

**MODEL: GR-130EX**

**SPECIFICATIONS**

<b>MAXIMUM CAPACITY</b>	13,000 kg at 1.5 m
<b>PERFORMANCE</b>	
Max. traveling speed	49 km/h
Gradeability (tan θ)	53% (at stall), 30%*
* Machine should be operated within limit of engine crackcase design. (30°: Mitsubishi 4M50-TLC1B/TLE3A)	
<b>WEIGHT</b>	
Gross vehicle mass	14,145 kg (incl. 1.8 ton hook block)
-front axle	7,100 kg
-rear axle	7,045 kg
<b>MIN. TURNING RADIUS</b>	6.5 m (2-wheel steering), 3.8 m (4-wheel steering) (at center of extreme outer tire)
<b>BOOM</b>	6-section full power partially synchronized telescoping boom.
Fully retracted length	5.3 m
Fully extended length	23.8 m
Extension speed	18.5 m in 52 s
Angle	-3°-82°
Elevation speed	-3° to 82° in 29 s
<b>JIB</b>	2-staged under slung boom with quadruple offset. Single sheave at jib head.
Offset	5°, 25°, 45°, 60°
Length	3.6 m and 5.5 m
<b>MAIN WINCH</b>	Variable speed type with grooved drum driven by hydraulic axial piston motor.
Single line pull	17.6 kN {1,800 kgf}
Single line speed	125 m/min. (at 5th layer)
Wire rope	11.2 mm x 137 m (Diameter x length)
<b>AUXILIARY WINCH</b>	Variable speed type with grooved drum driven by hydraulic axial piston motor.
Single line pull	17.6 kN {1,800 kgf}
Single line speed	110 m/min. (at 3rd layer)
Wire rope	11.2 mm x 70 m (Diameter x length)
<b>SLEWING</b>	
Slewing speed	2.4 min <sup>-1</sup> {rpm}
Tail slewing radius	1,600 mm
<b>HYDRAULIC SYSTEM</b>	Pumps... 2 variable piston pumps for crane functions. Tandem gear pump for steering, slewing and optional equipment. Control valves... Multiple valves actuated by pilot pressure with integral pressure relief valves. Reservoir... 172 liters capacity. External sight level gauge. Oil cooler... Air cooled fan type.

<b>TADANO Automatic Moment Limiter (TADANO AML-C)</b>	Following information is displayed: <ul style="list-style-type: none"> <li>Control lever lockout function with audible and visual pre-warning</li> <li>Number of parts of line</li> <li>Boom position indicator</li> <li>Outrigger state indicator</li> <li>Slewing angle</li> <li>Boom angle / boom length / jib offset angle / jib length / load radius / rated lifting capacities / actual loads read out</li> <li>Potential lifting height</li> <li>Ratio of actual load moment to rated load moment indication</li> <li>Permissible load</li> <li>Automatic speed reduction and slow stop function for boom elevation and slewing</li> <li>Working condition register switch</li> <li>Load radius / boom angle / tip height / slewing range preset function</li> <li>External warning lamp</li> <li>Tare function</li> <li>Main hydraulic oil pressure</li> <li>Fuel consumption monitor</li> <li>Drum rotation indicator (audible and visible type) main and auxiliary winch</li> <li>On-rubber indicator</li> </ul>
<b>OUTRIGGERS</b>	4 hydraulic, beam and jack outriggers. Vertical jack cylinders equipped with integral holding valve. Each outrigger beam and jack is controlled independently from cab.
Extension width	Max. ... 4,700 mm, Mid. ... 4,300 mm, 3,500 mm, 2,500mm Min. ... 1,640 mm, Float size (Diameter)... 350 mm
<b>CARRIER</b>	Rear engine, right-hand drive, driving axle 2-way selected type by manual switch. 4 x 2 front drive, 4 x 4 front and rear drive.
<b>ENGINE</b>	Model... Mitsubishi 4M50-TLC1B 4M50-TLE3A Type... 4-cycle, turbo charged and after cooled, direct injection diesel. Piston displacement... 4.90 liters Bore x stroke... 114 mm x 120 mm Max. output... 129 kW at 2,700 min <sup>-1</sup> {rpm} Max. torque... 529 N·m at 1,600 min <sup>-1</sup> {rpm}
<b>TRANSMISSION</b>	Electronically controlled full automatic transmission.
<b>STEERING</b>	Hydraulic power steering controlled by steering wheel. 4 steering modes available: 2 wheel front, 2 wheel rear, 4 wheel coordinated and 4 wheel crab.
<b>SUSPENSION</b>	Front: Semi-elliptic leaf springs with hydraulic lockout device. Rear: Semi-elliptic leaf springs with hydraulic lockout device.
<b>TIRES</b>	275/80R22.5 (OR)
<b>FUEL TANK CAPACITY</b>	189 liters



Lifting your dreams

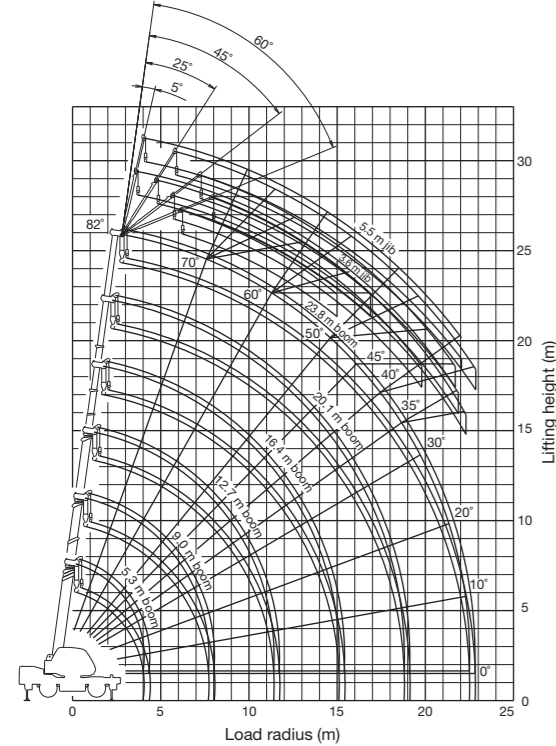
**ROUGH TERRAIN CRANE**

# GR-130EX

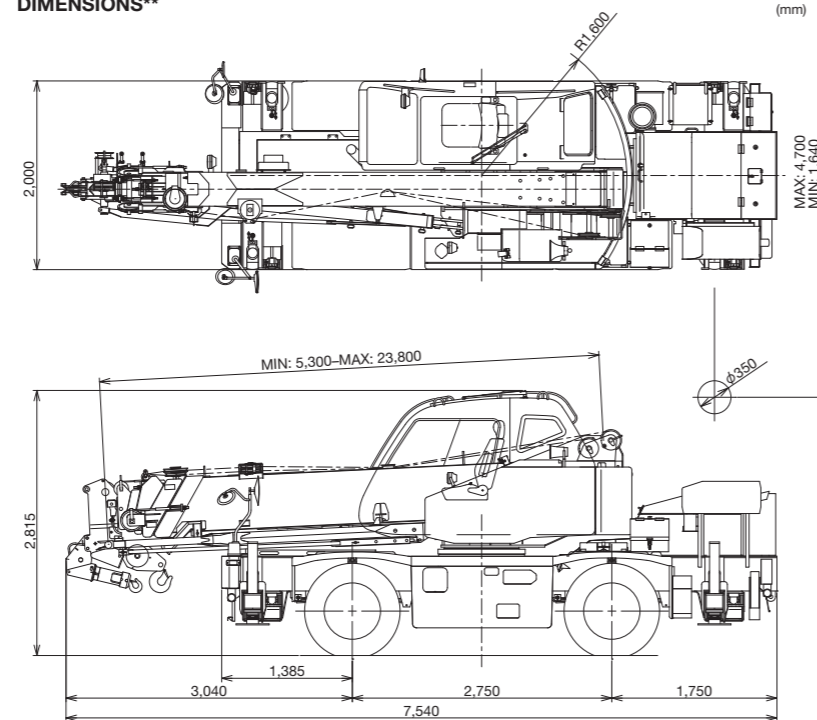
13 METRIC TON CAPACITY

# ROUGH TERRAIN CRANE

**WORKING RANGE**



**DIMENSIONS\*\***



\*\*In this external views, a few equipment are included.

NOTE: Some specifications are subject to change.



*The GR-130EX:  
High Quality We Are Proud Of*



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# Little Crane, Big Power.

An attractive feature of this crane is its small size. It also has high lifting capacity and the longest boom in its class.

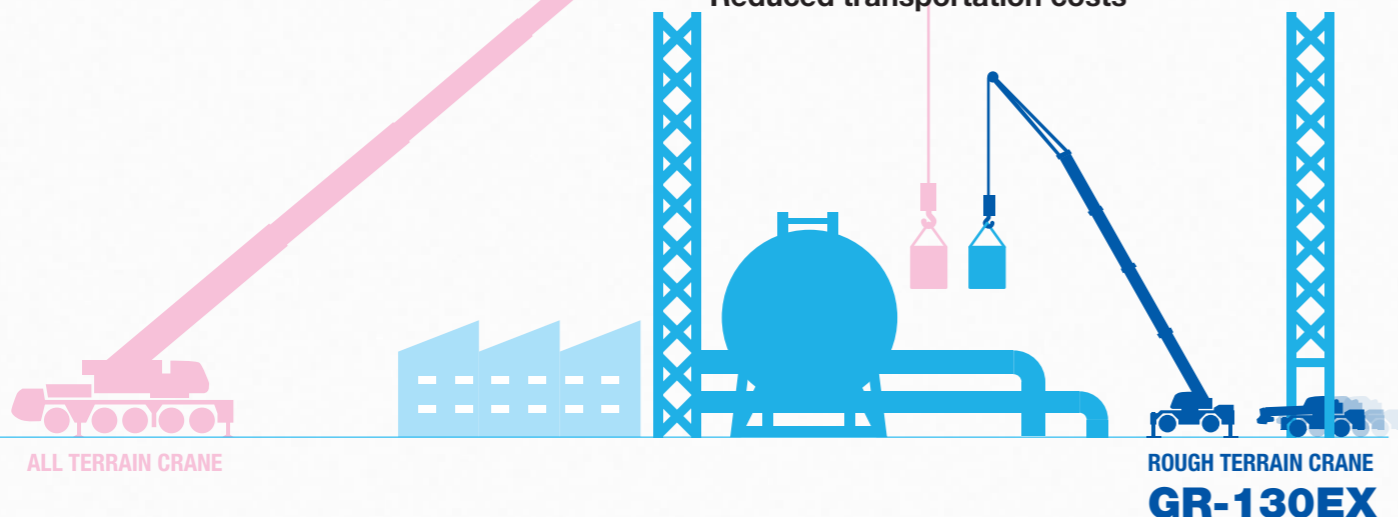


## ROUGH TERRAIN CRANE GR-130EX

### Benefits of the GR-130EX

A compact and highly maneuverable design enables operators to complete jobs more efficiently compared to other bulkier alternative models.

- Easy approach to tight or busy job sites
- Quick Setup
- Asymmetrical outriggers offer maximum work value
- Reduced transportation costs



## Carrier

Substantial safety devices allow excellent operability.

### Unobstructed view when driving

Down-slanted boom improves front and side views. A front view monitor and camera also improve driver visibility.



Front view monitor



Front Camera

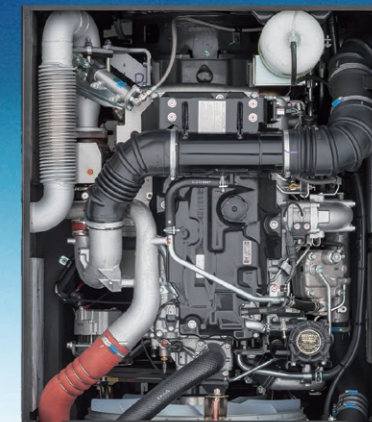
### Suspension

Semi-elliptic leaf springs with hydraulic lockout device.

### Fast Traveling Speed

Max. Traveling Speed: 49 km/h

### High Performance Engine



Mitsubishi 4M50-TL  
4 cycle, turbo-charged and after cooled.  
Max. Output: 129 kW at 2,700 min<sup>-1</sup> {rpm}  
Max. Torque: 529 N·m at 1,600 min<sup>-1</sup> {rpm}

### Hook Block Storage

Hook block stowing system enhances work efficiency.



### Highly Maneuverability

The compact carrier can smoothly maneuver in narrow spaces.

Overall Length: approx. 7,540 mm

Overall Width: approx. 2,000 mm

Overall Height: approx. 2,815 mm

Min. Turning Radius: 3.8 m (4-wheel steering)

6.5 m (2-wheel steering)

\* 275/80R22.5 Tires

### New design head lamp

New Headlight Design.  
Halogen headlights is equipped.



### OPTIONAL EQUIPMENT

- Discharge head lamp
- Power stowing mirror
- Centralized lubricating system (Carrier portion)







# Crane

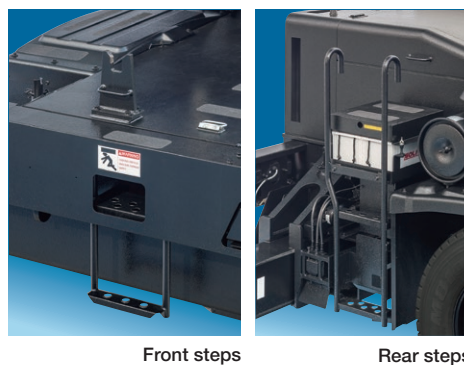
## Longest boom & highest lifting capacity in its class!

### Operator Comfort

The crane cab provides improved livability and a more comfortable working environment.

- Crane Capacity: 13,000 kg at 1.5 m
- 6-Section Long Boom: 5.3 m – 23.8 m
- 2-Stage Jib: 3.6 m / 5.5 m
- Maximum Lifting Height: 24.5 m (Boom)  
30.0 m (Jib)
- Maximum Load Radius : 22.5 m (Boom)  
23.2 m (Jib)

### Wider steps and hand rails



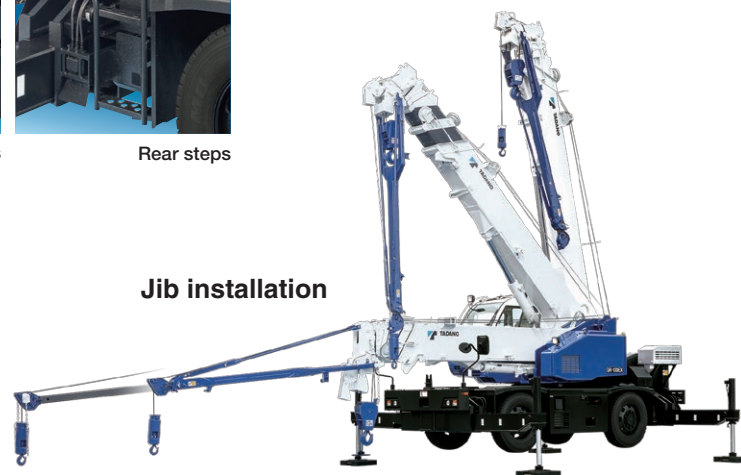
Front steps

Rear steps



### Under-Slung Jib

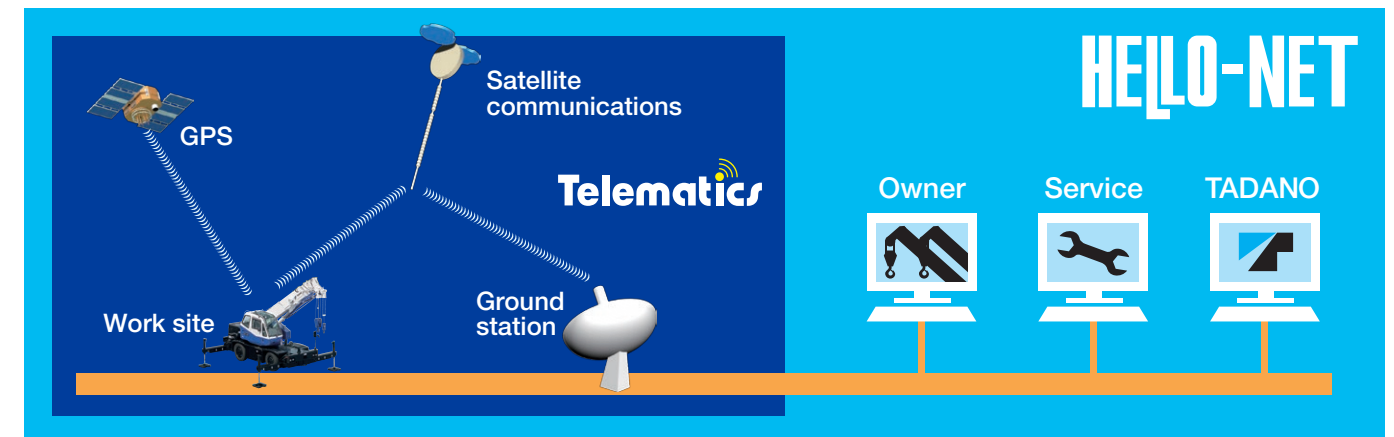
A two-stage, under slung jib makes installation in narrow spaces possible.



Jib installation

# HELLO-NET New

The HELLO-NET System is used to monitor crane activity straight from your computer or mobile device. You have the ability to view work history, machine position data and maintenance information. HELLO-NET provides advanced customer support between the owners' site and TADANO Group.



Note: HELLO-NET availability varies by situation. For detail, please contact your distributor or our sales staff in charge.

## Environmentally Friendly Features

### Eco Mode System

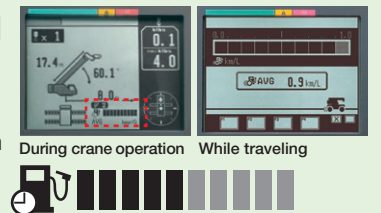
The system reduces fuel consumption and CO<sub>2</sub> emissions while the crane is in operation.



Eco mode switch

### Fuel Monitoring System

The system constantly monitors fuel consumption on the AML screen.



During crane operation While traveling

## Automatic moment limiter [AML-C]



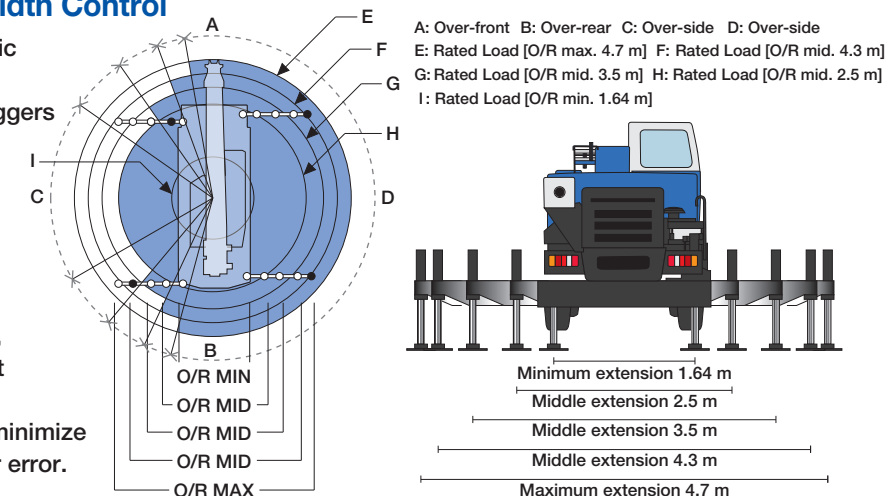
Tadano's AML-C is easy to use, innovative in design, displays important information to the operator and enables the operator to preset a custom working environment. For example, the AML-C shows the boom angle, boom length, load radius, operating pressure of the elevating cylinder, the extension width of the outriggers, slewing position, rated lifting capacity and present hook load. These features allow the AML-C to move seamlessly through all lifting operations without having to change configurations or input new codes to make the lift. The AML-C safety features provide both audible and visual warnings. When an operation approaches the load limit Tadano's slow stop function engages to avoid shock loads.



AML lamp

## Outrigger Asymmetric Extension Width Control

When operating the crane with the asymmetric outriggers extended, the AML-C detects the extension width of all of the crane's outriggers (front, rear, left and right) to measure maximum work capacity in each area. When slewing the boom from the longer outrigger area to the shorter outrigger area, the AML-C detects the motion and displays the maximum capacity according to the extension width of each of the outriggers, and brings the motion to a slow stop before it reaches the maximum capacity. The AML-C's slow stop function will help to minimize any safety risks even in the cases of operator error.





# GR-500EXL

51 METRIC TON CAPACITY

# GR-500EXS

50 METRIC TON CAPACITY



**GR-500EXL**



**GR-500EXS**

**Improved accessibility**



Front steps



Rear steps



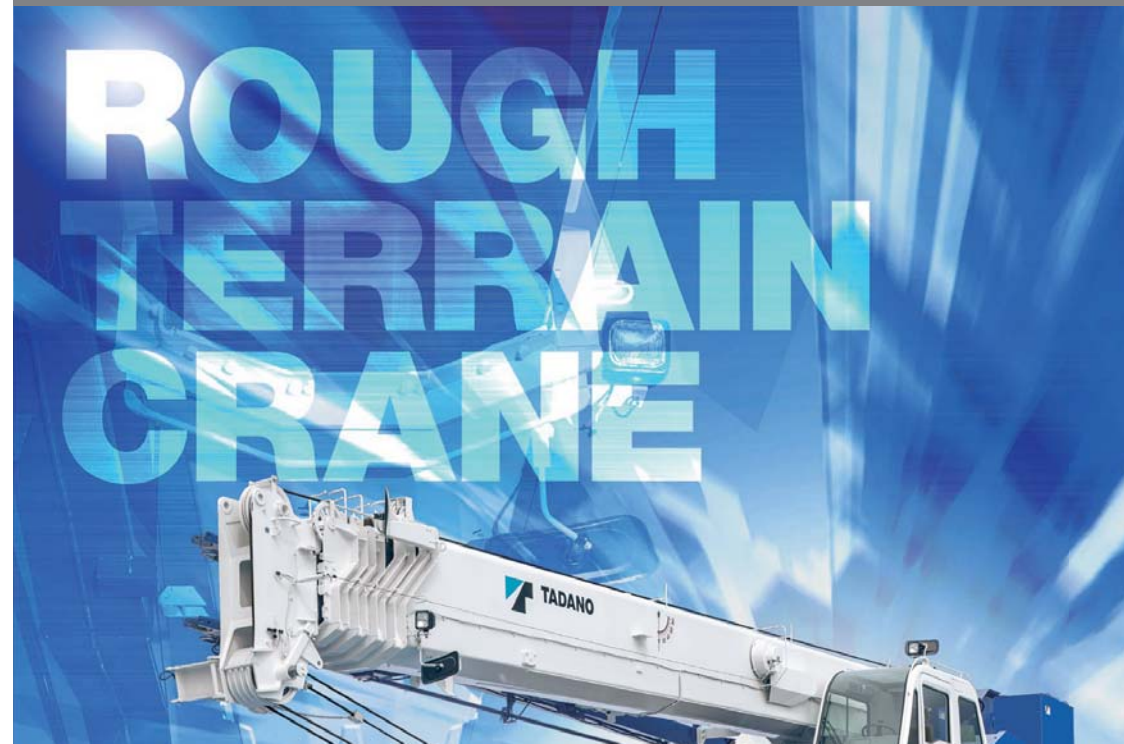
Left side steps



Right side steps



Steps on the superstructure



*The GR-500EXL/EXS:  
High Quality We Are Proud Of*



Photo: GR-500EXL





# Same great carrier, two flexible options!



**Crane capacity:**  
**51 ton at 2.5 m**  
**(50 ton at 3.0 m)**  
**5-section long boom:**  
**11.1 m – 42.0 m**  
**2-staged under slung jib:**  
**8.0 m / 12.7 m**

**Crane capacity:**  
**50 ton at 2.5 m**  
**(47.4 ton at 3.0 m)**  
**4-section long boom:**  
**10.2 m – 33.0 m**  
**2-staged under slung jib:**  
**8.0 m / 12.7 m**

## GR-500EXL

## GR-500EXS

Tadano has launched two new rough terrain cranes in order to meet customer requirements and the needs of a global market. Both models combine a compact carrier for better maneuverability and improved driving performance. You will also appreciate many enhancements to the GR-500EXL and the GR-500EXS, including improved accessibility, environmental friendliness and high maintainability. Tadano is confident that these new solutions will prove to be a great fit for your next project.

## Substantial safety function

### Automatic moment limiter [AML-C]



Tadano's AML-C is easy to use, innovative in design, displays important information to the operator and enables the operator to preset a custom working environment. For example, the AML-C shows the boom angle, boom length, load radius, operating pressure of the elevating cylinder, the extension width of the outriggers, slewing position, rated lifting capacity and present hook load. These features allow the AML-C to move seamlessly through all lifting operations without having to change configurations or input new codes to make the lift. The AML-C safety features provide both audible and visual warnings. When an operation approaches the load limit Tadano's slow stop function engages to avoid shock loads.



AML lamp

### Outrigger asymmetric extension width control

When operating the crane with the asymmetric outriggers extended, the AML-C detects the extension width of all of the crane's outriggers (front, rear, left and right) to measure maximum work capacity in each area. When slewing the boom from the longer outrigger area to the shorter outrigger area, the AML-C detects the motion and displays the maximum capacity according to the extension width of each of the outriggers, and brings the motion to a slow stop before it reaches the maximum capacity. The AML-C's slow stop function will help to minimize any safety risks even in the cases of operator error.

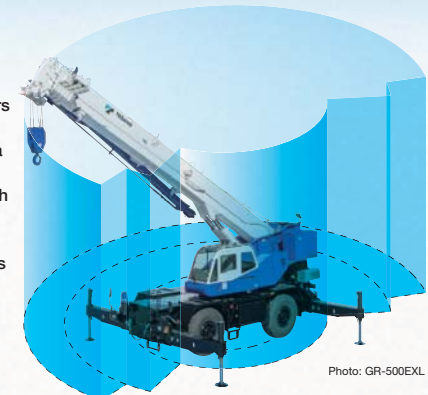
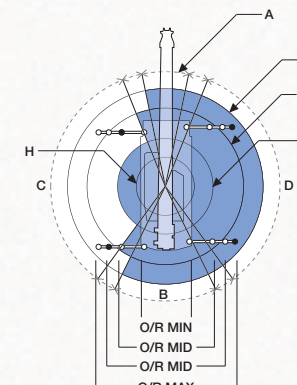
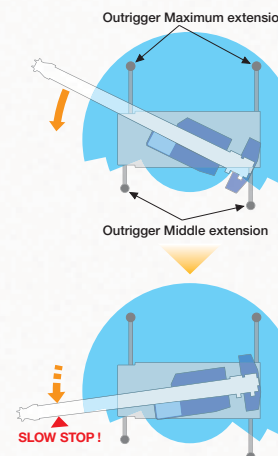
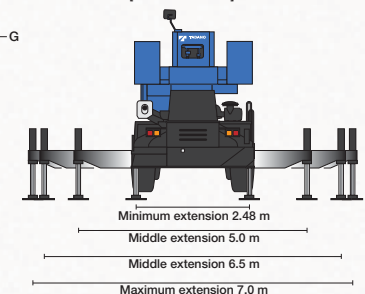


Photo: GR-500EXL



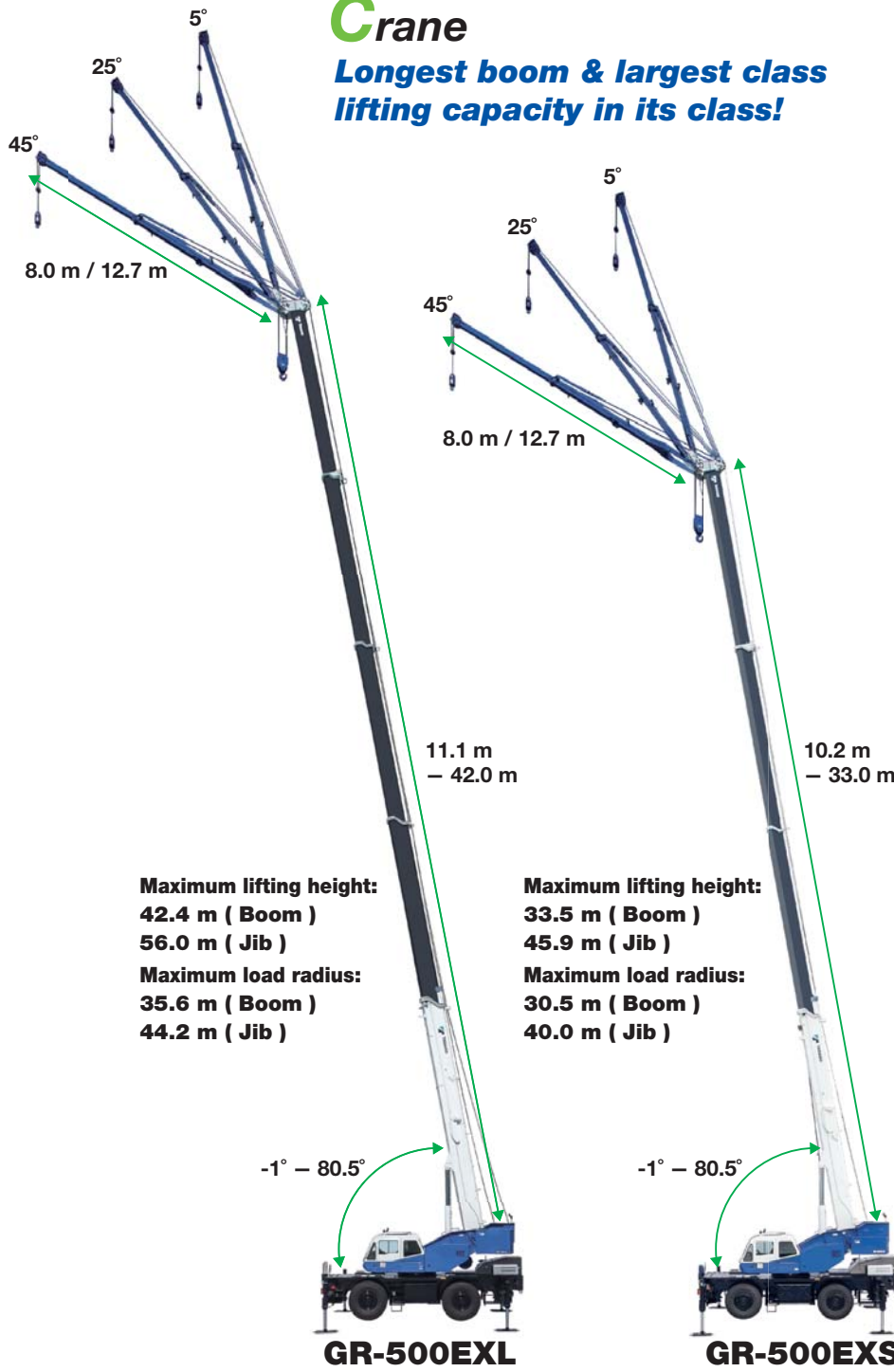
- A: Over-front B: Over-rear C: Over-side D: Over-side
- E: Rated Load [ O/R max. 7.0 m ]
- F: Rated Load [ O/R mid. 6.5 m ]
- G: Rated Load [ O/R mid. 5.0 m ]
- H: Rated Load [ O/R min. 2.48 m ]





# Crane

**Longest boom & largest class lifting capacity in its class!**



**Maximum lifting height:**  
42.4 m ( Boom )  
56.0 m ( Jib )  
**Maximum load radius:**  
35.6 m ( Boom )  
44.2 m ( Jib )

**Maximum lifting height:**  
33.5 m ( Boom )  
45.9 m ( Jib )  
**Maximum load radius:**  
30.5 m ( Boom )  
40.0 m ( Jib )



## Two telescoping modes I & II (GR-500EXL)

Operator capabilities are enhanced by two boom telescoping options for individual lift requirements.

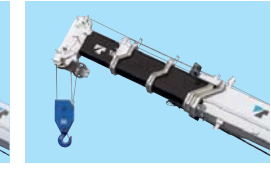
### Mode I

Mode I is the extension of the 2nd section only. This is followed by the synchronized extension of the 3rd, 4th, and 5th sections.



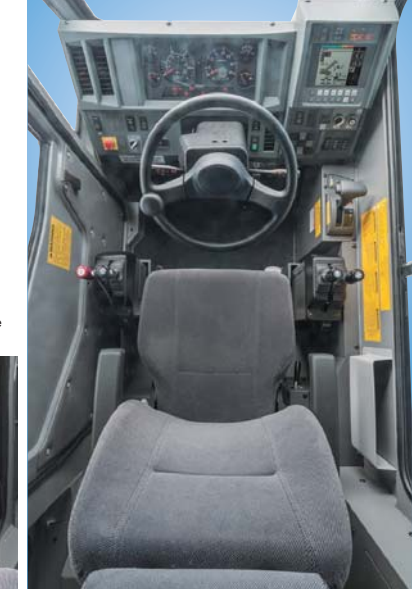
### Mode II

Mode II is the synchronized extensions of the 3rd, 4th and 5th sections. The 2nd section then extends independently.



## Operator comfort

The crane cab provides improved livability and a more comfortable working environment.



Two winches with cable follower

The finger control levers are smooth and responsive to the operators touch.



## Under slung jib (side up type)

A two-stage, under slung jib makes installation in narrow spaces possible.

### Jib installation





# Carrier

Newly designed carrier provides improved driving performance.



Photo: GR-500EXS

## Good front and side view for driving

Double short elevating cylinders are installed at the rear side of cab to improve visibility while driving.



## Radial tire (GR-500EXL: 505/95R25, GR-500EXS: 445/95R25)

Radial tires have been adopted to extend continuous travel time.

### Radial tire

Continous travel without a break

### Non-radial tire

30 minute drive

120 minute break

30 minute drive

## Fast traveling speed

Max. traveling speed: 48 km/h (GR-500EXL)  
44 km/h (GR-500EXS)

## Locking Differential

A locking differential assists operators on rough roads.



## Suspension

Front: Rigid mounted to the frame Rear : Semi-elliptic leaf springs



## High performance engine

MITSUBISHI 6M60-TL  
4 cycle, turbo charged and after cooled.  
Max. output: 200 kW at 2600 min<sup>-1</sup> {rpm}  
Max. torque: 785 N-m at 1,400 min<sup>-1</sup> {rpm}

## New Design

### Compact carrier for rough terrain crane

#### GR-500EXL

Overall length: approx. 13,390 mm

Overall width : approx. 2,960 mm

Overall height: approx. 3,860 mm

#### GR-500EXS

Overall length: approx. 12,500 mm

Overall width : approx. 2,960 mm

Overall height: approx. 3,810 mm

## Boom head mirror

Boom head mirrors are used for checking the immediate area on each side of the vehicle in order to enhance driving safety.



## Winch drum monitoring mirror

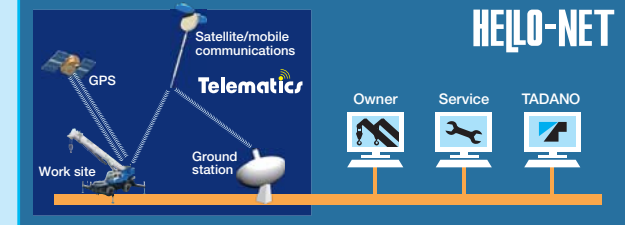
Folding mirror reduces height during transport.



Photo: GR-500EXS

## HELLO-NET System

The HELLO-NET System is used to monitor crane activity straight from your computer or mobile device. You have the ability to view work history, machine position data and maintenance information. HELLO-NET provides advanced customer support between the owners' site and TADANO Group.



Note: HELLO-NET availability varies by situation. For detail, please contact your distributor or our sales staff in charge.

## Environmentally Friendly Features

### Eco Mode System

The Eco Mode System controls the maximum engine speed at the time of crane operation. To prevent an unnecessary rise in engine speed when there is excessive acceleration, the system enables fuel consumption and CO<sub>2</sub> emissions to decrease by Max. 22 % with Eco mode I, and Max. 30 % with Eco mode II while simultaneously reducing noise levels.



### Fuel Monitoring System

The Fuel Monitoring System constantly monitors fuel consumption on the AML screen. Checking this monitor enables you to prevent wasteful fuel consumption from unnecessary acceleration and idling.



During crane operation



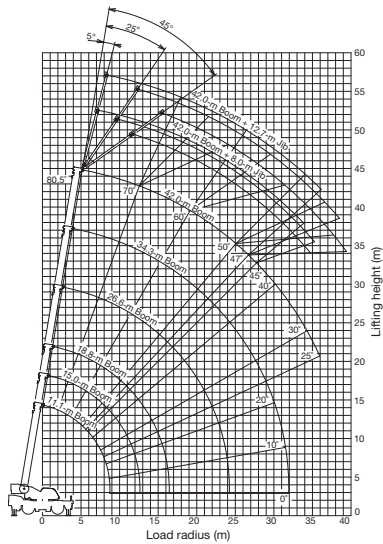
While traveling



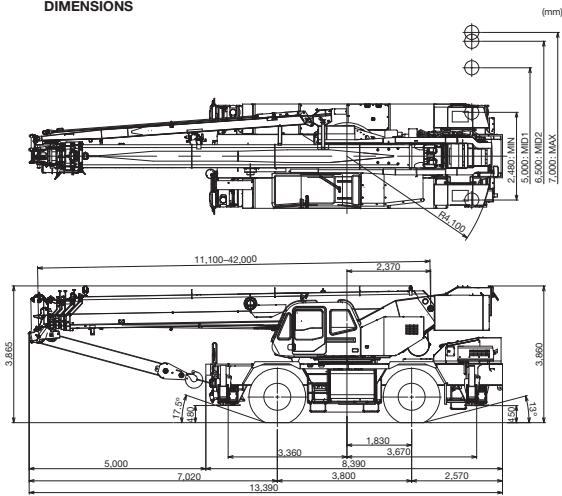
## WORKING RANGE & DIMENSIONS

### GR-500EXL

#### WORKING RANGE



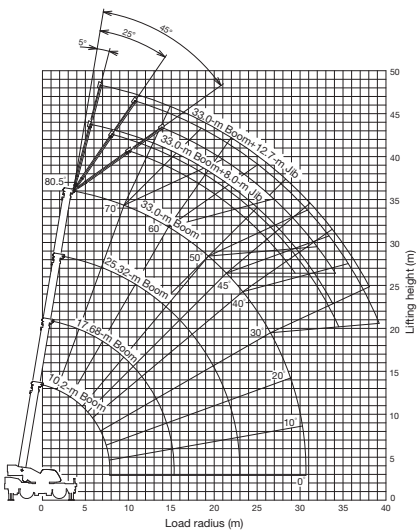
#### DIMENSIONS



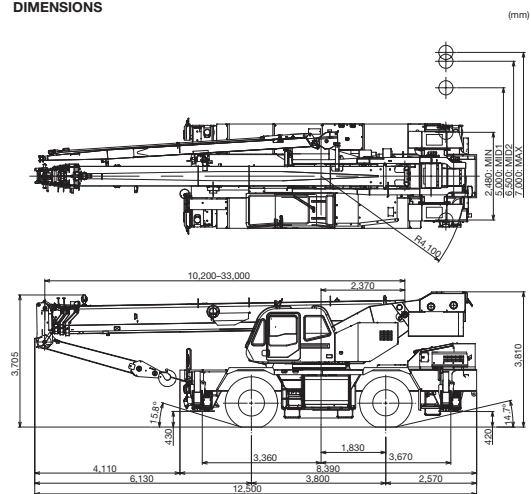
Dimensions are with boom angle at -1° unless otherwise specified.

### GR-500EXS

#### WORKING RANGE



#### DIMENSIONS



Dimensions are with boom angle at -1°.

## SPECIFICATIONS

	GR-500EXL	GR-500EXS
<b>MAXIMUM CAPACITY</b>	51,000 kg at 2.5 m (50,000 kg at 3.0 m)	50,000 kg at 2.5 m (47,400 kg at 3.0 m)
<b>PERFORMANCE</b>		
Max. traveling speed	48 km/h	44 km/h
Gradeability (tan $\theta$ )	65% (at stall), 30%* * Machine should be operated within limit of engine crackcase design. (17: Mitsubishi 6M60-TL)	92% (at stall), 30%* * Machine should be operated within limit of engine crackcase design. (17: Mitsubishi 6M60-TL)
<b>WEIGHT</b>		
Gross vehicle mass	38,480 kg (incl. 51 ton hook block)	33,540 kg (incl. 50 ton hook block)
-front axle	18,910 kg	15,550 kg
-rear axle	19,570 kg	17,990 kg
<b>MIN. TURNING RADIUS</b>	10.3 m (2-wheel steering), 6.0 m (4-wheel steering) (at center of extreme outer tire)	
<b>BOOM</b>		
Fully retracted length	5-section full power synchronized telescoping boom.	4-section full power synchronized telescoping boom.
Fully extended length	11.1 m	10.2 m
Extension speed	30.9 m in 150 s	22.8 m in 88 s
Angle	-1°-80.5°	-1°-80.5°
Elevation speed	20° to 60° in 30 s	20° to 60° in 30 s
<b>JIB</b>		
	2-staged jib with triple offset (tilt type). Single sheave at jib head.	
Offset	5°, 25°, 45°	
Length	8.0 m and 12.7 m	
<b>MAIN WINCH</b>	Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer.	Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer.
Single line pull	44.1 kN (4,500 kgf)	44.1 kN (4,500 kgf)
Single line speed	132 m/min. (at 4th layer)	132 m/min. (at 4th layer)
Wire rope	16 mm x 225 m (Diameter x length)	16 mm x 182 m (Diameter x length)
<b>AUXILIARY WINCH</b>	Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer.	Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer.
Single line pull	44.1 kN (4,500 kgf)	44.1 kN (4,500 kgf)
Single line speed	124 m/min. (at 3rd layer)	124 m/min. (at 3rd layer)
Wire rope	16 mm x 117 m (Diameter x length)	16 mm x 100 m (Diameter x length)
<b>SLEWING</b>		
Slewing speed	2.1 min <sup>-1</sup> (rpm)	2.7 min <sup>-1</sup> (rpm)
Tail slewing radius	4,100 mm	4,100 mm
<b>HYDRAULIC SYSTEM</b>	Pumps... 2 variable piston pumps for crane functions. Tandem gear pump for steering, slewing and optional equipment. Control valves... Multiple valves actuated by pilot pressure with integral pressure relief valves. Reservoir... 690 liters capacity. External sight level gauge. Oil Cooler... Air cooled fan type.	
<b>TADANO Automatic Moment Limiter (Model: AML-C)</b>	Following information is displayed. • Control lever lockout function with audible and visual pre-warning • Number of parts of line • Boom position indicator • Outtrigger 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 for slewing • Working condition register switch • Load radius / boom angle / tip height / slewing range preset function • External warning lamp • Tare function • Main hydraulic oil pressure • Fuel consumption monitor • Main winch / auxiliary winch selector • Drum rotation indicator (audible and visible type) main and auxiliary winch • On-rubber indicator	
<b>OUTRIGGERS</b>	4 hydraulic, beam and jack outriggers. Vertical jack cylinders equipped with integral holding valve. Each outrigger beam and jack is controlled independently from cab. Max. ... 7,000 mm, Mid. ... 6,500 mm & 5,000 mm Min. ... 2,480 mm, Float size (Diameter)... 400 mm	
<b>CARRIER</b>	Rear engine, left-hand drive, driving axle 2-way selected type by manual switch. 4 x 2 front drive, 4 x 4 front and rear drive	
<b>ENGINE</b>	Model... Mitsubishi 6M60-TL Type... 4-cycle, turbo charged and after cooled. Piston displacement... 7.54 liters Bore x stroke... 118 mm x 115 mm Max. output... 200 kW at 2,600 min <sup>-1</sup> (rpm) Max. torque... 785 N-m at 1,400 min <sup>-1</sup> (rpm)	
<b>TRANSMISSION</b>	Electronically controlled full automatic transmission.	
<b>STEERING</b>	Hydraulic power steering. 3 steering modes available: 2-wheel front, 4-wheel coordinated, 4-wheel crab	
<b>SUSPENSION</b>	Front..... Rigid mounted to frame. Rear..... Semi-elliptic leaf springs.	
<b>TIRES</b>	Front..... 505/95R25, Single x 2 Rear..... 505/95R25, Single x 2	Front..... 445/95R25, Single x 2 Rear..... 445/95R25, Single x 2
<b>FUEL TANK CAPACITY</b>	300 liters	

Note: Some specifications are subject to change.





Lifting your dreams

**ROUGH TERRAIN CRANE**



**GR-800EX**



**GR-600EX**



**GR-300EX**

# GR-800EX GR-600EX

80 METRIC TON CAPACITY

60 METRIC TON CAPACITY

# GR-300EX

30 METRIC TON CAPACITY

# ROUGH TERRAIN CRANE



*The GR-EX Models:  
High Quality We Are Proud Of*



TADANO LTD. (International Sales Division)  
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Plenty of new functions incorporated!

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**GR-300EX**

Crane capacity: 30,000 kg at 3.0 m  
4-section long boom: 9.7 m - 31.0 m  
2-staged jib: 7.2 m / 12.8 m

**GR-600EX**

Crane capacity: 60,000 kg at 3.0 m  
5-section long boom: 11.0 m - 43.0 m  
2-staged bi-fold jib: 10.1 m / 17.7 m

**GR-800EX**

Crane capacity: 80,000 kg at 3.0 m  
5-section long boom: 12.0 m - 47.0 m  
2-staged bi-fold jib: 10.1 m / 17.7 m

# New Generation of Cranes

Our cranes can help you explore your future. At Tadano we are concerned about our environment. Improving our cranes operations and specifications to meet this goal is important to us. However user friendliness, operator comfort, safety and customer support are also part of our essential goals. To this end Tadano has launched a new generation of crane that is friendly to the environment, our earth and our future.



# NEW FEATURES

## HELLO-NET System

TADANO supports your crane management via the Internet, providing information about operational status, position and maintenance.



HELLO-NET Owner's Site enables sharing of machine data between TADANO Group and machine owners. We offer you advanced customer support.



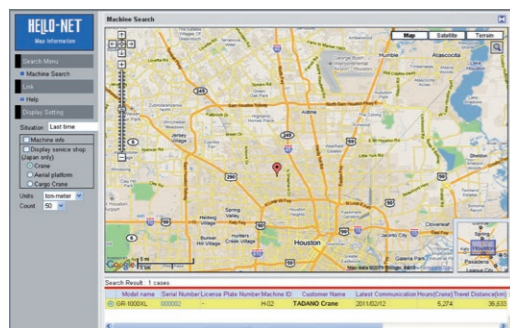
### Monitoring machine information from your computer

#### 1. Work History

HELLO-NET Owner's Site displays the day-to-day operational status, mileage and remaining fuel for each machine equipped with a communication terminal. In addition, you can view a list displaying the number of hours of operation and the mileage of all your machines for any specified month.

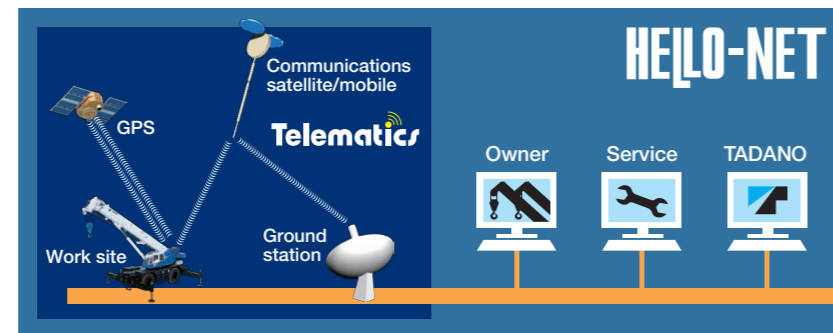
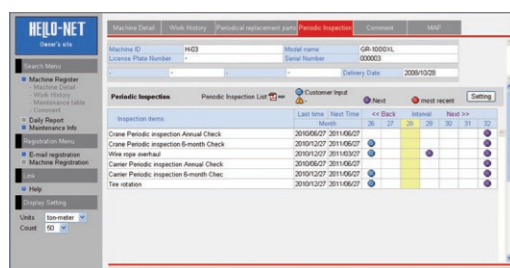
#### 2. Machine Position Data

Using HELLO-NET Owner's Site, you can check a machine's latest position (up until the previous day) on a map. Two types of position data, listed below, are transmitted automatically from your machine once every day. Work Site: The location where the machine's PTO has been activated (for one hour or more). Position at Day's End: The final location from which GPS was able to receive data on a given day.



#### 3. Maintenance Information

You can check the maintenance timetable of your machines for periodical replacement parts and inspection schedule. HELLO-NET supports the maintenance of your machine.



Telematics (machine data logging and monitoring system) with HELLO-NET via internet (\*availability depends on the situation).  
 DETAILS: The availability of data communication systems, such as satellite or mobile communications which serve to widen the service area differs according to individual countries. Besides, there are some countries where the system itself is not in use yet. For details, please contact your distributor or our sales staff in charge.

## The Environmentally Friendly Features

Designed to minimize environmental impact.



TADANO's rough terrain cranes are equipped with Fuel Monitoring System, Eco Mode System and Positive Control Systems that substantially reduce fuel consumption and CO<sub>2</sub> emissions.

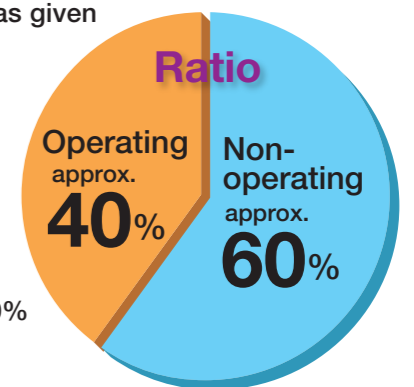
### Introducing Fuel Monitoring System

The Fuel Monitoring System, displayed on the AML-C screen, monitors fuel consumption rates during crane operations, idling, and while traveling, allowing the operator to optimize fuel efficiency, reduce CO<sub>2</sub> emissions and noise level.



### Two devices reduce fuel consumption

TADANO aims to reduce fuel consumption by its two newly developed technologies, the Eco Mode System and the Positive Control System. Consideration was given to the length of actual operating hours as well as non-operating time (when the crane is in a state of idling). In this relation, the average ratio between the operating hours and the non-operating time is 40/60% according to the results of our investigation. This understanding helped us to successfully achieve our objectives.



**Eco Mode System** - reduces fuel consumption by approximately 40% while the crane is being operated.

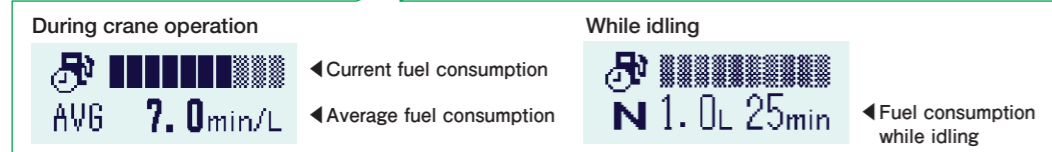
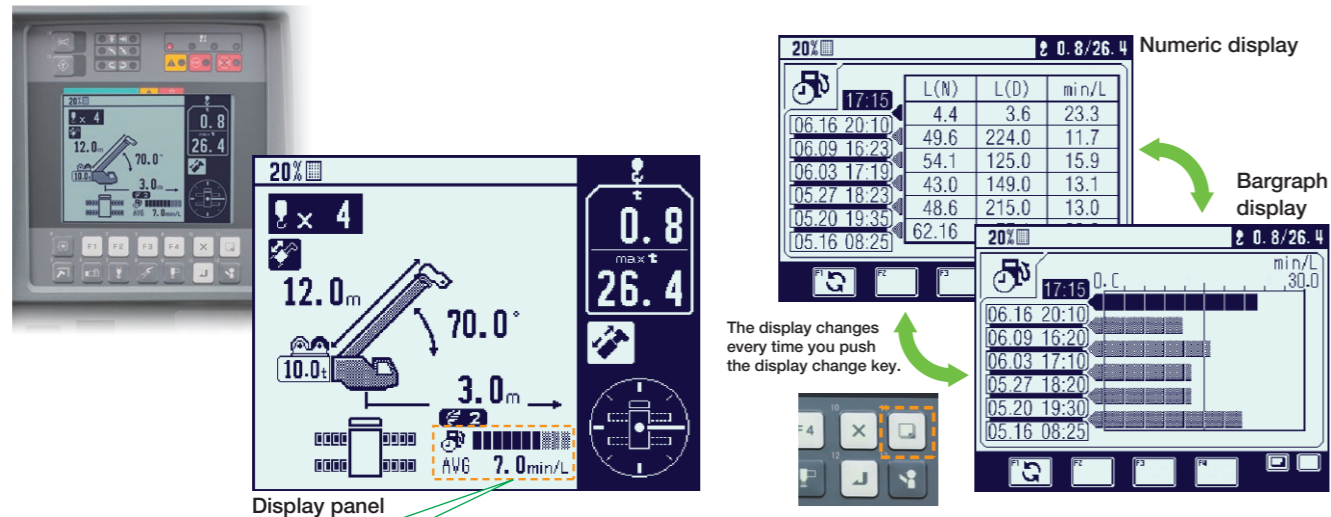
**Positive Control System** - reduces fuel consumption by approximately 60% when the crane is in a state of idling.



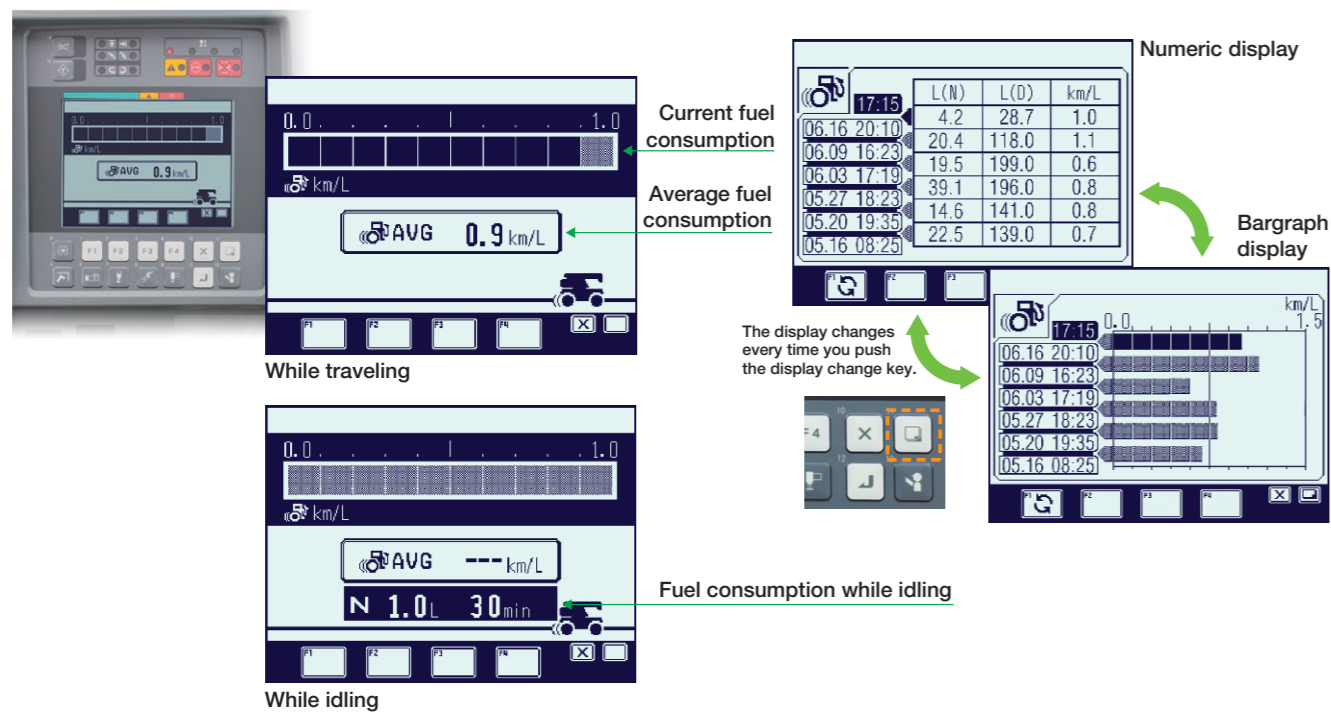
## Fuel Monitoring System

The Fuel Monitoring System constantly monitors fuel consumption on the AML screen. Checking this monitor enables you to prevent wasteful fuel consumption from unnecessary acceleration and idling.

### Working



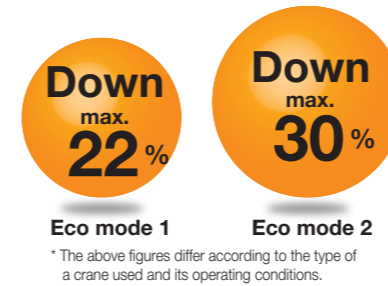
### Driving



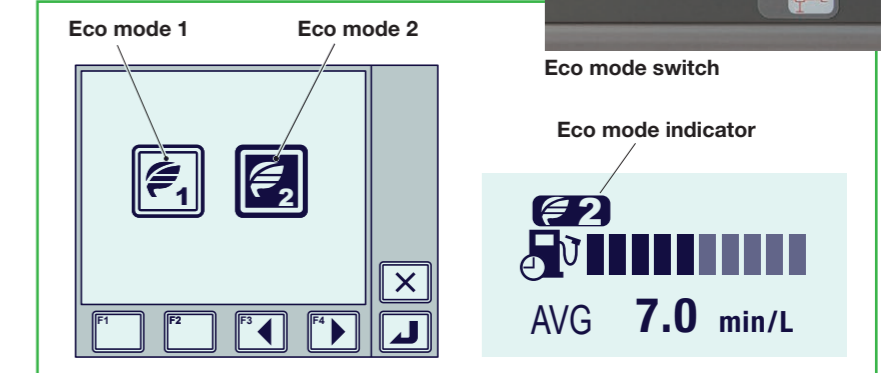
## Eco Mode System

The Eco Mode System controls the maximum engine speed at the time of crane operation. To prevent an unnecessary rise in engine speed when there is excessive acceleration, the system enables fuel consumption and CO<sub>2</sub> emissions to decrease by Max. 22% with Eco mode 1, and Max. 30% with Eco mode 2, and the noise level is reduced.

### Fuel consumption CO<sub>2</sub> emissions



### Screen setting the eco mode to be selected



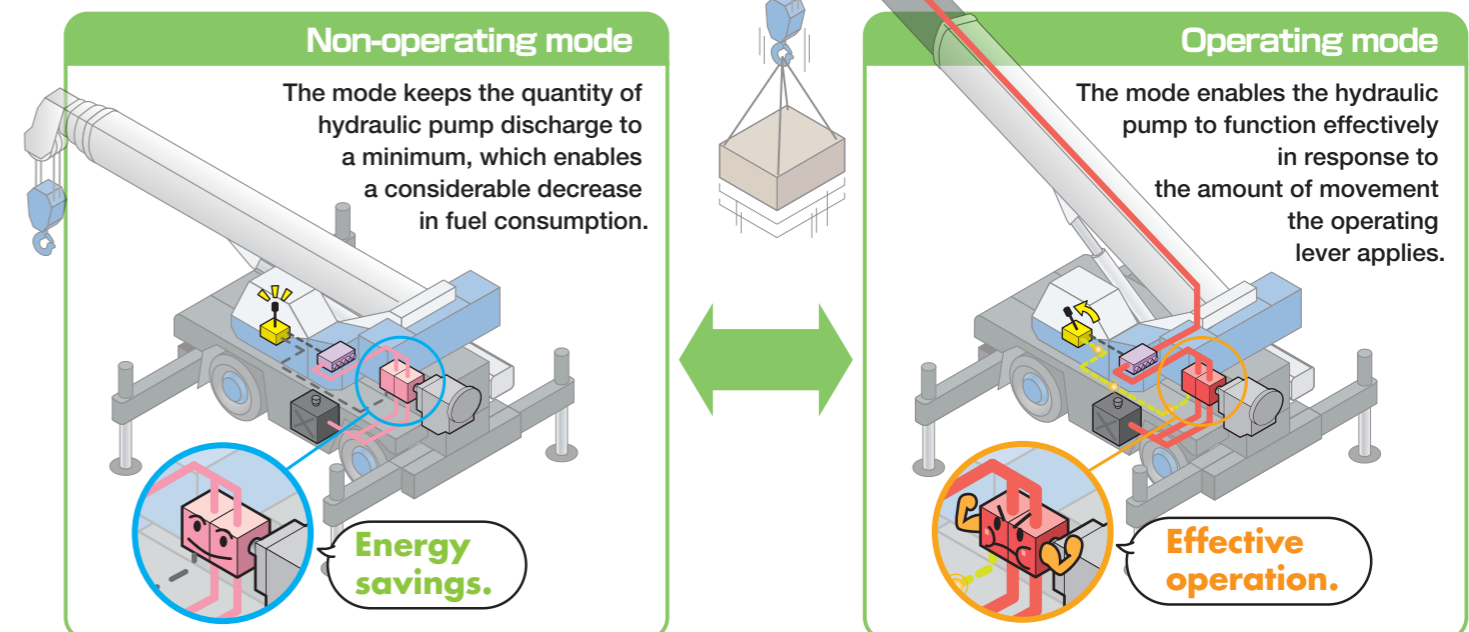
## Positive Control System

The Positive Control System effectively controls the quantity of hydraulic pump discharge during crane operation in response to the amount of movement applied by the operating control lever. When the crane is in a state of idling, the Positive Control System keeps the quantity of hydraulic pump discharge to a minimum, reducing fuel consumption and CO<sub>2</sub> emissions by up to 20%.

Fuel consumption and CO<sub>2</sub> emissions ratio compared with the conventional system



\* Comparison made when a crane is not being operated  
\* The above figures differ according to the type of a crane used and its operating conditions.







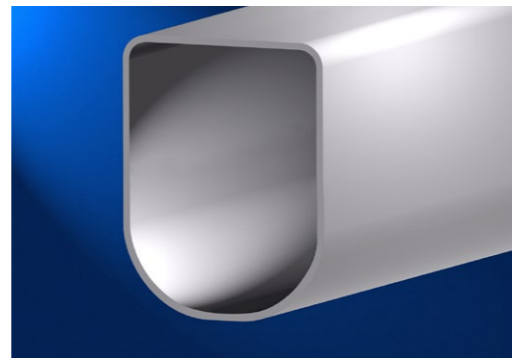
**Crane**



**New Design**

**The Ultimate boom for the rough terrain crane ( GR-800EX, GR-600EX )**

The rounded boom is made of high tensile steel, which allows for decreased boom weight and increased boom strength. The high performance AML-C comes standard and aids the operator in maintaining a safe operation.



GR-300EX

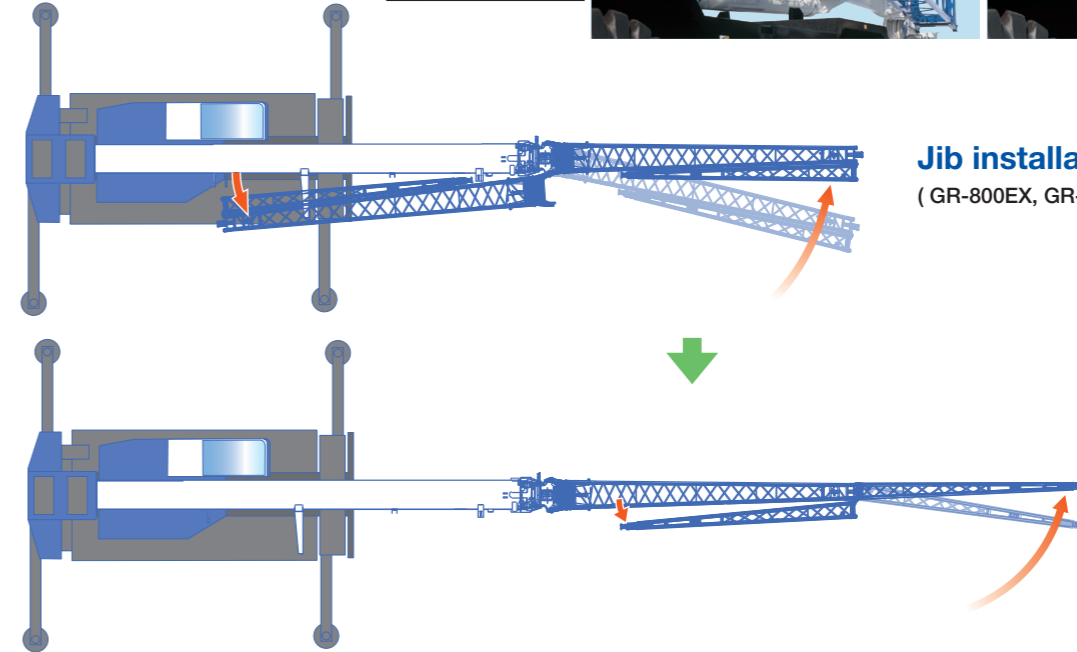
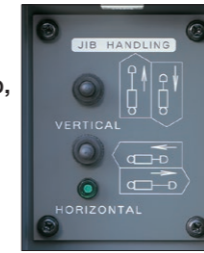


**The round hexagonal box boom ( GR-300EX )**

**Assist cylinder for jib**

( GR-800EX, GR-600EX )

When mounting and stowing the jib, the assist hydraulic cylinders are used resulting in increased work efficiency and safety.

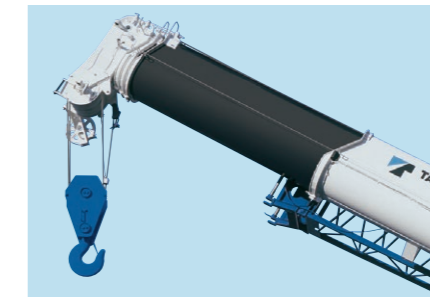


**Jib installation ( GR-800EX, GR-600EX )**

**Two telescoping modes I & II**

( GR-800EX, GR-600EX )

The operator has enhanced capabilities with two boom telescoping options whichever suits the lift needs.



**Mode I**

Mode I is extension of 2nd section only. Then follows the synchronized extension of 3rd, 4th and 5th sections.



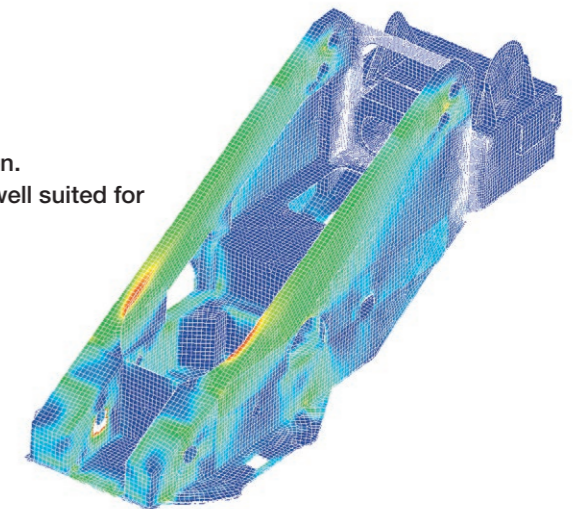
**Mode II**

Mode II is synchronized extension of 3rd, 4th and 5th sections. Then 2nd section extends independently.

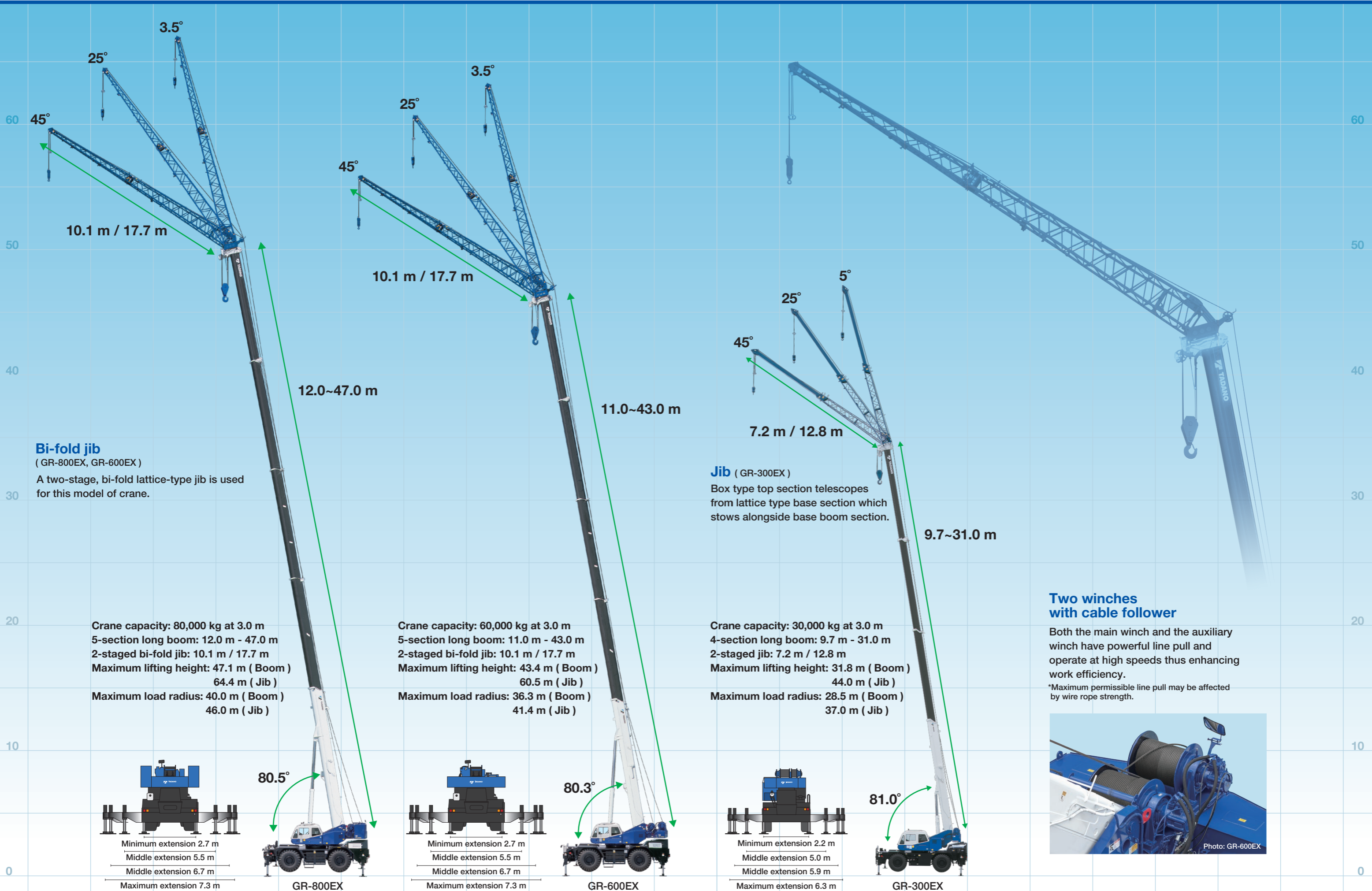
**New crane structure ( GR-800EX, GR-600EX )**

During development of the structural shape of the crane, \*FEM analysis was applied to achieve a design tailored for optimal operation. The slewing frames' structure ensures a highly rigid, compact style that is well suited for the overall planned design of the crane. Continuing the TADANO tradition of excellence and innovation.

\*FEM: Finite Element Method







**Bi-fold jib**  
( GR-800EX, GR-600EX )

A two-stage, bi-fold lattice-type jib is used for this model of crane.

**Jib** ( GR-300EX )

Box type top section telescopes from lattice type base section which stows alongside base boom section.

Crane capacity: 80,000 kg at 3.0 m  
5-section long boom: 12.0 m - 47.0 m  
2-staged bi-fold jib: 10.1 m / 17.7 m  
Maximum lifting height: 47.1 m ( Boom )  
64.4 m ( Jib )  
Maximum load radius: 40.0 m ( Boom )  
46.0 m ( Jib )

Crane capacity: 60,000 kg at 3.0 m  
5-section long boom: 11.0 m - 43.0 m  
2-staged bi-fold jib: 10.1 m / 17.7 m  
Maximum lifting height: 43.4 m ( Boom )  
60.5 m ( Jib )  
Maximum load radius: 36.3 m ( Boom )  
41.4 m ( Jib )

Crane capacity: 30,000 kg at 3.0 m  
4-section long boom: 9.7 m - 31.0 m  
2-staged jib: 7.2 m / 12.8 m  
Maximum lifting height: 31.8 m ( Boom )  
44.0 m ( Jib )  
Maximum load radius: 28.5 m ( Boom )  
37.0 m ( Jib )

**Two winches with cable follower**

Both the main winch and the auxiliary winch have powerful line pull and operate at high speeds thus enhancing work efficiency.

\*Maximum permissible line pull may be affected by wire rope strength.

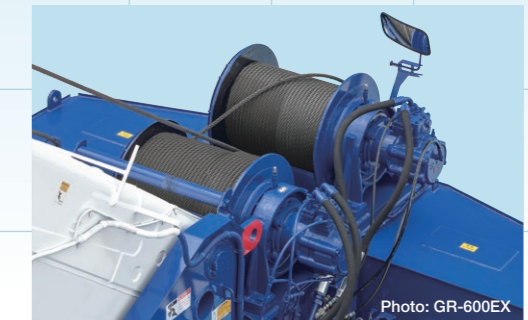
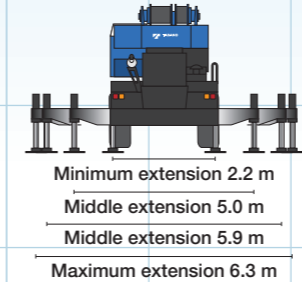
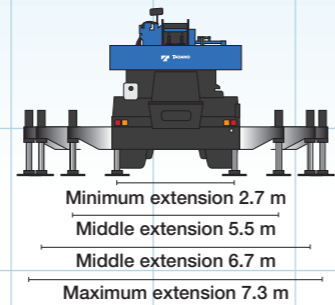
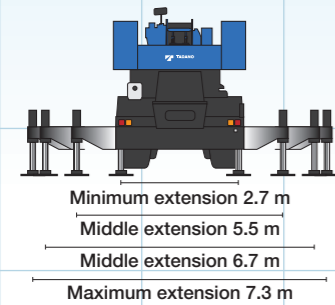


Photo: GR-600EX





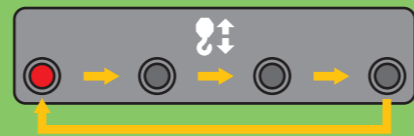
### Load moment indicator [AML-C]

Tadano's AML-C is easy to use, innovative in design, displays important information to the operator and enables the operator to preset a custom working environment. For example, the AML-C shows the boom angle, boom length, load radius, operating pressure of the elevating cylinder, the extension width of the outriggers, slewing position, rated lifting capacity and present hook load. These features allow the AML-C to move seamlessly through all lifting operations without having to change configurations or input new codes to make the lift. The AML-C safety features provide both audible and visual warnings. When an operation approaches the load limit Tadano's slow stop function engages to avoid shock loads.

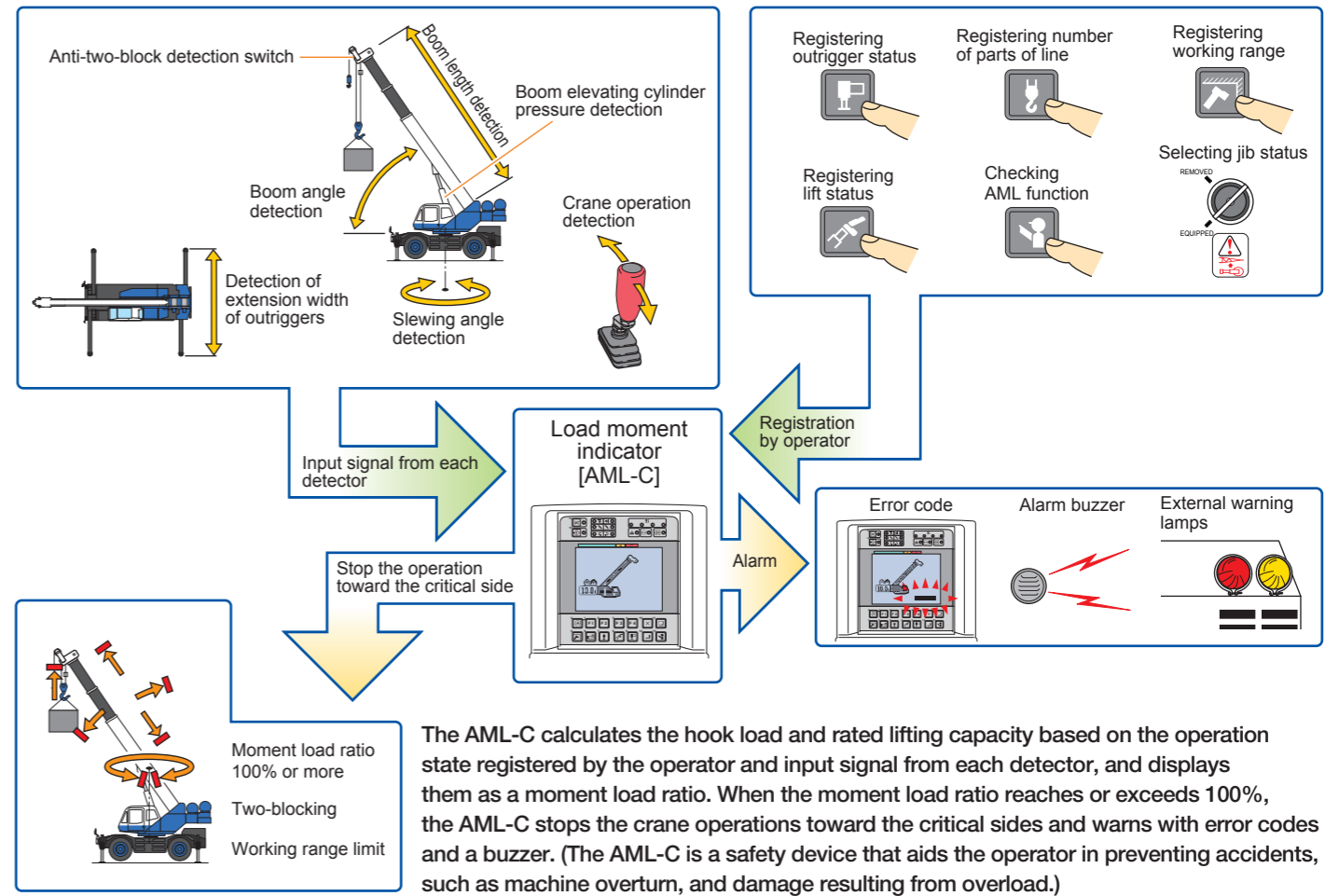


### Drum rotation indicator

To let the operator know when the winch is rotating, the drum rotation indicator on the AML beeps and flashes sequentially. The moving distance of the hook block per one flash of the indicator is approximately 7.9 in. to 11.8 in. (20 cm to 30 cm).



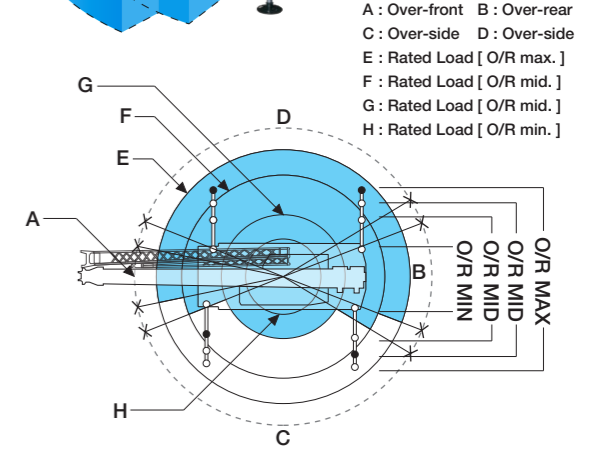
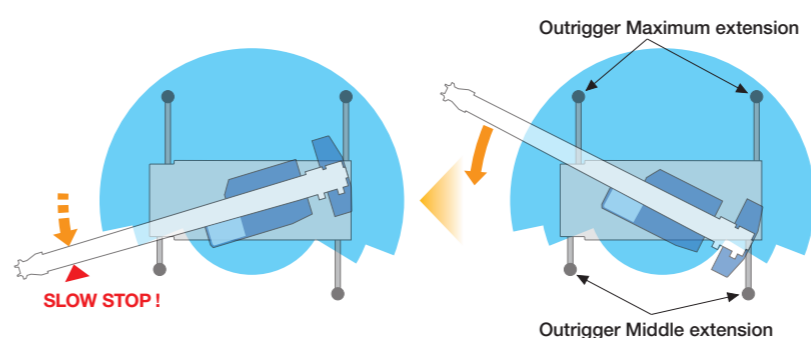
### AML display symbols



# Safety First!

### Outrigger asymmetric extension width control

When operating the crane with the asymmetric outriggers extended, the AML-C detects the extension width of all of the Crane's outriggers (front, rear, left and right) to measure maximum work capacity in each area. When slewing the boom from the longer outrigger area to the shorter outrigger area, the AML-C detects the motion and displays the maximum capacity according to the extension width of each of the outriggers, and brings the motion to a slow stop before it reaches the maximum capacity. Therefore, even in the case of operator error, the AML-C's slow stop function will help to minimize any safety risk.





### Operator comfort

The crane cab provides improved livability and a more comfortable working environment.



Photo: GR-600EX



**Air conditioner**  
Hot-water heater and air conditioning.

The control levers are smooth and responsive to the operators touch.



### Wider steps and hand rails



Photo: GR-800EX, GR-600EX

Front steps

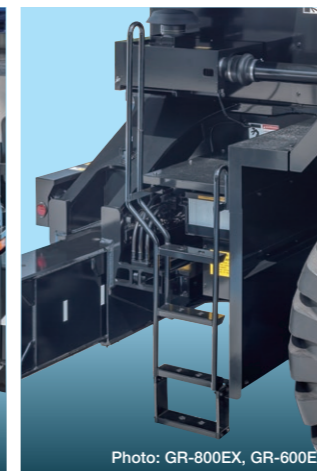


Photo: GR-800EX, GR-600EX

Rear steps



Photo: GR-800EX, GR-600EX

Left side steps

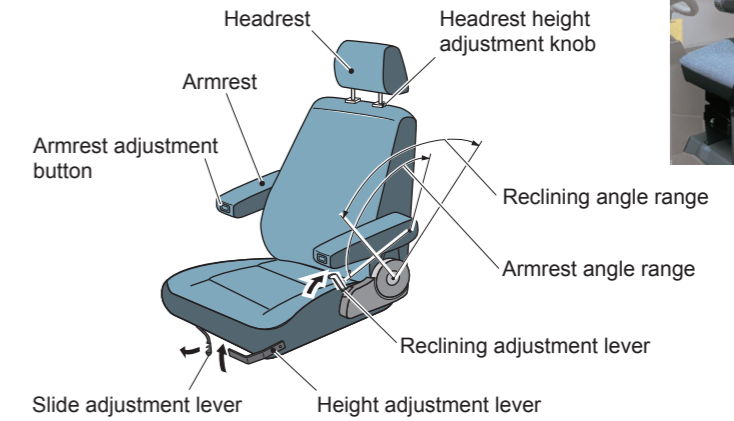


Photo: GR-800EX, GR-600EX

Right side steps

### Seat adjustment

Multiple seat adjustment positions for ease of operation.



### Adjustment of control lever stand

- The control lever stand has a 3-stage adjustment feature.
- Before you enter or exit the cab, or when you complete the crane operation, set the control lever stand on the left to the stowing position.
- The unlock lever is used by pulling to adjust for all positions of the control lever stand.

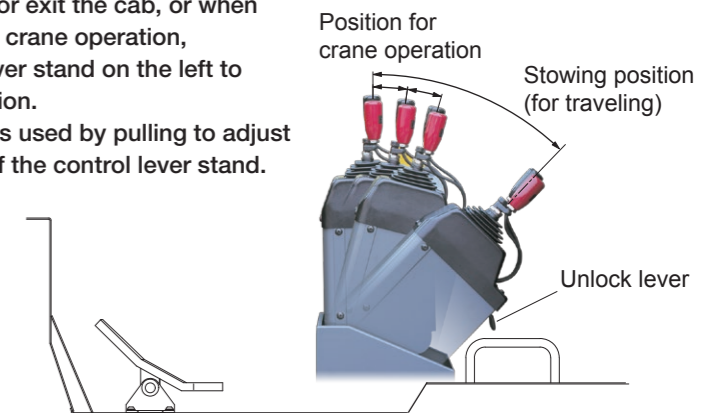
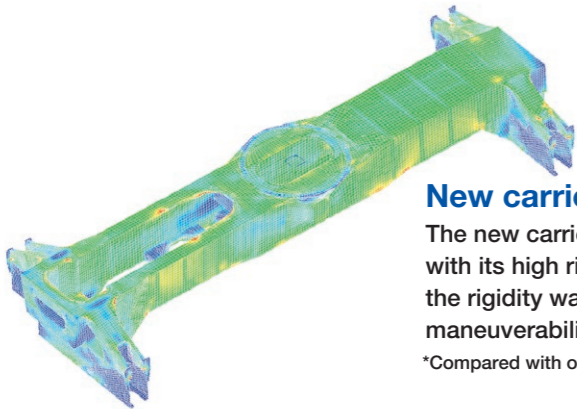






Photo: GR-800EX



**New carrier frame** (GR-800EX, GR-600EX)

The new carrier frame design was developed and built so that its lightweight is compatible with its high rigidity to achieve an advanced level of performance. As a result, the rigidity was enhanced by as much as \*35% which enables highly stabilized maneuverability for the new model of crane.

\*Compared with our conventional crane models

**Winch drum monitoring mirror**

(GR-800EX, GR-600EX)

Folding mirror reduces height during transport.



**High performance engine**



Mitsubishi 6M60-TL

**GR-800EX, GR-600EX**

Model	Mitsubishi 6M60-TL
Type	4-cycle, turbo charged and after cooled, 6-cylinder, direct injection diesel.
Piston displacement	7.54 liters
Max. output	200 kW at 2,600 min <sup>-1</sup> {rpm}
Max. torque	785 N·m at 1,400 min <sup>-1</sup> {rpm}



Cummins QSB6.7 EU stage IIIA

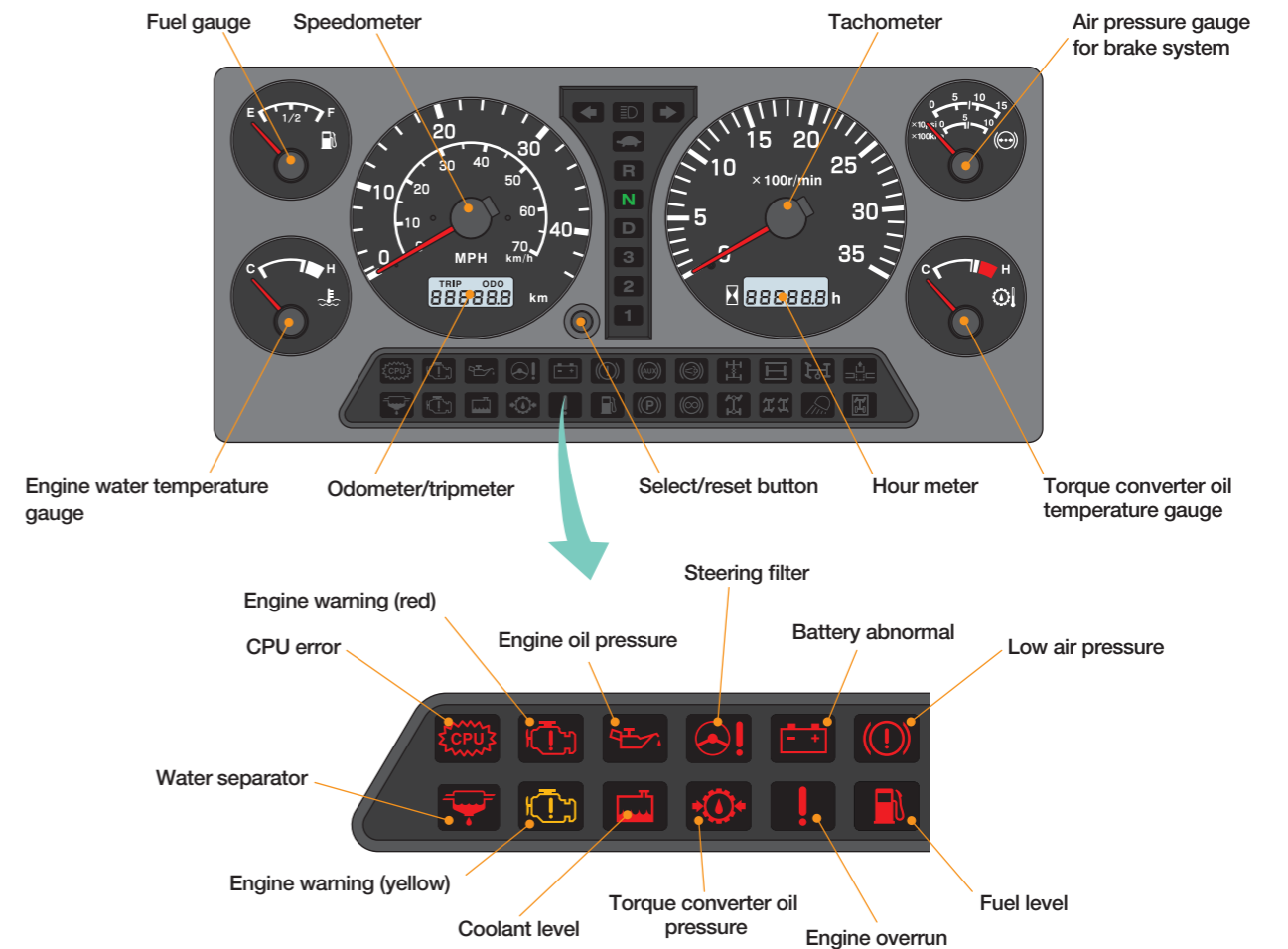
**GR-300EX**

Model	Cummins QSB6.7 EU) stage IIIA
Type	4-cycle, turbo charged and after cooled, 6-cylinder, direct injection diesel.
Piston displacement	6.70 liters
Max. output	160 kW at 2,500 min <sup>-1</sup> {rpm}
Max. torque	843 N·m at 1,600 min <sup>-1</sup> {rpm}



Photo: GR-600EX

**Dashboard indicator and warning symbols**



**Smooth transmission**

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

**GR-800EX, GR-600EX**

3 speeds - High range - 2 wheel drive; 4 wheel drive  
3 speeds - Low range - 4 wheel drive

**GR-300EX**

4 speeds - High range - 2 wheel drive; 4 wheel drive  
4 speeds - Low range - 4 wheel drive

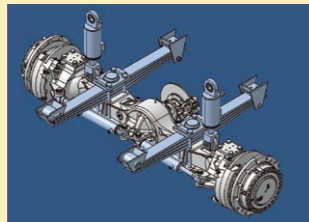


**Fastest traveling speed** (GR-300EX)

Maximum traveling speed 50 km/h  
Cummins Engine + 6 forward speeds transmission

**Comfortable suspension** (GR-300EX)

Semi-elliptic leaf springs with hydraulic lockout device provide good riding comfort.



**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.

**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.

**4 steering modes**

Hydraulic power steering.



GR-800EX GR-600EX GR-300EX

			GR-800EX	GR-600EX	GR-300EX
Traveling on roads		<b>2 wheel front</b> Front steering only. This steering method is the same as that of general vehicles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Driving in work site		<b>2 wheel rear</b> Rear steering only. The rear end of the vehicle swings outward like a forklift. Useful for easy approach of a narrow area.	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>
Driving in work site		<b>4 wheel coordinated</b> Front and rear wheels are steered in opposite directions. The turning radius is decreased. Useful for movement in a small area.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		<b>4 wheel crab</b> Front and rear wheels are steered in the same direction. The vehicle can move diagonally. Useful for pulling over.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**GR-800EX**

Max. traveling speed: 36 km/h  
Overall length: approx. 14,375 mm  
Overall width: approx. 3,315 mm  
Overall height: approx. 3,795 mm

Min. turning radius (at center of extreme outer tire)  
2-wheel steering: 11.9 m  
4-wheel steering: 6.8 m



**GR-600EX**

Max. traveling speed: 36 km/h  
Overall length: approx. 13,380 mm  
Overall width: approx. 3,315 mm  
Overall height: approx. 3,790 mm

Min. turning radius (at center of extreme outer tire)  
2-wheel steering: 11.9 m  
4-wheel steering: 6.8 m



**GR-300EX**

Max. traveling speed: 50 km/h  
Overall length: approx. 11,245 mm  
Overall width: approx. 2,620 mm  
Overall height: approx. 3,535 mm

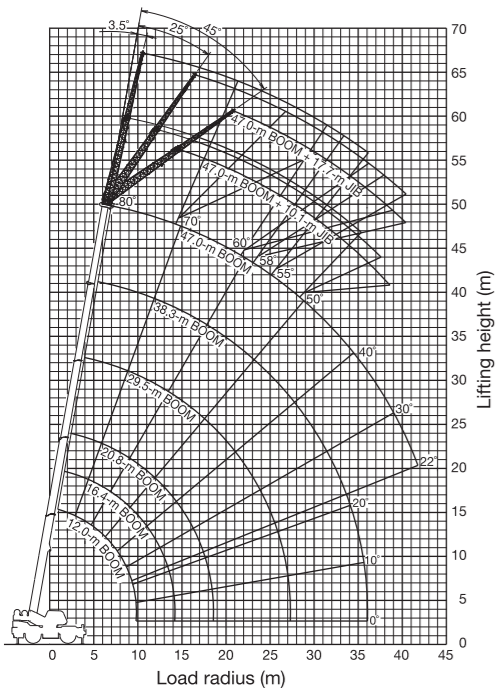
Min. turning radius (at center of extreme outer tire)  
2-wheel steering: 9.8 m  
4-wheel steering: 5.8 m



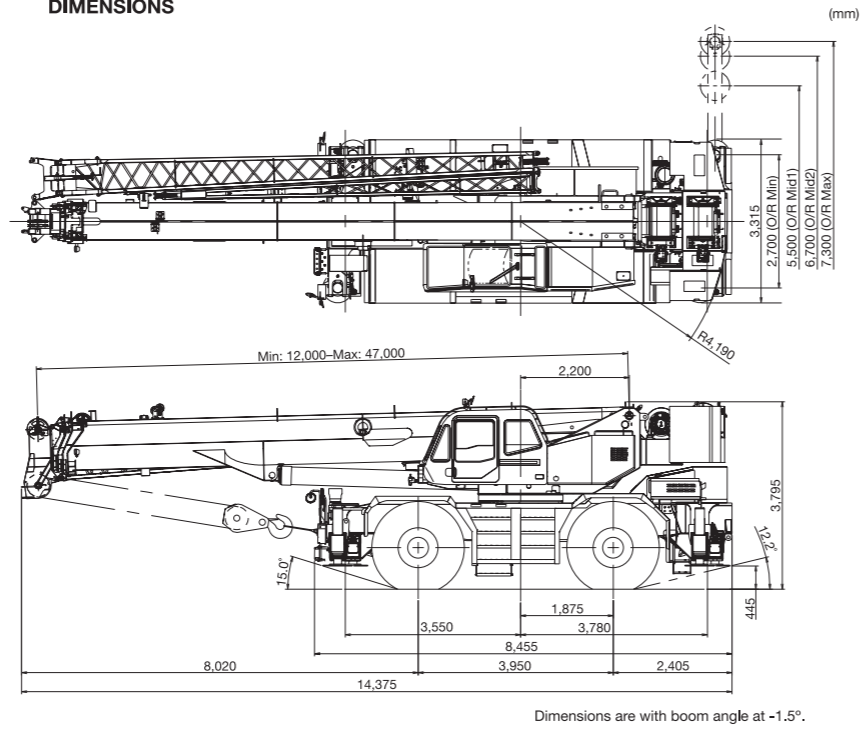


GR-800EX

WORKING RANGE

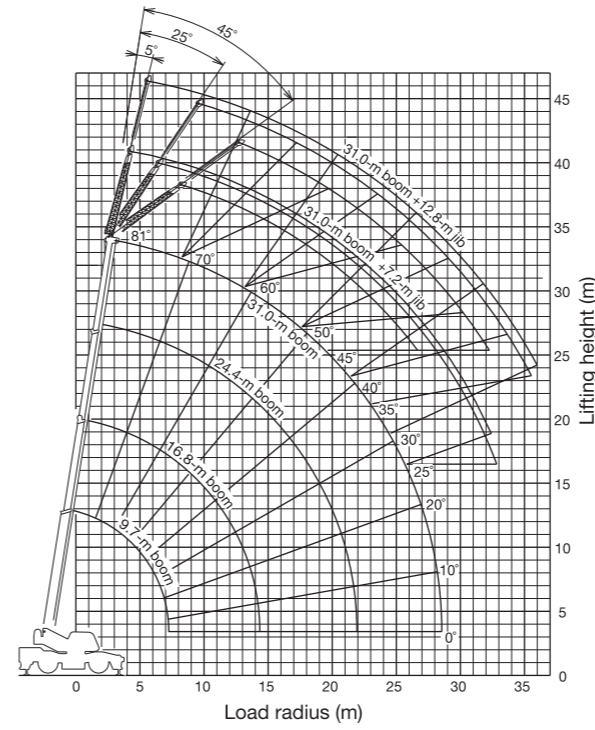


DIMENSIONS

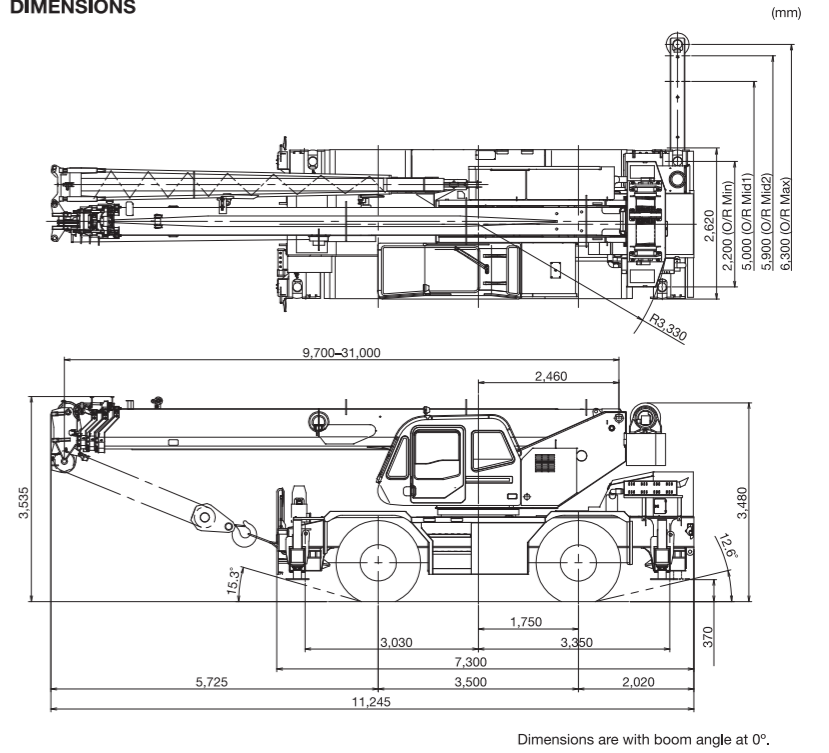


GR-300EX

WORKING RANGE

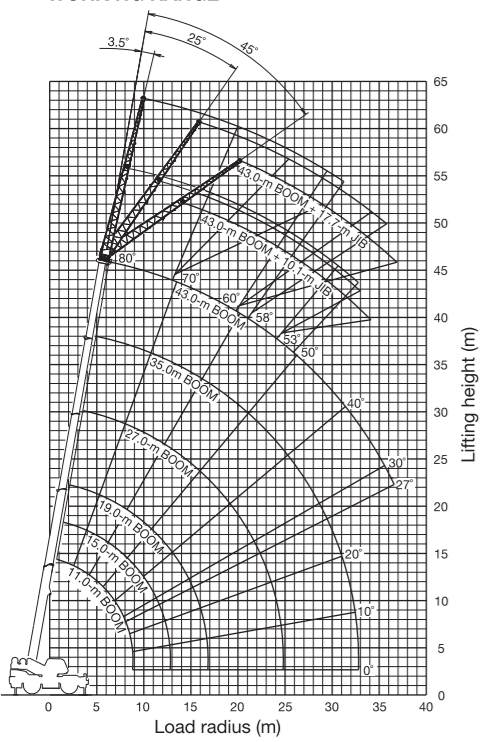


DIMENSIONS

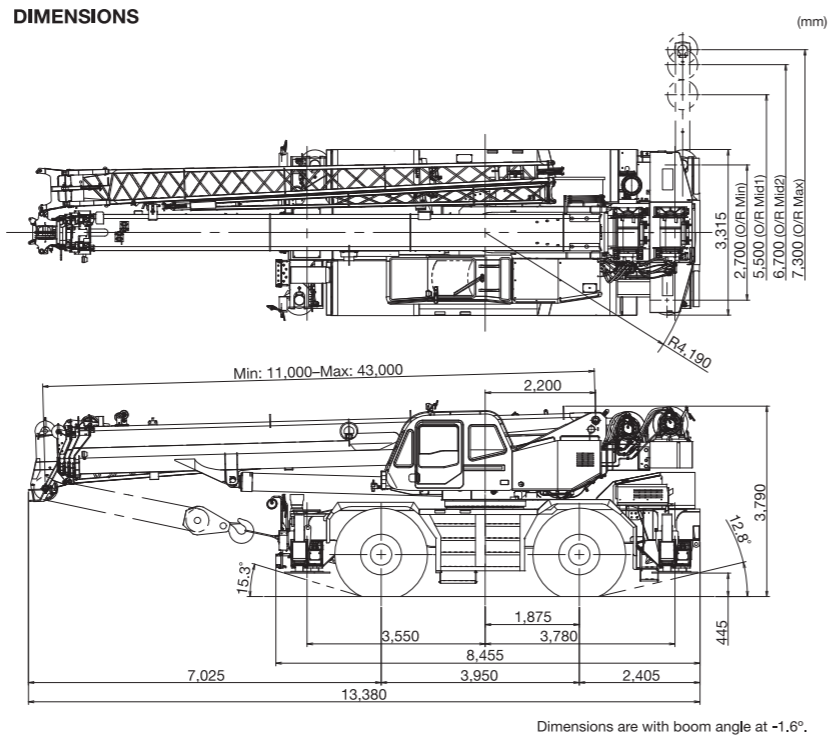


GR-600EX

WORKING RANGE



DIMENSIONS





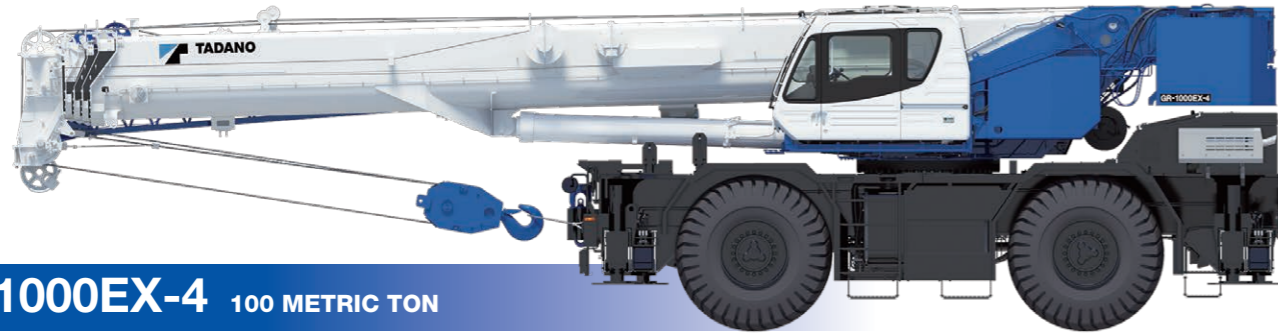
MODEL	GR-800EX	GR-600EX
MAXIMUM CAPACITY	80,000 kg at 3.0 m	60,000 kg at 3.0 m
PERFORMANCE		
Max. Traveling speed	36 km/h	36 km/h
Gradeability (tan θ)	94% (at stall), 30%* * Machine should be operated within limit of engine crackcase design. (17": Mitsubishi 6M60-TL)	147% (at stall), 30%* * Machine should be operated within limit of engine crackcase design. (17": Mitsubishi 6M60-TL)
WEIGHT		
Gross vehicle mass	52,110 kg (incl. 80 ton hook block)	44,275 kg (incl. 60 ton hook block)
front axle	25,675 kg	22,515 kg
rear axle	26,435 kg	21,760 kg
MIN. TURNING RADIUS	11.9 m (2-wheel steering), 6.8 m (4-wheel steering) (at center of extreme outer tire)	11.9 m (2-wheel steering), 6.8 m (4-wheel steering) (at center of extreme outer tire)
BOOM		
Fully retracted length	5-section full power telescoping boom. 12.0 m	5-section full power telescoping boom. 11.0 m
Fully extended length	47.0 m	43.0 m
Extension speed	35.0 m in 160 s	32.0 m in 128 s
Angle	-1.5°-80.5°	-1.6°-80.3°
Elevation speed	20° to 60° in 46 s	20° to 60° in 46 s
JIB		
	2-staged bi-fold lattice type with triple offset (tilt type). Single sheave at jib head.	2-staged bi-fold lattice type with triple offset (tilt type). Single sheave at jib head.
Offset	3.5°, 25°, 45°	3.5°, 25°, 45°
Length	10.1 m and 17.7 m	10.1 m and 17.7 m
MAIN WINCH		
	Variable speed type with grooved drum driven by hydraulic axial piston motor.	Variable speed type with grooved drum driven by hydraulic axial piston motor.
Single line pull	64.7 kN (6,600 kgf)	54.9 kN (5,600 kgf)
Single line speed	149 m/min. (at 4th layer)	128 m/min. (at 4th layer)
Wire rope	19 mm x 253 m (Diameter x length)	19 mm x 235 m (Diameter x length)
AUXILIARY WINCH		
	Variable speed type with grooved drum driven by hydraulic axial piston motor.	Variable speed type with grooved drum driven by hydraulic axial piston motor.
Single line pull	64.7 kN (6,600 kgf)	54.9 kN (5,600 kgf)
Single line speed	128 m/min. (at 2nd layer)	110 m/min. (at 2nd layer)
Wire rope	19 mm x 139 m (Diameter x length)	19 mm x 133 m (Diameter x length)
SLEWING		
Slewing speed	1.5 min <sup>-1</sup> {rpm}	2.4 min <sup>-1</sup> {rpm}
Tail slewing radius	4,190 mm	4,190 mm
HYDRAULIC SYSTEM		
	Pumps... 2 variable piston pumps for crane functions. Tandem gear pump for steering, slewing and optional equipment. Control valves... Multiple valves actuated by pilot pressure with integral pressure relief valves. Reservoir... 763 liters capacity. External sight level gauge. Oil cooler... Air cooled fan type.	Pumps... 2 variable piston pumps for crane functions. Tandem gear pump for steering, slewing and optional equipment. Control valves... Multiple valves actuated by pilot pressure with integral pressure relief valves. Reservoir... 763 liters capacity. External sight level gauge. Oil cooler... Air cooled fan type.
TADANO Automatic Moment Limiter (Model: AML-C)	Following information is displayed: • 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 for 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 • Fuel consumption monitor • Main winch / auxiliary winch select • Drum rotation indicator (audible and visible type) main and auxiliary winch • On-rubber indicator	Following information is displayed: • 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 for 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 • Fuel consumption monitor • Main winch / auxiliary winch select • Drum rotation indicator (audible and visible type) main and auxiliary winch • On-rubber indicator
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. Max. ... 7,300 mm, Mid. ... 6,700 mm & 5,500 mm Min. ... 2,700 mm, Float size (Diameter) ... 600 mm	4 hydraulic, beam and jack outriggers. Vertical jack cylinders equipped with integral holding valve. Each outrigger beam and jack is controlled independently from cab. Max. ... 7,300 mm, Mid. ... 6,700 mm & 5,500 mm Min. ... 2,700 mm, Float size (Diameter) ... 600 mm
CARRIER		
	Rear engine, left-hand drive, driving axle 2-way selected type by manual switch. 4 x 2 front drive, 4 x 4 front and rear drive	Rear engine, left-hand drive, driving axle 2-way selected type by manual switch. 4 x 2 front drive, 4 x 4 front and rear drive
ENGINE		
	Model..... Mitsubishi 6M60-TL Type..... 4-cycle, turbo charged and after cooled, 6-cylinder, direct injection diesel. Piston displacement...7.54 liters Bore x stroke... 118 mm x 115 mm Max. output... 200 kW at 2,600 min <sup>-1</sup> {rpm} Max. torque... 785 N·m at 1,400 min <sup>-1</sup> {rpm}	Model..... Mitsubishi 6M60-TL Type..... 4-cycle, turbo charged and after cooled, 6-cylinder, direct injection diesel. Piston displacement...7.54 liters Bore x stroke... 118 mm x 115 mm Max. output... 200 kW at 2,600 min <sup>-1</sup> {rpm} Max. torque... 785 N·m at 1,400 min <sup>-1</sup> {rpm}
TRANSMISSION		
	Electronically controlled full automatic transmission.	Electronically controlled full automatic transmission.
STEERING		
	Hydraulic power steering. 4 steering modes available: 2-wheel front, 2-wheel rear, 4-wheel coordinated, 4-wheel crab	Hydraulic power steering. 4 steering modes available: 2-wheel front, 2-wheel rear, 4-wheel coordinated, 4-wheel crab
SUSPENSION		
	Front..... Rigid mounted to frame. Rear..... Pivot mounted with hydraulic lockout cylinders.	Front..... Rigid mounted to frame. Rear..... Pivot mounted with hydraulic lockout cylinders.
TIRES		
	29.5-25 34PR (OR), Single x 4	29.5-25 22PR (OR) or 29.5-25 28PR (OR), Single x 4
FUEL TANK CAPACITY		
	300 liters	300 liters

MODEL	GR-300EX
MAXIMUM CAPACITY	30,000 kg at 3.0 m
PERFORMANCE	
Max. Traveling speed	50 km/h
Gradeability (tan θ)	78% (at stall), 57%* * Machine should be operated within limit of engine crackcase design. (30": Cummins QSB6.7**)
WEIGHT	
Gross vehicle mass	27,190 kg (incl. 30 ton hook block)
front axle	13,650 kg
rear axle	13,540 kg
MIN. TURNING RADIUS	9.8 m (2-wheel steering), 5.8 m (4-wheel steering) (at center of extreme outer tire)
BOOM	
Fully retracted length	4-section full power telescoping boom. 9.7 m
Fully extended length	31.0 m
Extension speed	21.3 m in 91 s
Angle	0°-81°
Elevation speed	20° to 60° in 22 s
JIB	
	2-staged jib with triple offset (tilt type). Single sheave at jib head.
Offset	5°, 25°, 45°
Length	7.2 m and 12.8 m
MAIN WINCH	
	Variable speed type with grooved drum driven by hydraulic axial piston motor.
Single line pull	39.2 kN (4,000 kgf)
Single line speed	125 m/min. (at 4th layer)
Wire rope	16 mm x 170 m (Diameter x length)
AUXILIARY WINCH	
	Variable speed type with grooved drum driven by hydraulic axial piston motor.
Single line pull	39.2 kN (4,000 kgf)
Single line speed	125 m/min. (at 4th layer)
Wire rope	16 mm x 98 m (Diameter x length)
SLEWING	
Slewing speed	3.2 min <sup>-1</sup> {rpm}
Tail slewing radius	3,330 mm
HYDRAULIC SYSTEM	
	Pumps... 2 variable piston pumps for crane functions. Tandem gear pump for steering, slewing and optional equipment. Control valves... Multiple valves actuated by pilot pressure with integral pressure relief valves. Reservoir... 380 liters capacity. External sight level gauge Oil cooler... Air cooled fan type.
TADANO Automatic Moment Limiter (Model: AML-C)	Following information is displayed: • 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 for 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 • Fuel consumption monitor • Main winch / auxiliary winch select • Drum rotation indicator (audible and visible type) main and auxiliary winch • On-rubber indicator
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. Max. ... 6,300 mm, Mid. ... 5,900 mm & 5,000mm Min ... 2,200 mm, Float size (Diameter)... 400 mm
CARRIER	
	Rear engine, left-hand drive, driving axle 2-way selected type by manual switch. 4 x 2 front drive, 4 x 4 front and rear drive.
ENGINE	
	Model..... Cummins QSB6.7 EU stage IIIA Type..... 4-cycle, turbo charged and after cooled, 6-cylinder, direct injection diesel. Piston displacement... 6.70 liters Bore x stroke... 107 mm x 124 mm Max. output... 160 kW at 2,500 min <sup>-1</sup> {rpm} Max. torque... 843 N·m at 1,600 min <sup>-1</sup> {rpm}
TRANSMISSION	
	Electronically controlled full automatic transmission.
STEERING	
	Hydraulic power steering. 3 steering modes available: 2-wheel front, 4-wheel coordinated, 4-wheel crab
SUSPENSION	
	Semi-elliptic leaf springs with hydraulic lockout device.
TIRES	
	445/95 R 25 (OR), Single x 4
FUEL TANK CAPACITY	
	300 liters



\*Some specifications are subject to change





**GR-1000EX-4** 100 METRIC TON



**GR-900EX-4** 90 METRIC TON



**GR-700EX-4** 70 METRIC TON

Photo: Optional model



# GR-1000EX-4

100 METRIC TON CAPACITY

# GR-900EX-4 GR-700EX-4

90 METRIC TON CAPACITY

70 METRIC TON CAPACITY

# NEXT GENERATION



*The GR-EX Models:  
 High Quality We Are Proud Of*

Photo: GR-1000EX-4 (optional model)



# Next-Generation RTs

In the making of products at Tadano, our number one priority is safety. These fully equipped cranes feature comfortable cab newly designed with an emphasis on stable operability for the operator. Using Tadano's vaunted state-of-the-art control technology, we have safely enhanced functionality while also optimizing operational efficiency and minimizing environmental impact. Backed by trust earned over many years, Tadano's high levels of safety, quality, and efficiency adapt to the changing needs of your business. Our next generation of cranes carries on this tradition. Experience new rough terrain cranes which are the pride of Tadano!



Photo: GR-1000EX-4 (optional model)

<b>Crane</b>		<b>Carrier</b>	
Ultimate Boom for Rough Terrain Crane	03	Travel Speed	11
New Super structure Frame		High Performance Engine	
Winch Drum Camera	04	New Carrier Frame	12
Catwalk for Easy Access to Cab		Improved Accessibility to Cab	
Tilttable Cab		Axle	
Bi-Fold Jib	05	4 Steering Modes	13
Assist Cylinder for Jib		Dashboard Indicator and Warning Symbols	14
Two Telescoping Modes 1 & 2		Reduced Fuel Consumption	
Two Winches with Cable Follower		HELLO-NET	15
Optimally-Designed Cab	07	<b>WORKING RANGE &amp; DIMENSIONS</b>	
Automatic Moment Limiter [AML-E]	08	Standard Equipment	
Large Multi-Function Display			
Smart Counterweight	09		
Smart Chart System	10		

## GR-1000EX-4

**New 100 t lifting capacity and class-leading 51 m long boom create new demand by expanding the range of work.**

Crane capacity: 100 metric ton  
 5-section boom: 51.0 m  
 2-staged bi-fold jib: 10.1 m / 17.7 m  
 Overall length: approx. 15,185 mm  
 Overall width: approx. 3,315 mm  
 Overall height: approx. 3,805 mm



## GR-900EX-4

**New 90 t lifting capacity model was developed to be a highly competitive product.**

Crane capacity: 90 metric ton  
 5-section boom: 47.0 m  
 2-staged bi-fold jib: 10.1 m / 17.7 m  
 Overall length: approx. 14,375 mm  
 Overall width: approx. 3,315 mm  
 Overall height: approx. 3,805 mm



## GR-700EX-4

**A class-leading 47 m long boom with 70 t lifting capacity will create new kinds of demand.**

Crane capacity: 70 metric ton  
 5-section boom: 47.0 m  
 2-staged bi-fold jib: 10.1 m / 17.7 m  
 Overall length: approx. 14,375 mm  
 Overall width: approx. 3,315 mm  
 Overall height: approx. 3,820 mm



Photo: Optional model



# NEW DESIGN



Ultimate Boom for Rough Terrain Crane

## Crane

The rounded boom is made of high tensile steel, which allows for decreased boom weight as well as increased boom strength. In addition, the high-performance AML-E ensures operational safety.

### Longest boom and speedy operation

Max. boom length: **51.0 m** [GR-1000EX-4]

**47.0 m** [GR-900EX-4]

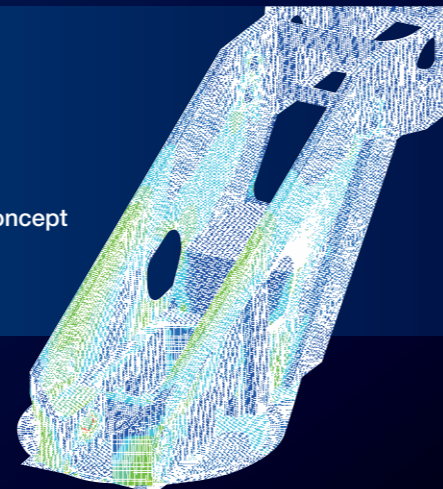
**47.0 m** [GR-700EX-4]

Telescoping mechanism: 2 hydraulic cylinders with wire ropes  
Synchronization telescopic system makes the fast operation possible  
2 telescoping modes selectable according to works.

### New Super structure Frame

When developing the crane structure, importance is attached to the shape that is best suited for crane operation. FEM analysis is used to create the design. It is also important that the slewing structure be true to Tadano's original concept and be both rigid and compact while maintaining a desirable overall height.

\*FEM: Finite Element Method



Emergency Engine Stop Switch



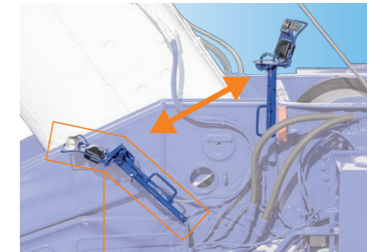
Rubber Floor Mat



Outrigger Control Panel



Winch Drum Camera



Stowed position when transporting

Two-Roll Sunshade



Adjustable in any position

Longer Wiper Blade

Flat Windshield

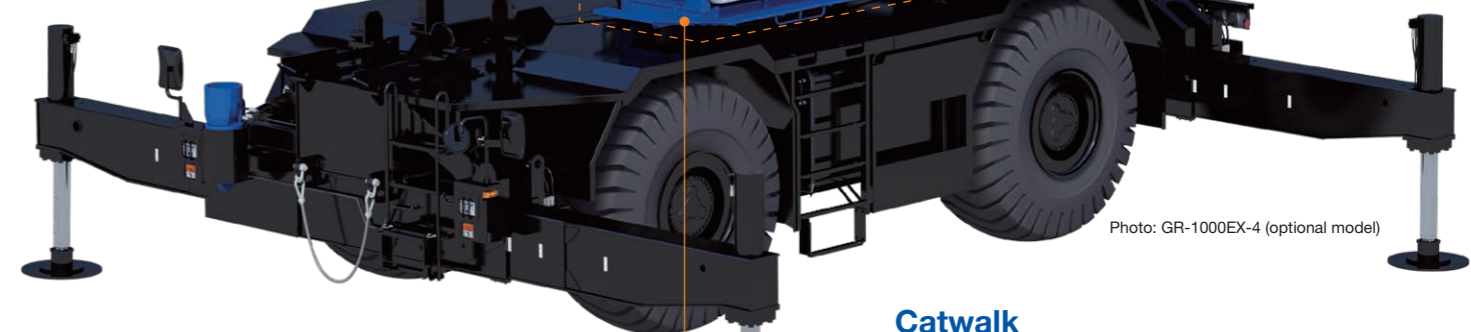


Photo: GR-1000EX-4 (optional model)



Cab tilt indicator and switch

Tiltable Cab

You can operate the crane comfortably by tilting the cab during high hoisting operations such as lifting with the jib. The cab tilting angle is between 0° and 20°.



Catwalk for Easy Access to Cab





### Bi-Fold Jib

A two-stage, bi-fold lattice-type jib can be offset at 3.5°, 25°, and 45° to enable the crane to carry out jobs that require extra reaching ability.

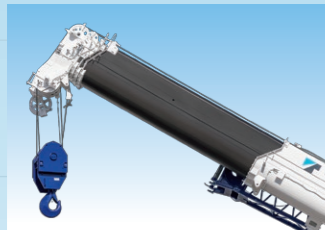
### Assist Cylinder for Jib

When mounting and stowing the jib, the assist hydraulic cylinders are used resulting in increased work efficiency and safety.



### Two Telescoping Modes 1 & 2

The operator has enhanced capabilities with two boom telescoping options whichever suits the lift needs.



#### Mode 1

Mode 1 is extension of 2nd section only. Then follows the synchronized extension of 3rd, 4th and 5th sections.



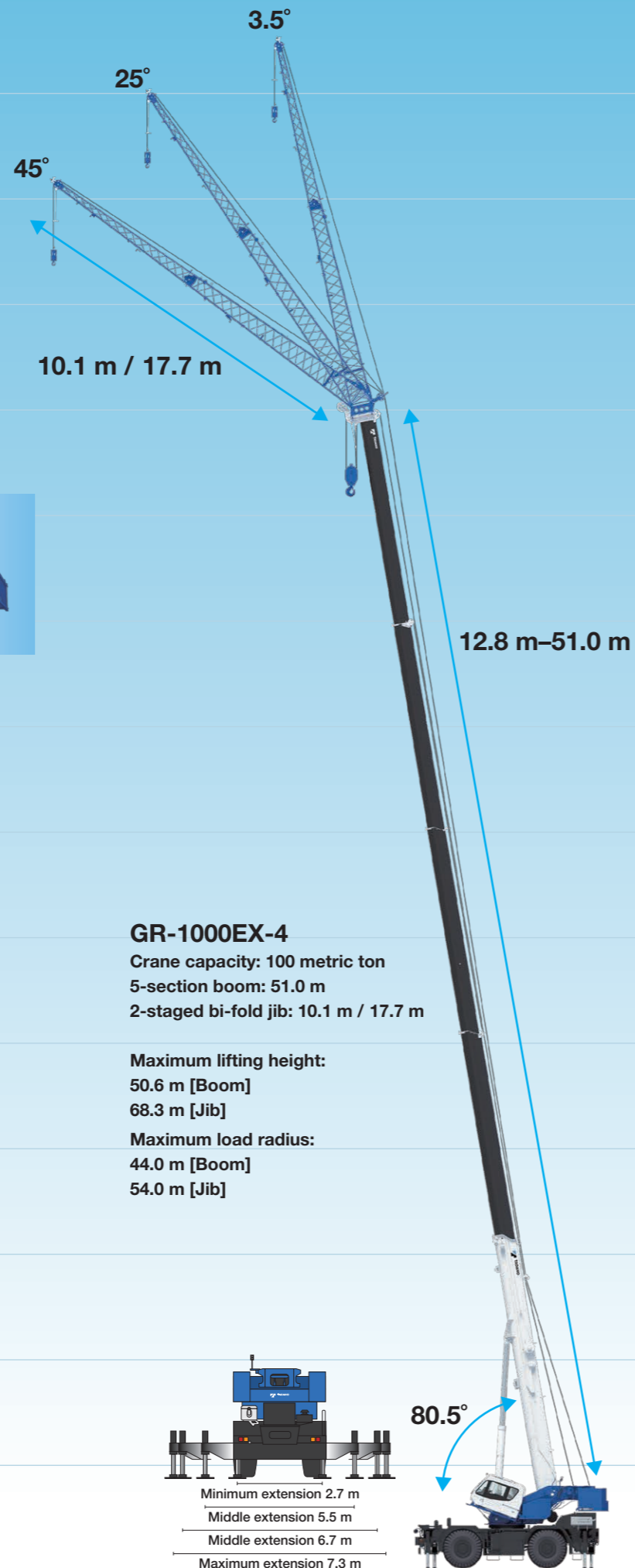
#### Mode 2

Mode 2 is synchronized extension of 3rd, 4th and 5th sections. Then 2nd section extends independently.

### Two Winches with Cable Follower

Both the main winch and the auxiliary winch have powerful line pull and operate at high speeds thus enhancing work efficiency.

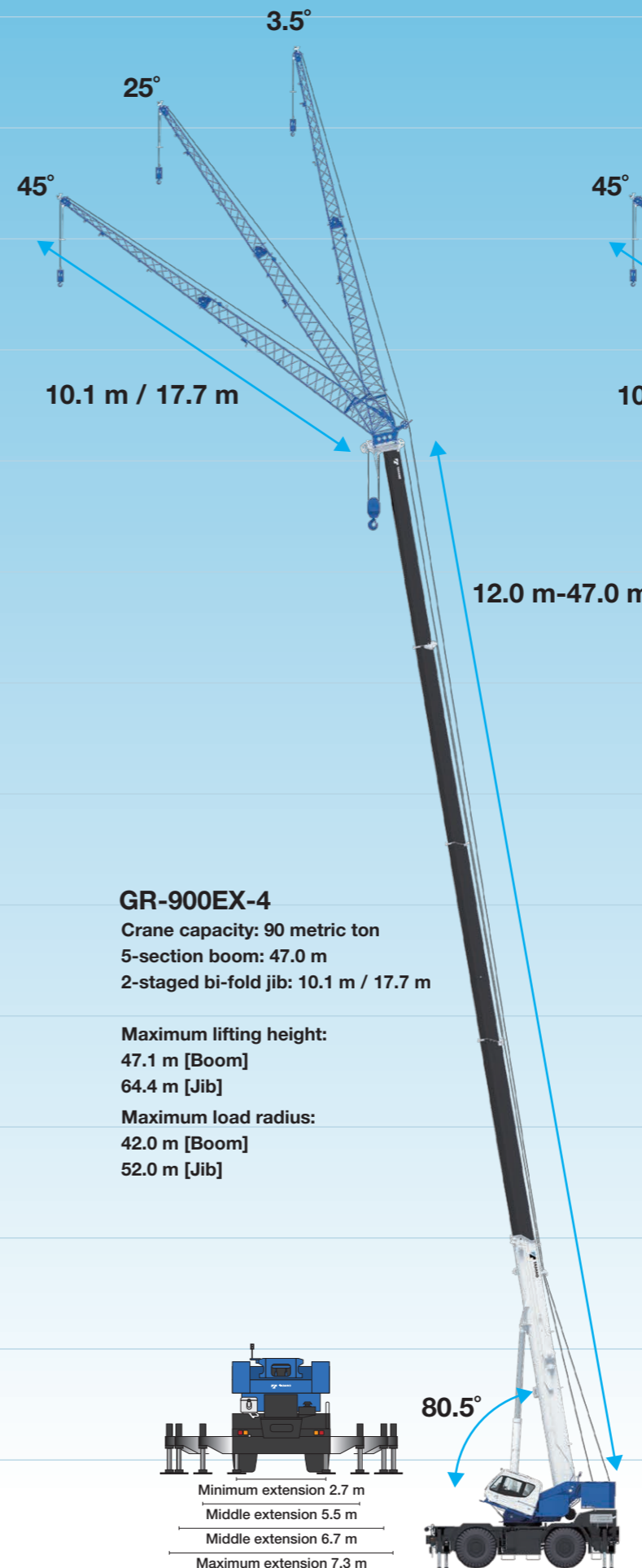
\*Maximum permissible line pull may be affected by wire rope strength.



#### GR-1000EX-4

Crane capacity: 100 metric ton  
5-section boom: 51.0 m  
2-staged bi-fold jib: 10.1 m / 17.7 m

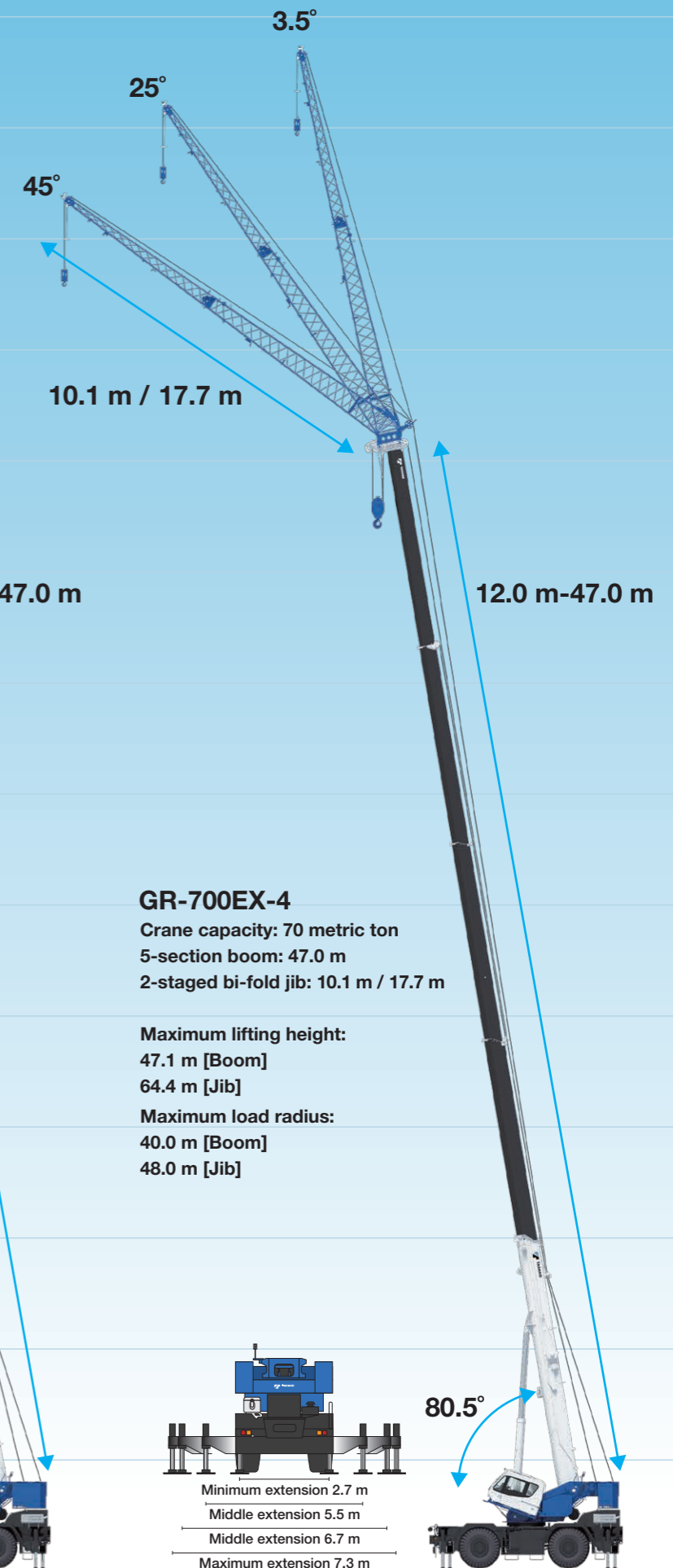
Maximum lifting height:  
50.6 m [Boom]  
68.3 m [Jib]  
Maximum load radius:  
44.0 m [Boom]  
54.0 m [Jib]



#### GR-900EX-4

Crane capacity: 90 metric ton  
5-section boom: 47.0 m  
2-staged bi-fold jib: 10.1 m / 17.7 m

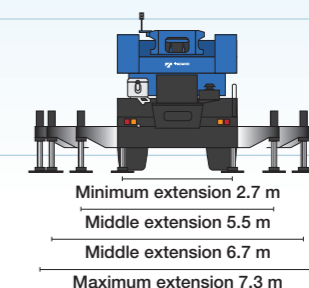
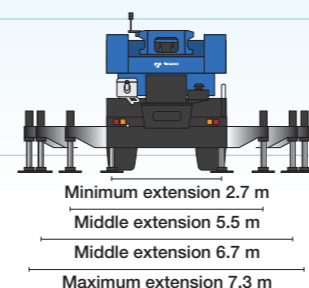
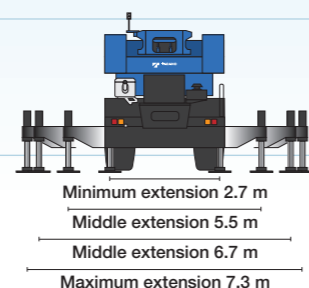
Maximum lifting height:  
47.1 m [Boom]  
64.4 m [Jib]  
Maximum load radius:  
42.0 m [Boom]  
52.0 m [Jib]



#### GR-700EX-4

Crane capacity: 70 metric ton  
5-section boom: 47.0 m  
2-staged bi-fold jib: 10.1 m / 17.7 m

Maximum lifting height:  
47.1 m [Boom]  
64.4 m [Jib]  
Maximum load radius:  
40.0 m [Boom]  
48.0 m [Jib]





# Optimally-Designed Cab

Crane cab and equipment designed for safety and operational efficiency.



## Automatic Moment Limiter [AML-E]

### Large Multi-Function Display

The 10.4 inch color touch panel consolidates operation information and settings for increased work efficiency and comfort. The touch panel is pressure sensitive to handle gloved operation.

Labels for the display diagram:

- Moment load ratio
- External warning
- Drum indicator
- Outrigger status indicator
- Slewing position
- Hydraulic oil temperature indication (New)
- Fuel consumption monitor
- Operation indicator
- Number of parts of line for main winch wire rope
- Number of parts of line for auxiliary winch wire rope
- Hook load
- Rated lifting capacity
- Working area
- Operation status display
- Example) Working area when outriggers are asymmetrically extended
- Winch drum monitoring camera
- Operation status
- working area setting

### Seat Adjustment

Multiple seat adjustment positions for ease of operation.

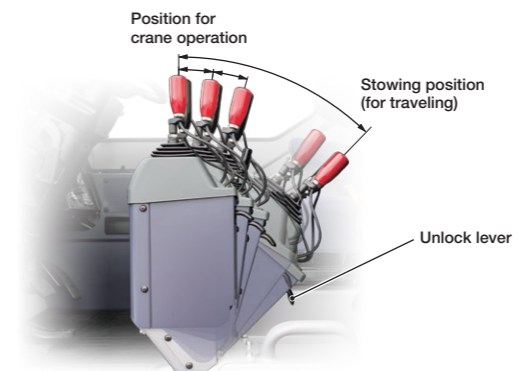


### Adjustment of Control Lever Stand

- The control lever stand has a 3-stage adjustment feature.
- Before you enter or exit the cab, or when you complete the crane operation, set the control lever stand on the left to the stowing position.
- The unlock lever is used by pulling to adjust for all positions of the control lever stand.



The control levers are smooth and responsive to the operators touch.



### Multi-Function Display Operation Switch

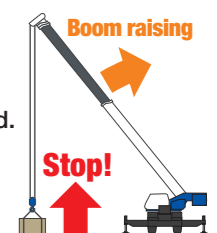
Convenient hand controls are also available for when operating the touchscreen is difficult (for instance when the seat is sliding back).



### Safety Control for Boom Raising Operation

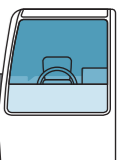
Prevent overload using boom raising operation for lifting a load off the ground.

\*Release switch available for emergency operation



### Visibility

The shape and height of the instrument panel as well as the angle of the windshield have all been designed for optimum forward visibility.







# Smart Counterweight

SMART CW GR-1000EX-4

## Uses the new Smart Counterweight System

These are the first rough terrain cranes with Tadano's Smart Counterweight system, which allows the counterweight to be moved between two mounting positions. This feature improves lifting capacity by up to 20%.

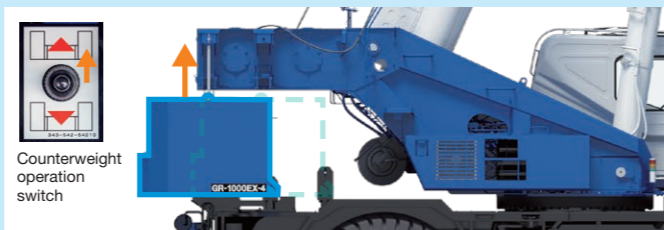
### Smart Counterweight 1 (Front position)



### Smart Counterweight 2 (Rear position)



Hoist the counterweight and set it in either the front or rear position.



Slew the crane 180° and fully extend the counterweight cylinder. Connect the weight with the slewing table and retract the cylinder, fixing it in place.

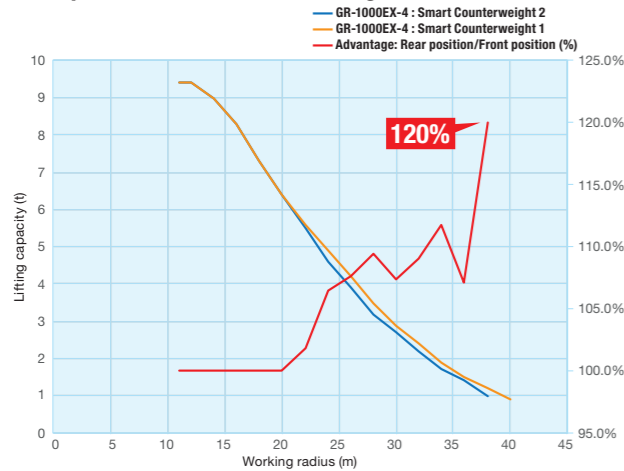


Tail Swing: 4,190 mm

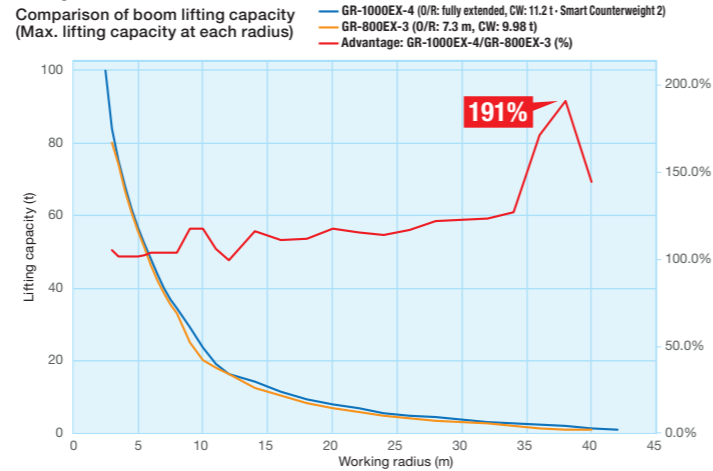


Tail Swing: 4,790 mm

### Comparison of Smart Counterweight 1 and 2 (51m boom length)



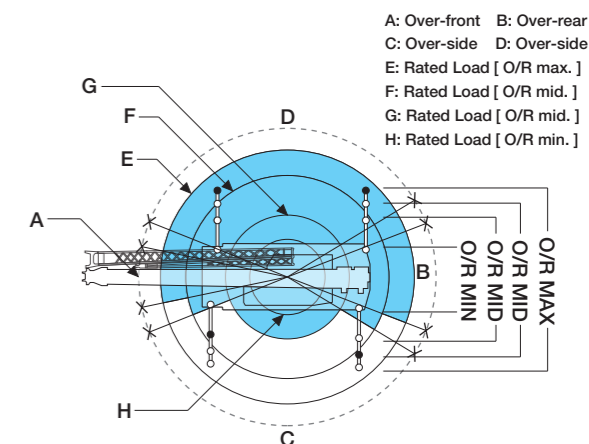
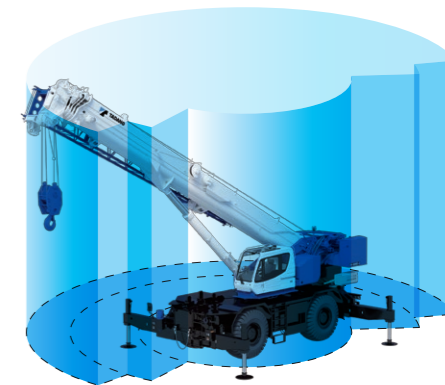
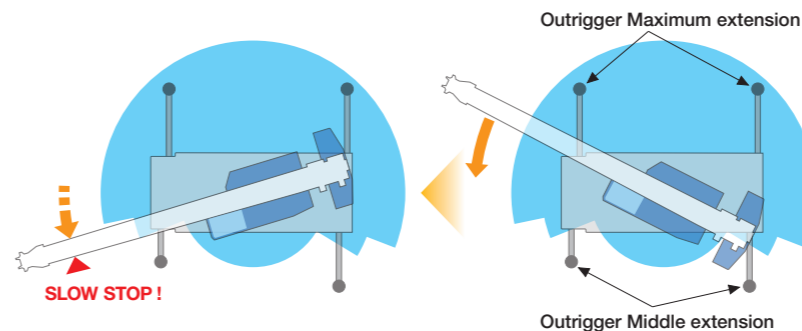
### Comparison of GR-1000EX-4/GR-800EX-3



# Asymmetric Outrigger Extension Width Control

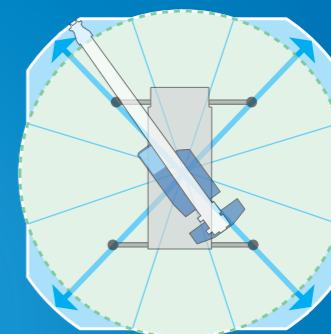
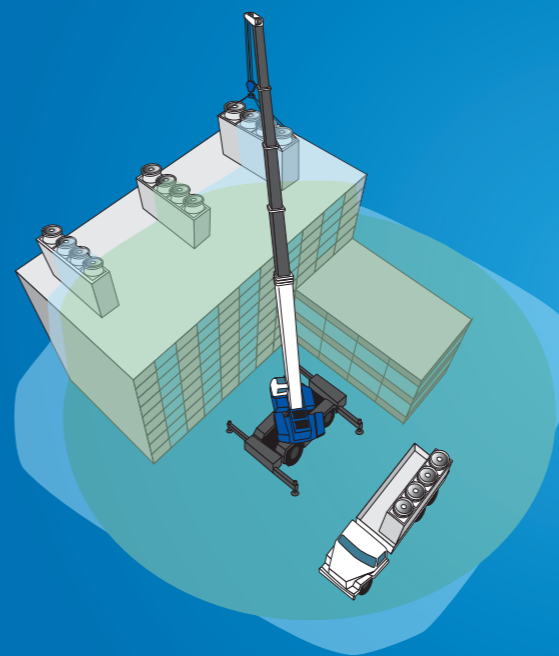
When operating the crane with the asymmetric outriggers extended, the AML-E detects the extension width of all of the crane's outriggers (front, rear, left and right) to measure maximum work capacity in each area. When slewing the boom from the longer outrigger area to the shorter outrigger area, the AML-E detects the motion and displays the maximum capacity according to the extension width of each of the outriggers, and brings the motion to a slow stop before it reaches the maximum capacity.

The AML-E's slow stop function will help to minimize any safety risks even in the cases of operator error.



# Smart Chart System

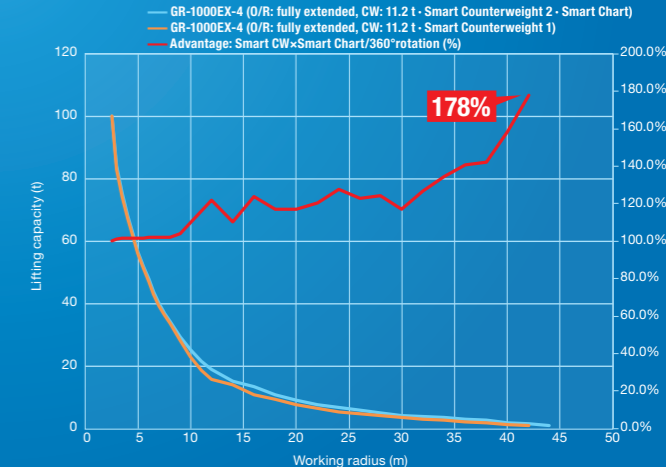
The newly developed Smart Chart expands the working area, allowing you to get the best crane performance in any outrigger extension setup.



### In maximum outrigger extension setups

The Smart Chart taps the potential of a crane by expanding the conventional circular working area into a square one, improving work safety and efficiency.

### Performance comparison graph (Smart Counterweight + Smart Chart)





# Carrier

The GR-1000EX-4, GR-900EX-4 and GR-700EX-4 has a compact width/height 2-axle carrier which offers improved maneuverability and reduced footprint for ease of transportation.

Travel Speed: 36 km/h

## High Performance Engine

Mitsubishi 6M60-TLU3R  
4 cycle, turbo charged and after cooled,  
6-cylinder, direct injection diesel type.

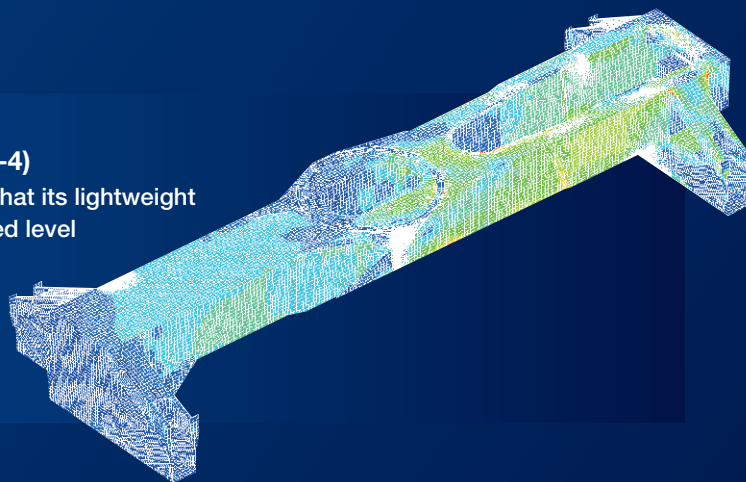
Horse power (kW): Gross 200 (267) at 2,600 min<sup>-1</sup> {rpm}  
Max. torque ft-lb (Nm): 785 at 1,400 min<sup>-1</sup> {rpm}

Photo: GR-1000EX-4 (optional model)

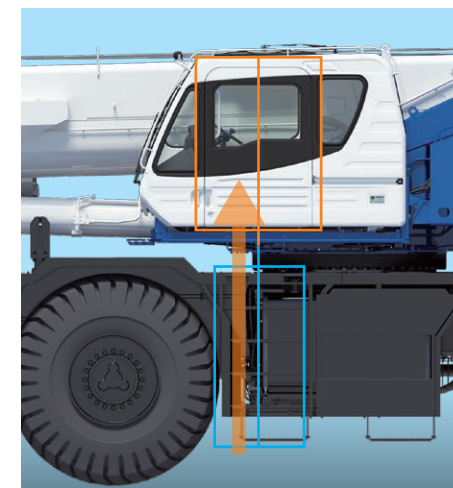
## New Carrier Frame (GR-1000EX-4, GR-900EX-4)

The new carrier frame design is developed and built so that its lightweight is compatible with its high rigidity to achieve an advanced level of performance. As a result, the rigidity is enhanced and leads highly stabilized maneuverability for the new model of crane.

\*Compared with our conventional crane models



## Improved Accessibility to Cab



## Axle

Front: Full floating type, steering and driving axle with planetary reduction.

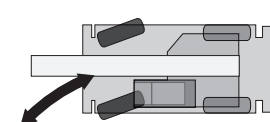
Rear: Full floating type, steering and driving axle with planetary reduction and non-spin rear differential.



Photo: GR-1000EX-4 (optional model)

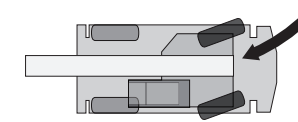
## 4 Steering Modes

Hydraulic power steering controlled by steering wheel.



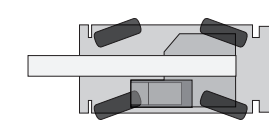
2 wheel front

Front steering only. This steering method is the same as that of general vehicles.



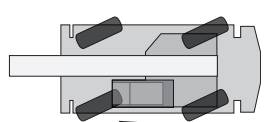
2 wheel rear

Rear steering only. The rear end of the vehicle swings outward like a forklift. Useful for easy approach of a narrow area.



4 wheel coordinated

Front and rear wheels are steered in opposite directions. The turning radius is decreased. Useful for movement in a small area.

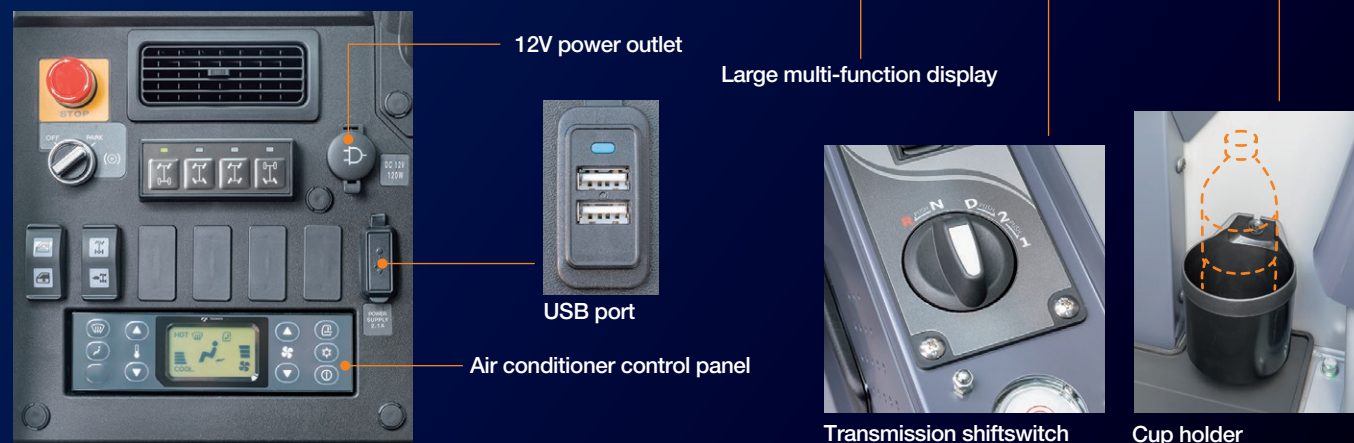
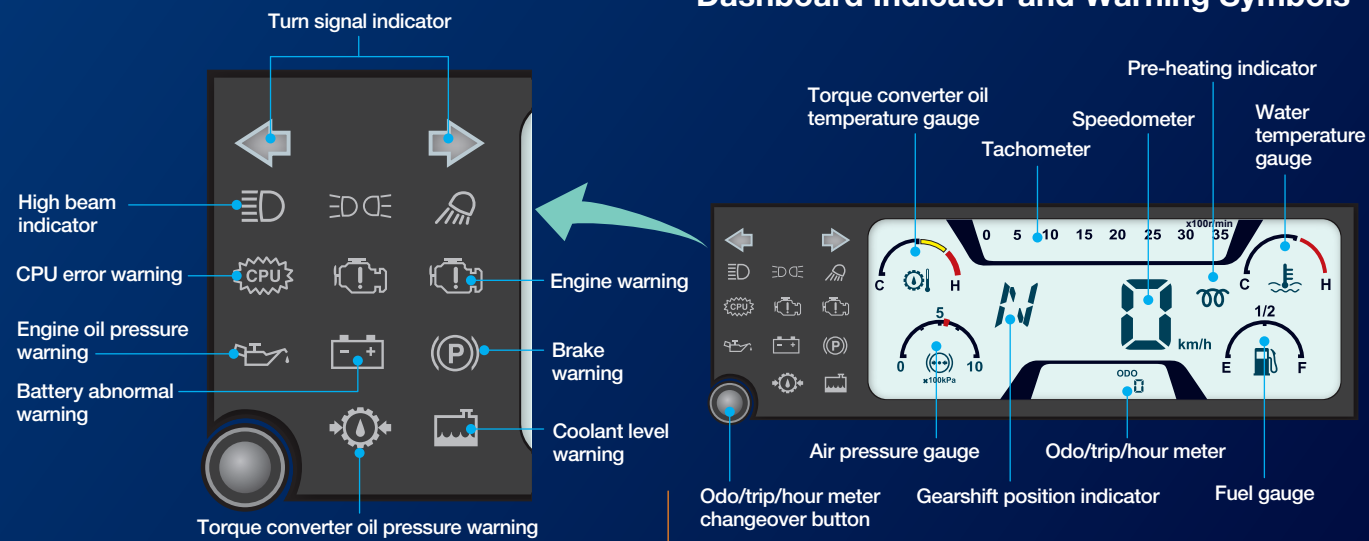


4 wheel crab

Front and rear wheels are steered in the same direction. The vehicle can move diagonally. Useful for pulling over.



## Dashboard Indicator and Warning Symbols



## Reduced Fuel Consumption

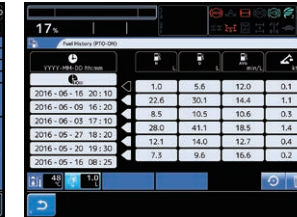
### Fuel Monitoring

Checking fuel consumption enables an operator to prevent wasteful fuel consumption from unnecessary acceleration and idling.

The average fuel consumption is shown when your crane is operated. Fuel consumption during standby is automatically displayed when each control lever and pedal is in neutral position.



Preset menu display (during crane operation)



Fuel consumption history display (during crane operation)



Fuel consumption history display (during traveling)

### Positive Control System

Effectively controls the quantity of hydraulic pump discharge during crane operation in response to the amount of movement applied, and reduces CO<sub>2</sub> consumption.

### Eco Mode System

Controls the maximum engine speed at the time of crane operation and enables fuel consumption and CO<sub>2</sub> emission to decrease by Max. 23% with Eco mode 1, and Max. 37% with Eco mode 2, and noise level is reduced.

### Automatic Pump Disconnect

When the automatic pump disconnect switch is set to ON and the crane is not in use for a duration of time, the crane's hydraulic pump automatically shuts off, helping to reduce fuel consumption. Three settings are available for the duration of the crane operation standby before the pump shuts off: MIN, MID and MAX.

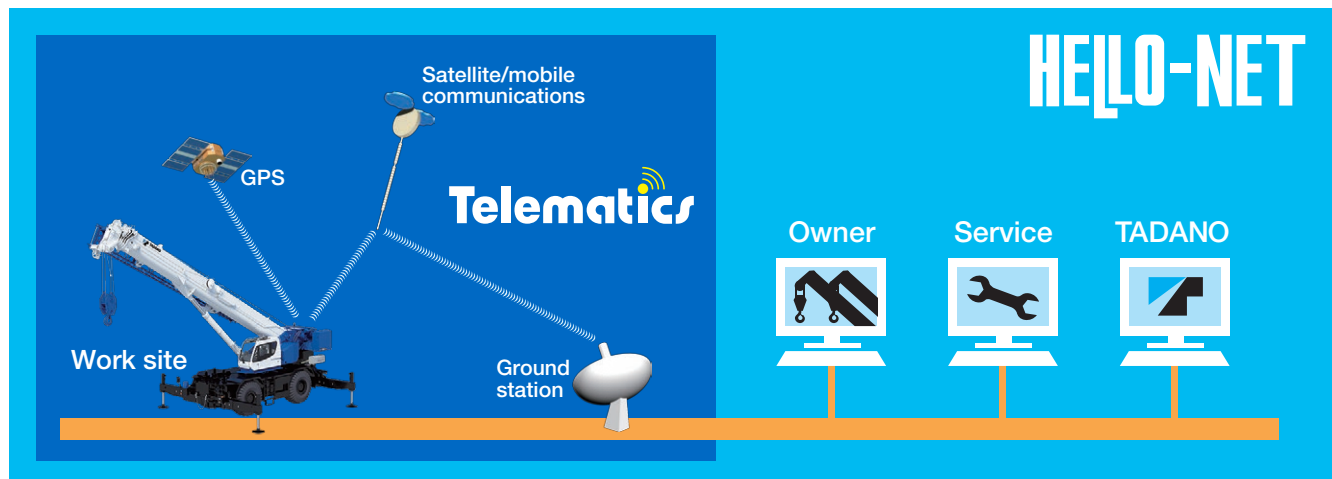
MIN: 1 minute    MID: 3 minutes    MAX: 5 minutes

Fuel consumption  
CO<sub>2</sub> emissions

Down  
max.  
8%

## HELLO-NET

HELLO-NET is a tool that connects the crane operations with owners, their service staff and the manufacturer through satellite. This high quality telematic tool collects data of the crane including working history, maintenance data and machine location. HELLO-NET can be accessed by the manufacturer to assist with downtime and to help improve Tadano support services.



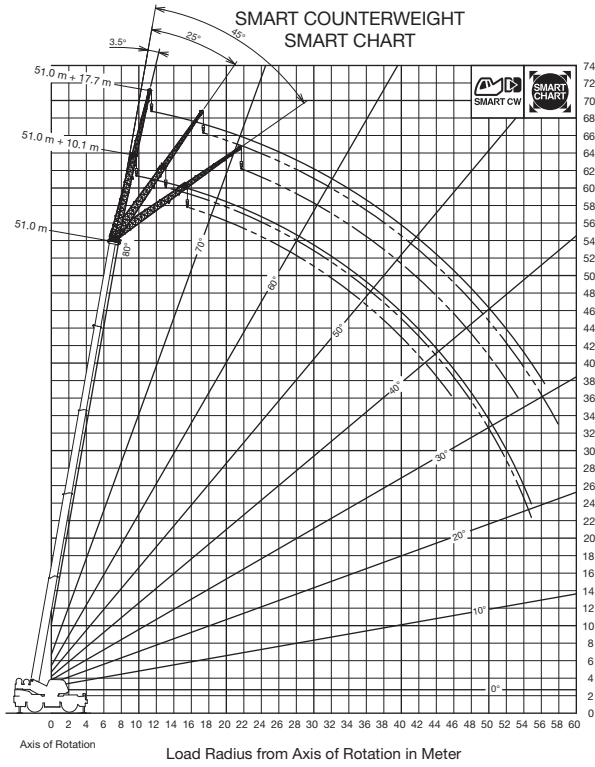
Telematics (machine data logging and monitoring system) with HELLO-NET via internet (\*availability depends on the situation).  
DETAILS: The availability of data communication systems, such as satellite or mobile communications which serve to widen the service area differs according to individual countries. Besides, there are some countries where the system itself is not in use yet. For details, please contact your distributor or our sales staff in charge.



# WORKING RANGE & DIMENSIONS

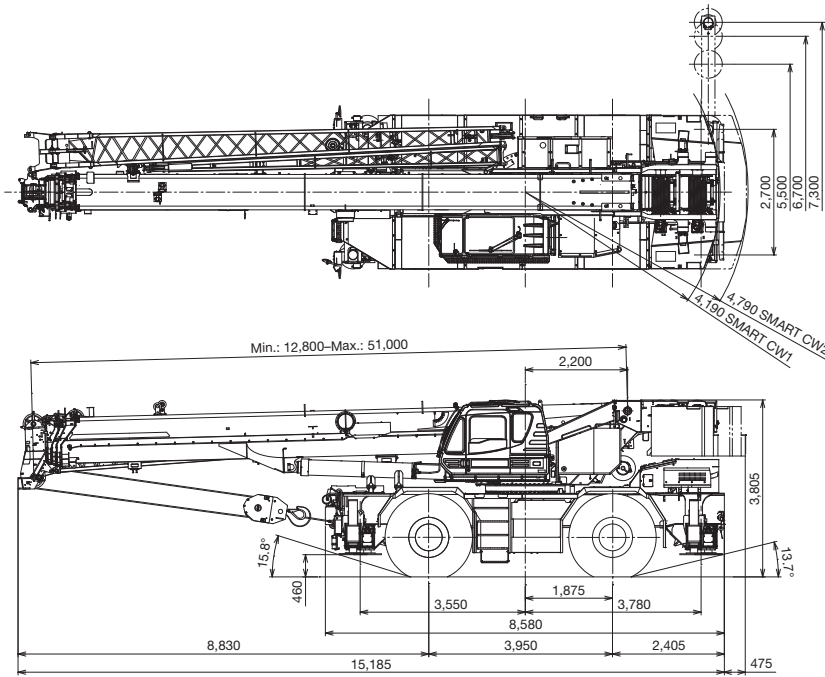
## GR-1000EX-4

### WORKING RANGE



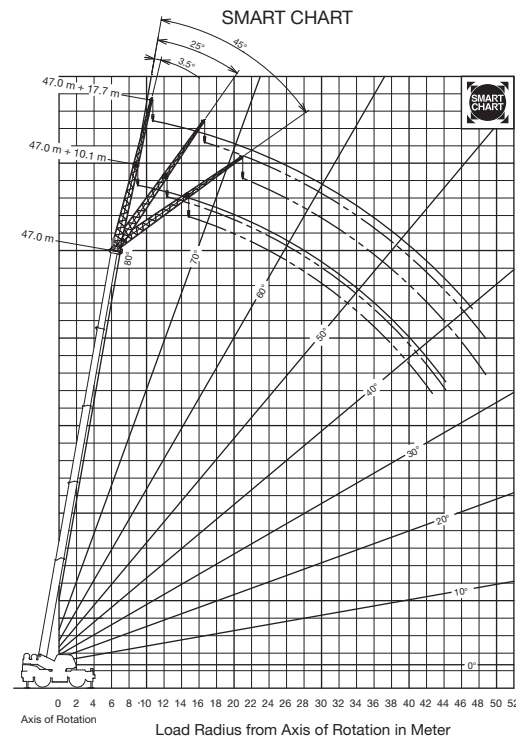
### DIMENSIONS

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



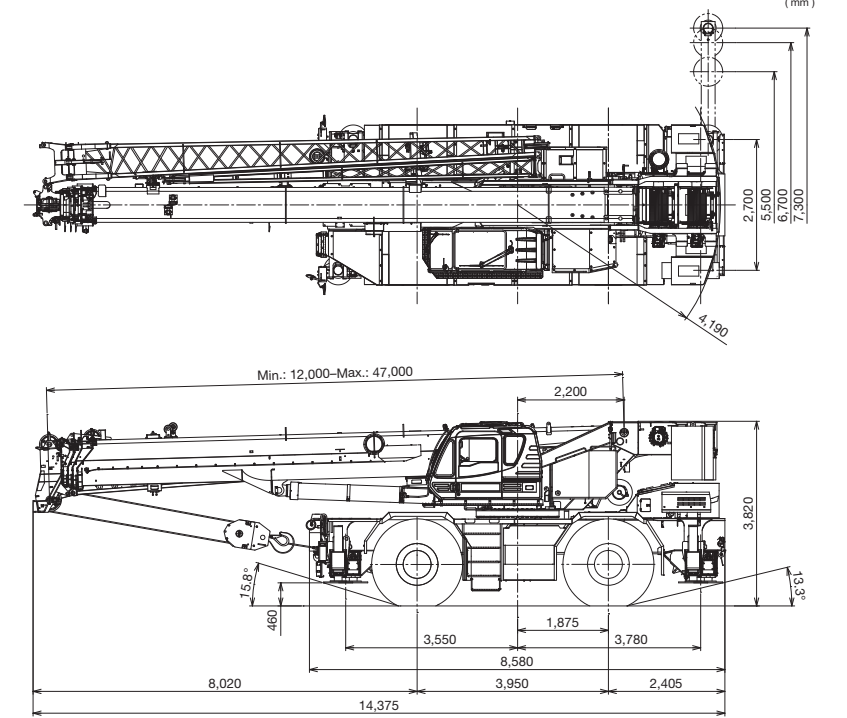
## GR-700EX-4

### WORKING RANGE



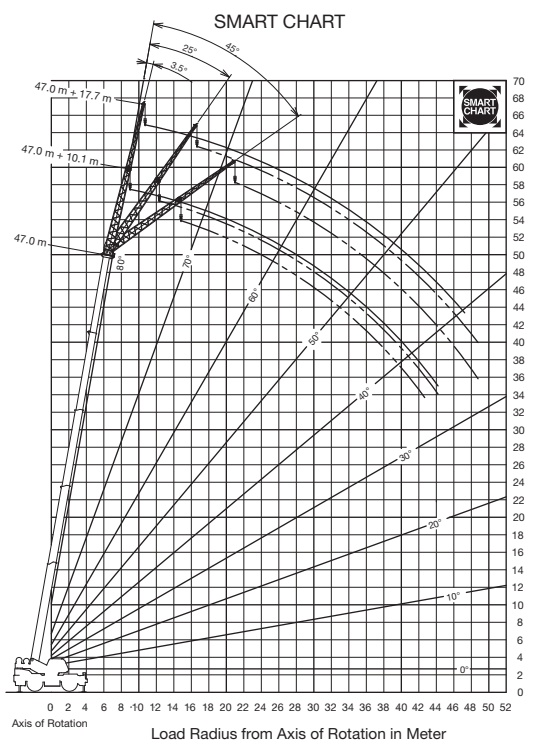
### DIMENSIONS

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



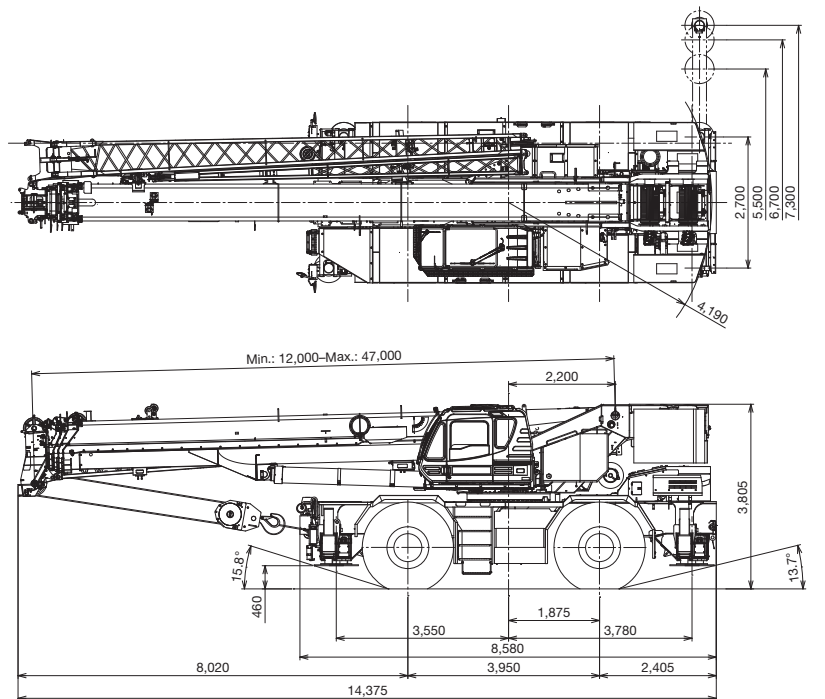
## GR-900EX-4

### WORKING RANGE

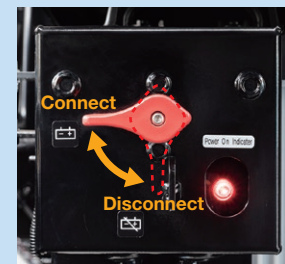
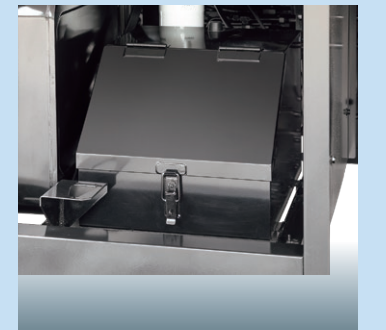


### DIMENSIONS

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



## Standard Equipment





**MODEL: GR-1100EX**

**SPECIFICATIONS**

<b>MAXIMUM CAPACITY PERFORMANCE</b>	110,000 kg at 2.5 m
Max. traveling speed	19 km/h
Gradeability (tan $\theta$ )	84% (at stall), 30%* * Machine should be operated within limit of engine crackcase design. (17°: MITSUBISHI 6M60-TLU3R)
<b>WEIGHT</b>	Gross vehicle mass -1st axle 55,474 kg -2nd axle 27,775 kg 27,699 kg
<b>MIN. TURNING RADIUS</b>	2-wheel steer: 11.9 m 4-wheel steer: 6.8 m (at center of extreme outer tire)
<b>BOOM</b>	6-section extended by single telescoping cylinder. Fully retracted length 12.0 m Fully extended length 56.0 m Extension speed 44.0 m in 340 s Angle -1.5°-81° Elevation speed 20° to 60° in 40 s
<b>JIB</b>	2 stage bi-fold lattice type; Single sheave at the head of both jib sections. Offset Length 3.5°, 25° or 45° 10.1 m, 17.7 m
<b>MAIN WINCH</b>	Variable speed type with grooved drum driven by hydraulic axial piston motor. Single line pull 9,900 kgf Single line speed 136 m/min. (at the 4th layer) Wire rope 19 mm x 300 m (Diameter x length)
<b>AUXILIARY WINCH</b>	Variable speed type with grooved drum driven by hydraulic axial piston motor. Single line pull 9,900 kgf Single line speed 117 m/min. (at the 2nd layer) Wire rope 19 mm x 158 m (Diameter x length)
<b>SLEWING</b>	Slewing speed 1.5 min <sup>-1</sup> {rpm} Tail slewing radius 4,390 mm
<b>HYDRAULIC SYSTEM</b>	Pumps... 2 variable piston pumps for crane functions. Tandem gear pump for steering, slewing and optional equipment. Control valves... Multiple valves actuated by pilot pressure with integral pressure relief valves. Reservoir... 763 lit. capacity. External sight level gauge. Oil cooler... Air cooled fan type.

<b>TADANO Automatic Moment limiter (TADANO AML-C)</b>	Following information is displayed: • Control lever lockout function with audible and visual pre-warning • 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 winch / auxiliary winch select • Drum rotation indicator (audible and visible type) main and auxiliary winch
<b>OUTRIGGERS</b>	4 hydraulic, beam and jack outriggers. Vertical jack cylinders equipped with integral holding valve. Each outrigger beam and jack is controlled independently from cab. Extension width Max. ... 7,300 mm, Mid. ... 5,500 mm & 6,700 mm, Min. ... 2,700 mm, Float size (Diameter)... 600 mm
<b>CARRIER</b>	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.
<b>ENGINE</b>	Model... MITSUBISHI 6M60-TLU3R Type... 4-cycle, turbo charged and after cooled, direct injection diesel. Piston displacement ... 7.54 liters Bore x stroke... 118 mm x 115 mm Max. output... Gross 200 kW at 2,600 min <sup>-1</sup> {rpm} Max. torque... 785 N·m at 1,400 min <sup>-1</sup> {rpm}
<b>TRANSMISSION</b>	Electronically controlled full automatic transmission.
<b>STEERING</b>	Hydraulic power steering controlled by steering wheel. 4 steering modes available: 2-wheel front, 2-wheel rear, 4-wheel coordinated and 4 wheel crab
<b>SUSPENSION</b>	Front: Rigid mounted to frame. Rear : Pivot mounted with hydraulic lockout device.
<b>TIRES</b>	29.5-25 34PR (OR)
<b>FUEL TANK CAPACITY</b>	300 lit.



Lifting your dreams

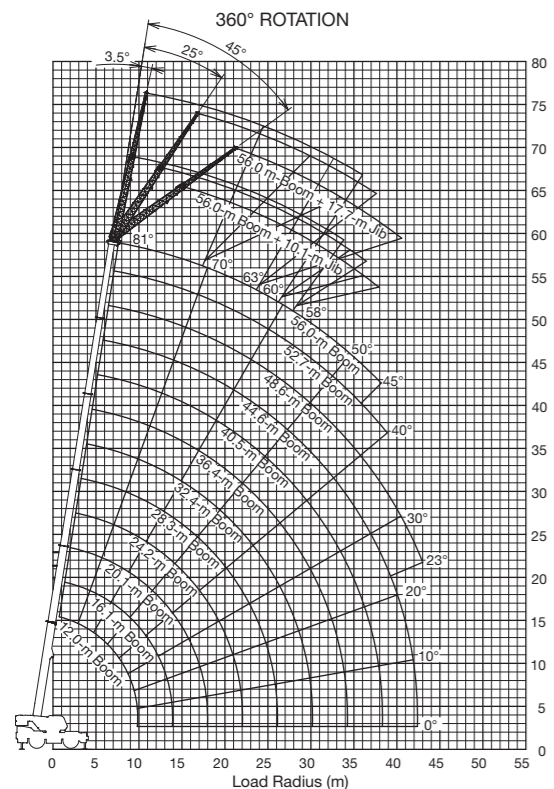
**ROUGH TERRAIN CRANE**

# GR-1100EX

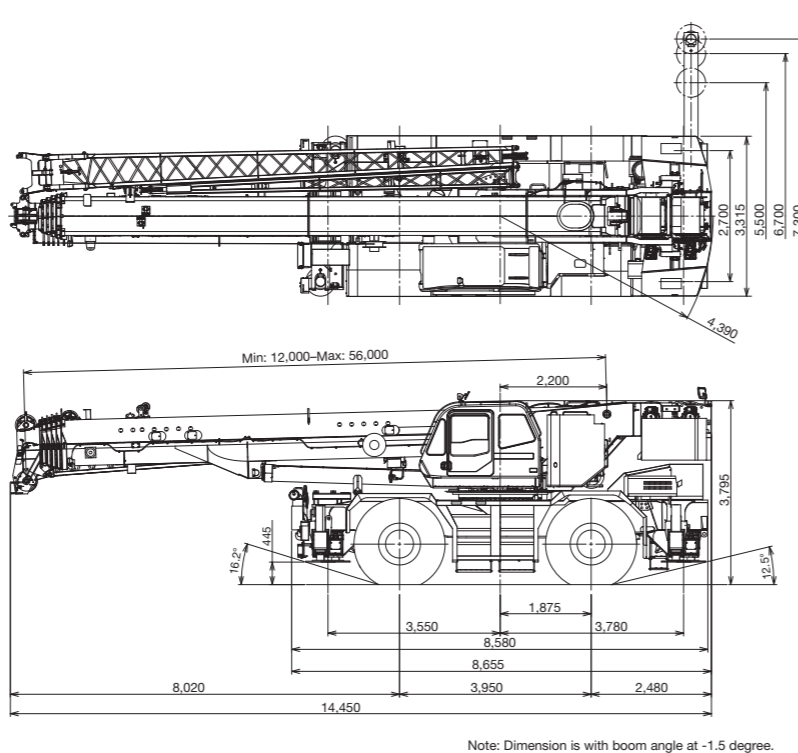
110 METRIC TON CAPACITY



**WORKING RANGE**



**DIMENSION**



Note: Some specifications are subject to change.



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<http://www.tadano.com/> E-mail: [info@tadano.com](mailto:info@tadano.com)



*The GR-1100EX:  
High Quality We Are Proud Of*

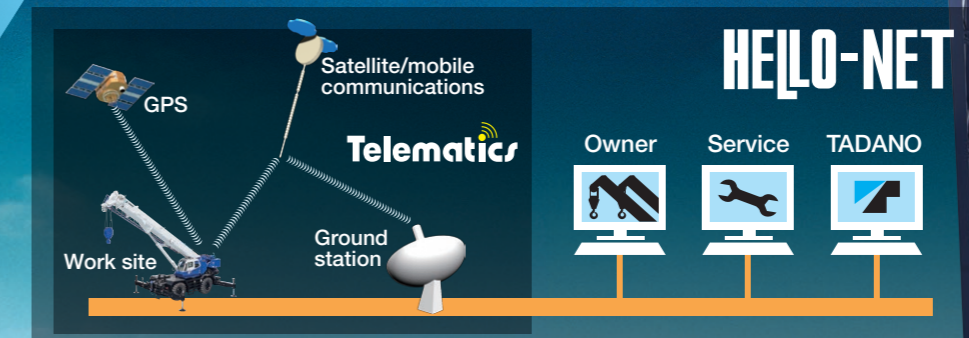




# Equipped with Satellite/Mobile Communications and Environmentally Friendly Features

## HELLO-NET

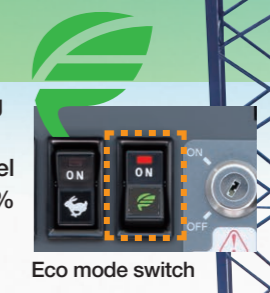
Hello-Net allows you to monitor crane activity directly from your computer or mobile device and is connected through satellite or mobile communications. It provides advanced customer support capability by providing operational information as well as the ability to manage inspection and maintenance schedules.



Note: HELLO-NET availability varies by country. For detail, please contact your distributor or our sales staff in charge.

## Eco mode

The Eco Mode System controls the maximum engine speed during crane operation. The system will reduce any unnecessary rise in engine speed when there is excessive acceleration and allow fuel consumption and CO<sub>2</sub> emissions to be reduced by a maximum 22% with Eco Mode 1, and maximum 30% with Eco Mode II. This also results in reduced noise levels.



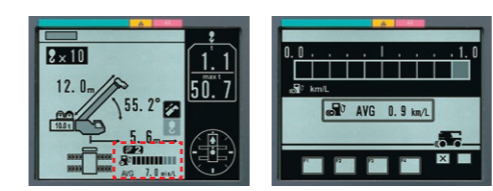
## Positive control

The Positive Control System effectively controls the hydraulic pump discharge during crane operation in direct response to the amount of movement applied by the operating control lever. Keeping the quantity of hydraulic pump discharge to a minimum, helps to reduce fuel consumption and CO<sub>2</sub> emissions by up to 20%.



## Fuel monitoring

The Fuel Monitoring System constantly monitors and displays fuel consumption conditions on the AML screen. Monitoring the screen indicator enables the operator to prevent wasteful acceleration and idling.



During crane operation    At traveling

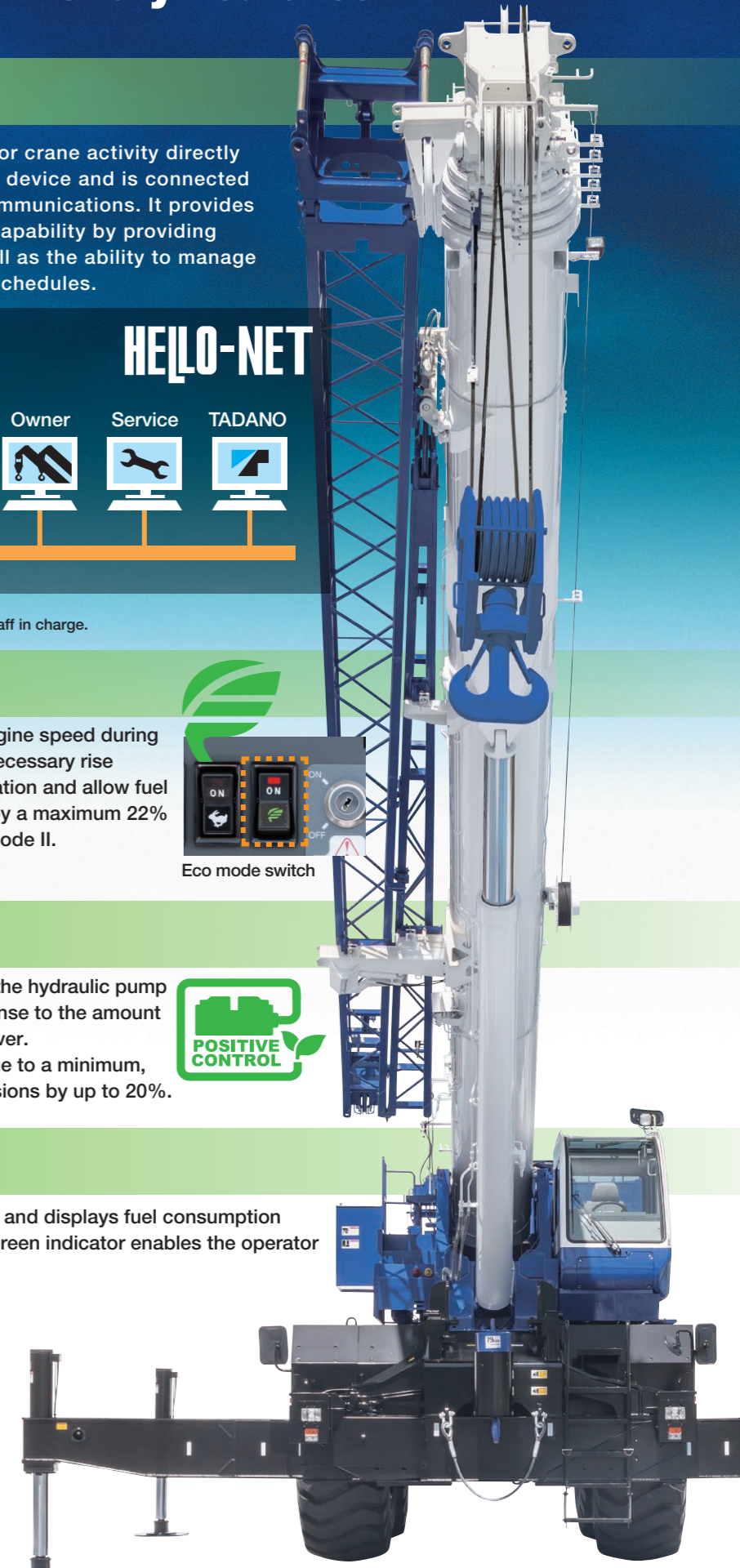


Crane capacity: 110,000 kg at 2.5 m  
 6-section long boom: 12.0 m–56.0 m  
 2-staged bi-fold jib: 10.1 m, 17.7 m  
 Max. lifting height: 56.1 m (Boom)  
 73.6 m (Jib)  
 Max. working radius: 44.0 m (Boom)  
 48.3 m (Jib)

# ROUGH TERRAIN CRANE GR-1100EX

## Compact Rough Terrain Crane with Improved Work Capacity

The GR-1100EX is a new, state-of-the-art crane with the largest lifting capacity among Tadano's two-axle rough terrain models. The crane sits on a compact two-axle carrier and comes with the longest boom of all Tadano's two-axle rough terrain cranes. It offers compactness—almost as small as the existing 100-ton-class rough terrain model—and is especially easy to transport. The new crane design provides improved safety, greater work efficiency, environmental considerations and exceptional quality. This new, next-generation crane is ready to work for you.





# Crane

The rounded boom is made of high tensile steel, which allows for decreased boom weight as well as increased boom strength. In addition, the high-performance AML-C ensures operational safety.

## Single telescopic cylinder

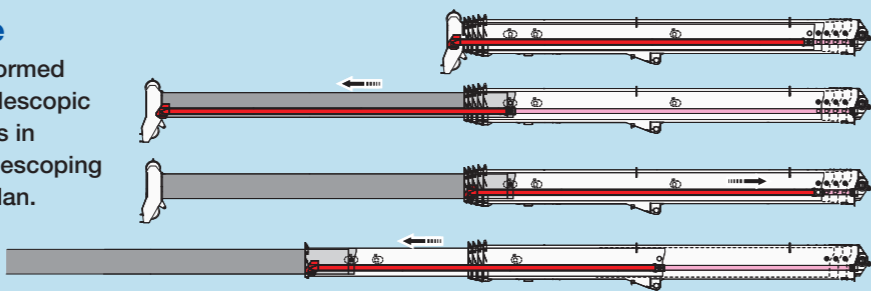
6 box type sections consisting of 1 base section and 5 telescopic sections are extended by a single telescopic cylinder. All sections are fully extended/retracted automatically and locked in the selected working position.

## Ultimate boom for rough terrain crane

The rounded boom constructed of high tensile steel contributes to decreased boom weight and increased boom strength.

## Outline of telescoping mode

Boom telescoping of the crane is performed with one telescoping cylinder. Each telescopic section is extended and fixed with pins in sequence from the top with several telescoping modes based on the designated job plan.



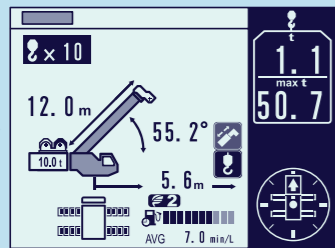
## Display telescoping status

The cylinder and each boom section's conditions are displayed on the AML using the Telescoping monitor switch.



Telescoping status indicator

## AML displays load moment indicator



No.	m	1	2	3	4	5
1	12.0	0	0	0	0	0
2	16.1	0	0	0	0	46
3	20.1	0	0	0	0	92
4	24.2	0	0	0	0	46
5	28.3	0	0	0	0	92
6	32.4	0	0	46	92	92
7	36.4	0	0	92	92	92
8	40.5	0	46	92	92	92
9	44.6	0	92	92	92	92

Telescoping menu screen

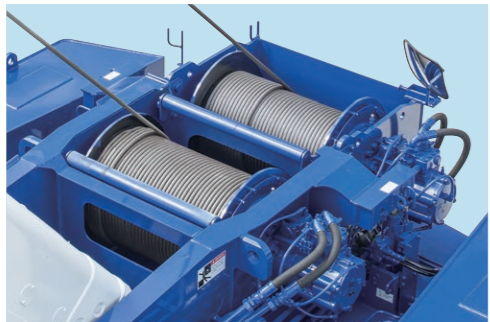
No.	m	1	2	3	4	5
1	12.0	0	0	0	0	0
2	1.00	0	0	0	0	0

Telescoping status screen

## Two winches with cable follower

Both the main winch and the auxiliary winch with powerful line pull operate at high speeds, serving to enhance work efficiency.

\*Maximum permissible line pull may be affected by wire rope strength.



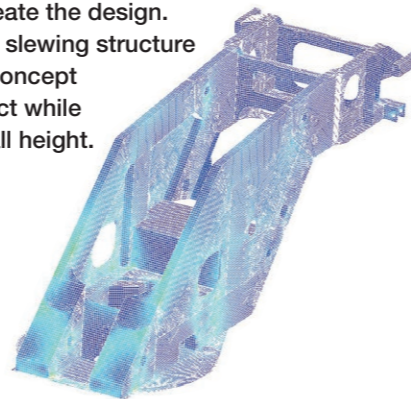
## New crane structure

When developing the crane structure, importance was attached to the shape that is best suited for crane operation.

FEM analysis was used to create the design.

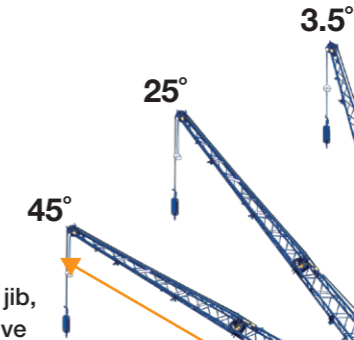
It was also important that the slewing structure be true to Tadano's original concept and be both rigid and compact while maintaining a desirable overall height.

\*FEM: Finite Element Method



## Assist cylinder for jib

When mounting and stowing the jib, an assist cylinder ensures effective operation by increasing the work efficiency of jib mounting and storage.



## Bi-fold jib

A two-stage, bi-fold lattice-type jib can be offset at 3.5°, 25°, and 45° to enable the crane to carry out jobs that require extra reaching ability.

10.1 m, 17.7 m

**Longest boom and improved capacity**  
12.0 m–56.0 m

## Operator comfort

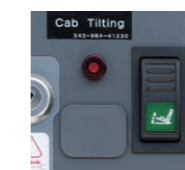
The crane cab provides improved livability and offers the operator a more comfortable working environment.



The control levers are smooth and responsive to the operators touch.

## Tiltable cab

You can operate the crane comfortably by tilting the cab during high hoisting operations such as lifting with the jib. The cab tilting angle is between 0° and 15°.



Cab tilt indicator and switch



-1.5° - 81.0°





## Automatic moment limiter [AML-C]



Tadano's new AML-C is easy to use. It allows the operator to simultaneously monitor: boom angle, boom length, operating pressure of the elevating cylinder, the extension width of outriggers, slewing position, rated lifting capacity and present hook load. All of this enables the AML-C to move easily through lifting capacity changes without changing configurations and codes to make a lift.

The AML-C provides both audio and visual warnings when a condition exists that will overload the crane and automatically employs our slow stop function to avoid shock loads.

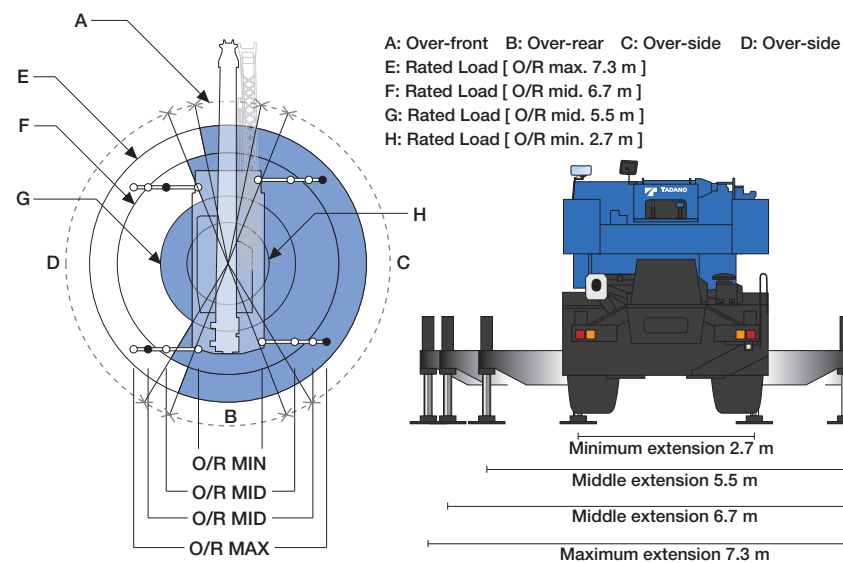
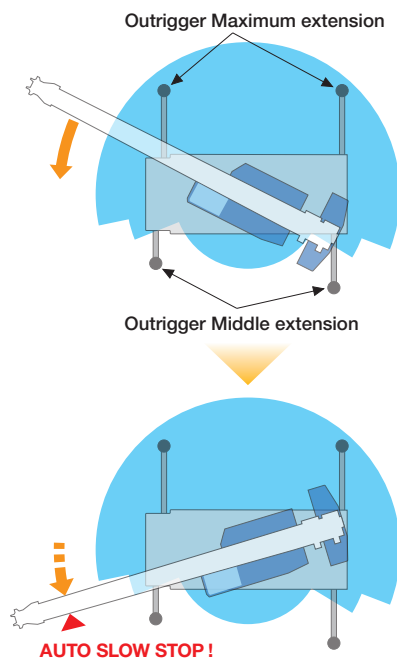
The AML-C with "OPERATOR" pre-set working range limits and automatic slow stop functions will assist the operator to deliver safe smooth operations.



AML lamp

## Control of asymmetric extension width of outriggers

When operating the crane with the asymmetric outriggers extended, the AML-C detects the extension width of all of the crane's outriggers (front, rear, left and right) to measure maximum work capacity in each area. When slewing the boom from the longer outrigger area to the shorter outrigger area, the AML-C detects the motion and displays the maximum capacity according to the extension width of each of the outriggers, and brings the motion to a slow stop before it reaches the maximum capacity. Regardless of operator awareness, the AML-C's slow stop function will help to minimize any safety risk.

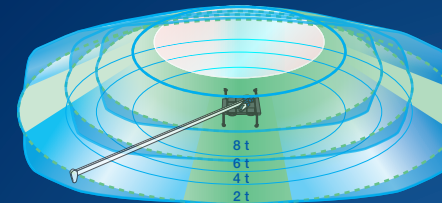


# Smart Chart system

The newly developed Smart Chart expands the working area, allowing you to get the best crane performance in any outrigger extension setup.

## In the case of GR-1100EX

Main Boom: 56.0 m  
 Outrigger: Maximum extension



An example of effects with the Smart Chart (Comparison with conventional control)

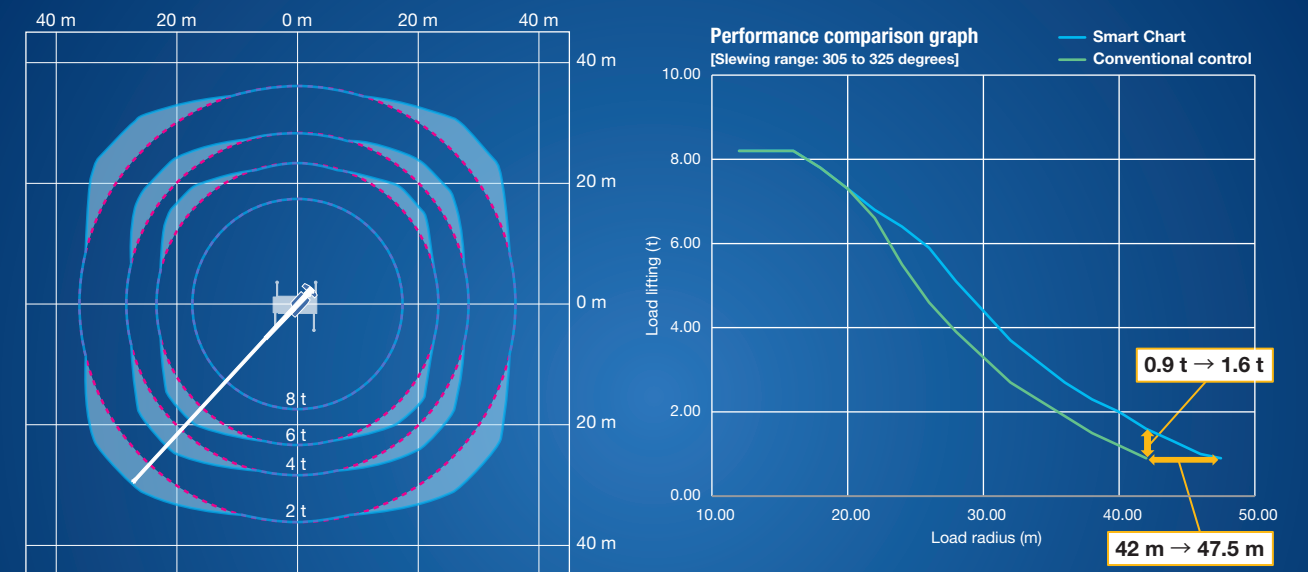
Load radius  
**42 m → 47.5 m**

Approx. **13%** expansion

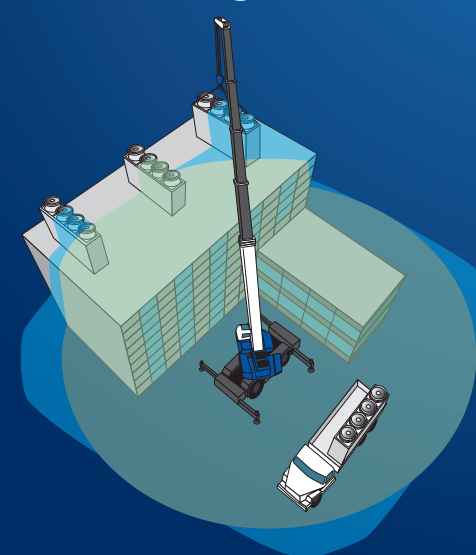
Load lifting capacity

**0.9 t → 1.6 t**

Approx. **78%** improvement



## New working area Smart Chart creates for you.



### In maximum outrigger extension setups

The Smart Chart taps the potential of a crane by expanding the conventional circular working area into a square one, improving work safety and efficiency.

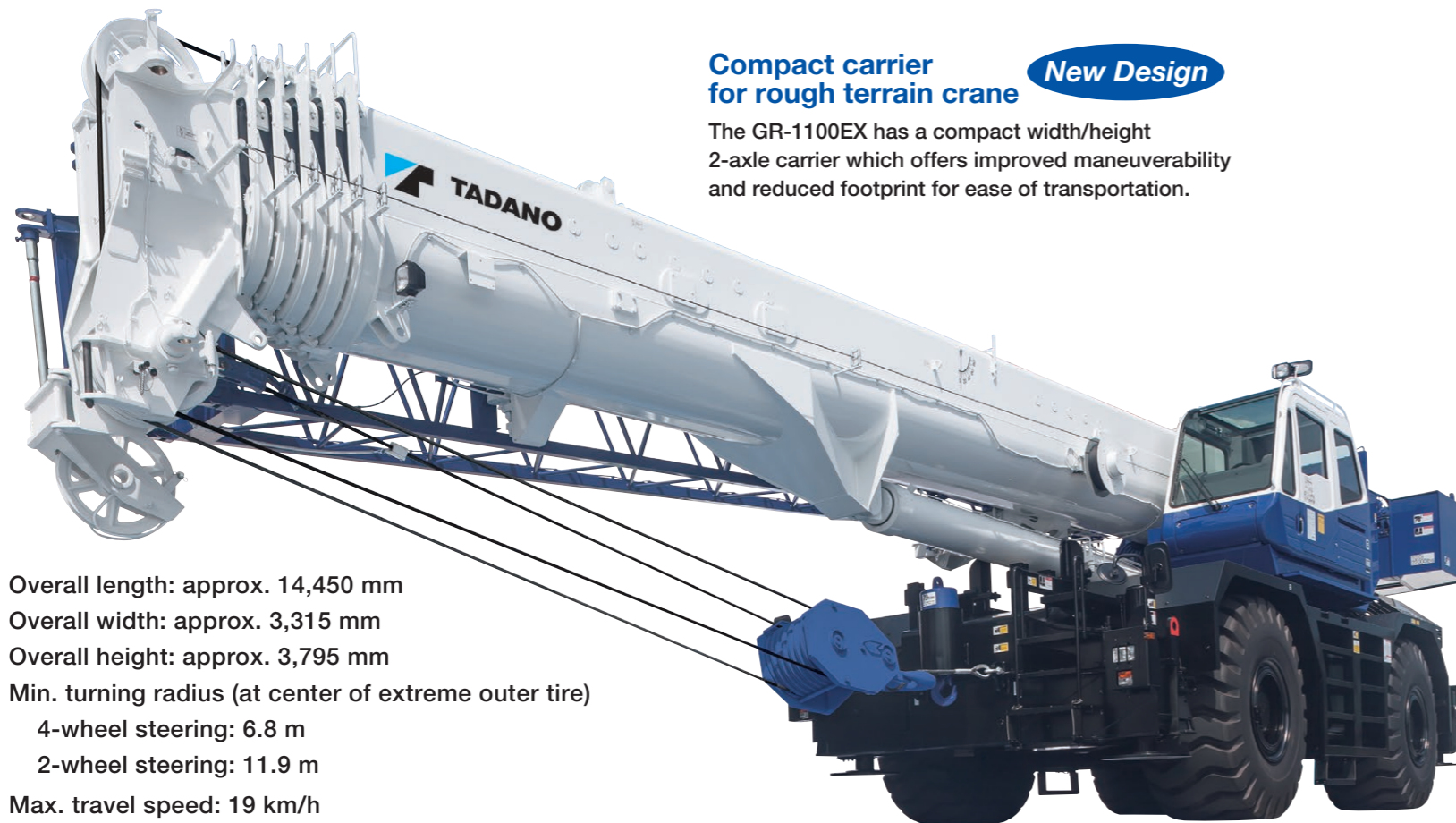


### In asymmetrical outrigger extension setups

In a site where all outriggers cannot be extended fully, the Smart Chart always draws out maximum work performance to support your job. Even in a work site where space is limited, the Smart Chart provides a safe and comfortable work environment.



# Carrier



## Compact carrier for rough terrain crane **New Design**

The GR-1100EX has a compact width/height 2-axle carrier which offers improved maneuverability and reduced footprint for ease of transportation.

- Overall length: approx. 14,450 mm
- Overall width: approx. 3,315 mm
- Overall height: approx. 3,795 mm
- Min. turning radius (at center of extreme outer tire)
  - 4-wheel steering: 6.8 m
  - 2-wheel steering: 11.9 m

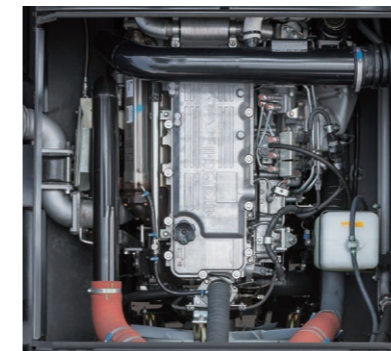
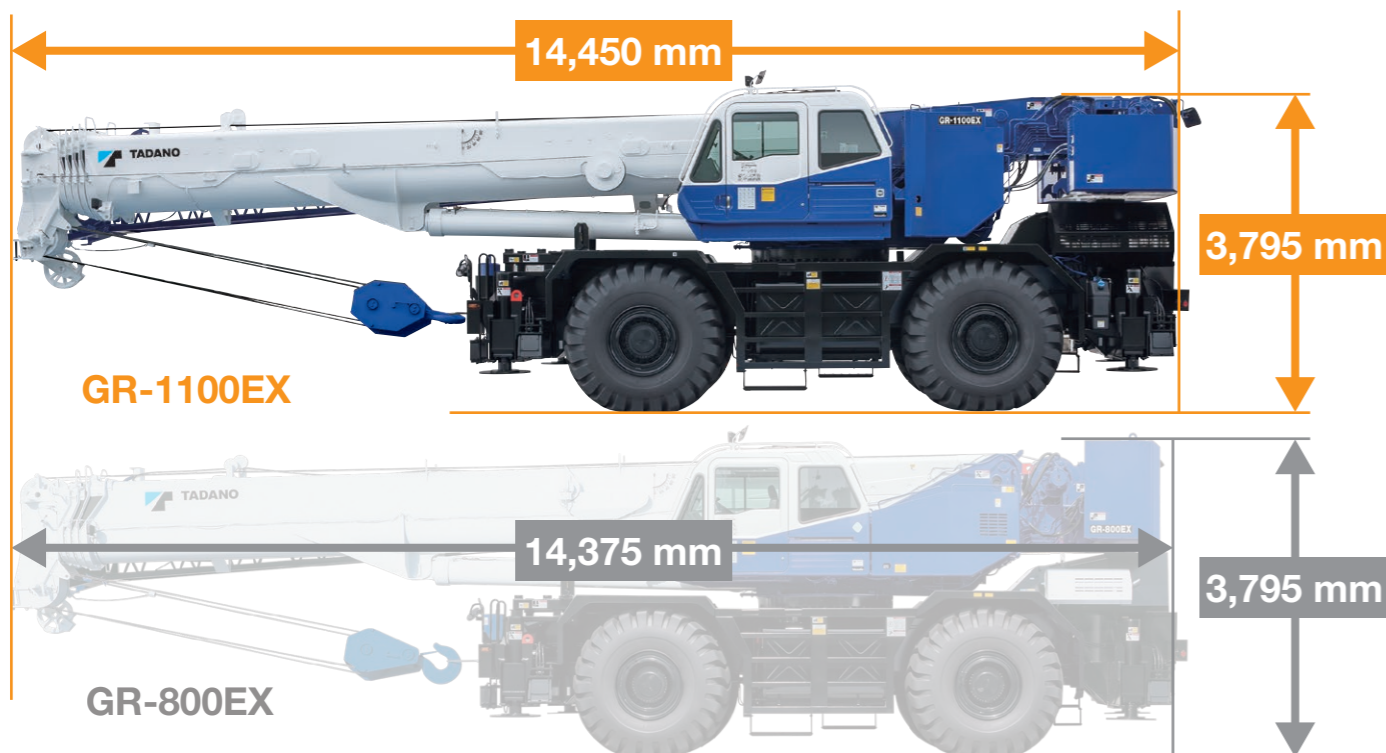
Max. travel speed: 19 km/h

Gradeability (tan  $\theta$ ): 84% (at stall), 30%\*

\* Machine should be operated within the limit of engine crankcase design (17°: MITSUBISHI 6M60-TLU3R)

## Highly Maneuverable Compact Carrier

The GR-1100EX features a compact carrier that is nearly the same size as Tadano's smaller capacity GR-800EX. Its compactness makes the GR-1100EX both highly maneuverable and easy to transport.



## High performance engine

MITSUBISHI 6M60-TL

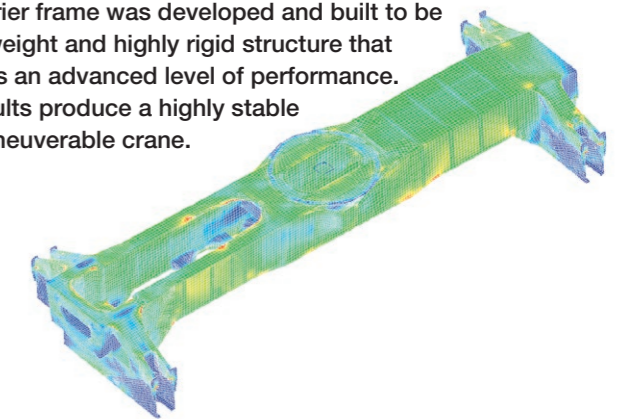
4-cycle, turbo charged and after cooled, direct injection diesel engine.

Max. output: 200 kW at 2,600 min<sup>-1</sup> {rpm}

Max. torque: 785 N-m at 1,400 min<sup>-1</sup> {rpm}

## New carrier frame

The carrier frame was developed and built to be a light weight and highly rigid structure that achieves an advanced level of performance. The results produce a highly stable and maneuverable crane.



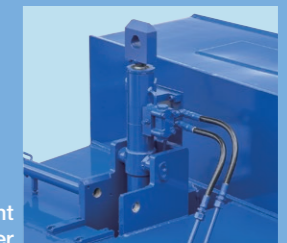
## Mounting and dismounting systems



### Self-removable counterweight

Counterweight is hydraulically mounted and dismantled; in addition, dismantled counterweights can be lifted and moved for transport, and then remounted for operation at a work site without a helper crane.

Counterweight mounting/dismounting remote controller

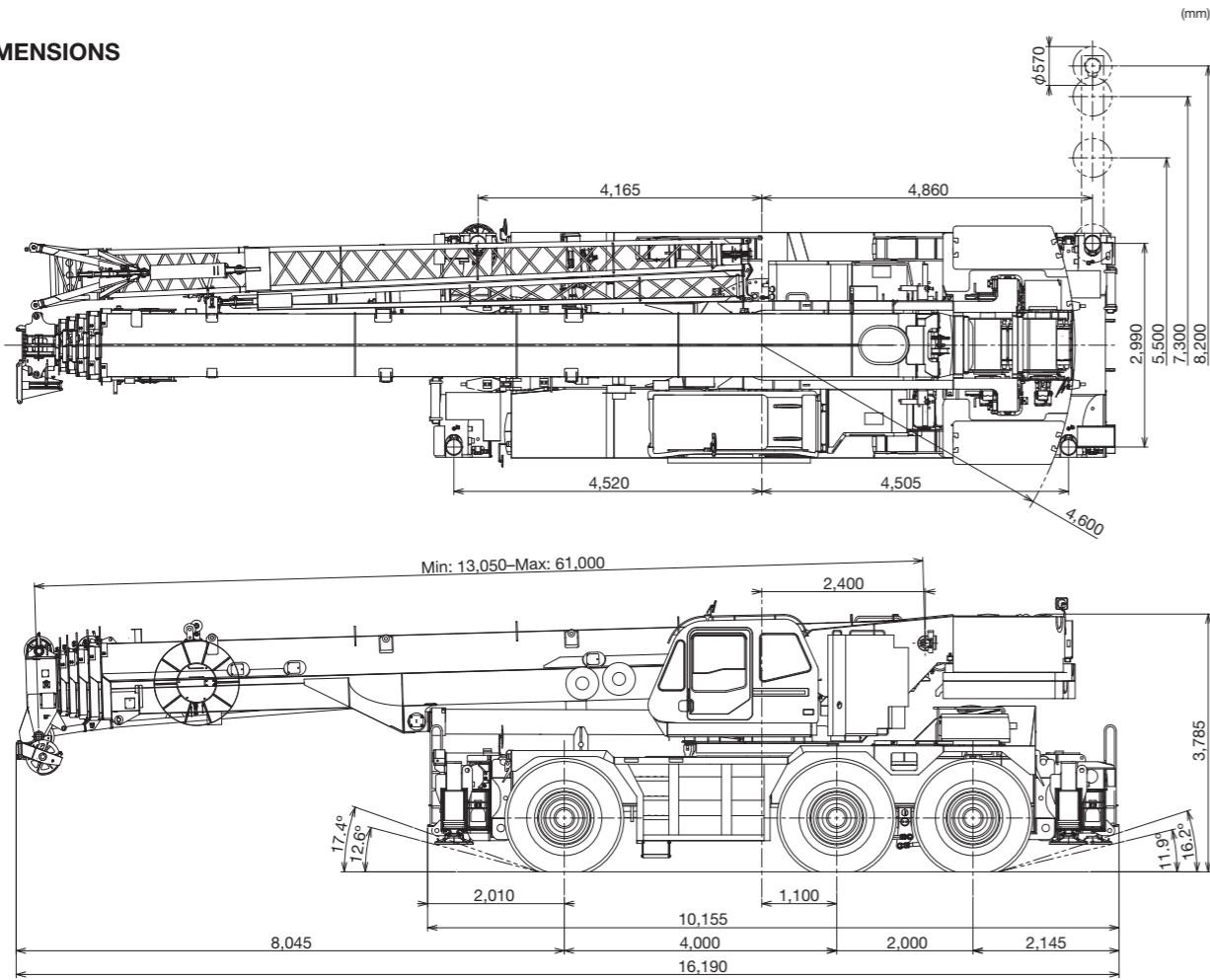


Counterweight mounting/dismounting cylinder





DIMENSIONS



Front



Left



Rear



Right

Photo: Hydraulic offset jib

\*Some specifications are subject to change



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GR-1450EX-2-E-16-3-025-63-518-B1  
 Printed in Japan



Lifting your dreams

ROUGH TERRAIN CRANE

# GR-1450EX

145 METRIC TON CAPACITY

ROUGH  
 TERRAIN  
 CRANE



Photo: Hydraulic offset jib

*The GR-1450EX:  
 High Quality We Are Proud Of*





Crane capacity: 145,000 kg at 2.5 m  
 6-section long boom: 13.1 m - 61.0 m  
 2-staged bi-fold jib: 10.3 m / 18.0 m  
 Insert jib (option): 7.0 m (1 pce.)  
   14.0 m (2 pcs.)  
 Short jib (option): 3.6 m

# ROUGH TERRAIN CRANE GR-1450EX

Photo: Hydraulic offset jib

## The world's largest rough terrain crane just got better!

Introducing a brand-new option for Tadano's rough terrain crane with the highest lifting capacity in class worldwide! Get more done than ever before with our new heavy lift jib. Where previous generations of cranes would be limited, the GR-1450EX can lift higher and heavier loads with this addition. We are also now offering an insert lattice jib, which is a flexible option for operating at height in large facilities such as refineries or petrochemical factories. These new items were designed to maximize work efficiency and expand your abilities. The GR-1450EX never stops evolving.

## Plenty of new functions incorporated!

### HELLO-NET

It is a crane management system available to be used via the Internet that is capable of taking a grip on crane operating conditions, a machine location and so forth in a timely manner which serve to widen the service area differs according to individual countries.



Note: HELLO-NET availability varies by country. For detail, please contact your distributor or our sales staff in charge.

### Eco mode

The system controls the maximum engine speed during crane operation. In addition, due to curbing an unnecessary rise in the engine speed that occurs when accelerated to excess, the system enables CO<sub>2</sub> emissions and fuel consumption to decrease by max. 13 % with Eco mode 1 employed, and max. 21 % when Eco mode 2 is applied. In addition, it realizes a low level of noise.



### Positive control

The system effectively controls the quantity of hydraulic pump discharge at the time of crane operation in response to the amount of movement applied by the operating lever. Additionally, it keeps the quantity of hydraulic pump discharge to a minimum, reducing CO<sub>2</sub> emissions and fuel consumption by up to 20 %.

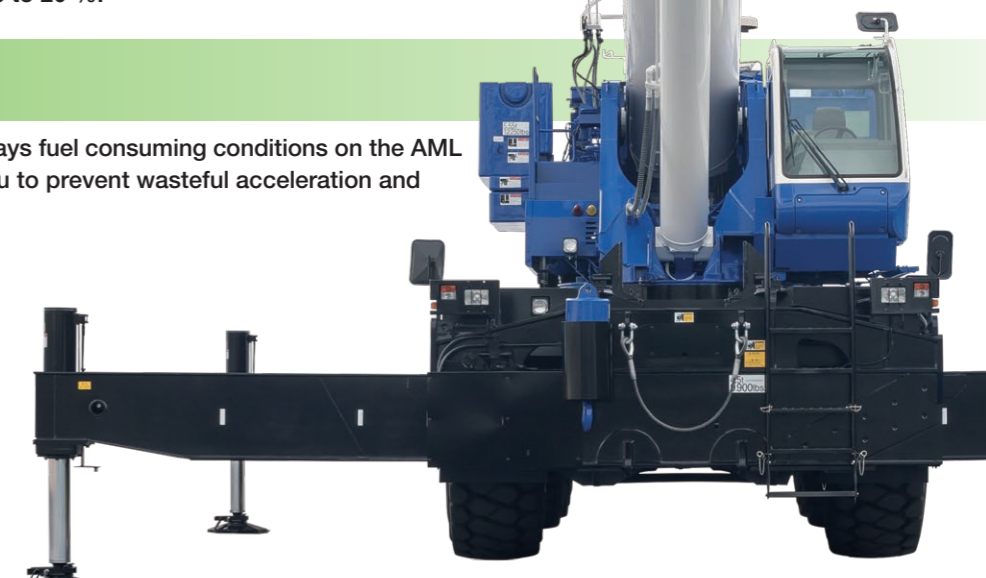


### Fuel monitoring

The system constantly monitors and displays fuel consuming conditions on the AML screen. Checking the indicator enables you to prevent wasteful acceleration and wasteful standby.



During crane operation    At traveling





# Crane

The rounded boom is made of high tensile steel, which allows for decreased boom weight as well as increased boom strength. The high performance AML-C comes standard and helps the operator maintain safe operations.

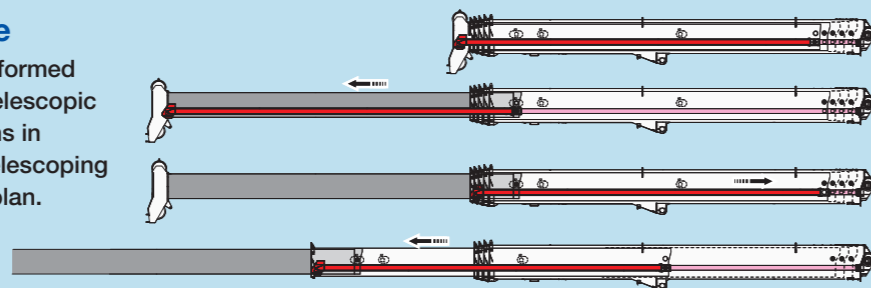
Ultimate boom for rough terrain crane

## Single telescopic cylinder

For extension and retraction of sections, 6 section box type construction consist of 1 base section and 5 telescopic sections are extended by a single telescoping cylinder. All sections are fully extended/retracted automatically and locked in the selected working position.

## Outline of telescoping mode

Boom telescoping of this crane is performed with one telescoping cylinder. Each telescopic section is extended and fixed with pins in sequence from the top with several telescoping modes based on the designated job plan.



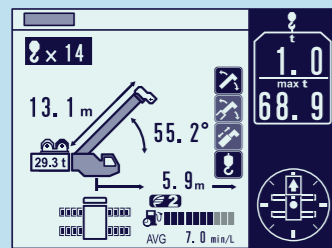
## Display telescoping status

A single cylinder and each section of boom actual condition are displayed on the AML by Telescoping monitor switch.

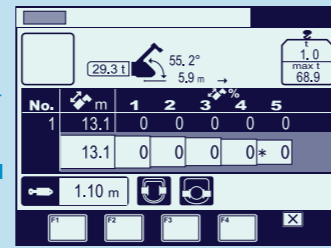


Telescoping status indicator

## AML displays load moment indicator



No.	m	1	2	3	4	5
1	13.1	0	0	0	0	0
2	17.4	0	0	0	0	45
3	21.8	0	0	0	0	90
4	26.2	0	0	0	45	90
5	30.6	0	0	0	90	90
6	35.0	0	0	40	90	90
7	39.4	0	0	90	90	90
8	43.8	0	40	90	90	90
9	48.2	0	90	90	90	90

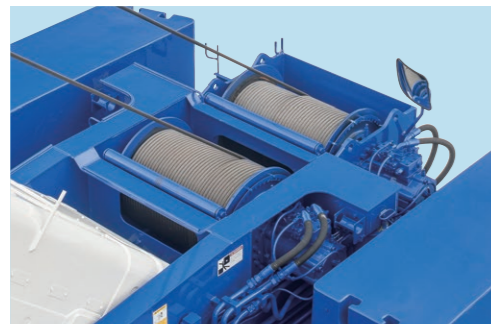


Telescoping status screen

## Two winches with cable follower

Both the main winch and the auxiliary winch with powerful line pull operate at high speeds, thus serving to enhance work efficiency.

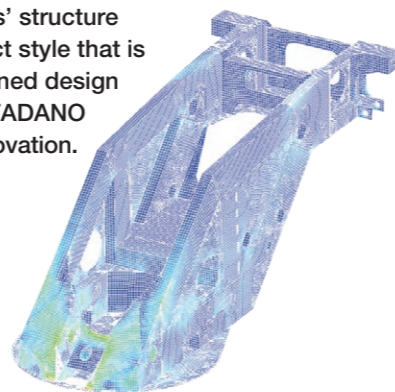
\*Maximum permissible line pull may be affected by wire rope strength.



## New crane structure

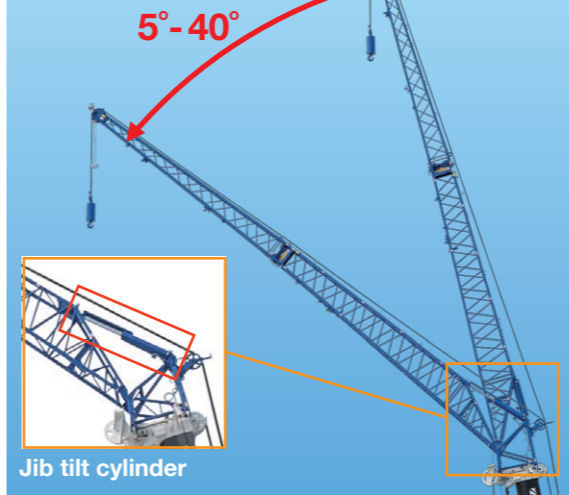
During the development of the structural shape of the crane, \*FEM analysis was applied to achieve a design tailored for optimal operation. The slewing frames' structure ensures a highly rigid, compact style that is well suited for the overall planned design of the crane. Continuing the TADANO tradition of excellence and innovation.

\*FEM: Finite Element Method



## Hydraulic offset jib (5°-40°)

Hydraulic offset jib can be adjusted between 5° to 40° by the jib tilt cylinder.



Jib tilt cylinder

Max. lifting height:  
 61.3 m [Boom]  
 92.0 m [Hydraulic offset jib + insert jib]  
 92.2 m [Manual offset jib + insert jib]

10.3 m / 18.0 m

## Bi-fold jib

A two-stage, bi-fold lattice-type jib can be offset at 0°, 20°, and 40° to enable the operator to carry out jobs that require extra reaching ability.

## Insert jib (2 pcs.)

\*Option

14.0 m

## Insert jib (1 pce.)

\*Option

7.0 m

## Longest boom in its class

13.1 m-61.0 m

## New Insert jib

\*Option  
 The new insert jib can be used for reaching higher place where the boom cannot reach.

## New Short jib

\*Option

Two offset angle (20° and 40°), new short jib can be used for lifting heavy load in tight spaces.

## Tiltable cab

You can operate the crane comfortably by tilting the cab during high hoisting operations such as lifting with the jib.

The cab tilting angle is between 0° and 15°.



Cab tilt indicator and switch



81.5°

Photo: Manual offset jib



## Automatic moment limiter [AML-C]



Tadano's new AML-C is easy to use. It allows the operator to simultaneously monitor: boom angle, boom length, operating pressure of the elevating cylinder, the extension width of outriggers, slewing position, rated lifting capacity and present hook load. All of this enables the AML-C to move easily through lifting capacity changes without changing configurations and codes to make a lift.

The AML-C provides both audio and visual warnings when a condition exists that will overload the crane and automatically employs our slow stop function to avoid shock loads.

The AML-C with "OPERATOR" pre-set working range limits and automatic slow stop functions will assist the operator to deliver safe and smooth operations for years to come.



AML lamp

## Control of asymmetric extension width of outriggers

When operating the crane with the asymmetric outriggers extended, the AML-C automatically detects the extension width of outriggers at the front and rear, and to the left and right of the crane to allow maximum work capacity in each area.

When slewing the boom from the longer outrigger area to the shorter outrigger area, the AML-C automatically detects the motion and displays the maximum capacity depending on each of the extension widths of outriggers, and brings the motion to a slow stop before it reaches the limits of the allowed capacity.

Therefore, even in the case of operator error, the AML-C's slow stop function will help to minimize any safety risk.

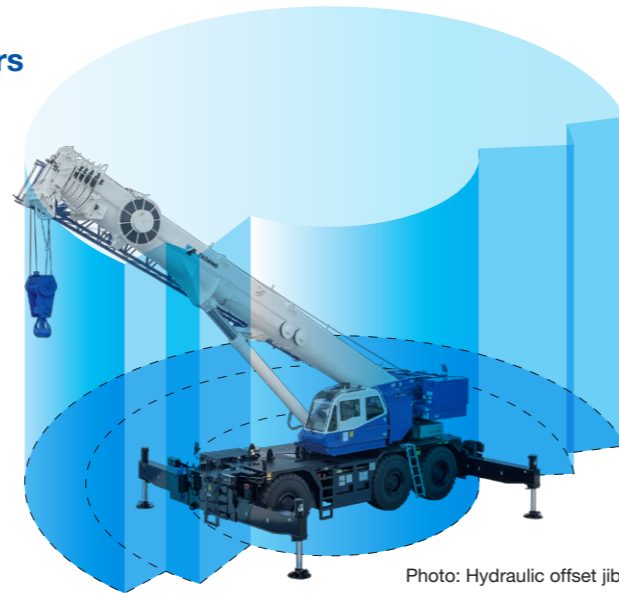
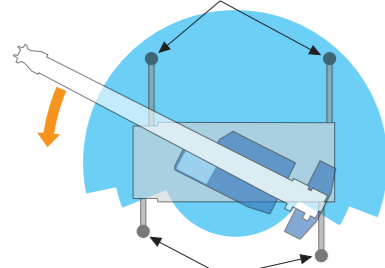
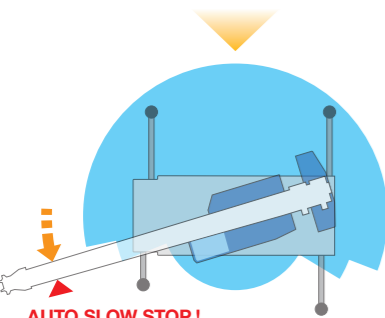


Photo: Hydraulic offset jib

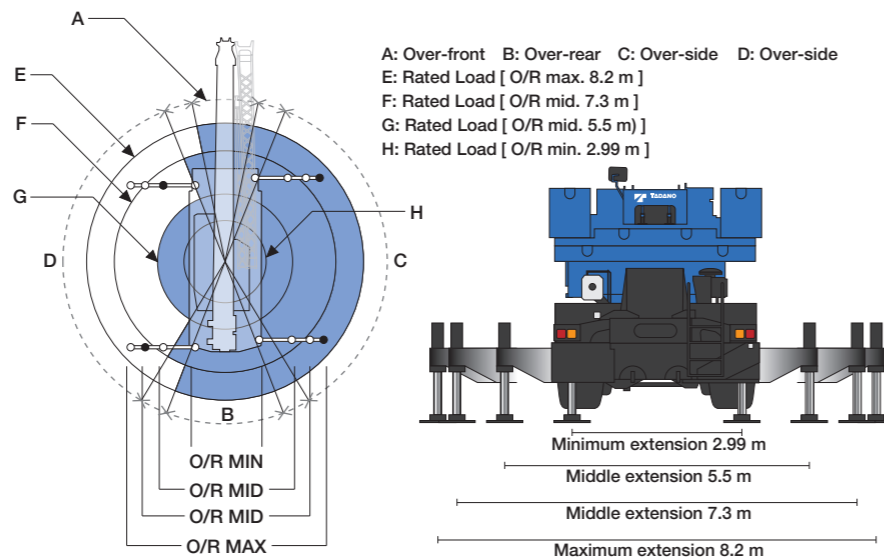
Outrigger Maximum extension



Outrigger Middle extension



AUTO SLOW STOP!



## Operator comfort

The crane cab provides improved livability and offers the operator a more comfortable working environment.

The control levers are smooth and responsive to the operators touch.



Front steps



Rear steps



Left side steps



Air conditioner  
 Hot-water heater and air conditioning.

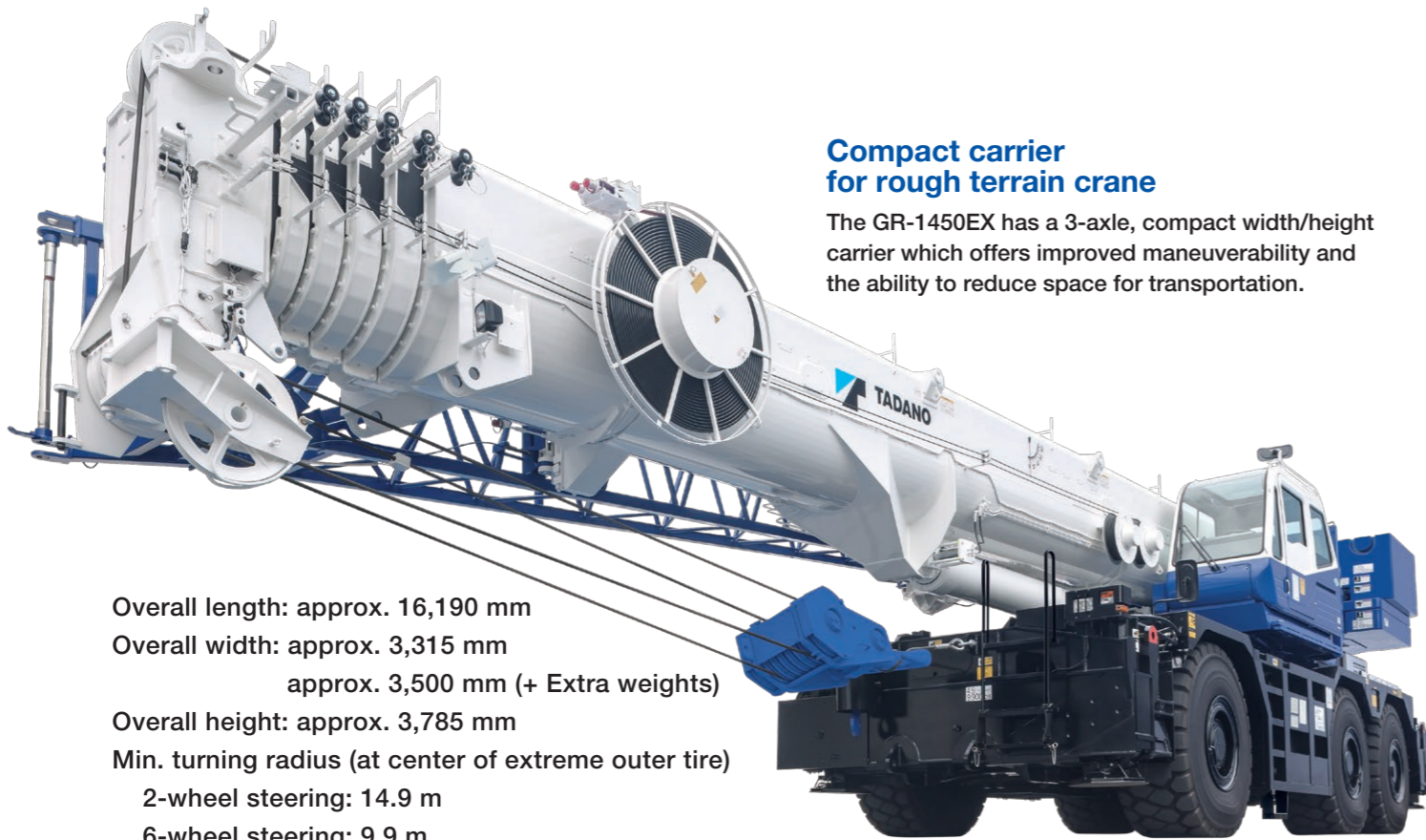


Tool box



Aviation obstruction light (option)  
 and anemometer (option)





## Compact carrier for rough terrain crane

The GR-1450EX has a 3-axle, compact width/height carrier which offers improved maneuverability and the ability to reduce space for transportation.

- Overall length: approx. 16,190 mm
- Overall width: approx. 3,315 mm  
approx. 3,500 mm (+ Extra weights)
- Overall height: approx. 3,785 mm
- Min. turning radius (at center of extreme outer tire)
  - 2-wheel steering: 14.9 m
  - 6-wheel steering: 9.9 m
- Max. traveling speed (with counterweight): 15 km/h
- Gradeability (tan  $\theta$ ) (with 18.2t counterweight): computed 52 % (at stall) \*30 %
- \* Machine should be operated within the limit of engine crankcase design (17': Mitsubishi 6M60-TL).

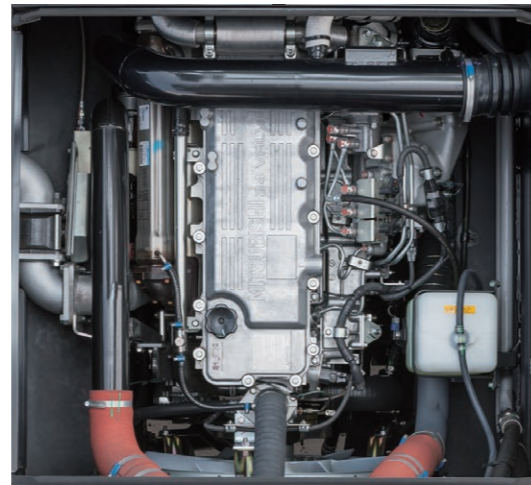
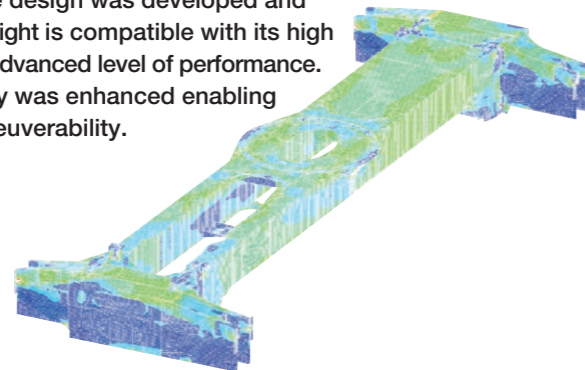
Photo: Hydraulic offset jib

## Smooth transmission

- Electronically controlled, fully automatic transmission.
  - Torque converter driving full power shift with driving axle selector.
  - 5 forward and 2 reverse speeds, constant mesh.
- 2 speeds - High range - 2 wheel drive ; 4 wheel drive  
3 speeds - Low range - 4 wheel drive

## New carrier frame

The new carrier frame design was developed and built so that its lightweight is compatible with its high rigidity to achieve an advanced level of performance. As a result, the rigidity was enhanced enabling highly stabilized maneuverability.



## High performance engine

Mitsubishi 6M60-TL  
4 cycle, turbo charged and after cooled,  
6 cylinder in line, direct injection, water cooled diesel engine.

Max. output: 200 kW at 2,600 min<sup>-1</sup> {rpm}  
Max. torque: 785 N-m at 1,400 min<sup>-1</sup> {rpm}



## Axle

- 1st: Full floating type, steering and driving axle with planetary reduction and open differential.
- 2nd: Steering and not driving axle.
- 3rd: Full floating type, steering and driving axle with planetary reduction and open differential.

## Brake systems

- Service: Air over hydraulic disc brakes on all 6 wheels.
- Parking/Emergency: Spring applied-air released brake acting on input shaft of 1st and 3rd axle.
- Auxiliary: Electro-pneumatic operated exhaust brake.

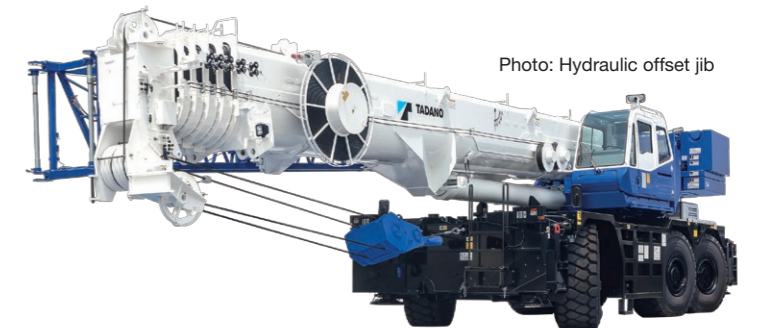
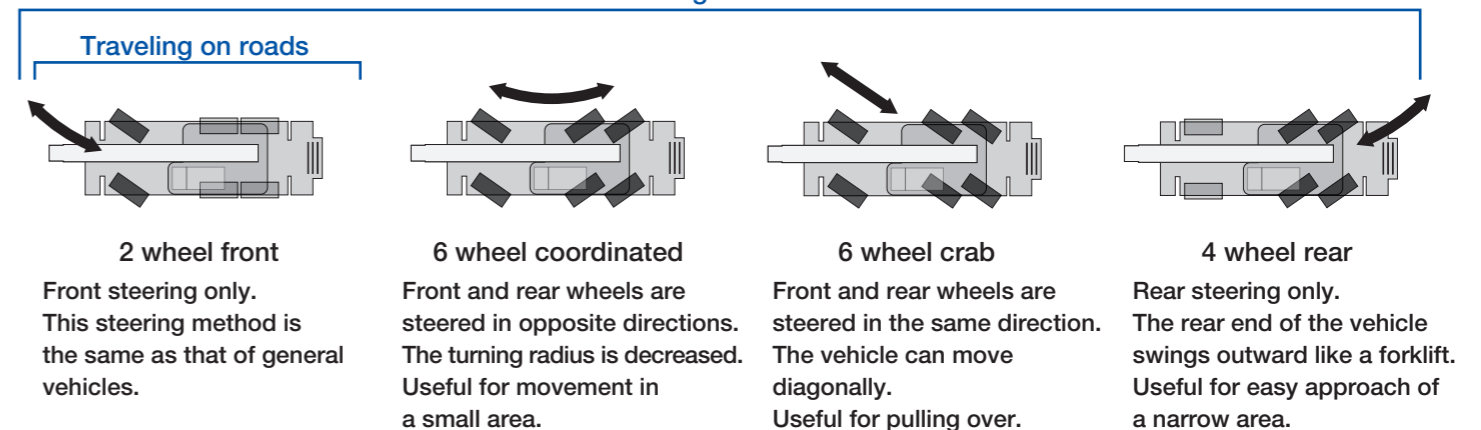


Photo: Hydraulic offset jib

## 4 Steering mode

Hydraulic power steering controlled by steering wheel.

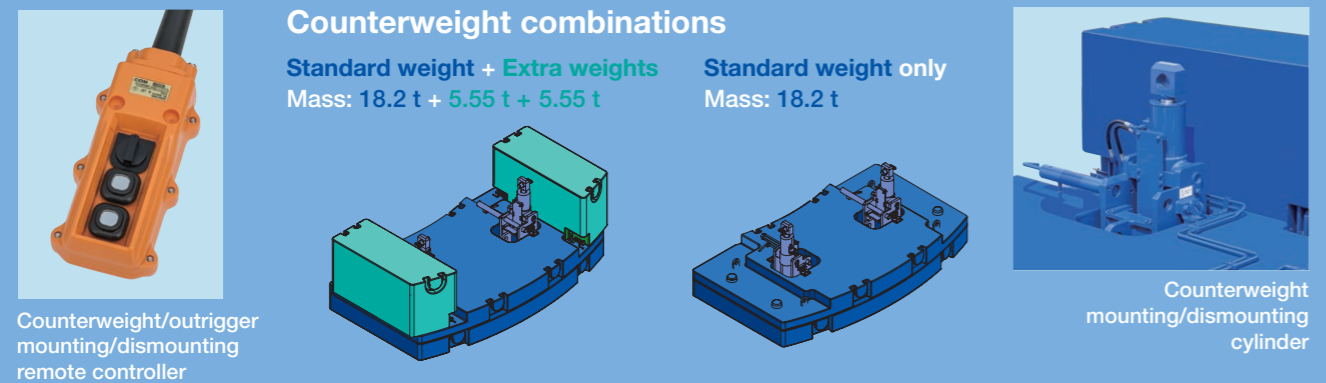
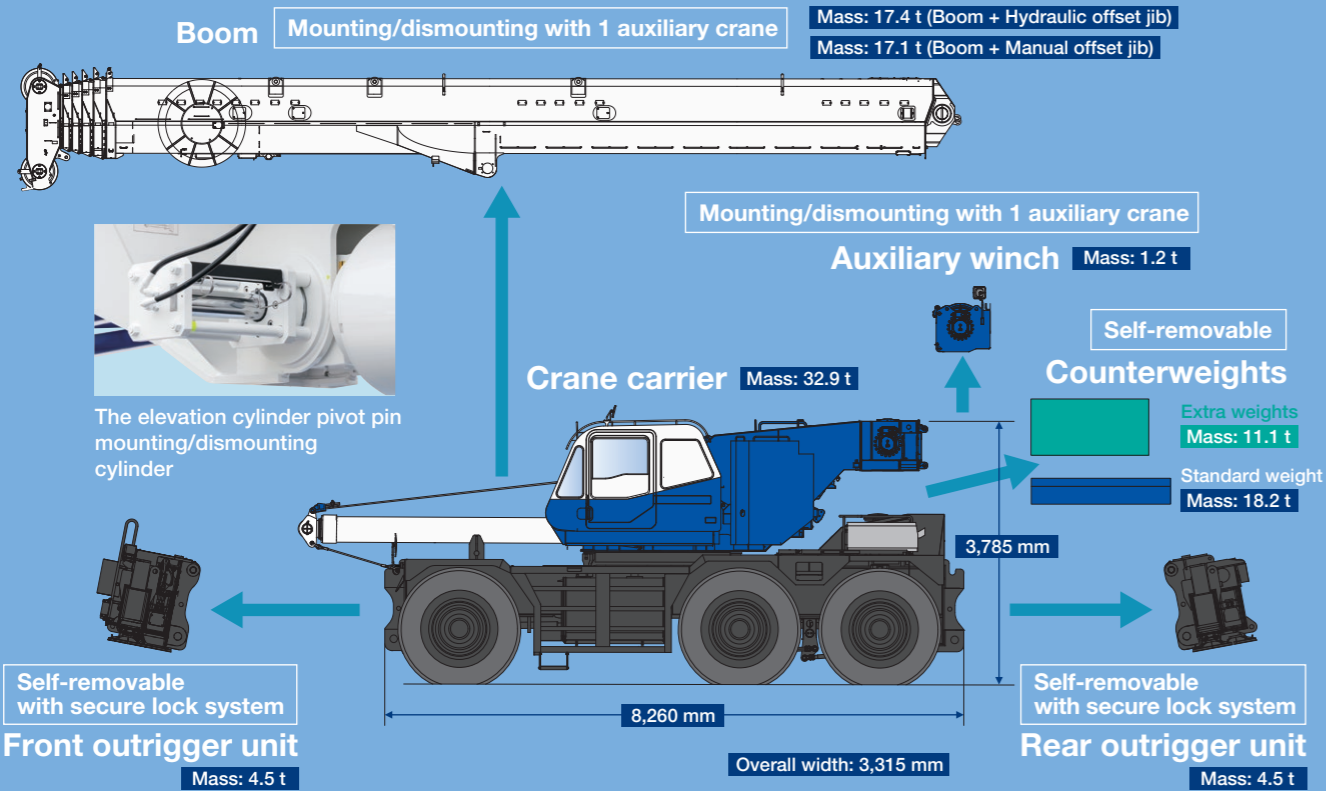
### Driving in work site





# Mounting and dismounting systems

The GR-1450EX has several mounting and dismounting systems for traveling and transportation. Only the boom mounting/dismounting system is optional.



## Self-removable counterweight

Counterweight along with an auxiliary winch is hydraulically mounting/dismounting; in addition, dismantled counterweights can be lifted and moved for transport without a helper crane, as well as being re-mounted at a work site for operation.

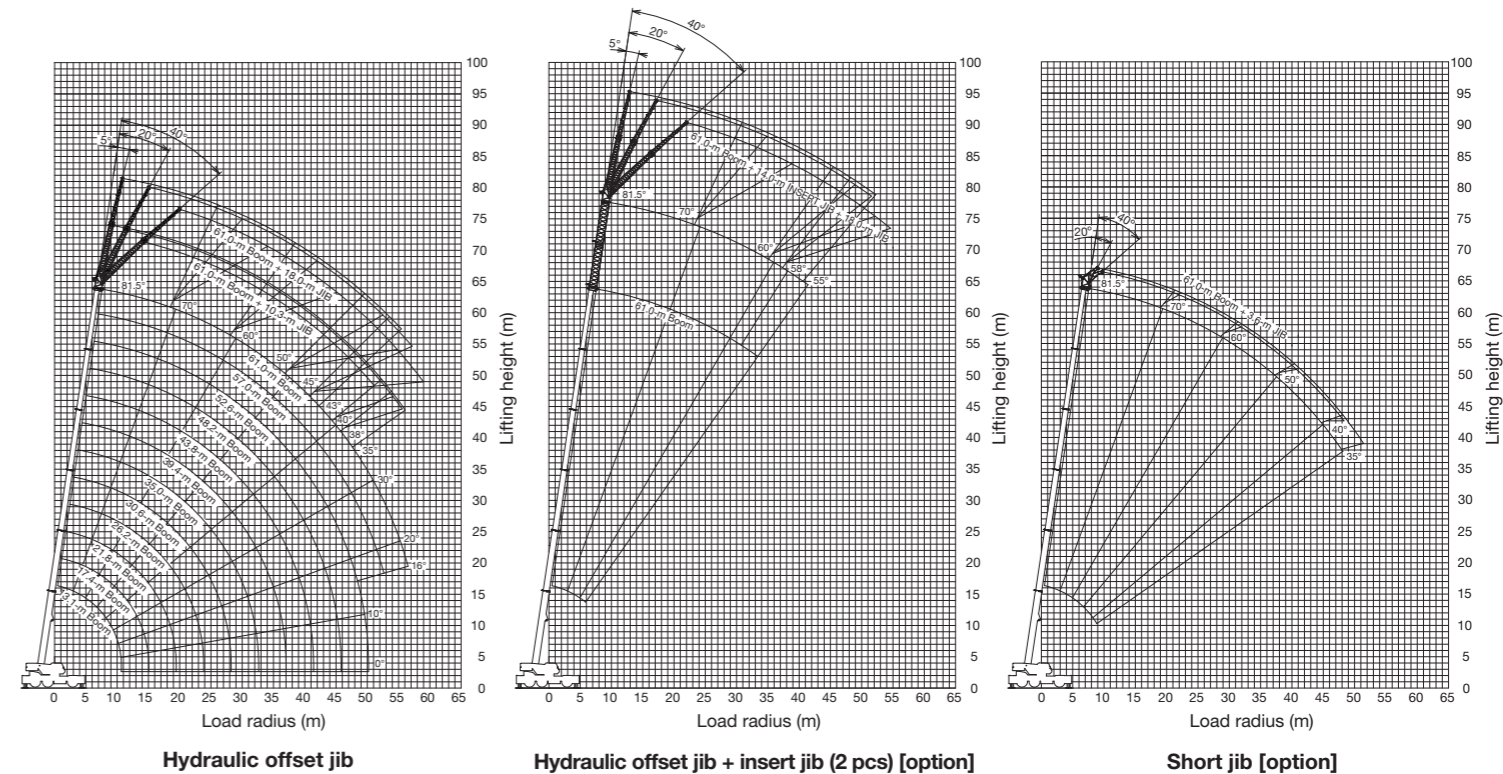


## SPECIFICATIONS

<b>MAXIMUM CAPACITY</b>	145,000 kg at 2.5 m
<b>PERFORMANCE</b>	
Max. traveling speed (with counterweight)	15 km/h
Gradeability (tan θ)	52% (at stall), 30%*
	*Machine should be operated within limit of engine crankcase design (17: MITSUBISHI 6M60-TL).
<b>WEIGHT</b>	
Gross vehicle mass	91,154 kg 90,805 kg**
-1st axle	29,398 kg 28,701 kg**
-2nd axle	30,640 kg 30,814 kg**
-3rd axle	31,116 kg 31,290 kg**
	**Manual offset jib
<b>MIN. TURNING RADIUS</b>	14.9 m (2-wheel steering), 9.9 m(6-wheel steering) (at center of extreme outer tire)
<b>BOOM</b>	
Fully retracted length	6-sections extended by single telescoping cylinder. 13.1 m
Fully extended length	61.0 m
Extension speed	47.9 m in 450 s
Angle	-1.5° to 81.5°
Elevation speed	20° to 60° in 28 s
<b>JIB</b>	
Offset	Two staged slewing around boom extension; 5°-40° 0°, 20°, 40° **
Length	10.3 m and 18.0 m
Insert jib (option)	
Length	7.0 m (1 pce.), 14.0 m (2 pcs.)
Short jib (option)	
Offset	20°, 40°
Length	3.6 m
<b>MAIN WINCH</b>	
Single line pull	Variable speed type with grooved drum driven by hydraulic axial piston motor. 70.6 kN {7,200 kgf}
Single line speed	136 m/min. (at 4th layer)
Wire rope	19 mm x 320 m (Diameter x length)
<b>AUXILIARY WINCH</b>	
Single line pull	Variable speed type with grooved drum driven by hydraulic axial piston motor. 70.6 kN {7,200 kgf}
Single line speed	136 m/min. (at 4th layer)
Wire rope	19 mm x 225 m (Diameter x length)
<b>SLEWING</b>	
Slewing speed	1.3 min <sup>-1</sup> {rpm}
Tail slewing radius	4,600 mm
<b>HYDRAULIC SYSTEM</b>	
Pumps...	2 variable piston pumps for crane functions. Tandem gear pump for steering, slewing and other equipment.
Control valves...	Multiple valves actuated by pilot pressure with integral pressure relief valves.
Reservoir...	763 liters capacity. External sight level gauge.
Oil cooler...	Air cooled fan type.

<b>TADANO Automatic Moment Limiter (Model: AML-C)</b>	Following information is displayed: <ul style="list-style-type: none"> <li>Control lever lockout function with audible and visual pre-warning</li> <li>Number of parts of line</li> <li>Boom position indicator</li> <li>Outrigger state indicator</li> <li>Slewing angle</li> <li>Boom angle / boom length / jib offset angle / jib length / load radius / rated lifting capacities / actual loads read out</li> <li>Potential lifting height</li> <li>Ratio of actual load moment to rated load moment indication</li> <li>Permissible load</li> <li>Automatic speed reduction and slow stop function for boom elevation and slewing</li> <li>Working condition register switch</li> <li>Load radius / boom angle / tip height / slewing range preset function</li> <li>External warning lamp</li> <li>Tare function</li> <li>Main hydraulic oil pressure</li> <li>Fuel consumption monitor</li> <li>Main winch / auxiliary winch select</li> <li>Drum rotation indicator (audible and visible type) main and auxiliary winch</li> <li>On-rubber indicator</li> </ul>
<b>OUTRIGGERS</b>	4 hydraulic, beam and jack outriggers. Vertical jack cylinders equipped with integral holding valve. Each outrigger beam and jack is controlled independently from cab.
Extension width	Max. ... 8,200 mm, Mid. ... 7,300 mm & 5,500 mm Min. ... 2,990 mm, Float size (diameter)... 570 mm
<b>CARRIER</b>	Rear engine, left-hand steering, driving axle 2-way selected type by manual switch. 6 x 2 1st drive, 6 x 4 1st and 3rd drive
<b>ENGINE</b>	Model... MITSUBISHI 6M60-TL (Tier2) Type... 4-cycle, turbo charged and after cooled, 6 cylinder in-line, direct injection, water cooled diesel engine. Piston displacement... 7,540 cm <sup>3</sup> Bore x stroke... 118 mm x 115 mm Max. output... 200 kW at 2,600 min <sup>-1</sup> {rpm} Max. torque... 785 N·m at 1,400 min <sup>-1</sup> {rpm}
<b>TRANSMISSION</b>	Electronically controlled full automatic transmission.
<b>STEERING</b>	Hydraulic power steering. 4 steering modes available: 2-wheel front, 4-wheel rear 6-wheel coordinated, 6-wheel crab
<b>SUSPENSION</b>	1st... Rigid mounted to frame. 2nd, 3rd... "Hydro-Pneumatic suspension cylinders" with leveling adjustment and oscillation.
<b>TIRES</b>	26.5R25☆☆☆, Air pressure: 650 kPa
<b>FUEL TANK CAPACITY</b>	300 liters

## WORKING RANGE



There are two specification sheets available, Hydraulic offset jib and Manual offset jib, so please see specification sheet to clarify all your technical concerns. Working range and dimension chart show Hydraulic offset jib.

Note: Some specifications are subject to change.