15. For lifting capacity of single top, deduct the weight of the load handling equipment from the rated lifting capacity of the boom. For the lifting capacity of single top, the net capacity shall not exceed 5,600 kg including the main boom hook mass attached to the boom.

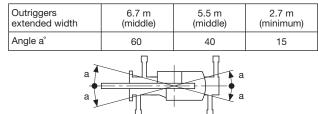
- 16. When a jib is removed, set the jib state switch to the REMOVED position.
- 17. When erecting and stowing jib, be sure to retain it by hand or by other means to prevent its free movement.
- Use "ANTI-TWO-BLOCK DEVICE" disable switch when erecting and stowing jib and when stowing hook block. While the switch is pushed, the hoist does not stop, even when overwind condition occurs.
- 19. For boom length 43.0 m or less and 35.0 m or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "43.0-m Boom + jib".
  For boom length 35.0 m or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "35.0-m Boom + jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity. (Telescoping MODE I) For boom length 43.0 m or less and 39.0 m or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "63.0-m Boom + jib".
  For boom length 43.0 m or less and 39.0 m or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "43.0-m Boom + jib".
  For boom length 39.0 m or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "39.0-m Boom + jib".

"39.0-m Boom + jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity.(Telescoping MODE II)

- 20. 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.
- 21. Before telescoping the boom, set the telescoping mode selector switch to MODE I or MODE II with the boom fully retracted. A change of the telescoping mode is not permissible when the boom has been partially or fully extended.
- 22. The lifting capacity data stowed in the Automatic Moment Limiter (AML-C) is based on the standard number of parts of line listed in the chart. Standard number of parts of line for on outrigger operation should be according to the following table.

Boor	n length	11.0 m	11.0 m to 15.0 m		15,0 m to 19.0 m	19.0 m to 43.0 m	Single top/ jib
Teles	coping e	Ι, Π	Ι	п	Ι, Π	Ι, Π	Ι, П
	ber of of line	12	8	6	6	4	1

23. The lifting capacity for over side area differs depending on outrigger extension width. Work with capacity corresponding to the extension width. The lifting capacities for over front and over rear areas are for "outriggers fully extended". However, the areas (angle a) differ depending on the outrigger extension width.



### 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.
- 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.

### WARNING AND OPERATING INSTRUCTIONS FOR USING THE AUTOMATIC MOMENT LIMITER (AML-C)

- Set AML select keys in accordance with the actually operating crane conditions and don't fail to make sure, before crane operation, that the displays on front panel are correct.
- 2. When operating crane on outriggers:
  - Set P.T.O. switch to "ON".
  - Press the outrigger state select key to register for the outrigger operation. If the display agrees with the actual state, press the set key to register. After the completion of the registration, the pop-up window closes.
  - Press the lift state select key to register the lift state to be used (single top / jib / boom).
  - Each time the lift state select key is pressed, the display changes. If the display agrees with the actual state, press the set key to register. After the completion of the registration, the pop-up window closes.
  - When erecting and stowing jib, select the status of jib set (Jib lift indicative symbol flickers).
- 3. When operating crane on rubber:
- Set P.T.O. switch to "ON".
  - Press the outrigger state select key to register for the on rubber operation. Each time the outrigger state select key is pressed, the display changes. Select the creep operation, the on rubber state indicative symbol flickers.
  - Press the lift state select key to register the lift state.
  - However, pay attention to the following.

For stationary and creep 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 slewed to the side area, make sure the value of the AUTOMATIC MOMENT LIMITER (AML-C) is below the 360° lifting capacity.
- 4. This machine is equipped with an automatic slewing stop device.

(For the details, see Operation and Maintenance Manual.) But, operate very carefully because the automatic slewing stop does not work in the following cases. • During on rubber operation.

- During crane operation, make sure that the displays on front panel are in accordance with actual operating conditions.
- 6. The displayed values of AUTOMATIC MOMENT LIMITER (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 slewing, lifting loads shall be appropriately reduced.

7. AUTOMATIC MOMENT LIMITER (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 AUTOMATIC MOMENT LIMITER (AML-C) aids in place of good operating practice can cause an accident. The operator must exercise caution to assure safety.

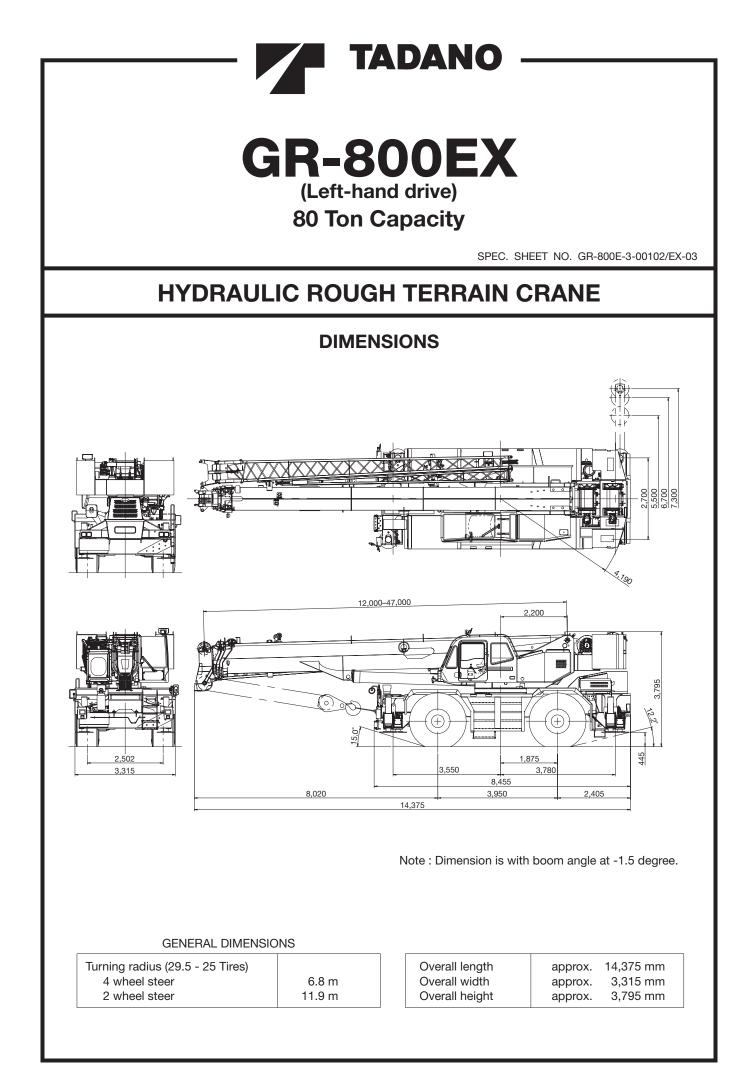
### **GR-600EX Axle weight distribution chart**

			Kilograms	
		GVW	Front	Rear
Basic n	nachine	43,735	21,555	22,180
Add:	1. 60 ton 6 sheaves hook block	540	960	-420
	2. 35 ton 3 sheaves hook block	450	800	-350
Remov	e: 1. 5.6 ton hook block	-150	-209	59
	2. Top jib	-335	-365	30
	3. Base jib	-865	-1,480	615
	<ol> <li>Counter weight with auxiliary winch and wire rope</li> </ol>	-5,670	2,500	-8,170



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### CRANE SPECIFICATIONS

### BOOM

5 section full power partially synchronized telescoping boom of round box construction with 6 sheaves at boom head. The synchronization system consists of 2 telescope cylinder, extension cables and retraction cables. Hydraulic cylinder fitted with holding valve. 2 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.

Fully retracted length...... 12.0 m Fully extended length ..... 47.0 m Extension speed...... 35.0 m in 160 s Root diameter..... 0.44 m

### BOOM ELEVATION

By a double acting hydraulic cylinder with holding valve. Combination controls for hand or foot operation. Boom angle indicator.

Automatic speed reduction and slow stop function. Boom angle ......  $-1.5^{\circ}$  - 80.5° Boom raising speed ...... 20° to 60° in 46 s

#### JIB

2 stage swing around boom extention swing around type with triple offset (tilt type). Single sheave at jib head. Stows alongside base boom section

10110 alongolao babo boolin	00001011.
Length	10.1 m, 17.7 m
Offset	
Root diameter	

### **AUXILIARY LIFTING SHEAVE (SINGLE TOP)**

Single sheave mounted to main boom head for single line work(stowable).

Root diameter..... 0.396 m

### ANTI-TWO-BLOCK DEVICE

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

### SLEWING

Hydraulic axial piston motor driven through planetary slewing speed reducer. Continuous 360° full circle slewing on ball bearing.

Equipped with manually locked/released slewing brake. A positive slewing lock for pick and carry and travel modes, manually engaged in cab. Twin slewing system : Free slewing or lock slewing controlled by selector switch on front console. Slewing speed ..... 1.5 min<sup>-1</sup> {rpm}

### WINCH

MAIN WINCH

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 winch. Equipped with cable follower and drum rotation indicator.

### MAIN DRUM

Root diameter x wide	. 0.362 m x 0.6 m
Wire rope diameter x length	19 mm x 253 m
Drum capacity	304 m, 7 layers
Maximum single line pull (1st layer)	9.1 kN (9,090 kgf)
Maximum permissible linepull wire strength 6	64.7 kN (6,600 kgf)

### AUXILIARY WINCH

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 winch. Equipped with cable follower and drum rotation indicator.

#### AUXILIARY DRUM

Root diameter x wide	0.362 m x 0.6 m
Wire rope diameter x length	19 mm x 139 m
Drum capacity	304 m, 7 layers
Maximum single line pull (1st layer)	89.1 kN (9,090 kgf)
Maximum permissible linepull wire strength	64.7 kN (6,600 kgf)

#### WIRE ROPE

Non-rotating wire (no-spin), extra improved plow steel, preformed, independent wire rope core, right regular lay.

Main & Auxillary ..... 19 mm 7 x 39 class

#### HOOK BLOCKS

- 80 ton (option)
- 7 sheaves with swivel hook and safety latch
- 60 ton (option)
- 6 sheaves with swivel hook and safety latch
- 50 ton (option) 5 sheaves with swivel hook and safety latch
- 35 ton (option) 3 sheaves with swivel hook and safety latch
- 6.6 ton

Weighted hook with swivel and safety latch

### HYDRAULIC SYSTEM

#### PUMPS

2 variable piston pumps for crane functions. Tandem gear pump for steering, slewing 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

763 liters 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. Wiper and washer (front indshield and roof window). Tinted safety glass and sun visor. Tilt-telescoping steering wheel. Adjustable control lever stands for slewing, boom elevating, boom telescoping, auxiliary winch and main winch. Control lever stands can change neutral positions and tilt for easy access to cab. Foot operated controls: boom elevating, boom telescoping, service brake and engine throttle. 3 way adjustable operator's seat with high back, headrest and armrest. Cab floor mat. Engine throttle knob. Hot water cab heater and air conditioning.

Dash-mounted engine start/stop, monitor lamps, cigarette lighter, drive selector switch, parking brake switch, steering mode select switch, power window switch, pump engaged/ disengaged switch, slewing brake switch, boom telescoping/auxiliary winch select switch, outrigger control panel, and slewing free/ lock selector switch.

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

### **CRANE SPECIFICATIONS**

TADANO Automatic Moment Limiter

(AML-C) including:

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

### **CARRIER SPECIFICATIONS**

### TYPE

Rear engine, left-hand drive, 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.

### ENGINE

Model Type	MITSUBISHI 6M60-TL Direct injection diesel
No. of cylinders	6
Combustion	4 cycle, turbo charged and after cooled
Bore x Stroke, mm	118 x 115
Displacement, liters	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, liters	300, right side of carrier
Cooling	Liquid pressurized, recirculating by-pass
Radiator	Fin and tube core, thermostat controlled
Fan, mm	Suction type, 6-blade, 600 dia.
Starting	24 volt
Charging	24 volt system, negative ground
Battery	2-120 amp. Hour
Compressor, air, I /min	830 at 2,600 min <sup>-1</sup>
Output, Max. kW (HP)	Gross 200 (267) at 2,600 min <sup>-1</sup>
Torque, Max. N•m	785 at 1,400 min <sup>-1</sup>
Capacity, liters	
Cooling water	13
Lubrication	13–15
Fuel	300

### 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 - 36 km/h

### **GRADE ABILITY (tan** $\theta$ ) - 94% (at stall), 30%\*

\* Machine should be operated within the limit of engine crankcase design (17°: MITSUBISHI 6M60-TL)

- Main hydraulic oil pressure
- Fuel consumption monitor
  - Main winch / auxiliarly winch select
- Drum rotation indicator (audible and visible type) main and auxiliary winch
- On-rubber indicator

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, slewing lock lever and sight level bubble.

Upper right console includes flood lamp switch, roof washer and wiper switch, emergency outrigger set up key switch, jib status switch, eco mode switch, and air conditioning control switch. Lower right console includes boom emergency telescoping switch (2nd and 3rd-top)

NOTE: Each crane motion speed is based on unladen conditions.

### 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. 4 steering modes available: 2 wheel front, 2 wheel rear, 4 wheel coordinated and 4 wheel crab.

### SUSPENSION

Front: Rigid mounted to the 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) Air pressure: 400 kPa

### OUTRIGGERS

4 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 7.3 m center-line and retract to within 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. 4 outrigger extension lengths are provided with corresponding "RATED LIFTING CAPACITIES" for crane duty in confined areas. Min. Extension 2.7 m center to center

Min. Extension	2.7 m center to center
Mid. Extension	5.5 m center to center
Mid. Extension	6.7 m center to center
Max. Extension	7.3 m center to center
Float size (Diameter)	0.6 m

### COUNTERWEIGHT

Integral with slewing frame Mass... 9,980 kg (Containing weight with auxiliary winch and wire rope)

# STANDARD EQUIPMENT

- Telematics (machine data logging and monitoring system) with - HELLO-NET via internet (availability depends on countries)
- Eco mode system
- Positive control
- Over unwinding prevention
- Emergency steering system
- Transmission neutral position engine start
- Overshift prevention
- Parking braked travel warning
- Tilt-telescope steering wheel
- Halogen head lamp
- Fenders

# **OPTIONAL EQUIPMENT**

- Wind speed indicator
- Hook block-80 t capacity
- (7 sheaves, swivel type with safty latch. Mass: approx. 700 kg) - Hook block-60 t capacity
- (6 sheaves, swivel type with safty latch. Mass: approx. 540 kg)

# HOISTING PERFORMANCE

### LINE SPEEDS AND PULLS

	-			
	Main or au	uxiliary winch - 0	.362 m drum	
Lover	Line s	peeds <sup>1</sup>	Line pulls	Available <sup>2</sup>
Layer	m/ı	min	kN	(kgf)
	Low	High	Low	High
1st	84	118	89.1 (9,090)	63.9 (6,520)
2nd	92	128	80.7 (8,230)	57.8 (5,900)
3rd	99	139	73.7 (7,520)	52.8 (5,390)
4th	107	149	67.8 (6,920)	48.6 (4,960)
5th	115	160	62.8 (6,410)	45.1 (4,600)
6th	122	170	58.5 (5,970)	41.9 (4,280)
7th <sup>3</sup>	130	181	54.8 (5,590)	39.3 (4,010)

- Maximum permissible line pull wire strength. Main & Auxiliary: 64.7 kN (6,600 kgf) with 7 x 39 class rope.

<sup>1</sup> Line speed based only on hook block, not loaded.

- <sup>2</sup> Developed by machinery with each layer of wire rope, but not based on rope strength or other limitations in machinery or equipment.
- <sup>3</sup> Eighth layer of wire rope are not recommended for hoisting operations.

- Air dryer

- Water separator with filter (high filtration)
- Air cleaner dust indicator
- Full instrumentation package
- Complete highway light package - Tire inflation kit
- Towing hooks-Front and rear
- Lifting eyes
- Hook block tie down (front bumper)
- Weighted hook storage compartment
- Winch drum mirror
- Tool storage compartment

- Hook block-50 t capacity

(5 sheaves, swivel type with safty latch. Mass: approx. 500 kg)-Hook block-35 t capacity

(3 sheaves, swivel type with safty latch. Mass: approx. 450 kg)

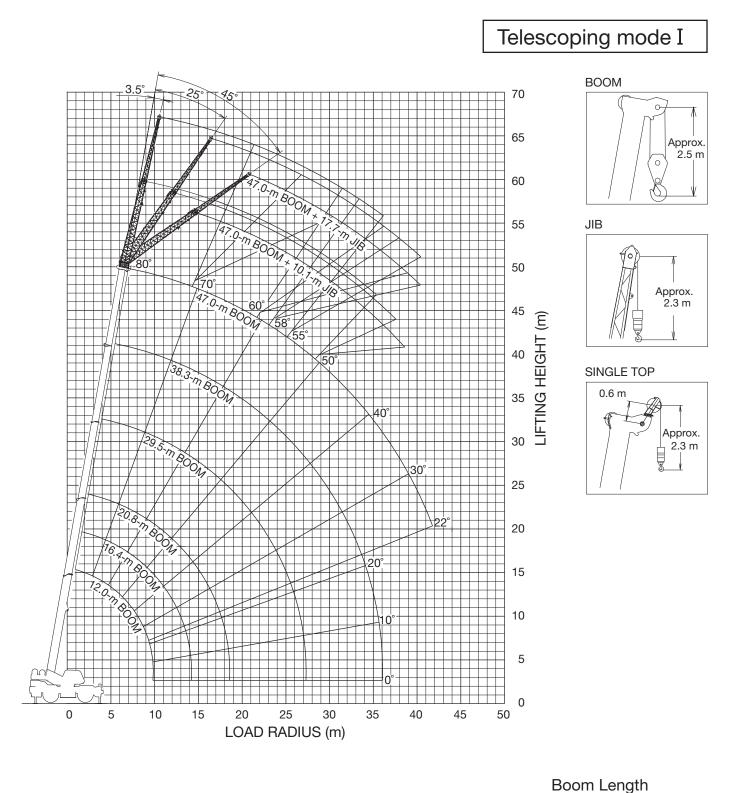
### DRUM WIRE ROPE CAPACITIES

	Main and auxiliary d	rum grooved lagging
Wire	19 mm v	vire rope
rope	Rope per layer	Total wire rope
layer	m	m
1	34.2	34.2
2	37.3	71.5
3	40.3	111.8
4	43.4	155.2
5	46.4	201.6
6	49.5	251.1
7	52.6	303.7

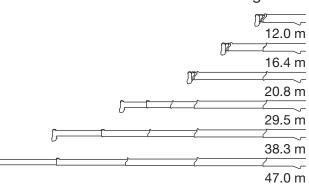
### DRUM DIMENSIONS

Root diameter	362 mm
Length	600 mm
Flange diameter	657 mm

### **GR-800EX WORKING RANGE CHART**

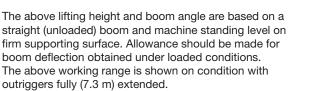


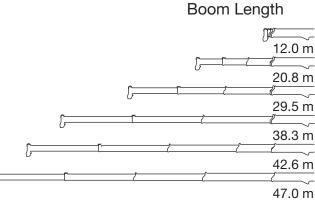
The above lifting height and boom angle are based on a straight (unloaded) boom and machine standing level on firm supporting surface. Allowance should be made for boom deflection obtained under loaded conditions. The above working range is shown on condition with outriggers fully (7.3 m) extended.



### **GR-800EX WORKING RANGE CHART**

### Telescoping mode II BOOM Approx. 2.5 m JIB Approx. 2.3 m LIFTING HEIGHT (m) SINGLE TOP 0.6 m Approx. 2.3 m LOAD RADIUS (m)





						ON OU		GERS F 0° ROTA				0 7.3 m 000 kg)	SPR	EAD						
	1	2.0 m	10	6.4 m		20	8 m	0 110 17			.5 m	, e e	1	38	.3 m			12.6 m		7.0 m
В	C	2.0 111		0.4 m		20.				20			С	00			C	2.0	C	1.0 111
3.0	70	80.0	75	46.6	79	40.9	78	18.2												
3.5	67	74.2	74	46.6	77	40.9	77	18.2												
4.0	64	67.0	72	46.6	76	40.9	76	18.2												
4.5	62	60.9	70	46.6	75	40.9	74	18.2												
5.0	59	55.7	68	46.6	73	38.9	73	18.2	79	18.2	78	15.1								
5.5	56	51.1	66	46.6	72	36.8	71	18.2	78	18.2	77	15.1								
6.0	53	46.2	64	45.8	70	34.9	70	18.2	77	18.2	76	15.1								
6.5	49	42.1	62	41.7	69	33.2	68	18.2	76	18.2	75	15.1								
7.0	46	38.6	60	38.3	67	31.6	67	18.2	75	18.2	75	15.1	79	15.1	79	13.0				
7.5	42	35.6	58	34.4	66	30.1	65	18.2	74	18.2	74	15.1	78	15.1	78	13.0				
8.0	38	33.0	56	31.0	64	28.1	64	18.2	73	18.2	73	15.1	78	15.1	78	12.8				
9.0	27	24.0	51	24.9	61	23.3	60	18.2	71	18.2	71	15.1	76	15.1	76	12.1	77	11.0		
10.0			46	20.2	58	19.7	57	18.2	69	18.2	69	15.0	75	14.6	75	11.3	76	11.0	79	9.5
11.0			40	16.7	54	16.3	54	18.2	67	16.6	66	14.0	74	13.8	73	10.7	75	10.7	77	9.5
12.0			34	14.0	50	13.6	50	16.4	65	14.6	64	13.2	72	13.0	72	10.1	73	10.2	76	9.5
14.0			13	10.2	42	9.9	42	12.4	60	11.2	60	11.7	69	11.3	68	9.0	71	9.3	74	9.3
16.0					32	7.3	32	9.8	55	8.6	55	10.3	65	9.1	65	8.1	68	8.5	72	8.6
18.0					16	5.5	16	7.5	50	6.7	50	8.3	62	7.2	62	7.4	65	7.7	69	7.5
20.0									44	5.3	44	6.9	58	5.8	58	6.8	62	6.6	66	6.2
22.0									38	4.2	38	5.7	54	4.7	54	5.9	59	5.4	63	5.0
24.0									30	3.3	30	4.8	50	3.8	50	5.0	56	4.5	60	4.1
26.0									20	2.5	20	4.0	46	3.0	46	4.2	52	3.8	57	3.4
28.0													41	2.4	41	3.6	48	3.1	54	2.8
30.0													36	1.9	36	3.1	44	2.6	50	2.2
32.0													29	1.5	30	2.6	40	2.2	47	1.8
34.0													22	1.1	22	2.2	35	1.8	43	1.4
36.0																	30	1.4	39	1.1
38.0																	23	1.1		
40.0																	12	0.9		
D									C	)°										22°

### Telescoping conditions (%)

Telescoping Mode	I,II	I	Ι	П	Ι	П	I	П	П	Ι,Π
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100

	LIFT	TING CAPAC						JLLY EXTEN	DED						
	7.3 m SPREAD 360° ROTATION (Unit: ×1000 kg)														
A	12.0 m	16.4 m	20.	8 m	29.	5 m	38.	3 m	42.6 m						
C															
0°	9.8 20.3	14.1 <b>10.0</b>	18.4 5.2	18.4 7.2	27.2 2.2	27.0 3.7	35.8 <b>0.8</b>	35.0 2.1	40.0 0.9						
Telescoping Mode	Ι,Π	I	I	П	I	П	I	П	П						

						ON OL		GGERS OVER S		EXTENI (Unit: >			PRE	٩D						
A	-	12.0 m	-	6.4 m	1	20.		OVLING			5 m	U KY)	1	20	3 m		4	2.6 m	4	7.0 m
В	С	12.0 m	C	0.4 111	C	20.			C	29.				30.			C 4	2.0 11	C 4	7.0 m
3.0	70	80.0	76	46.6	79	40.9	78	18.2					-		-		-			
3.5	67	72.1	74	46.6	77	40.9	77	18.2												
4.0	65	65.0	72	46.6	76	40.9	76	18.2												
4.5	62	59.0	70	46.6	75	40.9	74	18.2												
5.0	59	53.8	68	46.6	73	38.9	73	18.2	79	18.2	78	15.1								
5.5	55	49.3	66	46.6	72	36.8	71	18.2	78	18.2	77	15.1								
6.0	52	44.0	64	43.5	70	34.5	70	18.2	77	18.2	76	15.1								
6.5	49	40.0	62	38.0	69	32.0	68	18.2	76	18.2	75	15.1								
7.0	46	35.5	60	33.6	67	30.0	67	18.2	75	18.2	74	15.1	79	15.1	79	13.0				
7.5	42	31.8	58	30.1	66	27.3	65	18.2	74	18.2	74	15.1	78	15.1	78	13.0				
8.0	37	27.8	55	27.1	64	24.6	64	18.2	73	18.2	73	15.1	78	15.1	78	12.8				
9.0	27	22.0	51	21.3	61	20.4	61	18.2	71	18.2	71	15.1	76	15.1	76	12.1	77	11.0		
10.0			46	17.2	57	16.8	57	18.2	69	17.0	69	15.0	75	14.6	75	11.3	76	11.0	79	9.5
11.0			40	14.2	54	13.8	54	16.7	67	14.7	66	14.0	73	13.8	73	10.7	75	10.7	78	9.5
12.0			34	11.9	50	11.5	50	14.2	64	12.9	64	13.2	72	12.6	72	10.1	73	10.2	77	9.5
14.0			13	8.6	42	8.2	42	10.8	60	9.6	60	11.3	69	10.0	68	9.0	70	9.3	74	9.3
16.0					32	6.0	32	8.4	55	7.3	55	8.9	65	7.9	65	8.1	68	8.3	71	8.0
18.0					16	4.3	15	6.7	50	5.6	50	7.2	62	6.2	62	7.2	65	6.9	69	6.5
20.0									44	4.3	44	5.9	58	4.9	58	6.1	62	5.6	66	5.2
22.0									38	3.3	38	4.8	54	3.9	54	5.1	59	4.6	63	4.2
24.0									30	2.5	31	4.0	50	3.1	50	4.2	56	3.8	60	3.4
26.0									20	1.9	20	3.4	46	2.4	46	3.5	52	3.1	57	2.7
28.0													41	1.8	41	3.0	48	2.5	53	2.1
30.0													36	1.4	36	2.5	44	2.0	50	1.7
32.0													30	1.0	29	2.1	40	1.6	46	1.3
34.0															21	1.7	35	1.3	43	0.9
36.0																-	30	1.0		-
D						0	·							6°		0°		23°		34°
								Telesc	opin	g condit	ions	(%)								
Telescoping	1	Ι,Π		I		Ι		П		I		П		I		П		П		Ι, П

Mode	Ι,Π	I	I	П	I	П	I	П	П	Ι,Π
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100

		LIFT	ING	CAPAC		6.7 m S						N OUT ×1000 I	ERS MI	D EX	TENDE	D		
C A	<u>в</u>	.0 m	- 1е в	6.4 m	в	20.	Вm В		в	29.	5 m			38 B	3.3 m			
0°	9.8	18.0	14.2	8.3	18.5	4.0	18.3	6.5	27.2	1.5	27.2	3.0		35.4	1.6			
Telescoping Mode	I,	П		Ι		Ι		П		Ι		П			П			

A: Boom length (m) B: Load radius (m) C: Loaded boom angle ( °) D: Minimum boom angle ( °) for indicated boom length (no load)

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### **GR-800EX RATED LIFTING CAPACITIES**

OVER SIDE (Unit: ×1000 kg)           B         I							ON OL		GGERS					PRE	AD						
B       C <thc< th=""> <thc< th=""></thc<></thc<>			0.0		0.4	1	0.0		OVER S	IDE			u kg)	1							7.0
3.0       70       75.4       75.4       75.4       74       46.6       77       40.9       78       18.2       1 <th1< th="">       1       1       1<!--</td--><td></td><td></td><td>2.0 m</td><td></td><td>6.4 m</td><td></td><td>20.</td><td></td><td>1</td><td></td><td>29.</td><td></td><td></td><td></td><td>38.</td><td></td><td></td><td></td><td>2.6 m</td><td></td><td>7.0 m</td></th1<>			2.0 m		6.4 m		20.		1		29.				38.				2.6 m		7.0 m
3.5.       67       67.0       74       46.6       77       40.9       77       18.2	_		75 4		46.6		40.0		10.0	C		C		C		С		C		C	
4.0       64       60.1       77       46.6       76       40.9       76       18.2       7       7       10.2       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.0       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       10.1       7       <																					
4.6.       61       52.8       70       46.6       75       40.9       74       18.2       70       15.1       70       15.1       70       13.0       1       1       10.2       10.3       10.3       10.3       10.3       10.3       10.3       10.3       10.3       10.3       10.7       10.7       10.3       10.7       71       10.0       10.1       73       10.3       10.7       71       10.7       75       10.7       71       10.7       75																					
5.0       58       47.2       68       41.1       73       36.5       72       31       18.2       70       18.2       77       15.1       Image: Field of the state of the s								-													
5.6       56       40.3       60       35.4       72       31.6       71       18.2       78       18.2       77       15.1       Image: Constraint of the constraint of t								_		70	10.0	78	15 1								
6.0       52       35.0       64       30.9       70       18.2       77       18.2       78       15.1       Image: Constraint of the																					
6.5       49       30.1       e2       27.3       69       24.6       68       18.2       76       15.1       79       15.1       79       15.1       79       15.1       79       15.1       79       15.1       79       15.1       79       15.1       78       15.3       17       16.3       17.3       10.7       78 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>																					
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$\begin{array}{c c c c c c c c c c c c c c c c c c c $		21	13.9																	79	9.5
$\begin{array}{c c c c c c c c c c c c c c c c c c c $																					
14.0       13       5.9       42       5.5       42       8.0       60       6.9       69       8.5       66       7.4       68       8.8       7.1       8.0       7.4       7.3         16.0       32       3.8       32       6.2       55       5.1       55       67       65       5.7       65       6.9       68       6.4       71       5.9         18.0       16       2.5       14       4.8       49       3.7       50       5.3       61       4.3       61       5.5       66       5.7       65       65       53       66       57       65       65       50       88       4.7       20.0       10.0       10.0       10.0       10.0       10.0       20.0       20.0       20.0       20.0       20.0 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								_				-									
16.0     Image: style interview of the st																					
18.0       16       2.5       14       4.8       49       3.7       50       5.3       61       4.3       61       5.5       65       5.0       68       4.7         20.0       22.0       22.0       3.3       58       4.4       62       4.0       65       3.6       53       61       4.3       61       5.5       65       5.0       68       4.4       62       4.0       65       3.6       32       62       2.8       2.2       2.8       2.9       55       2.5       59       2.1       56       1.6       50       1.8       50       2.9       55       2.5       59       2.1       56       1.6       1.6       1.5       61       1.6       2.1       1.6       1.1       1.0       1.1       3.0       1.5       44       1.1       1.5       63       1.1       1.1       3.0       1.5       44       1.1       1.5       63       1.1       1.1       3.0       1.5       44       1.1       1.5       63       1.1       1.1       3.0       1.5       44       1.1       1.5       63       1.1       1.1       3.0       1.5       64       1.5       <				13	5.9																
20.0       1       1       44       2.7       44       4.2       57       3.3       58       4.4       62       4.0       65       3.6         22.0       1       38       1.9       38       3.4       54       2.5       54       3.6       59       3.2       62       2.8         24.0       1       30       1.3       30       2.7       50       1.8       50       2.9       55       2.5       59       2.1         26.0       1       1       1       1       20       2.2       45       1.3       45       2.4       52       1.9       56       1.6         28.0       1       1       1       1       20       2.2       45       1.3       44       1.1       53       1.1         30.0       1       1       1       1       1       1       1       1.1       35       1.5       44       1.1       1.1       1.6       1.4       1.1       1.6       1.1       1.1       32.0       1.2       1.2       1.2       1.2       1.2       1.2       1.2       1.2       1.2       1.2       35       0.4       1.1 </td <td></td>																					
22.0       1       1       38       1.9       38       3.4       54       2.5       54       3.6       59       3.2       62       2.8         24.0       1       30       1.3       30       2.7       50       1.8       50       2.9       55       2.5       59       2.1       50       1.8       50       2.9       55       2.5       59       2.1       56       1.6       28.0       2.2       45       1.3       45       2.4       1.1       48       1.5       53       1.1         30.0       1       1       1       20       2.2       45       1.3       45       1.5       44       1.1       1.6       1.6       35       1.5       44       1.1       1.1       30.0       1.3       30       0       20       0.9       1.2       1       1.1       30.0       1.						10	2.5	14	4.0												
24.0       1       30       1.3       30       2.7       50       1.8       50       2.9       55       2.5       59       2.1         26.0       1       1       20       2.2       45       1.3       45       2.4       52       1.9       56       1.6         28.0       1       1       1       1       1.5       53       1.1       56       1.6         30.0       1       1       1       1       1.5       53       1.1       56       1.6         32.0       1       1       1       1       1.5       53       1.1       35       1.5       44       1.1       35       1.1       35       1.5       44       1.1       36       1.5       53       1.1       36       1.5       53       1.1       36       1.5       53       1.1       36       1.5       50       1.0       36       1.5       53       1.1       36       1.5       53       1.1       36       1.5       53       1.1       36       1.5       53       1.1       1.5       53       1.1       1.5       53       1.5       53       1.5       53				<u> </u>																	
26.0				<u> </u>																	
28.0       1       1       1       1       40       1.9       48       1.5       53       1.1         30.0       32.0       35       1.5       44       1.1       1 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>30</td><td>1.5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>										30	1.5										
30.0       36       1.5       44       1.1         32.0       34.0       1       1       1       29       1.2 <td></td> <td>20</td> <td>2.2</td> <td>43</td> <td>1.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>												20	2.2	43	1.5						
32.0       1.2       1.2       1.2         34.0       0       0       0       20       0.9       0         D       0°       35°       0°       29°       38°         Telescoping conditions (%)         Telescoping conditions (%)         Telescoping Mode       I,II       I       II       III       III       III       III       III       III       III																				55	1.1
34.0     D     D     D     20     0.9																		44	1.1		
D         0°         29°         38°           Telescoping Mode         I,II         I																					
Telescoping conditions (%)         Telescoping Mode       I,II       I       I       II       III       IIII       IIII       IIII       IIII       IIII       IIII       IIII       IIIII       IIII       IIII       IIIII       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII								n°							35°	20			29°		38°
$\begin{array}{c c c c c c c c c c c c c c c c c c c $								0	Teleso	onin	a condit	ione	(%)		55		0		23		50
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Talaaaaning										<u> </u>		( )							1	
And boom     O     O     O     O     O     O     O       3rd boom     0     0     0     33     33     66     66     100     100       4th boom     0     0     0     33     33     66     66     100     100       4th boom     0     0     0     33     33     66     66     100     100       Top boom     0     0     0     33     33     66     66     100     100       Top boom     0     0     0     33     33     66     66     100     100       Top boom     0     0     0     33     33     66     66     100     100       LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 5.5 m SPREAD       OVER SIDE (Unit: ×1000 kg)     38.3 m     38.3 m       C     B     B     B     B     B     B     B       0°     9.8     13.0     14.1     5.8     18.5     2.3     18.3     4.6     27.2     0.5     27.1     2.0       Telescoping     L     L     L     L     L     L		]	[, []		Ι		Ι		Π		Ι		Π		Ι		Π		Π	I	, П
And boom     O     O     O     O     O     O     O       3rd boom     0     0     0     33     33     66     66     100     100       4th boom     0     0     0     33     33     66     66     100     100       4th boom     0     0     0     33     33     66     66     100     100       Top boom     0     0     0     33     33     66     66     100     100       Top boom     0     0     0     33     33     66     66     100     100       Top boom     0     0     0     33     33     66     66     100     100       LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 5.5 m SPREAD       OVER SIDE (Unit: ×1000 kg)     38.3 m     38.3 m       C     B     B     B     B     B     B     B       0°     9.8     13.0     14.1     5.8     18.5     2.3     18.3     4.6     27.2     0.5     27.1     2.0       Telescoping     L     L     L     L     L     L	2nd boom		0		50		100		0	1	00		0		100		0		50	1	00
Top boom         0         0         0         33         33         66         66         100         100         100           LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 5.5 m SPREAD OVER SIDE (Unit: ×1000 kg)           A         12.0 m         16.4 m         20.8 m         29.5 m         38.3 m         8         8         8         9         9         36.4 0.4         9         100			-						-	'			-				-				
LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 5.5 m SPREAD         OVER SIDE (Unit: ×1000 kg)           C         A         12.0 m         16.4 m         20.8 m         29.5 m         38.3 m           0°         9.8         13.0         14.1         5.8         18.3         4.6         27.2         0.5         27.1         2.0         35.4         0.4         1	4th boom		0		0		0	:	33		33		66		66		100	1	00	1	00
5.5 m SPREAD     OVER SIDE (Unit: ×1000 kg)       A     12.0 m     16.4 m     20.8 m     29.5 m     38.3 m       0°     9.8     13.0     14.1     5.8     18.5     2.3     18.3     4.6     27.2     0.5     27.1     2.0     35.4     0.4       Telescoping     I     I     I     I     I     I     I     I	Top boom		0		0		0		33		33		66		66		100	1	00	1	00
5.5 m SPREAD     OVER SIDE (Unit: ×1000 kg)       A     12.0 m     16.4 m     20.8 m     29.5 m     38.3 m       0°     9.8     13.0     14.1     5.8     18.5     2.3     18.3     4.6     27.2     0.5     27.1     2.0     35.4     0.4       Telescoping     I     I     I     I     I     I     I     I	r													TDIC							
C         B			LII		G CAPA	CIII												ED			
0°         9.8         13.0         14.1         5.8         18.5         2.3         18.3         4.6         27.2         0.5         27.1         2.0         35.4         0.4             Telescoping         T<	A		2.0 m		6.4 m		20.		1		29.						8.3 m				
			13.0	<u> </u>	5.8		2.3		4.6		0.5		2.0				0.4				
	Telescoping Mode																				

ON OUTRIGGERS MIN EXTENDED 2.7 m SPRE	AD

								O٧	'ER SID	E (I	Unit: ×10	1 00C	(g)								
	A	1	2.0 m	1	6.4 m		20.	8 m			29.	5 m			38.	3 m		4	2.6 m	4	7.0 m
в		С		С		С		С		С		С		С		С	]	С		С	
3.0		70	33.8	75	28.9	79	20.9	78	18.2												
3.5		67	27.7	74	23.9	78	20.9	77	18.2												
4.0		64	23.3	71	20.2	76	17.8	75	18.2												
4.5		61	19.9	70	17.3	75	15.3	74	18.2												
5.0		58	17.2	68	15.0	73	13.2	73	16.1	78	12.7	78	14.6								
5.5		55	14.5	66	13.0	72	11.5	71	14.4	77	11.3	77	13.1								
6.0		52	12.3	64	11.5	70	10.1	70	12.9	76	10.1	76	11.9								
6.5		48	10.6	62	10.1	68	8.9	68	11.6	75	9.0	75	10.8								
7.0		45	9.2	60	8.7	67	7.8	67	10.5	74	8.1	74	9.9	78	7.8	79	8.5				
7.5		42	8.0	57	7.5	66	6.9	65	9.6	73	7.3	73	9.1	77	7.1	78	8.5				
8.0		38	7.0	55	6.5	64	6.1	63	8.7	72	6.6	72	8.3	77	6.5	77	7.8				
9.0		28	5.4	50	4.9	61	4.6	60	7.0	70	5.4	70	7.1	75	5.4	76	6.7	77	5.9		
10.0				46	3.7	57	3.3	57	5.7	68	4.4	68	6.1	74	4.5	74	5.8	76	5.1	78	4.4
11.0				40	2.7	54	2.3	53	4.6	66	3.6	66	5.1	72	3.8	72	5.0	74	4.4	76	3.6
12.0				34	1.9	50	1.5	49	3.8	63	2.8	63	4.3	71	3.1	71	4.4	73	3.6	75	2.9
14.0								41	2.5	59	1.6	59	3.0	67	2.0	68	3.2	70	2.5	72	1.9
16.0								32	1.6			54	2.1	64	1.1	64	2.3	67	1.7	69	1.1
18.0								12	0.9			49	1.4			61	1.6	64	1.0		
20.0																57	1.0				
D			0°		12°		42°		0°		54°		43°		60°		53°		58°		63°
									Telese		a oonditi	000	(0/)								

Telescoping Mode	Ι,Π	Ι	I	П	Ι	П	Ι	П	П	Ι,Π
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MIN EXTENDED 2.7 m SPREAD OVER SIDE (Unit: ×1000 kg)										
C A	12.0 m в			20.8 m							
0° 9	9.8 4.0			18.3 <b>0.8</b>							
Telescoping Mode	Ι,Π			П							

Γ

A: Boom length (m) B: Load radius (m) C: Loaded boom angle ( °) D: Minimum boom angle ( °) for indicated boom length (no load)

				OI		GERS FULLY ROTATION		D 7.3 m SPF 000 kg)	READ
		4	7.0-m Booi	m + 10.1-m	Jib		Ì		
С	3.5	3.5° Tilt 25° Tilt 45° Tilt		Tilt	C	3.5	ö° Tilt		
	R	W	R	W	R	W		R	V
80	10.9	4.9	14.2	4.9	16.7	4.3	80	12.8	3
79	11.8	4.9	15.2	4.7	17.7	4.2	79	14.1	3.
78	12.9	4.9	16.4	4.6	18.6	4.1	78	15.5	3
77	14.0	4.9	17.4	4.5	19.5	4.0	77	16.9	3.
76	15.1	4.9	18.4	4.4	20.5	3.9	76	18.1	3
75	16.0	4.9	19.3	4.2	21.7	3.9	75	19.4	3
73	18.2	4.8	21.3	4.0	23.5	3.7	73	21.9	3
70	21.2	4.4	24.2	3.8	26.3	3.5	70	25.6	3
68	23.2	4.1	26.0	3.6	28.0	3.4	68	27.8	3
65	26.0	3.8	28.6	3.4	30.5	3.1	65	30.8	2
63	27.8	3.2	30.2	2.9	31.9	2.7	63	32.7	2
60	30.0	2.5	32.4	2.3	33.9	2.2	60	35.2	1.
58	31.7	2.1	34.0	2.0	35.2	1.9	58	36.7	1.
55	33.9	1.6	35.9	1.5	37.0	1.5	55	39.2	1.
53	35.3	1.4	37.2	1.3	38.4	1.2			
50	37.4	1.0	39.3	1.0	40.2	0.9			

(Unit: ×1000 kg)											
	47.0-m Boom + 17.7-m Jib										
C	3.5	° Tilt	25° -	Tilt	45° Tilt						
	R	W	R	W	R	W					
80	12.8	3.1	19.1	2.9	23.8	2.3					
79	14.1	3.1	20.5	2.8	24.7	2.3					
78	15.5	3.1	21.7	2.7	26.0	2.3					
77	16.9	3.1	22.7	2.7	27.0	2.3					
76	18.1	3.1	24.1	2.6	28.0	2.2					
75	19.4	3.1	25.2	2.6	29.0	2.2					
73	21.9	3.1	27.3	2.5	30.0	2.2					
70	25.6	3.1	30.4	2.4	33.8	2.1					
68	27.8	3.0	32.4	2.3	35.7	2.1					
65	30.8	2.7	35.3	2.2	38.1	2.0					
63	32.7	2.3	36.9	2.0	39.6	1.8					
60	35.2	1.7	39.3	1.5	41.9	1.4					
58	36.7	1.4	40.8	1.3	43.0	1.2					
55	39.2	1.0	43.3	0.9							

### ON OUTRIGGERS FULLY EXTENDED 7.3 m SPREAD

	360° ROTATION										
	4	42.6-m Booi	m (telescop	oing mode II	) + 10.1-m	Jib					
C	3.5	5° Tilt	25	Tilt	45° Tilt						
	R	W	R	W	R	W					
80	9.4	5.3	13.4	5.2	15.6	4.6					
79	10.4	5.3	14.3	5.1	16.5	4.5					
78	11.3	5.3	15.3	5.0	17.5	4.4					
77	12.4	5.3	16.3	4.8	18.3	4.3					
76	13.5	5.3	17.2	4.7	19.2	4.2					
75	14.5	5.3	18.1	4.6	19.9	4.1					
73	16.5	5.2	19.8	4.3	21.6	4.0					
70	19.2	4.7	22.5	4.0	23.9	3.7					
68	21.1	4.5	24.1	3.9	25.5	3.6					
65	23.5	4.1	26.4	3.6	27.6	3.4					
63	25.2	3.9	28.0	3.5	29.1	3.3					
60	27.5	3.5	30.2	3.2	31.1	3.0					
58	28.9	3.1	31.6	2.9	32.4	2.7					
55	31.1	2.6	33.6	2.4	34.3	2.3					
53	32.5	2.3	34.8	2.1	35.3	2.0					
50	34.4	1.9	36.5	1.8	37.0	1.7					
48	35.7	1.7	37.7	1.6	38.1	1.5					
45	37.5	1.4	39.3	1.3	39.5	1.3					
43	38.6	1.2	40.4	1.1							
40	40.3	1.0	41.9	0.9							

Unit: ×1000 kg)										
	4	42.6-m Boo	m (telescop	n (telescoping mode II) + 17.7-m Ji						
С	3.5	5° Tilt	25°	Tilt	45°	Tilt				
	R	W	R	W	R	W				
80	11.5	3.3	18.5	3.0	22.6	2.4				
79	12.6	3.3	19.6	2.9	23.4	2.3				
78	13.8	3.3	20.4	2.8	24.5	2.3				
77	15.1	3.3	21.3	2.8	25.5	2.3				
76	16.3	3.3	22.3	2.7	26.4	2.3				
75	17.5	3.3	23.3	2.7	27.3	2.3				
73	19.6	3.3	25.4	2.6	28.9	2.2				
70	23.0	3.3	28.3	2.5	31.5	2.1				
68	25.2	3.3	30.1	2.4	33.1	2.1				
65	28.1	3.0	32.8	2.3	35.4	2.1				
63	30.2	2.9	34.6	2.3	36.9	2.0				
60	32.7	2.6	36.9	2.2	39.2	2.0				
58	34.3	2.2	38.4	2.0	40.4	1.9				
55	36.7	1.8	40.6	1.7	42.2	1.6				
53	38.0	1.6	41.7	1.4	43.4	1.4				
50	40.2	1.3	43.7	1.2	45.0	1.1				
48	41.6	1.1	45.0	1.0	46.0	1.0				
.0										

				10		GERS FULL				
	1					° ROTATION	<u>  (L</u>			
				om (telescoping mode I) + 10.1-m Jib						
С	3.5	5° Tilt	25°	Tilt	45°					
	R	W	R	W	R	W				
80	8.4	6.6	12.5	6.4	14.7	4.9				
79	9.3	6.6	13.4	6.2	15.5	4.8				
78	10.3	6.6	14.1	6.0	16.3	4.7				
77	11.2	6.6	15.1	5.9	17.1	4.7	1 [			
76	12.1	6.6	15.8	5.7	18.0	4.6	1 [			
75	13.0	6.6	16.6	5.6	18.6	4.6	1 [			
73	14.9	6.6	18.2	5.4	20.1	4.5	1 [			
70	17.4	6.2	20.6	5.1	22.3	4.4	1 [			
68	19.0	5.9	22.1	4.9	23.6	4.4	1 [			
65	21.4	5.5	24.3	4.7	25.7	4.3	1 [			
63	22.8	4.8	25.6	4.3	26.9	3.9	] [			
60	24.9	3.9	27.3	3.5	28.7	3.3	1 [			
58	26.2	3.4	28.6	3.1	29.8	2.9	] [			
55	28.0	2.8	30.3	2.6	31.5	2.5				
53	29.5	2.5	31.5	2.3	32.6	2.2				
50	31.3	2.1	33.1	1.9	34.2	1.8	] [			
48	32.5	1.8	34.2	1.7	35.1	1.6	] [			
45	34.2	1.5	35.7	1.4	36.5	1.3				
43	35.3	1.3	36.7	1.2						
40	36.8	1.0	38.2	1.0						
38	37.7	0.9					]			

	EXTENDED 7.3 m SPREAD											
(Unit: ×10	(Unit: ×1000 kg)											
		38.3-m Boom (telescoping mode I) + 17.7-m Jib										
C	3.5	5° Tilt	25°	Tilt	45°	Tilt						
	R	W	R	W	R	W						
80	10.5	4.0	17.1	3.2	20.8	2.4						
79	11.6	4.0	18.0	3.1	21.7	2.3						
78	12.7	4.0	19.0	3.0	22.6	2.3						
77	13.7	4.0	19.9	3.0	23.5	2.3						
76	14.8	4.0	20.7	2.9	24.4	2.3						
75	15.9	4.0	21.7	2.9	25.2	2.3						
73	18.0	4.0	23.5	2.8	26.8	2.2						
70	20.8	3.8	26.1	2.6	29.1	2.1						
68	22.7	3.6	27.8	2.6	30.7	2.1						
65	25.4	3.4	30.4	2.5	32.8	2.1						
63	27.3	3.2	31.9	2.4	34.2	2.1						
60	29.8	2.8	34.2	2.3	36.2	2.0						
58	31.2	2.4	35.5	2.1	37.5	2.0						
55	33.5	2.0	37.5	1.8	39.2	1.7						
53	34.9	1.7	38.6	1.5	40.4	1.5						
50	37.0	1.4	40.4	1.2	41.8	1.2						
48	38.3	1.2	41.6	1.1	42.7	1.0						
45	40.2	0.9										

C: boom angle ( °) R: Load radius (m)

W: Rated lifting capacity (Unit: ×1,000 kg)

## **GR-800EX RATED LIFTING CAPACITIES**

				С		GERS MID				AD
		47.0-	m Boom +	10.1-m Jib			<u> </u>			
С	3.5	5° Tilt	25	5° Tilt	45	° Tilt	1	С	3.	5° Til
	R	W	R	W	R	W	1		R	
80	10.8	4.9	14.3	4.9	16.7	4.3	1	80	12.8	
79	11.9	4.9	15.4	4.7	17.8	4.2	1	79	14.1	
78	13.0	4.9	16.4	4.6	18.8	4.1	1	78	15.5	
77	14.1	4.9	17.6	4.5	19.8	4.0	1	77	16.9	
76	15.2	4.9	18.5	4.4	20.8	3.9		76	18.1	
75	16.1	4.9	19.6	4.2	21.9	3.9	1	75	19.4	
73	18.3	4.8	21.5	4.0	23.6	3.7	1	73	21.9	
70	21.2	4.4	24.3	3.8	26.4	3.5	1	70	25.6	
68	23.1	3.9	26.0	3.5	28.0	3.2		68	27.6	
65	25.7	3.0	28.2	2.7	30.2	2.5		65	30.2	
63	27.4	2.5	29.9	2.3	31.6	2.2		63	32.3	
60	29.9	1.9	32.3	1.8	33.8	1.7		60	34.6	
58	31.4	1.6	33.8	1.5	35.1	1.4		58	36.4	
55	33.7	1.2	35.7	1.1	37.0	1.0				
53	35.1	0.9								

×1000 kg	)					
		47.0-r				
С	3.5	5° Tilt	25	5° Tilt	45	° Tilt
	R	W	R	W	R	W
80	12.8	3.1	19.1	2.9	23.8	2.3
79	14.1	3.1	20.5	2.8	24.7	2.3
78	15.5	3.1	21.6	2.7	26.1	2.3
77	16.9	3.1	22.9	2.7	27.2	2.3
76	18.1	3.1	24.2	2.6	28.1	2.2
75	19.4	3.1	25.4	2.6	29.2	2.2
73	21.9	3.1	27.5	2.5	31.1	2.2
70	25.6	3.1	30.5	2.4	33.9	2.1
68	27.6	2.7	32.5	2.3	35.7	2.1
65	30.2	2.0	35.0	1.8	37.9	1.7
63	32.3	1.7	36.4	1.5	39.3	1.4
60	34.6	1.2	38.9	1.1	41.4	1.0
58	36.4	1.0				
	C 80 79 78 77 76 75 73 70 68 65 63 60	R           80         12.8           79         14.1           78         15.5           77         16.9           76         18.1           75         19.4           73         21.9           70         25.6           68         27.6           65         30.2           63         32.3           60         34.6	47.0-r           R         W           80         12.8         3.1           79         14.1         3.1           78         15.5         3.1           77         16.9         3.1           76         18.1         3.1           75         19.4         3.1           70         25.6         3.1           70         25.6         3.1           68         27.6         2.7           65         30.2         2.0           63         32.3         1.7           60         34.6         1.2	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $

				C	ON OUTRIG	GERS MID	EXTE	ENDED 6	.7 m SPRE	AD				
					OVI	ER SIDE (L	Jnit:	×1000 kg	)					
	4	2.6-m Boor	n (telescop	ing mode II	) + 10.1-m	Jib			4	2.6-m Booi	n (telescop	ing mode II	) + 17.7-m -	Jib
С	3.5	5° Tilt	25	25° Tilt 45° Tilt		5° Tilt		С	3	.5° Tilt	25	° Tilt	45	° Tilt
	R	W	R	W	R	W			R	W	R	W	R	W
80	9.3	5.3	13.3	5.2	15.7	4.6		80	11.5	3.3	18.6	3.0	22.5	2.4
79	10.4	5.3	14.3	5.1	16.5	4.5	1 Г	79	12.7	3.3	19.4	2.9	23.4	2.3
78	11.5	5.3	15.2	5.0	17.4	4.4	1 [	78	13.8	3.3	20.4	2.8	24.4	2.3
77	12.5	5.3	16.2	4.8	18.4	4.3	1 [	77	15.0	3.3	21.3	2.8	25.4	2.3
76	13.6	5.3	17.2	4.7	19.1	4.2	1 [	76	16.1	3.3	22.2	2.7	26.3	2.3
75	14.5	5.3	18.1	4.6	19.9	4.1		75	17.4	3.3	23.3	2.7	27.2	2.3
73	16.4	5.2	19.7	4.3	21.6	4.0		73	19.6	3.3	25.4	2.6	29.0	2.2
70	19.2	4.7	22.3	4.0	23.9	3.7	1 [	70	23.0	3.3	28.2	2.5	31.4	2.1
68	21.1	4.5	24.0	3.9	25.5	3.6	1 [	68	25.3	3.3	30.3	2.4	33.1	2.1
65	23.5	4.1	26.4	3.6	27.6	3.4		65	28.1	3.0	32.7	2.3	35.3	2.1
63	25.1	3.7	27.9	3.3	28.9	3.1	1 [	63	29.8	2.7	34.7	2.2	36.8	2.0
60	27.2	3.0	29.9	2.7	30.9	2.6		60	32.1	2.1	36.5	1.8	38.8	1.7
58	28.7	2.6	31.3	2.4	32.2	2.3	1 Г	58	33.8	1.8	38.0	1.6	40.1	1.5
55	30.7	2.1	33.2	1.9	34.0	1.9	1 [	55	36.2	1.4	40.0	1.2	42.0	1.2
53	32.1	1.8	34.5	1.7	35.1	1.6	] [	53	37.7	1.2	41.4	1.1	43.1	1.0
50	34.1	1.5	36.3	1.4	36.8	1.3	] [	50	39.8	0.9				
48	35.4	1.3	37.4	1.2	37.9	1.2	]							
45	37.2	1.0	39.2	1.0	39.4	0.9	1							

	ON OUTRIGGERS MID EXTENDED 6.7 m SPREAD													
					OVE	ER SIDE (L	nit: ×100	0 kg)						
		38.3-m Booi	m (telescop	oing mode I)	) + 10.1-m	Jib			(	38.3-m Boo	m (telescop	oing mode l	) + 17.7-m	Jib
C	3.5	5° Tilt	25	5° Tilt	4	5° Tilt	C		3.5	ö° Tilt	25°	Tilt	45°	Tilt
	R	W	R	W	R	W			R	W	R	W	R	W
80	8.4	6.6	12.5	6.4	14.7	4.9	80		10.5	4.0	17.0	3.2	20.8	2.4
79	9.3	6.6	13.2	6.2	15.5	4.8	79		11.6	4.0	18.1	3.1	21.7	2.3
78	10.3	6.6	14.1	6.0	16.2	4.7	78		12.7	4.0	18.9	3.0	22.7	2.3
77	11.2	6.6	15.0	5.9	17.1	4.7	77		13.7	4.0	19.9	3.0	23.5	2.3
76	12.2	6.6	15.8	5.7	17.8	4.6	76		14.8	4.0	20.8	2.9	24.4	2.3
75	13.0	6.6	16.6	5.6	18.6	4.6	75		15.9	4.0	21.8	2.9	25.3	2.3
73	14.9	6.6	18.2	5.4	20.0	4.5	73		17.8	4.0	23.5	2.8	26.7	2.2
70	17.4	6.2	20.6	5.1	22.3	4.4	70		20.8	3.8	26.2	2.6	29.3	2.1
68	19.1	5.9	22.1	4.9	23.7	4.4	68		22.7	3.6	28.0	2.6	30.7	2.1
65	21.2	4.8	24.0	4.1	25.6	3.8	65		25.6	3.4	30.4	2.5	32.8	2.1
63	22.6	4.2	25.3	3.6	26.8	3.4	63		27.2	3.0	32.1	2.4	34.4	2.1
60	24.7	3.4	27.0	2.9	28.5	2.8	60		29.4	2.3	34.0	2.0	36.2	1.9
58	26.1	2.9	28.3	2.5	29.7	2.4	58		30.9	2.0	35.4	1.7	38.4	1.6
55	28.0	2.4	30.1	2.1	31.4	2.0	55		33.3	1.6	37.3	1.4	39.1	1.3
53	29.3	2.0	31.3	1.8	32.5	1.8	53		34.7	1.3	38.5	1.1	40.2	1.1
50	31.1	1.6	33.0	1.5	34.1	1.4	50		36.8	1.0				
48	32.3	1.4	34.1	1.3	35.0	1.2								
45	34.0	1.1	35.6	1.0	36.4	1.0								
43	35.1	0.9												

C: Loaded boom angle ( °) R: Load radius (m) W: Rated lifting capacity (Unit:×1,000 kg)

45° Tilt

W

2.3 2.3 2.3 2.3

2.2

2.2

1.6

1.3

0.9

R

23.9

24.9

26.0 27.1

28.2

29.1

31.2

33.9

35.8

38.2

## **GR-800EX RATED LIFTING CAPACITIES**

				C	ON OUTRIG	GERS MID	ΕX	TENDED 5	.5 m SPRE	AD			
					OVI	ER SIDE (I	Uni	t: ×1000 kg	g)				
		47.0-	m Boom +	10.1-m Jib						47.0-r	n Boom + 1	17.7-m Jib	
С	3.5	5° Tilt	25	5° Tilt	45	° Tilt	]	С	3.5	5° Tilt	25	5° Tilt	Γ
	R	W	R	W	R	W	]		R	W	R	W	Γ
80	10.7	4.9	14.2	4.9	16.8	4.3	]	80	12.8	3.1	19.3	2.9	ſ
79	11.9	4.9	15.4	4.7	17.8	4.2	]	79	14.1	3.1	20.5	2.8	ſ
78	13.0	4.9	16.5	4.6	18.8	4.1	1	78	15.6	3.1	21.7	2.7	ſ
77	14.0	4.9	17.6	4.5	19.8	4.0	1	77	16.9	3.1	22.9	2.7	ſ
76	15.2	4.9	18.6	4.4	20.8	3.9	1	76	18.2	3.1	24.0	2.6	Ī
75	16.3	4.9	19.5	4.2	21.9	3.9		75	19.5	3.1	23.1	2.6	I
73	18.3	4.2	21.5	3.5	23.6	3.3		73	22.2	2.8	27.5	2.3	l
70	21.2	3.1	24.2	2.7	26.4	2.5		70	25.8	2.0	30.7	1.7	
68	23.2	2.5	26.1	2.2	28.0	2.1		68	27.9	1.6	32.5	1.4	
65	26.1	1.8	28.7	1.6	30.5	1.6		65	31.2	1.1	35.4	0.9	
63	27.8	1.5	30.2	1.3	32.0	1.3							Î
60	30.1	1.0											

#### ON OUTRIGGERS MID EXTENDED 5.5 m SPREAD

					OV	ER SIDE	(L	Jni	t:
	42.	6-m Boom (	telescopin	g mode II) +	10.1-m Jik	)			Γ
C	3.5	5° Tilt	25	° Tilt	45	° Tilt			
	R	W	R	W	R	W			
80	9.3	5.3	13.4	5.2	15.7	4.6			
79	10.4	5.3	14.3	5.1	16.6	4.5			
78	11.4	5.3	15.2	5.0	17.4	4.4			Γ
77	12.4	5.3	16.2	4.8	18.3	4.3			Γ
76	13.6	5.3	17.2	4.7	19.1	4.2			
75	14.5	5.3	18.1	4.6	20.0	4.1			Г
73	16.5	5.2	19.8	4.3	21.6	4.0			
70	19.2	4.5	22.3	3.9	23.9	3.6			
68	20.7	3.8	23.8	3.3	25.2	3.1			
65	23.0	3.0	26.0	2.6	27.2	2.4			
63	24.5	2.5	27.3	2.2	28.5	2.1			
60	26.7	1.9	29.5	1.7	30.5	1.6			
58	28.1	1.6	30.8	1.5	31.8	1.4			
55	30.3	1.2	32.8	1.1	33.7	1.1			_
53	31.7	1.0							

: ×1000 kg)											
	42.	6-m Boom (	telescopin	g mode II) +	17.7-m Jik	2					
С	3	.5° Tilt	25	° Tilt	45	° Tilt					
	R	W	R	W	R	W					
80	11.5	3.3	18.6	3.0	22.5	2.4					
79	12.7	3.3	19.6	2.9	23.5	2.3					
78	13.9	3.3	20.2	2.8	24.4	2.3					
77	15.0	3.3	21.2	2.8	25.3	2.3					
76	16.2	3.3	22.3	2.7	26.3	2.3					
75	17.5	3.3	23.1	2.7	27.3	2.3					
73	19.7	3.3	25.9	2.6	29.0	2.2					
70	23.0	3.2	28.2	2.5	31.5	2.1					
68	24.7	2.6	29.9	2.3	33.0	2.0					
65	27.4	2.0	32.4	1.8	35.0	1.5					
63	29.1	1.7	33.8	1.5	36.4	1.3					
60	31.6	1.3	36.0	1.1	38.5	1.0					
58	33.2	1.0									
00	33.2	1.0									

				(		GERS MID		TENDED 5 t: ×1000 kg		AD				
	38.	3-m Boom	telescopin	g mode I) +	10.1-m Jib	)	ΤT		38.	3-m Boom	(telescopin	g mode I) +	17.7-m Jib	)
С	3.5	5° Tilt	25	5° Tilt	4	5° Tilt	1	С	3.5	5° Tilt	25°	Tilt	45°	' Tilt
	R	W	R	W	R	W	1		R	W	R	W	R	W
80	8.4	6.6	12.5	6.4	14.7	4.9	] [	80	10.5	4.0	17.0	3.2	20.8	2.4
79	9.3	6.6	13.4	6.2	15.5	4.8	] [	79	11.6	4.0	18.1	3.1	21.7	2.3
78	10.3	6.6	14.2	6.0	16.3	4.7	] [	78	12.7	4.0	19.0	3.0	22.7	2.3
77	11.2	6.6	15.0	5.9	17.1	4.7	] [	77	13.8	4.0	19.9	3.0	23.6	2.3
76	12.2	6.6	15.9	5.7	17.9	4.6	1 [	76	14.8	4.0	20.8	2.9	24.5	2.3
75	13.0	6.6	16.6	5.6	18.7	4.6	1 [	75	15.9	4.0	21.8	2.9	25.3	2.3
73	14.8	6.3	18.3	5.4	20.1	4.5	] [	73	18.0	4.0	23.6	2.8	26.9	2.2
70	17.1	5.0	20.3	4.3	22.2	3.9	ור	70	20.7	3.7	26.3	2.6	29.2	2.1
68	18.6	4.2	21.7	3.7	23.4	3.4	1 [	68	22.5	3.1	28.0	2.5	30.8	2.1
65	20.8	3.3	23.6	2.9	25.3	2.7	1 [	65	25.0	2.4	30.1	1.9	32.8	1.8
63	22.3	2.8	24.9	2.5	26.5	2.3	1 [	63	26.6	1.9	31.5	1.6	34.0	1.5
60	24.4	2.1	26.8	1.9	28.3	1.8		60	28.9	1.4	33.7	1.2	35.9	1.1
58	25.8	1.8	28.1	1.6	29.5	1.5	] [	58	30.5	1.1	35.1	1.0	37.1	0.9
55	27.8	1.3	29.9	1.2	31.3	1.1								

0.9

28.9

R: Load radius (m)

53

W: Rated lifting capacity (Unit:×1,000 kg)

1.0

31.0

1.0

32.3

# **GR-800EX RATED LIFTING CAPACITIES**

				ON RU	JBBER	STATIONAR'	Y (Unit: ×	1000 kg)				
			Over	Front					360° Ro	tation		
A		12.0 m		20.8 m		29.5 m		12.0 m		20.8 m	29.5 m	
в	С		С		С		С		С		С	
3.5	67	28.5										
4.0	64	25.3					64	15.5				
4.5	61	23.0					61	12.9				
5.0	58	20.9					58	10.9				
5.5	55	19.0					55	9.3	_			
6.0	52	17.3	70	13.5			52	7.9	70	9.0		
6.5	49	15.9	68	13.5			49	6.6	68	7.8		
7.0	45	14.7	67	13.5	74	10.4	45	5.6	67	6.8		
7.5	42	13.3	65	13.5	73	10.4	42	4.7	65	6.0	73	6.8
8.0	38	12.2	63	12.6	72	10.4	38	3.8	63	5.2	72	6.0
8.5	33	11.0	62	11.7	71	10.0	33	3.3	62	4.7	71	5.2
9.0	28	10.0	60	10.8	70	9.8	28	2.8	60	4.2	70	4.6
10.0			57	9.0	68	9.3			57	3.3	68	3.5
11.0			53	7.6	66	8.3			53	2.5	66	2.8
12.0			50	6.5	64	7.2			50	2.0	63	2.2
14.0			42	4.8	59	5.3			42	1.0	59	1.5
16.0			32	3.5	54	4.1						
18.0			13	2.5	49	3.2						
20.0					44	2.5						
22.0					37	1.8						
24.0					30	1.2						
26.0					19	0.9						
D				C	)°					31°		54°
					Teles	coping condi	tions (%)					
Telescoping Mode		I,∏		Π		Π		I,∏		Π		Π
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

		LIFTIN	IG CAPA	ACITIES AT ZE	RO DEO	GREE BOOM	ANGLE	ON RUBBER S	STATIO	NARY		
$\sim$			O	/er Front						360° Rotat	ion	
A	-	12.0 m		20.8 m	2	29.5 m		12.0 m				
	В		В		В		В					
0	9.9	8.5	18.3	2.4	27.2	0.6	9.9	2.0				

				ON	RUBBEI	R CREEP (Ur	nit: ×100	0 kg)				
			Over	Front					360° Rot	ation		
A		12.0 m	2	20.8 m		29.5 m		12.0 m		20.8 m		29.5 m
в	С		С		С		С		С		С	
4.0	65	19.0					64	11.2				
4.5	61	17.0					62	9.8				
5.0	58	15.1					58	8.5				
5.5	55	13.6					55	7.5				
6.0	52	12.4	70	13.5			52	6.5	69	7.5		
6.5	49	11.4	68	12.3			49	5.4	68	6.5		
7.0	45	10.3	66	11.4	74	10.4	45	4.7	67	5.8		
7.5	42	9.5	65	10.5	73	10.4	42	3.8	65	5.0	73	5.8
8.0	39	8.7	64	9.7	72	10.0	38	3.1	63	4.3	72	5.0
8.5	33	8.0	62	9.1	71	9.4	34	2.5	62	3.8	71	4.3
9.0	27	7.3	60	8.5	70	8.7	28	2.3	60	3.3	70	3.8
10.0			57	7.3	68	7.7			57	2.5	69	3.0
11.0			53	6.3	66	6.7			53	2.0	68	2.5
12.0			50	5.6	64	6.0			50	1.5	66	1.9
14.0			42	4.2	59	4.7					59	1.1
16.0			32	3.3	54	3.7						
18.0			13	2.5	49	2.6						
20.0					43	2.0						
22.0					37	1.4						
24.0					30	1.0						
D		(	)°			19°		0°		38°		54°
					Teleso	coping conditi	ons (%)					
Telescoping Mode		I,∏		Π		П		Ι,Π		П		П
2nd boom		0		0		0		0		0		0
3rd boom		0		33		66		0		33		66
4th boom		0		33		66		0		33		66

	LIFTI	NG CAPACITIES AT ZE	ERO DEGREE BOOM	ANGLE ON RUBBER	STATIONARY		
		Over Front	360° Rotation				
	12.0m	20.8m		<u>1</u> 2.0m			
C \	В	В		В			
0	9.9 6.3	18.3 2.4		9.9 1.6			

0

33

66

66

Top boom

A: Boom length (m) B: Load radius (m) C: Loaded boom angle (°)

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

33

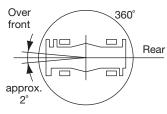
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### WARNING AND OPERATING INSTRUCTIONS FOR ON RUBBER LIFTING CAPACITIES

- 1. Rated lifting capacities based on crane stability are according to ISO4305.
- 2. Rated lifting capacities shown in the chart are based on the condition that crane is set on firm level surfaces with suspension lock applied. Those above thick 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 suspension lock 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	400 kPa

6. Over front operation shall be performed within 2 degrees in front of chassis.



7. On rubber lifting with "jib" is not permitted. Maximum permissible boom length is 29.5 m.

- 8. When making lift on rubber stationary, set parking brake.
- For creep operation, 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 60 m in any 30 minute period and to travel at the speed of less than 1.6 km/h.
- 12. For creep operation, choose the drive mode and proper gear according to the road or working condition.
- 13. The mass of the hook (700 kg for 80 t capacity, 540 kg for 60 t capacity, 500 kg for 50 t capacity, 450 kg for 35 t capacity, 165 kg for 6.6 t capacity), slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
- 14. For rated 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 6,600 kg including main hook.
- 15. The lifting capacity data stowed in the Automatic Moment Limiter (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	12.0 m	12.0 m to 29.5 m	Single top
Telescoping mode	I,I	П	I, II
Number of parts of line	6	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.

#### SET UP

- Rated lifting capacities on the chart are the maximum allowable crane capacities and 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 bearing surface.
- 2. For outrigger operation, outriggers shall be properly extended with tires free of supporting surface before operating crane.

#### OPERATION

- 1. Rated lifting capacities on outriggers fully extended as determined by ISO4305.
- 2. Rated lifting capacities above thick 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. 3. The weight of handling device such as hook blocks (700 kg for 80 t capacity, 540 kg for 60 t capacity, 500 kg for 50 t capacity, 450 kg for 35 t capacity, 165 kg for 6.6 t capacity), slings, etc., must be considered as part of the load and must be deducted from the lifting capacities.
- 4. 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.

Such action can damage the boom, jib or slewing mechanism, and lead to overturning of the crane.

- 5. Rated lifting capacities do not account for wind on lifted load or boom. We recommend against working under the conditions 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 9 m/s to 12 m/s; reduced by 70 % when the wind speed is 12 m/s to 14 m/s. If the wind speed is 14 m/s or over, stop operation. During jib lift, stop operation if the wind speed is 9 m/s or over.
- 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 angles, 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.
- 9. When making lifts at a load radius not shown, use the next longer radius to determine allowable capacity.
- Load per line should not exceed 64.7kN (6,600 kgf) for main winch and auxiliary winch.
- 11. Check the actual number of parts of line with Automatic Moment Limiter (AML-C) before operation. Maximum lifting capacity is restricted by the number of parts of line of Automatic Moment Limiter (AML-C). Limited capacity is as determined from the formula, Single line pull for main winch 64.7 kN (6,600 kgf) x number of parts of line.
- 12. 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.
- The 12.0-m Boom length capacities are based on boom fully retracted.
- 14. 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.
- 15. For lifting capacity of single top, deduct the weight of the load handling equipment from the rated lifting capacity of the boom. For the lifting capacity of single top, the net capacity shall not exceed 6,600 kg including the main boom hook mass attached to the boom.

- When a jib is removed, set the jib state switch to the REMOVED position.
- 17. 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 DEVICE" 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.
- For boom length 47.0 m or less and 38.3 m or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "47.0-m boom + jib".

For boom length 38.3 m or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "38.3-m boom + jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity. (Telescoping MODE I)

For boom length 47.0 m or less and 42.6 m or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "47.0-m boom + jib".

For boom length 42.6 m or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "42.6-m boom + jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity. (Telescoping MODE II)

- 20. 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.
- 21. Before telescoping the boom, set the telescoping mode selector switch to MODE I or MODE II with the boom fully retracted. A change of the telescoping mode is not permissible when the boom has been partially or fully extended.
- 22. The lifting capacity data stowed in the Automatic Moment Limiter (AML-C) is based on the standard number of parts of line listed in the chart. Standard number of parts of line for on outrigger operation should be according to the following table.

I	Boom length	12.0 m	12.0 m to 20.8 m		20.8 m to 47.0 m	Single top/ jib
	Telescoping mode	Ι,Π	Ι	П	Ι,Π	Ι,Π
	Number of parts of line	14	8	4	4	1

23. The lifting capacity for over side area differs depending on outrigger extension width. Work with capacity corresponding to the extension width. The lifting capacities for over front and over rear areas are for "outriggers fully extended". However, the areas (angle a) differ depending on the outrigger extension width.

Outriggers extended width	6.7 m (middle)	5.5 m (middle)	2.7 m (minimum)				
Angle a°	60	40	15				
a a a a a a a a a a a a a a a a a a a							

#### 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.
- 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.
- 5. Side Load: Horizontal side force applied to the lifted load either on the ground or in the air.

### WARNING AND OPERATING INSTRUCTIONS FOR USING THE AUTOMATIC MOMENT LIMITER (AML-C)

- Set AML select keys in accordance with the actually operating crane conditions and don't fail to make sure, before crane operation, that the displays on front panel are correct.
- 2. When operating crane on outriggers:
  - Set P.T.O. switch to "ON".
  - Press the outrigger state select key to register for the outrigger operation. If the display agrees with the actual state, press the set key to register. After the completion of the registration, the pop-up window closes.
  - Press the lift state select key to register the lift state to be used (single top / jib / boom).
  - Each time the lift state select key is pressed, the display changes. If the display agrees with the actual state, press the set key to register. After the completion of the registration, the pop-up window closes.
  - When erecting and stowing jib, select the status of jib set (Jib lift indicative symbol flickers).
- 3. When operating crane on rubber:
- Set P.T.O. switch to "ON".
  - Press the outrigger state select key to register for the on rubber operation. Each time the outrigger state select key is pressed, the display changes. Select the creep operation, the on rubber state indicative symbol flickers.
  - Press the lift state select key to register the lift state.
  - However, pay attention to the following.

For stationary and creep 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 slewed to the side area, make sure the value of the AUTOMATIC MOMENT LIMITER (AML-C) is below the 360° lifting capacity.
- This machine is equipped with an automatic slewing stop 4. device.
  - (For the details, see Operation and Maintenance Manual.)
    But, operate very carefully because the automatic slewing stop does not work in the following cases.
    During on rubber operation.
  - During crane operation, make sure that the displays on front
- 5. panel are in accordance with actual operating conditions. The displayed values of AUTOMATIC MOMENT LIMITER
- 6. (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 slewing, lifting loads shall be appropriately reduced.

AUTOMATIC MOMENT LIMITER (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 AUTOMATIC MOMENT LIMITER (AML-C) aids in place of good operating practice can cause an accident. The operator must exercise caution to assure safety.

### **GR-800EX Axle weight distribution chart**

			Kilograms	
		GVW	Front	Rear
Basic machine		51,410	24,325	27,085
Add:	1.80 ton 7 sheaves hook block	700	1,350	-650
	2. 60 ton 6 sheaves hook block	540	1,040	-500
:	3. 50 ton 5 sheaves hook block	500	970	-470
	4. 35 ton 3 sheaves hook block	450	870	-420
Remove:	1. 6.6 ton hook block	-165	-235	70
	2. Top jib	-335	-450	115
	3. Base jib	-865	-1,705	840
	4. Counter weight with auxiliary winch and wire rope	-9,980	4,240	-14,220



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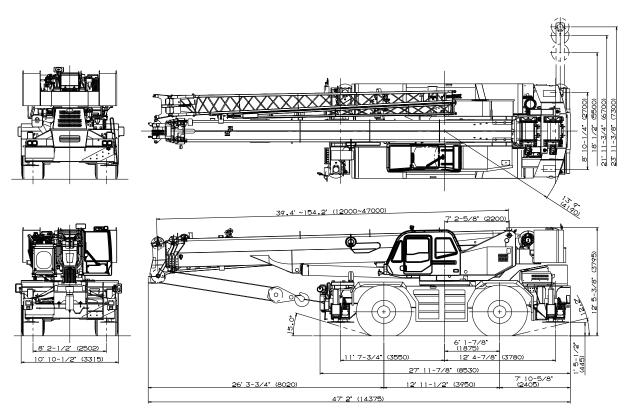


# **GR-1000XL**

### 100 Ton Capacity (90.7 Metric Tons)

### **HYDRAULIC ROUGH TERRAIN CRANE**

#### DIMENSIONS



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

(29.5 - 25 Tires)					
Feet Meters					
Turning radius					
4 wheel steer	22' 4"	6.8			
2 wheel steer	39' 1"	11.9			
Tail swing of counterweight	13' 9"	4.19			

### **GENERAL DIMENSIONS**

Specifications are subject to change without notice. Specification effective with serial number 548764 and up.

### **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  $-1.5^{\circ} \sim 80.5^{\circ}$ , 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 (storable).

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

#### **SLEWING**

Hydraulic axial piston motor through planetary slewing speed reducer. Continuous 360 ° full circle slewing on ball bearing turn table at 1.5min<sup>-1</sup> {rpm}. Equipped with manually locked/released slewing brake. A 360 ° positive slewing lock for pick and carry and travel modes, manually engaged in cab. Twin slewing system: Free slewing or lock slewing 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: 830' of 3/4" diameter rope (253m of 19mm). Drum capacity: 997' (304m) 7 layers. Maximum single line pull (available): 20,000 lbs (9,090kg). Maximum line speed: 560FPM (170m/min) at the 6th layer.

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 (available): 20,000 lbs (9,090kg). Maximum line speed: 491FPM (149m/min) at the 4th layer. WIRE ROPE - Non-rotating 3/4" (19mm) 7x35 class. Breaking strength (Main and Aux): 72,800 lbs (33,000 kg)

#### **HOOK BLOCKS**

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

#### **HYDRAULIC SYSTEM**

**PUMPS** - Two variable piston pumps for crane functions. Tandem gear pump for steering, slewing 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** - 202 gallon (763 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 slewing, boom elevating, 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, slewing brake switch, telescoping/auxiliary hoist select switch, outrigger controls, free slewing / lock slewing 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 Slow Stop function on boom elevation and slewing
- · Working condition register switch
- Load radius / boom angle / tip height / slewing 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

### **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)

#### GRADEABILITY (tant) - 94% (at stall), \*\*57%

\*\* Machine should be operated within the limit of engine design. (30°: Cummins QSB6.7)

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.

#### ENGINE

Model	Cummins QSB6.7 [Tier 4]
Туре	Direct injection diesel
No. of cylinders	6
Combustion	4 cycle, turbo charged and after cooled
BoreXStroke, in.(mm)	4.212 x 4.882 (107 x 124)
Displacement, cu. in (liters)	409 (6.700)
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

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 slewing lock lever 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 and air conditioning control switch.

NOTE: Each crane motion speed is based on unloaded conditions.

**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' 10-1/4"	(2.7m) center to center
Mid. Extension	101 1/01	(F Fm) contor to contor
IVIIO. EXtension	10 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
Floot aiza/Diama	+or) 1111	F(0) (0 cm)
Float size(Diame	eler) i i i - :	0/0 (0.011)

Radiator	Fin and tube core, thermostat controlled
Fan, in.(mm)	Suction type, 9-blade, 28 (711) dia.
Starting	24 volt
Charging	24 volt system, negative ground
Battery	2-120 amp. Hour
Compressor, air, CFM(I /min)	17.0 CFM (481) at 2,400rpm
Horsepower (kW)	Gross 270 (201) at 2,000rpm
Torque, Max. ft-lb (Nm)	730 (990) at 1,500rpm
Capacity, gal.(liters)	
Cooling water	7.4 (28)
Lubrication	4.0 (15)
Fuel	79.2 (300)
DEF	10.0 (38)

### 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  $3.5^{\circ}$ ,  $25^{\circ}$  or  $45^{\circ}$  pinned offsets and self storing pins.
- Auxiliary lifting sheave (single top) storable
- Variable speed main hoist with grooved drum, cable follower and 830' of 3/4" cable.
- Variable speed auxiliary hoist with grooved drum, cable follower and 456' of 3/4" cable.
- Drum rotation indicator (audible, visible and thumper type) main and auxiliary hoist
- 2-speed 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 slewing system and  $360^\circ$  positive slewing 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
- Cummins QSB6.7 turbo charged after cooled engine (270HP) 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 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
- Tool storage compartment
- Tire inflation kit
- 24 volt electric system
- 7.3 ton (6.6 metric ton) hook ball with swivel
- 100 ton (90.7 metric ton) 8 sheaves with swivel hook block and safety latch for 3/4"(19mm) wire rope
- Towing hooks-Front and rear
- Lifting eyes
- Hook block tie down (front bumper)
- Weighted hook storage compartment
- Halogen head lamp
- Telematics (machine data logging and monitoring system) with HELLO-NET via internet
- Fuel consumption monitor
- Eco mode system
- Self-removable counterweight

### **HOISTING PERFORMANCE**

#### LINE SPEEDS AND PULLS

		Mai	n or auxili	ary hoist	- 14'-1/4" (	(0.362m)	drum	
Layer	Line speeds <sup>1</sup>			Line pulls - Available <sup>2</sup>			e <sup>2</sup>	
Layer	Low		High		Low		High	
	F.P.M.	m/min	F.P.M.	m/min	Lbs.	kgf	Lbs.	kgf
1st	278	84	387	118	20,000	9,090	14,400	6,520
2nd	302	92	421	128	18,100	8,230	13,000	5,900
3rd	327	99	456	139	16,600	7,520	11,900	5,390
4th	352	107	491	149	15,300	6,920	10,900	4,960
5th	377	115	526	160	14,100	6,410	10,100	4,600
6th	402	122	560	170	13,200	5,970	9,400	4,280
7th <sup>3</sup>	427	130	595	181	12,300	5,590	8,800	4,010

\* Maximum permissible line pull may be affected by wire rope strength. Maximum lifting capacity per line (Main & Aux.): 14,600 lbs (6,600 kg)

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

- <sup>2</sup> Developed by machinery with each layer of wire rope, but not based on rope strength or other limitation in machinery or equipment.
- <sup>3</sup> Seventh layer of wire rope are not recommended for hoisting operations.

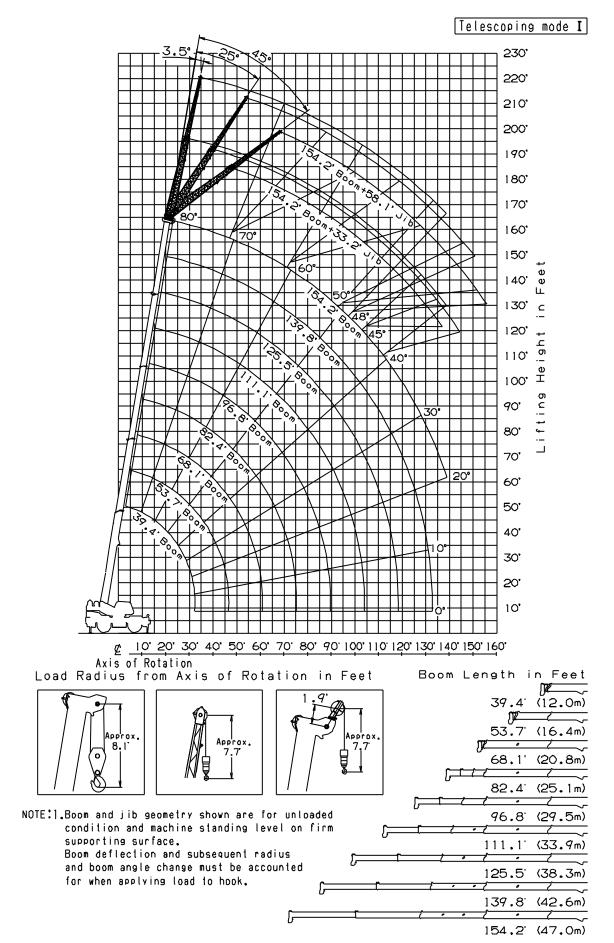
#### DRUM WIRE ROPE CAPACITIES

M/ine	Main and	d auxiliary c	drum groov	ed lagging		
Wire		3/4" (19mm	n) wire rope			
rope layer	Rope p	er layer	Total wire rope			
layei	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		

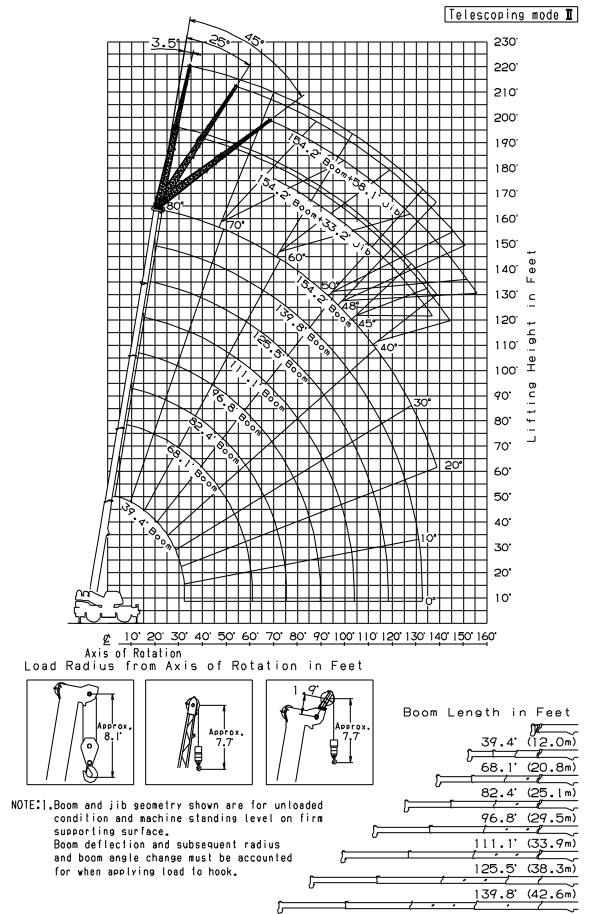
#### DRUM DIMENSIONS

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

#### **GR-1000XL WORKING RANGE CHART**



#### **GR-1000XL WORKING RANGE CHART**



154.2 (47.0m)

								ON	ΟU	TRIGO	GEF	RS FUI						1-3/8"(	7.3	m) SPI	RE	AD								
	r –	39.4'		53.7'		68.1' (2	0.0	1000)		82.4' (2	DE 4		3	60° R 96.8' (				111.1'	(22.0	0~~)	1	125.5'	(20.1	2~~)	<u> </u>	139.8'	(40)	2000)		154.2'
A	с			53.7 (16.4m)	C	68.1 (2	20.8 C	sm)	С	82.4 (4	25.1 C	m)	С	96.8 (	29.5 C	om)	С	111.1 (	(33.9 C	9m)	с	125.5	(38.) C	3m)	с	139.8	42.1 C	om)	С	
8'		200.000		( /	<u> </u>		0		C		č		0		C		C		Ŭ						0		0		Ľ	(4711)
10'		,		102,700	80	90.200	70	40.100																						
12'		157,900		102,700				40,100																						
15'	-	132,300		102,700					78	42 500	78	35 500																		
20'	52	99.700						40,100					77	40 100	77	33 300	79	35,500	79	32 200										
25'	41	76,900		76,200						42,500								35,500			79	33 300	79	28 700						
30'	25	50,700	_	57.700		,	_			42,500		35,500			_	33,300	_	35,500	_			33,300			79	26,700	79	24.300		
35'	20	00,700	43	42,800		41,800		40,100		42,500		35,500						35,100				30,900		24,000		26,700		,	78	20,900
40'			33			32,100				34,100	_		_					32,000				28,400	_		_	25,300	_	22,300	_	20,900
45'			18	26.200		25.400				27,300			_					28,000						20,200	_	23,500	_	20,700	_	
50'				-,	_	20,400		25,900		22,200		26,600		23,200		24,100		24,000		21,300		22,900		18,700		21,800		19,300		19,400
55'					28	16,600		20,900		18,400		22,600				22,200				19,600		20,100				19,600		18,000		18,100
60'					13		12	15,900		15,300		19,400								18,200		17,300	_			17,400		16,800	_	16,800
65'					-	,		,	32	12,700		16,800				17,100				16,600						15,300		15,800	_	15.200
70'									24	10.600	23	14,600			_					15,200					_	13,200		14,300	_	13,400
75'									7	8.900	5	11,700				13,200	_			13,400	_		_	12,700				12,500	_	,
80'										- /		,	29			11,600				11,900		9,500				9,900		11,000		
85'													21	7,100	21	10,300	37	7,800	38	10,500	46	8,200	46	10,800	53	8,600	53	9,700	58	8,900
90'																	31	6,600	33	9,400	42	7,000	43	9,600	50	7,500	50	8,600	55	7,700
95'																	25	5,600	27	8,400	38	6,000	39	8,600	47	6,500	47	7,600	53	6,700
100'																	17	4,800	19	7,500	34	5,200	35	7,700	43	5,600	44	6,700	50	5,900
105'																					29	4,400	30	6,900	40	4,800	41	5,900	47	5,100
110'																					24	3,700	24	6,200	37	4,100	37	5,200	44	4,300
115'																					15	3,100	15	5,600	33	3,500	32	4,500	41	3,700
120'																									27	2,900	28	4,000	38	3,200
125'																									22	2,400	23	3,500		2,600
130'																									14	2,000	14	3,100	_	,
135'																													26	1,800
D												-	Tolo	0		ditions	9/ )													20
Tele.													eie		con	ditions (	70)													
mode		I, II		I		Ι		Π		Ι		Π		Ι		II		Ι		Π		Ι		II		Ι		Π		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	<u> </u>	100		100
Top boom		0		0		0		33		16		50		33		66		50		83		66		100		83		100		100

LIFTIN	IG CAPACITIES AT	ZERO DEGREI	E BOOM ANG	LE ON OUTRIGGERS FL	JLLY EXTENDED
				0	

											23' ′	11-:	3/8"(7.	<u>3m</u>	) SPRE	EAD	D 36	60°	ROTA	<b>ATIC</b>	NC									
	A		39.4'		53.7'		68.1' (	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)	
•	c 🔨	в	(12m)	в	(16.4m)	в		в		в		в		в		в	,	в		в		в		в	,	в		в		
Γ	0°	32.2'	30,900	46.6	19,400	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	
	Tele. mode		I, II		Ι		Ι		II		Ι		II		Ι		П		Ι		П		Ι		П		Ι		Π	

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.

Standard number of parts of line for each boom length should be according to the following table.

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	Ι	П	I, II	I, II
Number of parts of line	16	8	4	4	1

$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$												
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				ON	OUTRIG	GERS F				1-3/8"(7	.3m) SPRE	EAD
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$								ROTA	TION			
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	-		,			. /						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	С								С			2
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$												
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	80						9,400		80	45.8'	6,800	71.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	79		10,800		10,400		9,200		79	50.0'	6,800	75.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	78		10,800		10,200		9,000		78	54.2'	6,800	79.
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	77	49.2'	10,800	62.1'	9,900	68.4'	8,800		77	58.5'	6,800	82.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	76	52.6'	10,800	65.3'	9,600	71.6'	8,700		76	62.7'	6,800	86.
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	75	56.3'	10,800	69.0'	9,300	74.5'	8,500		75	66.8'	6,800	90.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	73	63.5'	10,500	75.2'	8,900	80.5'	8,200		73	74.6'	6,800	96.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	70	73.4'	9,600	84.5'	8,300	88.8'	7,700		70	87.2'	6,800	107.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	68	79.7'	9,100	90.1'	7,900	94.4'	7,400		68	94.4'	6,700	113.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	65	88.0'	8,200	98.3'	7,200	102.0'	6,800		65	104.0'	5,900	122.
58         107.0         5,800         116.0         5,400         118.0         5,100         58         124.0         3,900         141           55         114.0'         4,700         122.0'         4,400         124.0'         4,200         55         131.0'         2,900         147           53         118.0'         4,100         126.0'         3,700         128.0'         3,600         53         137.0'         2,300         152           50         125.0'         3,200         133.0'         3,000         133.0'         2,800         50         144.0'         1,600         158           48         129.0'         2,700         136.0'         2,400         137.0'         2,300         48         149.0'         1,100         162           43         139.0'         1,600         146.0'         1,500         1,700         148         149.0'         1,100         162	63	93.9'	7,500	104.0'	6,700	106.0'	6,400		63	110.0'	5,400	128.
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         53         131.0'         2,900         147           50         125.0'         3,200         133.0'         3,000         133.0'         2,800         50         144.0'         1,600         155           48         129.0'         2,700         136.0'         2,400         137.0'         2,300         48         149.0'         1,100         162           43         139.0'         1,600         146.0'         1,500         1,700         1,700         1,700         1,800         142.0'         1,700	60	102.0'	6,700	111.0'	6,100	114.0'	5,800		60	119.0'	4,500	136.
53         118.0'         4,100         126.0'         3,700         128.0'         3,600         53         137.0'         2,300         152           50         125.0'         3,200         133.0'         3,000         133.0'         2,800         50         144.0'         1,600         155           48         129.0'         2,700         136.0'         2,400         137.0'         2,300         48         149.0'         1,100         162           43         139.0'         1,600         146.0'         1,500         1,700         1,700         1,700         1,700         1,700         1,100         162	58	107.0'	5,800	116.0'	5,400	118.0'	5,100		58	124.0'	3,900	141.
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         48         149.0'         1,600         156           45         136.0'         2,000         142.0'         1,800         142.0'         1,700         48         149.0'         1,100         162           43         139.0'         1,600         146.0'         1,500         145.0'         1,700	55	114.0'	4,700	122.0'	4,400	124.0'	4,200		55	131.0'	2,900	147.
48         129.0         2,700         136.0         2,400         137.0         2,300         48         149.0         1,100         162           45         136.0'         2,000         142.0'         1,800         142.0'         1,700         48         149.0'         1,100         162           43         139.0'         1,600         146.0'         1,500         1	53	118.0'	4,100	126.0'	3,700	128.0'	3,600		53	137.0'	2,300	152.
45         136.0'         2,000         142.0'         1,800         142.0'         1,700           43         139.0'         1,600         146.0'         1,500         1,700	50	125.0'	3,200	133.0'	3,000	133.0'	2,800		50	144.0'	1,600	158.
43 139.0' 1,600 146.0' 1,500	48	129.0'	2,700	136.0'	2,400	137.0'	2,300		48	149.0'	1,100	162.
	45	136.0'	2,000	142.0'	1,800	142.0'	1,700					
40 145.0' 1,100 151.0' 1,100	43	139.0'	1,600	146.0'	1,500							
	40	145.0'	1,100	151.0'	1,100							

	0 .		,	_,			
ROTA	TION						
		1	54.2' (47.0	m) Boo	m + 58.1' (	(17.7m)	Jib
l	С		offset		offset		offset
		R	W	R	W	R	W
l	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
l	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
l	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
l	70	87.2'	6,800	107.0'	5,200	113.0'	4,600
l	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
l	63	110.0'	5,400	128.0'	4,500	132.0'	4,200
j	60	119.0'	4,500	136.0'	4,100	139.0'	3,800
j	58	124.0'	3,900	141.0'	3,600	143.0'	3,400
j	55	131.0'	2,900	147.0'	2,800	149.0'	2,600
j	53	137.0'	2,300	152.0'	2,200	153.0'	2,100
j	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 OUTRIGGERS FULLY EXTENDED 23' 11-3/8"(7.3m) SPREAD

						360° F
	139.8'(4	2.6m) Boon		oing modeII	) + 33.2' (	(10.1m) Jib
С		offset		offset		offset
	R	W	R	W	R	W
80	32.7'	11,700	45.8'	11,600	53.0'	10,000
79	36.4'	11,700	49.0'	11,200	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				

1,200

145.0' 148.0'

ROTA	TION		- , -				
		139.8'(4	2.6m) Boom	n(telesco	oing modeII	) + 58.1' (	(17.7m) Jib
	С			25°	offset		offset
		R	W	R	W	R	W
	80	40.8'	7,300	64.6'	6,500	77.3'	5,200
	79	44.7'	7,300	67.9'	6,400	80.4'	5,100
	78	48.7'	7,300	72.0'	6,200	83.5'	5,100
	77	52.6'	7,300	75.2'	6,100	86.2'	5,000
	76	56.5'	7,300	78.1'	6,000	89.2'	5,000
	75	60.0'	7,300	81.8'	5,900	92.4'	5,000
	73	67.0'	7,300	88.2'	5,700	97.7'	4,900
	70	78.3'	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		
	ROTA	80 79 78 77 75 73 70 68 65 65 63 60 58 65 65 55 55 53 50 48 45 43 40 38 35 33	139.8/4           3.5°           R           80         40.8'           79         44.7'           78         48.7'           77         52.6'           76         56.5'           75         60.0'           73         67.0'           70         78.3'           68         85.2'           65         94.2'           63         99.8''           60         109.0'           58         114.0'           55         122.0'           53         127.0'           50         134.0'           48         139.0'           45         145.0'           38         159.0'           35         164.0'           33         168.0'	139.8'(42.6m) Boor           R         W           80         40.8'         7,300           79         44.7'         7,300           78         48.7'         7,300           77         52.6'         7,300           76         56.5'         7,300           75         60.0'         7,300           73         67.0'         7,300           70         78.3'         7,300           70         78.3'         7,300           66         85.2'         7,100           65         94.2'         6,200           63         99.8'         5,700           60         109.0'         5,100           58         114.0'         4,700           55         122.0'         4,200           50         134.0'         3,500           48         139.0'         3,200           45         145.0'         2,700           43         149.0'         2,400           40         155.0'         2,000           38         159.0'         1,700           35         164.0'         1,400           33         168.0'	139.8'(42.6m) Boom(telesco)           13.5° offset         250°           R         W         R           80         40.8         7,300         64.6'           79         44.7'         7,300         67.9'           78         48.7'         7,300         67.9'           78         48.7'         7,300         72.0'           76         56.5'         7,300         78.1'           75         60.0'         7,300         88.2'           70         78.3'         7,300         88.7'           70         78.3'         7,300         89.7'           66         94.2'         6,200         112.0'           63         99.8'         5,700         117.0'           60         109.0'         5,100         124.0'           58         114.0'         4,700         129.0'           53         127.0'         3,900         141.0'           50         134.0'         3,200         151.0'           48         139.0'         3,200         166.0'           43         149.0'         2,400         160.0'           43         149.0'	139.8'(42.6m)         Boom(telescoping modell           R         W         R         W           80         40.8'         7,300         64.6'         6,500           79         44.7'         7,300         67.9'         6,400           78         48.7'         7,300         67.9'         6,400           78         48.7'         7,300         75.2'         6,100           76         56.5'         7,300         75.2'         6,100           76         56.5'         7,300         88.2'         5,700           70         78.3'         6,200         112.0'         5,400           68         85.2'         7,100         103.0'         5,300           65         94.2'         6,200         112.0'         5,100           63         99.8'         5,700         117.0'         4,700           60         109.0'         5,100         124.0'         4,300           58         114.0'         4,700         129.0'         4,000           50         134.0'         3,200         141.0'         3,400           50         134.0'         3,200         145.0'         2,600	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$

			ON	OUTRIG	GERS F		ED 23' 1 TION	1-3/8"(7	.3m) SPRI	EAD			
	125.5'(3	8.3m) Boon			+ 33.2' (1			125.5'(	38.3m)Boon			+ 58.1' (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	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	72.3'	12,100	82.0'	10,300	85.3'	9,500	65	86.1'	7,500	102.0'	5,400	109.0'	4,600
63	77.1'	11,600	86.4'	10,000	89.2'	9,300	63	92.0'	7,100	107.0'	5,300	113.0'	4,500
60	84.1'	10,100	93.0'	9,100	95.3'	8,500	60	99.9'	6,800	115.0'	5,100	120.0'	4,500
58	88.2'	8,900	96.6'	8,100	99.0'	7,600	58	105.0'	6.500	119.0'	5.000	124.0'	4,400
55	94.2'	7,500	102.0'	6,900	104.0'	6,500	55	112.0'	5,400	126.0'	4,800	129.0'	4,400
53	98.4'	6,700	106.0'	6.200	108.0'	5,900	53	117.0'	4.800	130.0'	4.300	133.0'	4.200
50	104.0'	5,700	111.0'	5,300	112.0'	5,000	50	123.0'	4,000	136.0'	3,600	138.0'	3,500
48	108.0'	5,100	115.0'	4.800	116.0'	4,500	48	127.0'	3.500	139.0'	3.200	140.0'	3,100
45	113.0'	4,300	120.0'	4,100	120.0'	3,800	45	133.0'	2,900	144.0'	2,700	145.0'	2,500
43	117.0'	3,900	123.0'	3,700			43	137.0'	2,600	147.0'	2,400		
40	122.0'	3.300	127.0'	3.200			40	143.0'	2,100	151.0'	2.000		
38	125.0'	3.000	129.0'	2.900			38	146.0'	1.800	154.0'	1.700		
35	129.0'	2,500	133.0'	2,400			35	151.0'	1,500	158.0'	1,400		
33	132.0'	2.300	135.0'	2.200			33	154.0'	1.300	160.0'	1.200		
30	136.0'	2.000	139.0'	1,900			30	158.0'	1.000	163.0'	1,000		
25	141.0'	1,500	143.0'	1,500					.,000		.,000		
		.,000		.,000									

 $\begin{array}{l} \textbf{C} : \text{Loaded boom angle (}^{\circ}\text{)} \\ \textbf{R} : \text{Load radius in feet} \\ \textbf{W} : \text{Rated lifting capacity in pounds} \end{array}$ 

								10	10	UTRIG	GE	ERS M		EXTEN				·3/4"(6	.7m	n) SPR	EA	D								
													3	60° R											-				1	
A		39.4'	_	53.7'	-	68.1' (2		m)	-	82.4' (2		m)		96.8' (		im)	_	111.1'		9m)	_	125.5'		3m)		139.8' (		6m)		154.2'
В	С	· · ·		(16.4m)	С		С		С		С		С		С		С		С		С		С		С		С		С	(47m)
8'	_			102,700																										
10'				102,700																										
12'	_			102,700																										
15'	_		_	102,700																										
20'	52	94,800		98,000		75,000		,	_				_	40,100	_		_		_											
25'	41	67,800		65,800		59,500	-			42,500				40,100				35,500		32,200										
30'	25	46,900		45,400		44,000		,		42,500				40,100				35,500		30,200		33,300				26,700				
35'			42			32,200		,		34,300				35,400						27,300						26,700		24,100	_	20,900
40'			33			24,400								27,500																20,900
45'			18	19,800		18,900				20,800				21,800											_	23,500		20,700	_	20,700
50'						14,800		,		16,700		1000	_	17,700	_		_		_	20,400	_	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
												-	Гele	scoping	con	ditions (	(%)													
Tele.		I. II		I		I		Ш		Ι		П		I		П		Ι		П		I		П		Ι		П		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

					LIF	TING	CAF	PACIT	IES	AT ZI	ERO	O DEG	RE	E BO	DМ	ANGL	ΕC	DN OU	TR	IGGEF	RS I	MID EX	XTE		)	
										21' 1	1-3	8/4"(6.7	7m)	) SPRE	EAD	D 36	60°	ROTA		NC						
<b>A</b>	A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m) 111.1' (33.9m) 125.5' (36														38.3	3m)										
с 🖯															в											
0	32.2'	28,300	46.5'	18,300	60.7	8,900	60.6'	14,100	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		
Tele.		I. II		I		I		П		Ι		п		I		П		Ι		П		Ι		п		
mode		,																							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.

Standard number of parts of line for each boom length should be according to the following table.

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	Ι	П	Ι, ΙΙ	I, II
Number of parts of line	16	8	4	4	1

			0	N OUTRIC	GERS	MID EXTE	ENDE	D 21' 11	-3/4"(6.7	m) SPRE/	٩D			
						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		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'			9,400		80	45.8'	6,800	71.7'	6,300	83.5'	5,100
79	41.5'	10,800	55.3'	10,400		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												

	ON OUTRIGGERS MID EXTENDED 21' 11-3/4"(	6.7m) SPREAD	
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			0		JOLINO			
						360°	ROTA	1
	139.8'(4	2.6m) Boon	n(telescop	ping modeII	) + 33.2' (	10.1m) Jib		
С		offset		offset		offset		
	R	W	R	W	R	W		
80	32.7'	11,700	45.8'	11,600	53.0'	10,000		
79	36.4'	11,700	49.0'	11,200	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		Ī
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		Ī
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	91.1'	6,600	99.4'	6,000	102.0'	5,600		
58	95.6'	5,800	104.0'	5,200	106.0'	5,000		
55	102.0'	4,700	110.0'	4,300	112.0'	4,100		
53	107.0'	4,100	114.0'	3,700	116.0'	3,600		
50	113.0'	3,300	120.0'	3,000	121.0'	2,900		
48	117.0'	2,800	124.0'	2,600	125.0'	2,600		
45	123.0'	2,200	129.0'	2,100	129.0'	2,100		
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				

ATION						
	139.8'(4	2.6m) Boom	n(telesco	ping modeII	) + 58.1' (	(17.7m) Jib
С	3.5°		25°	offset		offset
	R	W	R	W	R	W
80	40.8'	7,300	64.6'	6,500	77.3'	5,200
79	44.7'	7,300	67.9'	6,400	80.4'	5,100
78	48.7'	7,300	72.0'	6,200	83.5'	5,100
77	52.6'	7,300	75.2'	6,100	86.2'	5,000
76	56.5'	7,300	78.1'	6,000	89.2'	5,000
75	60.0'	7,300	81.8'	5,900	92.4'	5,000
73	67.0'	7,300	88.2'	5,700	97.7'	4,900
70	78.3'	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	108.0'	4,700	124.0'	4,000	129.0'	3,800
58	113.0'	4,000	128.0'	3,400	133.0'	3,300
55	120.0'	3,100	135.0'	2,700	139.0'	2,600
53	125.0'	2,600	139.0'	2,300	142.0'	2,200
50	132.0'	2,000	145.0'	1,800	147.0'	1,700
48	137.0'	1,600	149.0'	1,500	151.0'	1,400
45	143.0'	1,200	155.0'	1,000	155.0'	1,000

			0	N OUTRIC	GERS	MID EXTE	ENDE	D 21' 11·	-3/4"(6.7	m) SPRE	٩D			
						360°	ROTA	TION						
	125.5'(3	38.3m) Boor	n(telesco	ping modeI)	+ 33.2' (*	10.1m) Jib			125.5'(	38.3m)Boon	n(telesco	ping modeI)	+ 58.1' (*	7.7m) Jib
С		offset		offset		offset		С		offset	25°	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'	-,	73.9'	5,100
78	36.0'	14,600	49.2'	13,300	55.1'	10,500		78	44.8'	8,800	65.4'		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										

 $\boldsymbol{C}$  :Loaded boom angle (°)

R :Load radius in feet

 $\boldsymbol{W}$  :Rated lifting capacity in pounds

								C	)N	OUTR	IGC	GERSI	MIE	) EXTE	ENE	DED 18	3' 1.	/2"(5.5	m)	SPRE	AD									
													3	860° R	оτ	ATION														
A		39.4'		53.7'		68.1' (2	20.8	m)		82.4' (	25.1	m)		96.8' (	29.5	im)		111.1'	(33.9	9m)		125.5'	(38.:	3m)		139.8' (	42.6	Sm)	1	154.2'
в	С	(12m)	С	(16.4m)	С		С		С		С		С	]	С		С		С		С		С		С		С		С	(47m)
8'	73	191,600	78	102,700																										
10'	70	164,000	76	102,700	80	90,200	79	40,100																						
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
												-	Гele	scoping	con	ditions (	(%)													
Tele.		I. II		Ι		Ι		П		I		П		I		П		I		п		I		п		I		П		I, II
mode		<i>'</i>																												
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	CAPACIT	TES AT Z	ERO DEC	GREE BO	OM ANGL	E ON OU	TRIGGE	RS MID EX	XTENDED	)
					18'	1/2"(5.5r	n) SPRE/	AD 360	° ROTA	FION			
A	39.4'	53.7'	68.1' (2	20.8m)	82.4' (2	25.1m)	96.8' (	29.5m)		111.1'		125.5'	
c 🔪	<b>B</b> (12m)	<b>B</b> (16.4m)	В	В	В	В	В	В		<b>B</b> (33.9m)		<b>B</b> (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	<sup>89.1'</sup> 4,300		103.0" 2,800		116.0" 1,500	
Tele.	I. II	т	I	п	T	Ш	T	П		Ш		П	
mode	1, 11	•	•		•								

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.

Standard number of parts of line for each boom length should be according to the following table.

Boom length in feet	39.4'	39.4' t	:068.1'	68.1' to 154.2'	Single top
(meters)	(12m)	(12m to	20.8m)	(20.8m to 47m)	Jib
Telescoping mode	I, II	Ι	П	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"(5.5m	) SPREAD	)			
						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								

45° offset

W

5,200

5,100

5,100

5,000

5,000

5,000

4.900

4.700

4,400

3,400

2,800

2,100

1,700

1,200

R

77.3

80.4

83.5

86.2

89.2

92.4

97.7

105.0

110.0

120.0

131.0

#### ON OUTRIGGERS MID EXTENDED 18' 1/2"(5.5m) SPREAD 360° ROTATION 139.8'(42.6m) Boom(telescoping modeII) + 33.2' (10.1m) Jib 139.8'(42.6m) Boom(telescoping modeII) + 58.1' (17.7m) Jib С 45° offset С 3.5° offset 25° offset 3.5° offset 25° offset R w R W R w R W R W 7,300 64.6' 80 32.7' 11,700 45.8 11,600 53.0' 10,000 80 40.8 6,500 79 36.4' 11,700 49.0 11,200 55.8 9,800 79 44.7 67.9 6,400 78 39.6' 11,700 52.1 10,900 59.1 9,600 78 48.7 7,300 72.0' 6,200 77 43.0' 11,700 55.0 10,600 61.6' 9,400 77 52.6 7,300 75.2' 6,100 7,300 57.7 56.5 78.1 76 46.4 11.700 10.300 64.1 9,200 76 6,000 60.9' 67.0 60.0 81.8 49.4' 11,700 75 9,100 75 10,100 5,900 55.8' 67.0 11.500 72.6 8,700 73 67.0 7,300 88.2 5,700 73 9.500 64.6' 74.9 79.7 97.5' 70 7,800 78.3 10,200 8,600 7,300 70 7.300 5.400 69.3 79.7 84.0' 6,700 103.0' 68 83.8 6,100 68 5.000 76.8' 86.4 90.4 91.6 110.0' 3,900 116.0 5,400 65 6,600 5,800 65 4,600 81.8 5,600 91.1 4,900 94.7 4,600 97.1 3,800 114.0 63 63 3,200 60 89.1' 4,300 97.6 3,800 101.0 3,600 60 105.0 2,800 121.0' 2,400 127.0 58 93.6' 3,600 102.0 3,200 105.0 3,000 58 110.0 2,200 126.0' 1,900 55 101.0 2,700 108.0 2,400 111.0 2,300 55 118.0 1,500 133.0' 1,300 137.0 1,900 53 105.0' 2,200 113.0 2,000 115.0 53 123.0 1,100 50 111.0' 1,500 119.0 1,400 120.0' 1,300

1.000

				ON OUTR	IGGER	S MID EX	TEND	ED 18' 1	/2"(5.5m	) SPREAD	)			
						360°	ROTA	TION						
	125.5'(3	8.3m) Boon	n(telesco	ping modeI)	+ 33.2' (	10.1m) Jib			125.5'(3	38.3m)Boon	n(telescop	oing modeI)	+ 58.1' (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	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

48

116.0'

1.100

122.0

1,000 124.0

 $\boldsymbol{W}$  :Rated lifting capacity in pounds

								10	10	UTRIG	GE	ERS M		EXTEN 60° R(				/16"(2	.7m	) SPR	EAI	D								
A		39.4'		53.7'		68.1' (	20.8	m)		82.4' (	25.1			96.8' (				111.1'	(33.9	9m)		125.5'	(38.:	3m)		139.8' (	(42.6	6m)	1	154.2'
в 🔪	С	(12m)	С	(16.4m)	С		С		С		С		С		С		С		С		С		С		С		С		С	(47m)
8'	73	143,900	78	102,700																										
10'	70	94,900	76	93,000	80	90,200	79	40,100																						
12'	66	66,900	73	65,200	78	63,700	77	40,100																						
15'	61	44,700	70	43,400	75	42,000	75	40,100	78	42,500	78	35,500																		
20'	52	26,300	64	25,400	70	24,300	70	30,400	74	26,400	74	31,000	77	27,500	77	31,400	79	28,300	79	31,700										
25'	41	17,000	57	16,100	65	15,300	65	20,900	70	17,200	70	21,500	74	18,200	74	21,800	76	18,900	76	22,100	78	19,500	78	22,300						
30'	25	11,400	50	10,400	60	9,600	60	14,900	66	11,600	66	15,700	70	12,500	70	16,000	73	13,200	73	16,200	75	13,800	76	16,400	78	14,100	78	15,300		
35'			42	6,600	55	5,800	55	10,900	62	7,700	62	11,600	67	8,700	67	12,100	70	9,400	70	12,300	73	9,900	73	12,500	75	10,300	76	11,400	77	10,500
40'			33	3,900	49	3,100	49	8,100	58	4,900	58	8,700	63	5,900	64	9,200	67	6,600	68	9,500	70	7,100	71	9,600	73	7,500	73	8,600	75	7,700
45'			18	1,800	43	1,100	43	5,900	53	2,800	53	6,500	60	3,700	60	7,000	64	4,500	64	7,300	68	5,000	68	7,500	71	5,400	71	6,500	73	5,600
50'							36	4,300	49	1,100	49	4,900	56	2,100	56	5,300	61	2,800	61	5,600	65	3,300	65	5,800	68	3,700	69	4,800	71	4,000
55'							27	2,900			44	3,500			53	3,900	58	1,500	58	4,200	63	2,000	63	4,400	66	2,400	66	3,500	69	2,700
60'							13	1,900			38	2,400			49	2,800			55	3,100			60	3,300	64	1,300	64	2,300	67	1,500
65'											31	1,500			44	1,900			52	2,200			57	2,300			62	1,400		
70'															40	1,100			48	1,400			54	1,500						
D			0			28		0		44		5		49		35		55		45		58		52		62		57		65
												٦	ele	scoping	con	ditions (	%)													
Tele.		I, II		I		I		Ш		I		II		I		П		I		П		I		Ш		I		Ш		I, II
mode		<i>′</i>		-						-				-				-				-								·
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	CAPACIT	IES AT ZERO DEGREE BOOM A	NGLE ON OUTRIGGERS MIN EXTENDED	
					8' 10-5/16"(2.7m)SPREAD	360° ROTATION	
<b>A</b>	39.4'	53.7'		68.1'			
с 🔪	<b>B</b> (12m)	<b>B</b> (16.4m)		<b>B</b> (20.8m)			
0	<sup>32.2'</sup> 9,200	46.5 1,300		60.8' 1,700			
Tele.	L II	T		П			
mode	1, 11	1					

- 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.

Standard number of parts of line for each boom length should be according to the following table.

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	Ι	П	I, II	I, II	
Number of parts of 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 applicable ASME B30.5 safety standards for cranes as mentioned in OSHA CFR29 part 1926.

#### 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.
- 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.
- 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. Such action can damage the boom, jib or slewing mechanism, and lead to overturning the crane.
- 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.
- 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.
- 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 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' (16.4m) boom length], use the rated lifting capacities for the 53.7' (16.4m) 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.
- 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.
- For boom length 154.2' (47.0m) or less and 125.5' (38.3m) or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "154.2' (47.0m)boom+jib". For boom length 125.5' (38.3m) or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "125.5' (38.3m)boom+jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity.(Telescoping MODE I) For boom length 154.2' (47.0m) or less and 139.8' (42.6m) or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "154.2' (47.0m) or less and 139.8' (42.6m) or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "154.2' (47.0m)boom+jib". For boom length 139.8' (42.6m) or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "139.8' (42.6m)boom+jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity.(Telescoping MODE II)
- 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.
- 22. Before telescoping the boom, set the telescoping mode selector switch to MODE I or MODE II with the boom fully retracted. A change of the telescoping mode is not permissible when the boom has been partially or fully extended.
- Crane operation is prohibited without full counterweight 22,000lbs. (10 ton) installed. Outriggers shall be extended 23'11 3/8" (7.3m) spread when installing or removing counterweight.

#### 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.
- 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.
- Side Load: Horizontal side force applied to the lifted load either on the ground or in the air.

ON RUBBER																		
A						Stati	onary						Creep					
Over Front						360° Rotation						Over Front						
	39.4' 68.1' 96.8'		39.4' 68.1'			96.8'		39.4'		<u>6</u> 8.1'		96.8'						
В	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	22,900	40	10,400	65	14,000	73	14,000	40	20,500	65	22,800	74	22,900
30'	25	21,500	60	24,000	71	21,500	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		
Tele.								Telescopi	ng coi	nditions (%	)							
mode		I, II		II		II	I, II		II		II		I, II		II		Π	
2nd boom	0 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				
Top boom		0		33		66		0		33		66	0		33		66	

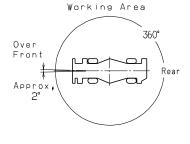
LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER OPERATION															
A	Stationary Creep														
$\langle \rangle$		Over Front					360° Rotation			Over Front					
	3	39.4' 68.1' 96.8'					39.4'			39.4'			68.1' 9		6.8'
C \	В	(12m)	В	(20.8m)	В	(29.5m)	В	(12m)		В	(12m)	В	(20.8m)	В	(29.5m)
0	32.2'	19,300	60.8'	6,300	89.1'	2,100	32.2'	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 (400kPa)

- 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.
- For creep operation, boom must be centered over front of machine, slewing lock engaged, and load restrained from slewing. 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.
- Creep is motion for crane not to travel more than 200' (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, 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:
- vvnen operating crane on rubb
   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 slewing 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.
- 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 slewing, lifting loads shall be appropriately reduced.

 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 machine	115,610	57,340	58,270	52,440	26,010	26,430	
1. 7.3ton (6.6metric ton) hook ball	-360	-515	155	-165	-235	70	
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	
Remove: 4. Base jib	-1,910	-3,755	1,845	-867	-1,704	837	
5. Auxiliary lifting sheave	-110	-330	220	-50	-149	99	
<ol><li>Removable counterweight [self-removable]</li></ol>	-22,000	9,350	-31,350	-9,979	4,240	-14,219	
(with Auxiliary hoist & wire rope)							

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