SPEC. SHEET No. GR-300E-1-00201/EU-01
DATE August, 2004

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	approx.	11,245	mm
Overall width	approx.	2,620	mm
Overall height	approx.	3,535	mm
MASS			
Gross vehicle mass	approx.	26,900	kg
-front axle	approx.	13,150	kg
-rear axle	approx.	13,750	kg
PERFORMANCE			
Max. traveling speed	computed	47	km/h
Gradeability (tan θ)	computed	78% (at stall)	

Specifications are subject to change without notice.

CRANE SPECIFICATIONS

MODEL	GR-300EX
CAPACITY	30,000 kg at 3.0 m
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..... 9.7 m Fully extended length..... 31.0 m Extension speed..... 21.3 m in 91 s
JIB	Two staged swingaround boom extension. Triple offset (5^o/25^o/45^o) type. Box type top section telescopes from lattice type base section which stores alongside base boom section. Single sheave at jib head. Length..... 7.2 m and 12.8 m
SINGLE TOP (AUXILIARY BOOM SHEAVE)	Single sheave. Mounted to main boom head for single line work.
ELEVATION	By a double-acting hydraulic cylinder, fitted with holding valve. Automatic speed reduction and soft stop function. Elevation speed..... 0^o to 81^o in 44 s
HOIST - Main winch	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.....39.2 kN {4,000 kgf} Single line speed.....118 m/min (at the 4th layer) Wire rope..... No-spin type Diameter x length.....16 mm x 175 m
HOOK BLOCK(Optional) - 30 t capacity	4 sheaves, swivel type hook with safety latch.
HOOK BLOCK(Optional) - 20 t capacity	3 sheaves, swivel type hook with safety latch.

HOIST -
Auxiliary winch

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 main winch.
Single line pull..... 39.2 kN {4,000 kgf}
Single line speed.....118 m/min (at the 4th layer)
Wire rope..... No-spin type
Diameter x length.....16 mm x 98 m

HOOK BLOCK-
4.0 t capacity

Swivel hook with safety latch for single line use.

SWING

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 speed.....2.7 min^{-1} {rpm}

HYDRAULIC SYSTEM

Pumps.....Two variable piston pumps for telescoping, elevating and winches.
Tandem gear pump for steering, swing and optional equipment.
Control valves..... Multiple valves actuated by pilot pressure with integral pressure relief valves.
Circuit..... Equipped with air cooled type oil cooler.
Oil pressure appears on AML display for main circuit.
Hydraulic oil tank capacity...
approx. 380 liters
Filters..... Return line filter

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.

CAB

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-L)

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.
Nine functions are constantly displayed :

- Either moment as percentage or main hydraulic pressure
- Either boom angle or moment %
- Either boom length or potential hook height
- Either actual load radius or swing angle
- Actual hook load
- Permissible load
- Either jib offset angle or number of parts of line of rope
- Boom position indicator
- Either outrigger position or on-tire indicator

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 ..... 6,300 mm
Middle ..... 5,900 mm
Middle ..... 5,000 mm
Minimum ..... 2,200 mm
Float size (Diameter) ..... 400 mm

COUNTERWEIGHT

Integral with swing frame
Mass ..... 2,380 kg

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

CARRIER SPECIFICATIONS

TYPE

Rear engine, left hand steering, driving axle 2-way selected type (by manual switch).

4 x 2 front drive
4 x 4 front and rear drive

FRAME

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

ENGINE

Model..... Cummins QSB5.9-30TAA [EUROMOT Stage 2]
Type..... 4 cycle, turbo charged and after cooled, 6 cylinder in line, direct injection, water cooled diesel engine.
Piston displacement.....5,900 cm^3
Bore x stroke.....102 mm x 120 mm
Max. output ..... 129 kW {175 PS} at 2,500 min^{-1}{rpm}
Max. torque ..... 715 N·m {73 kgf·m} at 1,500 min^{-1}{rpm}

TRANSMISSION

Electronically controlled full automatic transmission.
Torque converter driving full powershift with driving axle selector. 8 forward and 2 reverse speeds.
4 speeds - High range - 2 wheel drive ; 4 wheel drive
4 speeds - Low range - 4 wheel drive

AXLES

Front .....Full floating type, steering and driving axle with planetary reduction.
Rear..... Full floating type, steering and driving axle with planetary reduction.
Non-spin differential.

STEERING

Hydraulic power steering controlled by steering wheel.
Three steering modes available:
2-wheel front
4-wheel coordinated
4-wheel crab

SUSPENSION

Front.....Semi-elliptic leaf springs with hydraulic lockout device.

Rear .....Semi-elliptic leaf springs with hydraulic lockout device.

BRAKE SYSTEM

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.

ELECTRIC SYSTEM

24 V DC. 2 batteries of 12 V - 120 Ah capacity.

FUEL TANK CAPACITY

300 liters

TIRES

Front.....445 / 95 R 25(OR), Single x 2
Rear .....445 / 95 R 25(OR), Single x 2

TURN RADIUS

Min. turning radius (at center of extreme outer tire)
2-wheel steering.....9.55 m
4-wheel steering.....5.7 m

E Q U I P M E N T

STANDARD EQUIPMENT

Automatic moment limiter(AML-L)
External lamp and buzzer (AML)
Pendant type over-winding cutout
Winch automatic fail-safe brake
Over-unwinding prevention
Cable follower
Hook safety latch
Pilot check valves
Holding valves
Counterbalance valves
Hydraulic pressure relief valves
Swing brake
Swing lock (360^{o} positive swing lock)
Boom angle indicator
Boom elevation foot pedal
Boom telescoping foot pedal
Outrigger extension width detector
Emergency engine stop system
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
Reversing steering compensator
Emergency steering
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

OPTIONAL EQUIPMENT

Winch drum rotation indicator (Thumper type)
Electric fan
Tire inflation kit
Hook block - 30t capacity (4 sheaves, swivel type with safety latch. Mass : approx. 268 kg)
Hook block - 20t capacity (3 sheaves, swivel type with safety latch. Mass : 226 kg)

RATED LIFTING CAPACITIES

ISO 4305

Unit: ×1000kg

ON OUTRIGGERS FULLY EXTENDED 6.3m SPREAD 360° ROTATION								
A / B	9.7m		16.8m		24.4m		31.0m	
	C		C		C		C	
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	0°							

Unit: ×1000kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS FULLY EXTENDED 6.3m SPREAD 360° ROTATION								
A / C	9.7m		16.8m		24.4m		31.0m	
	B		B		B		B	
0°	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)

ON OUTRIGGERS FULLY EXTENDED 6.3m SPREAD
360° ROTATION

C	31.0m Boom + 7.2m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	5.9	3.5	8.1	2.4	9.8	1.7
77.5°	7.7	3.5	9.8	2.3	11.4	1.65
75°	9.4	3.5	11.4	2.2	12.9	1.6
72.5°	11.2	3.23	13.0	2.1	14.4	1.55
70°	12.7	2.95	14.6	2.0	15.8	1.5
67.5°	14.3	2.75	16.1	1.93	17.2	1.45
65°	15.8	2.55	17.5	1.85	18.6	1.4
62.5°	17.3	2.35	19.0	1.8	19.9	1.38
60°	18.7	2.15	20.4	1.75	21.2	1.35
57.5°	20.0	1.95	21.6	1.65	22.4	1.33
55°	21.4	1.75	22.9	1.55	23.6	1.3
52.5°	22.6	1.55	24.0	1.38	24.7	1.23
50°	23.9	1.35	25.2	1.2	25.7	1.15
47.5°	25.0	1.18	26.3	1.1	26.7	1.1
45°	26.0	1.0	27.3	1.0	27.7	1.0
42.5°	27.1	0.9	28.2	0.9		
40°	28.1	0.8	29.1	0.8		
37.5°	29.0	0.7	30.0	0.7		
35°	30.0	0.6	30.8	0.6		
32.5°	30.8	0.53	31.5	0.53		
30°	31.6	0.45	32.2	0.45		
27.5°	32.3	0.4	32.8	0.38		
25°	33.0	0.35	33.4	0.3		

C	31.0m Boom + 12.8m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	7.7	2.2	11.7	1.2	14.6	0.8
77.5°	9.8	2.15	13.5	1.15	16.3	0.78
75°	11.8	2.1	15.3	1.1	17.9	0.75
72.5°	13.6	1.93	17.1	1.05	19.4	0.73
70°	15.5	1.75	18.8	1.0	21.0	0.7
67.5°	17.2	1.63	20.5	0.95	22.5	0.68
65°	18.9	1.5	22.0	0.9	23.9	0.65
62.5°	20.6	1.4	23.6	0.88	25.2	0.65
60°	22.3	1.3	25.1	0.85	26.6	0.65
57.5°	23.8	1.23	26.4	0.8	27.8	0.65
55°	25.4	1.15	27.9	0.75	29.0	0.65
52.5°	26.8	1.1	29.2	0.73	30.2	0.63
50°	28.3	1.05	30.5	0.7	31.4	0.6
47.5°	29.6	0.9	31.7	0.68	32.5	0.6
45°	30.8	0.75	32.8	0.65	33.5	0.6
42.5°	32.0	0.68	33.8	0.6		
40°	33.1	0.6	34.8	0.55		
37.5°	34.2	0.53	35.7	0.48		
35°	35.2	0.45	36.5	0.4		
32.5°	36.1	0.4				
30°	37.0	0.35				

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

Unit: ×1000kg

ON OUTRIGGERS MID EXTENDED 5.9m SPREAD 360° ROTATION								
A / B	9.7m		16.8m		24.4m		31.0m	
	C		C		C		C	
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	0°							

Unit: ×1000kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 5.9m SPREAD 360° ROTATION								
A / C	9.7m		16.8m		24.4m		31.0m	
	B		B		B		B	
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)

ON OUTRIGGERS MID EXTENDED 5.9m SPREAD
360° ROTATION

C	31.0m Boom + 7.2m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	5.9	3.5	8.1	2.4	9.8	1.7
77.5°	7.7	3.5	9.8	2.3	11.4	1.65
75°	9.4	3.5	11.4	2.2	12.9	1.6
72.5°	11.2	3.23	13.0	2.1	14.4	1.55
70°	12.7	2.95	14.6	2.0	15.8	1.5
67.5°	14.3	2.75	16.1	1.93	17.2	1.45
65°	15.8	2.55	17.5	1.85	18.6	1.4
62.5°	17.3	2.35	19.0	1.8	19.9	1.38
60°	18.7	2.15	20.4	1.75	21.2	1.35
57.5°	20.0	1.88	21.6	1.6	22.4	1.33
55°	21.4	1.6	22.9	1.45	23.6	1.3
52.5°	22.6	1.35	24.0	1.25	24.7	1.15
50°	23.9	1.1	25.1	1.05	25.7	1.0
47.5°	25.0	0.95	26.1	0.9	26.7	0.88
45°	26.0	0.8	27.1	0.75	27.7	0.75
42.5°	27.1	0.68	28.1	0.63		
40°	28.1	0.55	29.0	0.5		
37.5°	29.0	0.48	29.8	0.43		
35°	30.0	0.4	30.7	0.35		

C	31.0m Boom + 12.8m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	7.7	2.2	11.7	1.2	14.6	0.8
77.5°	9.8	2.15	13.5	1.15	16.3	0.78
75°	11.8	2.1	15.3	1.1	17.9	0.75
72.5°	13.6	1.93	17.1	1.05	19.4	0.73
70°	15.5	1.75	18.8	1.0	21.0	0.7
67.5°	17.2	1.63	20.5	0.95	22.5	0.68
65°	18.9	1.5	22.0	0.9	23.9	0.65
62.5°	20.6	1.4	23.6	0.88	25.2	0.65
60°	22.3	1.3	25.1	0.85	26.6	0.65
57.5°	23.8	1.23	26.4	0.8	27.8	0.65
55°	25.4	1.15	27.9	0.75	29.0	0.65
52.5°	26.8	1.0	29.2	0.73	30.2	0.63
50°	28.2	0.85	30.4	0.7	31.3	0.6
47.5°	29.5	0.73	31.6	0.63	32.3	0.55
45°	30.7	0.6	32.7	0.55	33.3	0.5
42.5°	31.9	0.48	33.7	0.45		
40°	33.1	0.35	34.7	0.35		

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

Unit: ×1000kg

ON OUTRIGGERS MID EXTENDED 5.0m SPREAD 360° ROTATION								
A / B	9.7m		16.8m		24.4m		31.0m	
	C		C		C		C	
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°						26°	

Unit: ×1000kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 5.0m SPREAD 360° ROTATION								
A / C	9.7m		16.8m		24.4m			
	B		B		B			
0°	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)

ON OUTRIGGERS MID EXTENDED 5.0m SPREAD
360° ROTATION

C	31.0m Boom + 7.2m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	5.9	3.5	8.1	2.4	9.8	1.7
77.5°	7.7	3.5	9.8	2.3	11.4	1.65
75°	9.4	3.5	11.4	2.2	12.9	1.6
72.5°	11.2	3.23	13.0	2.1	14.4	1.55
70°	12.7	2.95	14.6	2.0	15.8	1.5
67.5°	14.3	2.7	16.1	1.93	17.2	1.45
65°	15.8	2.45	17.5	1.85	18.6	1.4
62.5°	17.1	2.05	18.9	1.65	19.9	1.38
60°	18.6	1.65	20.2	1.45	21.1	1.35
57.5°	19.8	1.38	21.5	1.23	22.3	1.15
55°	21.1	1.1	22.7	1.0	23.4	0.95
52.5°	22.4	0.93	23.9	0.83	24.5	0.8
50°	23.6	0.75	25.0	0.65	25.5	0.65
47.5°	24.8	0.6	26.1	0.5	26.6	0.5
45°	25.9	0.45	27.1	0.35	27.5	0.35

C	31.0m Boom + 12.8m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	7.7	2.2	11.7	1.2	14.6	0.8
77.5°	9.8	2.15	13.5	1.15	16.3	0.78
75°	11.8	2.1	15.3	1.1	17.9	0.75
72.5°	13.6	1.93	17.1	1.05	19.4	0.73
70°	15.5	1.75	18.8	1.0	21.0	0.7
67.5°	17.2	1.63	20.5	0.95	22.5	0.68
65°	18.9	1.5	22.0	0.9	23.9	0.65
62.5°	20.6	1.38	23.6	0.88	25.2	0.65
60°	22.2	1.25	25.1	0.85	26.6	0.65
57.5°	23.7	1.03	26.5	0.75	27.8	0.65
55°	25.1	0.8	27.7	0.65	29.0	0.65
52.5°	26.5	0.65	29.0	0.55	30.2	0.55
50°	27.9	0.5	30.3	0.45	31.2	0.45

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

Unit: ×1000kg

ON OUTRIGGERS MIN EXTENDED 2.2m SPREAD 360° ROTATION								
A / B	9.7m		16.8m		24.4m		31.0m	
	C		C		C		C	
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°		40°		53°		60°	

Unit: ×1000kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MIN EXTENDED 2.2m SPREAD 360° ROTATION								
A / C	9.7m							
	B							
0°	7.2	2.5						

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

NOTES FOR "ON OUTRIGGERS" TABLE

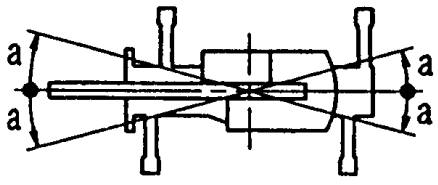
1. Rated lifting capacities shown in the table are based on condition that crane is set on firm level surface. Those above bold lines are based on crane strength and those below, on its stability.
2. Rated lifting capacities based on crane stability are according to ISO 4305.
3. The mass of the hook (270kg for 30 t capacity, 220kg for 20 t capacity,100kg for 4.0 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.
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 4,000 kg 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 39.2 kN {4,000 kgf} 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-L) 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-L).

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 (middle)	5.0m (middle)	2.2m (minimum)
Angle **a**^{o}	45	40	15



RATED LIFTING CAPACITIES

ISO 4305

Unit: ×1000kg

ON RUBBER STATIONARY												
	Over Front						360° Rotation					
A	9.7m		16.8m		24.4m		9.7m		16.8m		24.4m	
B	C		C		C		C		C		C	
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°				28°		0°		44°		56°	

Unit: ×1000kg

LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE ON RUBBER STATIONARY												
	Over Front						360° Rotation					
A	9.7m		16.8m				9.7m					
C	B		B				B					
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)

Unit: ×1000kg

ON RUBBER CREEP												
	Over Front						360° Rotation					
A	9.7m		16.8m		24.4m		9.7m		16.8m		24.4m	
B	C		C		C		C		C		C	
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	0°				31°		0°		44°		56°	

Unit: ×1000kg

LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE ON RUBBER CREEP												
	Over Front						360° Rotation					
A	9.7m		16.8m				9.7m					
C	B		B				B					
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)

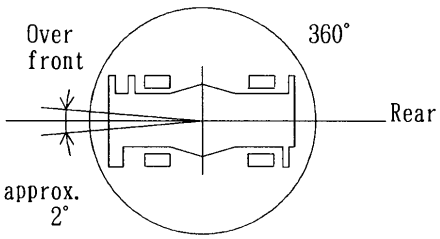
NOTES FOR "ON RUBBER" TABLES

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 bold lines are based on tire capacity and those below, on crane stability. They are based on actual working radii 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 (270 kg for 30 t capacity, 220 kg for 20 t capacity, 100 kg for 4.0 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.
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 4,000 kg including main hook.
5. On tires 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 1.6 km/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 0.9 MPa {9.0 kgf/cm^2}.
10. For CREEP operation, set Drive select switch to "4-WHEEL(Lo)" and set gear shift lever to "1".
11. Standard number of parts of line for on tires operation should be according to the following table.
    Load per line should not surpass 39.2 kN {4,000 kgf} for main winch and auxiliary winch.

Boom length	Over Front			360° Rotation		
	9.7m	16.8m	24.4m	9.7m	16.8m	24.4m
Number of parts of line (Single top)	6 (1)	4 (1)	4 (1)	4 (1)	4 (1)	4 (1)

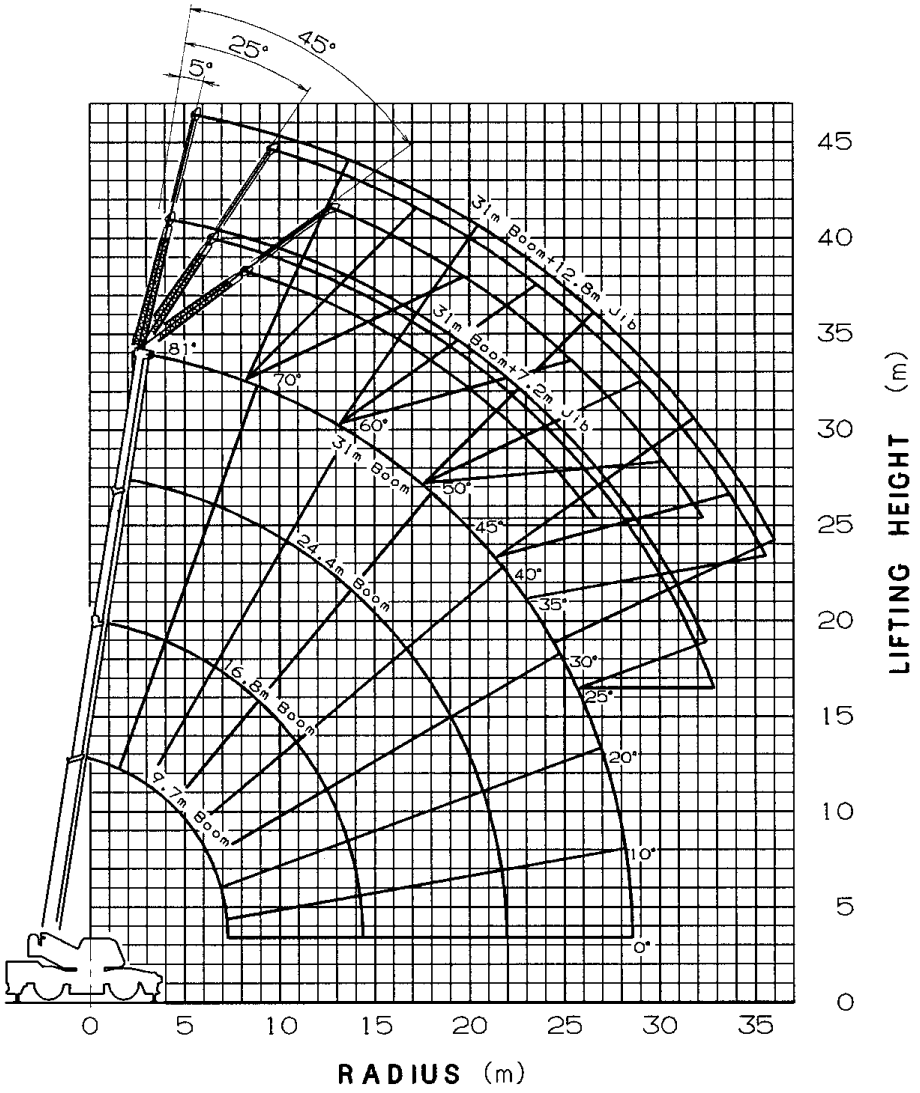
The lifting capacity data stored in the AUTOMATIC MOMENT LIMITER (AML-L) is based on the standard number of parts of line listed in the chart.
Maximum lifting capacity is restricted by the number of parts of line of AUTOMATIC MOMENT LIMITER (AML-L).

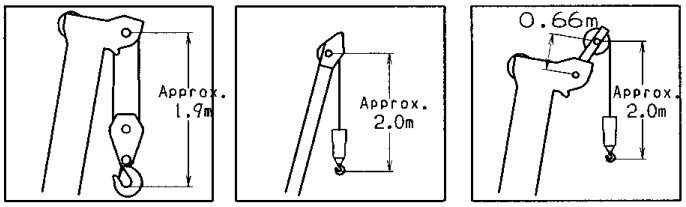
WORKING AREA

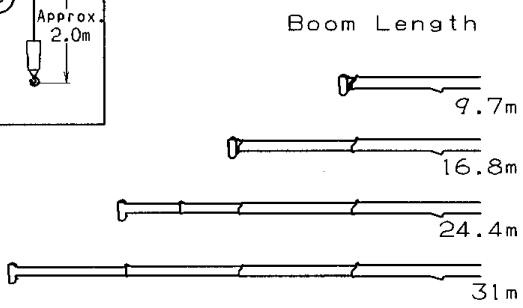


Without outriggers "Over front" operation should be performed within 2 degrees in front of chassis.

WORKING RANGE

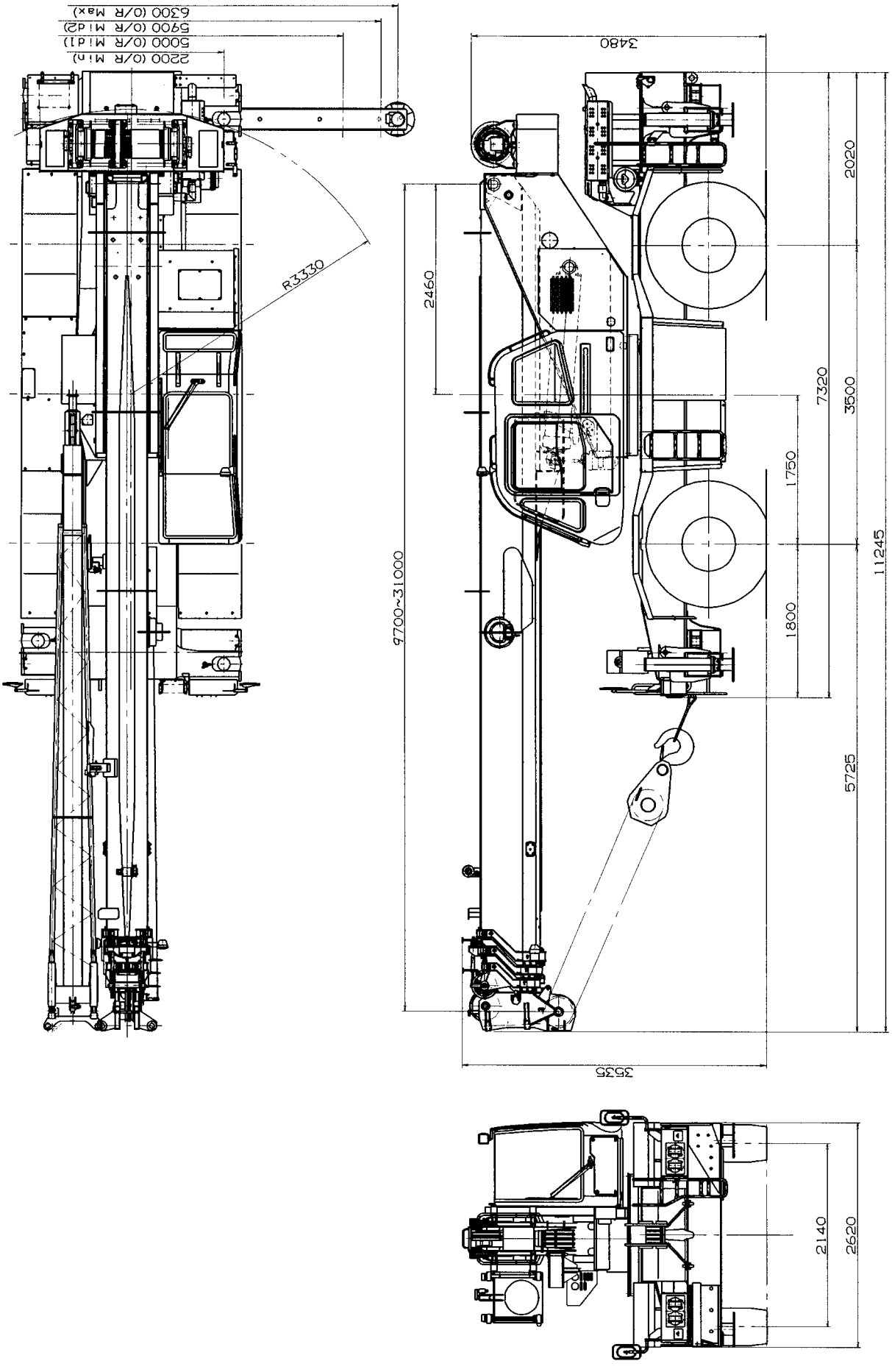






NOTE: The above lifting height and boom angle are based on a straight (unladen) boom, and allowance should be made for boom deflection obtained under laden conditions.
The above working range is shown on condition with outriggers fully(6.3m) extended.

DIMENSIONS


6300 (0/R Max)
5900 (0/R Mid2)
5000 (0/R Mid1)
2200 (0/R Min)
R3330
3480
2020
2460
7320
3500
1750
1800
11245
9700~31000
5725
3535
2140
2620

GR-300EX Axle Weight Distribution Chart

UNIT : kg

	GVW	Front	Rear
Basic standard machine includes: 4-section boom (9.7 m - 31.0 m) 2-stage jib (7.2 m, 12.8 m) Cummins QSB5.9-30TAA 445 / 95 R 25 tires Single top 4.0 ton hook ball	26,900	13,150	13,750
Add: 1. 30 ton 4 sheaves hook block 2. 20 ton 3 sheaves hook block	 +270 +220	 +480 +386	 -210 -166
Remove: 1. 2-stage jib (7.2 m, 12.8 m)	-630	-1,085	+455