

**MODEL : GR-1600XL-2**

**SPECIFICATIONS**

<b>MAXIMUM CAPACITY</b>	320,000 lbs at 8 ft
<b>PERFORMANCE</b>	
Max. traveling Speed (with counterweight)	9.3 mph
Gradeability (tan θ) (with 40,100 lbs counterweight)	52 % (at stall) ※30 % ※Machine should be operated within the limit of engine crankcase design (17" MITSUBISHI 6M60).
<b>WEIGHT</b> Gross vehicle mass	200,191 lbs * 200,960 lbs * Hydraulic offset jib
-1st axle	63,275 lbs * 64,811 lbs
-2nd axle	67,933 lbs * 67,550 lbs
-3rd axle	68,983 lbs * 68,599 lbs
<b>MIN. TURNING RADIUS</b>	48' 11" (2 wheel steer) 32' 6" (4 wheel steer) (at center of extreme outer tire)
<b>BOOM</b>	6-sections extended by a single telescoping cylinder.
Fully retracted length	42.8 ft
Fully extended length	200.1 ft
Extension speed	157.3 ft in 450 seconds
Elevation speed	20° to 60° in 28 s
<b>JIB</b>	Two-staged slewing around the boom extension; • Triple offset (0°/20°/40°) type. • * Offset angle (5°-40°) by tilt cylinder.
Length	33.8 ft and 59.1 ft * Hydraulic offset jib
<b>MAIN WINCH</b>	Variable speed type with grooved drum driven by hydraulic axial piston motor.
Single line pull	15,900 lbs
Single line speed	446 fpm (at the 4th layer)
Wire rope	3/4" (diameter)
<b>AUXILIARY WINCH</b>	Variable speed type with grooved drum driven by hydraulic axial piston motor.
Single line pull	15,900 lbs
Single line speed	446 fpm (at the 4th layer)
Wire rope	3/4" (diameter)
<b>SLEWING SPEED</b>	1.3 min <sup>-1</sup> {rpm}
Tail slewing radius	15' 1"
<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. Circuit... Equipped with air cooled type oil cooler. Oil pressure appears on AML display for main circuit. Hydraulic oil tank capacity... approx. 202 gallon Filters... Return line filter

<b>LOAD MOMENT INDICATOR (TADANO AML-C)</b>	Main unit in crane cab gives audible and visual warning of approach to overload. With working range (load radius and/or boom angle and/or tip height and/or slewing range) limit function. Automatic Speed Reduction and Slow Stop function on boom elevation and slewing. Following functions are displayed. • Load as percentage • Number of parts of line of rope • Boom angle • Boom length • Load radius • Outriggers position • On-tire indicator • Actual hook load • Permissible load • Boom position indicator • Potential hook height • Slewing angle • Main hydraulic oil pressure • Jib length and jib offset angle (only when jib in operation)
<b>OUTRIGGERS</b>	Hydraulically operated H-type outriggers. Each outrigger controlled simultaneously or independently from the cab. Equipped with sight level gauge. Floats can be stowed on vertical cylinders or removed to improve approach and departure angles. All cylinders fitted with pilot check valves. Crane operation with different extended length of each outrigger. Equipped with extension width detector for each outrigger. Outrigger unit is self-removable for ease of transportation.
Extended width	Maximum ... 26' 10-7/8" Middle ... 23' 11-3/8" & 18' 1/2" Minimum ... 9' 9-3/4" Float size (diameter) ... 1' 10-1/2"
<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 Type ..... 4 cycle, turbo charged and after cooled, 6 cylinder in line, direct injection, water cooled diesel engine. Piston displacement, cu. In(liters)... 460(7.54) Horsepower (kW)... Gross 267 (200) at 2,600min <sup>-1</sup> {rpm} Max. torque ft-lb (Nm)... 579 (785) 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, 4-wheel rear 6-wheel coordinated, 6-wheel crab
<b>SUSPENSION</b>	1st..... Rigid mounted to the frame. 2nd, 3rd..... "Hydro-Pneumatic suspension cylinders" with leveling adjustment and oscillation.
<b>TIRES</b>	26.5R25☆☆, Air pressure: 94 psi (650kPa)
<b>FUEL TANK CAPACITY</b>	79.2 gallon



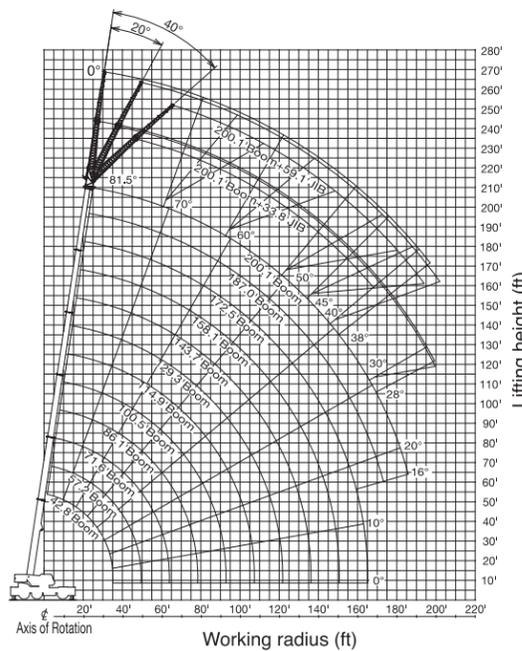
**ROUGH TERRAIN CRANE**

**GR-1600XL-2**

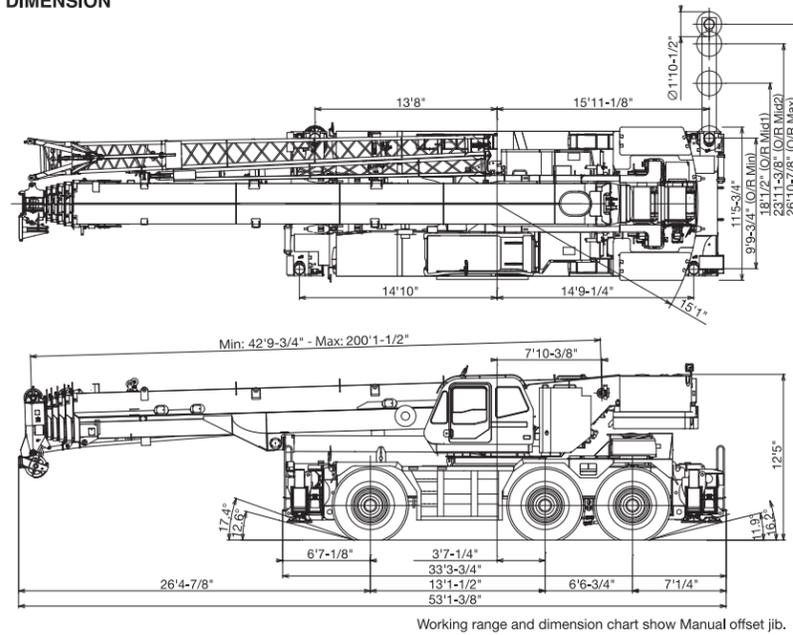
**160 TON CAPACITY**

**ROUGH TERRAIN CRANE**

**WORKING RANGE**



**DIMENSION**



\*Some specifications are subject to change



Photo: Hydraulic offset jib



Lifting your dreams

**TADANO AMERICA Corporation**

4242 West Greens Road, Houston, TX 77066

Tel: 281-869-0030 Fax: 281-869-0040

www.tadanoamerica.com Email: sales@tadano-cranes.com

Parts Hotline: 713-865-1041 Service Hotline: 281-869-5925

GR-1600XL-2-SWP-1\_2014

Printed in U.S.A.



Crane capacity: 160 US ton (145 metric ton)  
 6-section long boom: 42.8 ft - 200.1 ft  
 (13.1 m - 61.0 m)  
 2-staged bi-fold jib: 33.8 / 59.1 ft (10.3 / 18.0 m)

## ROUGH TERRAIN CRANE GR-1600XL-2

Photo: Hydraulic offset jib

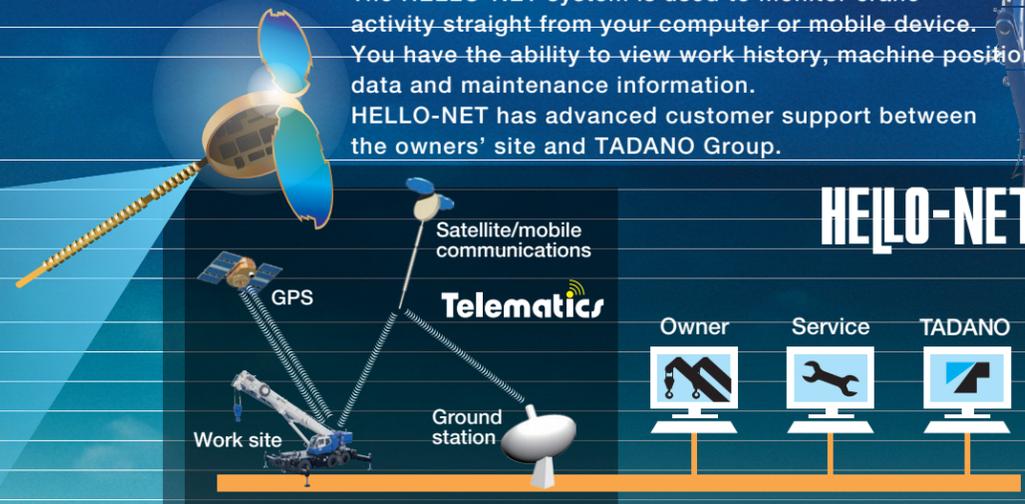
# The Debut of a New Generation of Crane!

Introducing Tadano's newest rough terrain crane with the world's largest lifting capacity! Utilizing a compact 3-axle carrier as a base, our new crane combines the capability of an all terrain crane with the ease of operation, safety and functionality of a rough terrain crane. Standard features on the GR-1600XL-2 environmentally conscience crane include enhanced safety and equipment designed to maximize work efficiency. Tadano's new rough terrain crane has everything you'd expect and more !

## NEW FEATURES

### HELLO-NET

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 has advanced customer support between the owners' site and TADANO Group.



Note: Available in the U.S. and Canada, other countries may vary. Contact your distributor or sales@tadano-cranes.com for details.

### Eco mode

The Eco Mode system controls the maximum engine speed at the time of crane operation. Due to 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 a maximum of 13 % with the Eco Mode I deployed, and a maximum of 21 % when the Eco Mode II is applied, and the noise level is reduced.



### Positive control

The Positive Control system effectively controls the quantity of hydraulic pump discharge during the crane operation in response to the amount of movement applied to the operating lever. When the crane is on standby the Positive Control system keeps the quantity of hydraulic pump discharge to a minimum. This process leads to a maximum 20 % reduction in CO<sub>2</sub> emissions and consumption.

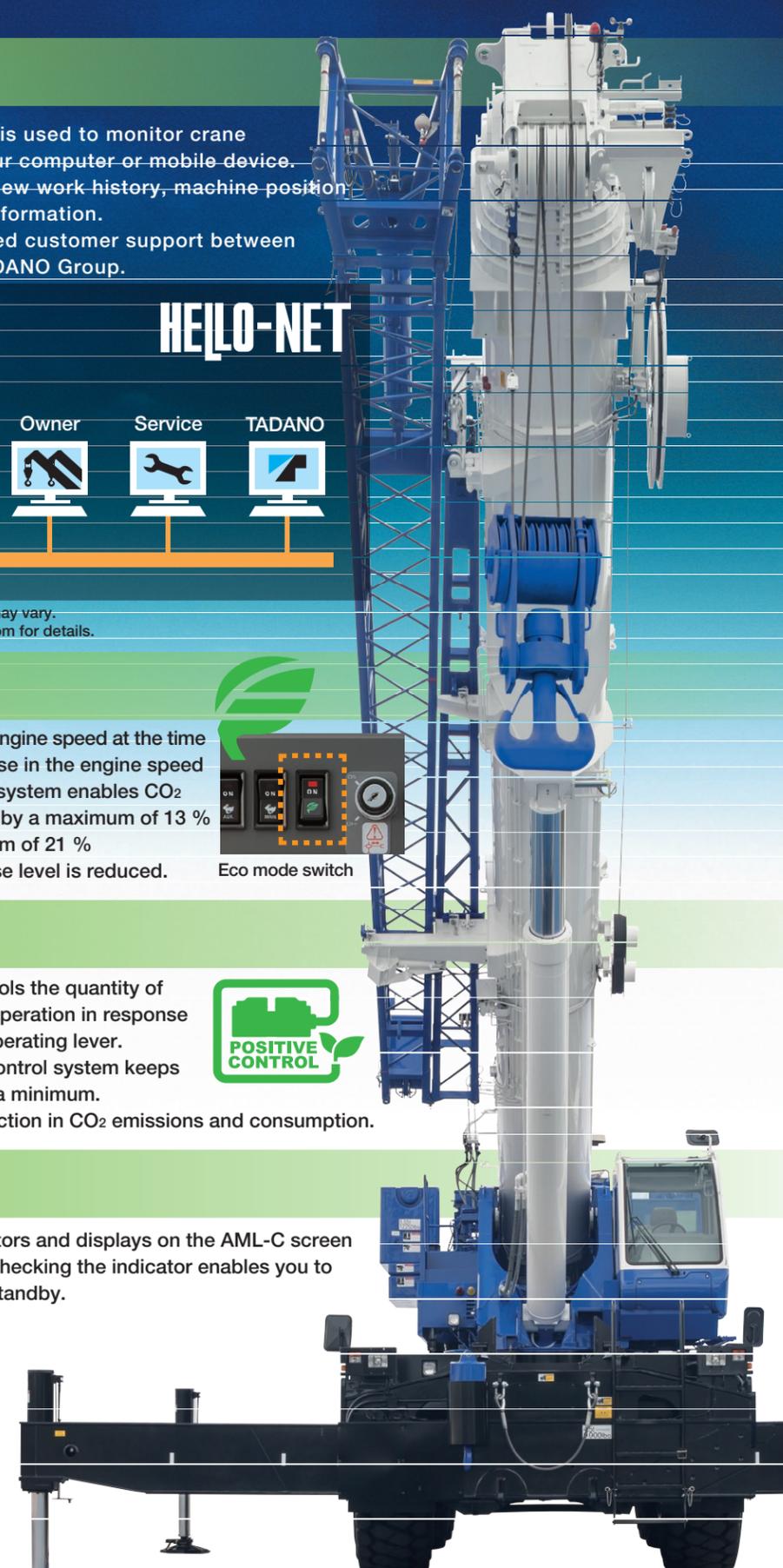


### Fuel monitoring

The Fuel Monitoring system constantly monitors and displays on the AML-C screen information on fuel consuming conditions. 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 and increased boom strength. The high performance AML-C comes standard and ensures a safe operation.

## Single telescopic cylinder

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

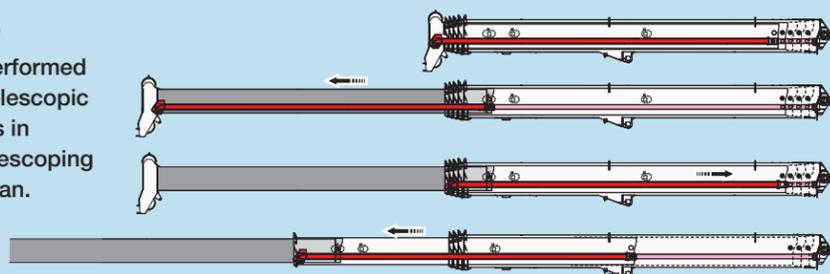


New Design

Ultimate boom for rough terrain crane

## Outline of telescoping mode

The boom telescope 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.



## Telescoping status display

A single cylinder and each section of the boom's actual condition are displayed on the AML by activating the telescoping monitor switch.



Telescoping status indicator

## AML displays load moment indicator



No.	ft	1	2	3	4	5
1	42.8	0	0	0	0	0
2	57.2	0	0	0	0	45
3	71.7	0	0	0	0	90
4	86.1	0	0	0	45	90
5	100.5	0	0	0	90	90
6	114.9	0	0	40	90	90
7	129.3	0	0	90	90	90
8	143.7	0	40	90	90	90
9	158.1	0	90	90	90	90

Telescoping menu screen

No.	ft	1	2	3	4	5
1	42.8	0	0	0	0	0
2	57.2	0	0	0	0	45
3	71.7	0	0	0	0	90
4	86.1	0	0	0	45	90
5	100.5	0	0	0	90	90
6	114.9	0	0	40	90	90
7	129.3	0	0	90	90	90
8	143.7	0	40	90	90	90
9	158.1	0	90	90	90	90

Telescoping status screen

## 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.

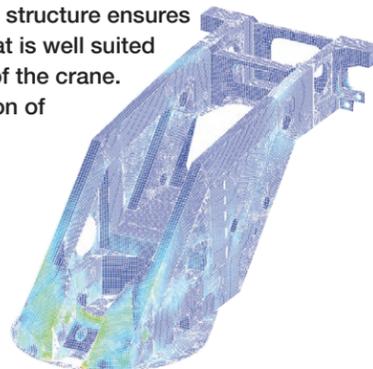
\*Maximum permissible line pull may be affected by wire rope strength.



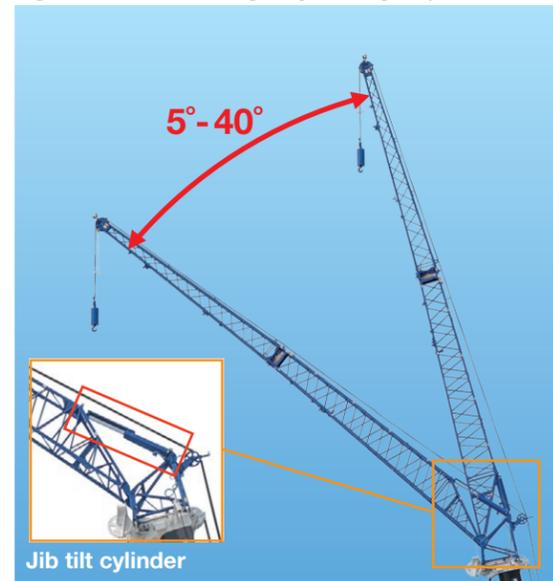
## New crane structure

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.

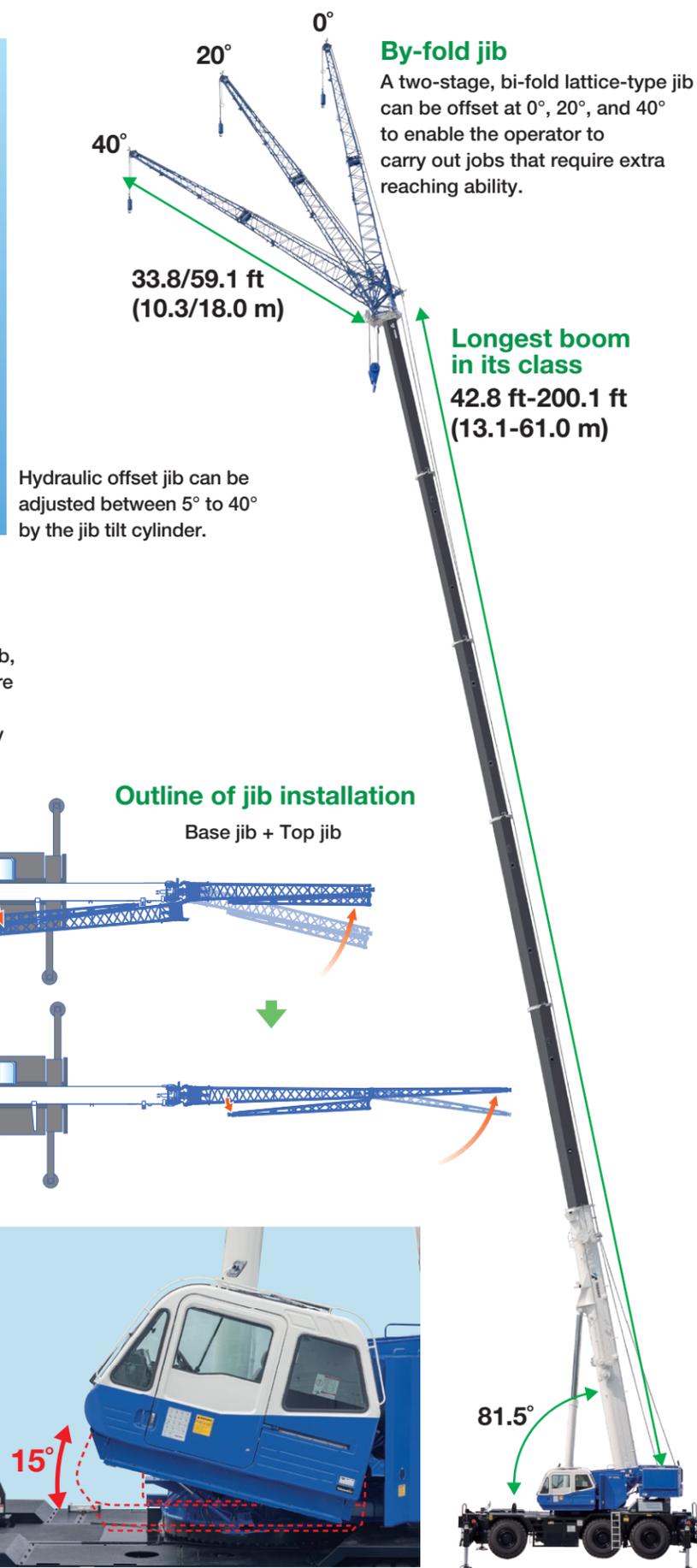
\*FEM: Finite Element Method



## Hydraulic offset jib (5°-40°) \*Optional



Jib tilt cylinder



## By-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.

33.8/59.1 ft (10.3/18.0 m)

Longest boom in its class  
42.8 ft-200.1 ft (13.1-61.0 m)

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

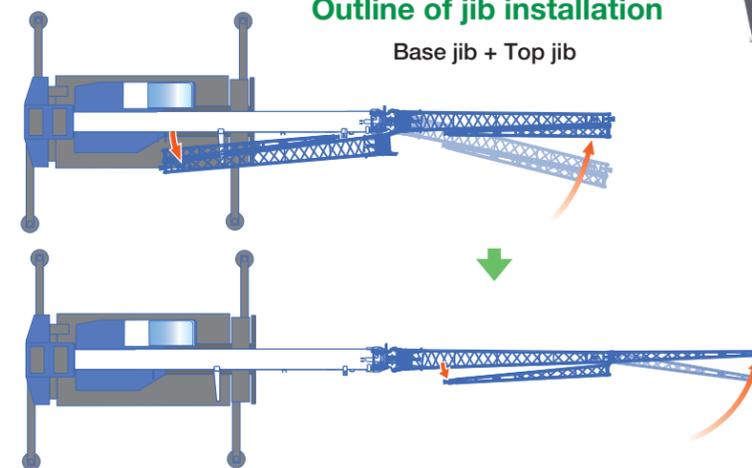
## Assist cylinder for jib

When mounting and stowing the jib, assistant hydraulic cylinders ensure effective operation, thus increasing the work efficiency of jib mounting and stowing.



## Outline of jib installation

Base jib + Top jib



## 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



15°



Photo: Manual offset jib

## Load moment indicator [AML-C]



Tadano's AML-C is easy to use, innovative in design, displays important information to the operator as well as enables the operator to preset a custom working environment.

For example, the AML-C shows the boom angle, boom length, load radius, elevating cylinder operating pressure, extended length of the outriggers, slewing position, rated lifting capacity and present hook weight. 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 **soft stop** function automatically engages to avoid shock loads.



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 of front and rear of the crane, and the left and right of the crane to offer maximum "work value" through 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 according to each of the extension widths of the outriggers, and brings the motion to a slow stop before it reaches the limits of the allowed capacity. Therefore, even if the operator performs the crane operation without being aware of a change in the capacity, the AML-C monitors it at all times to maintain a safe operation.

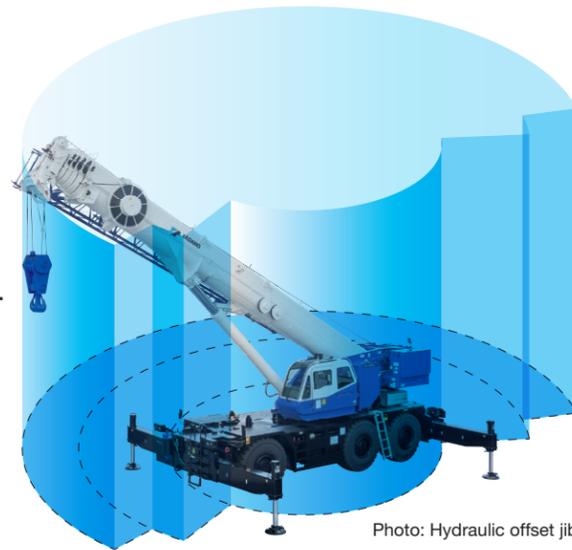
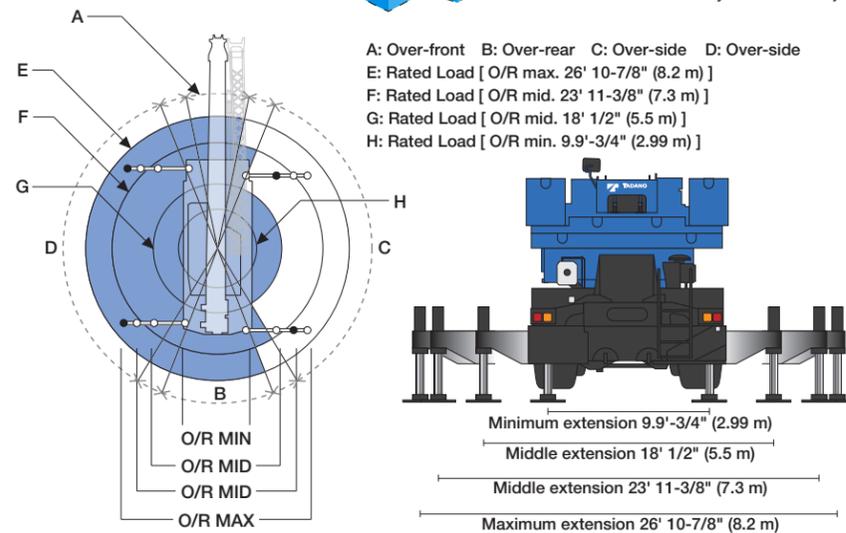
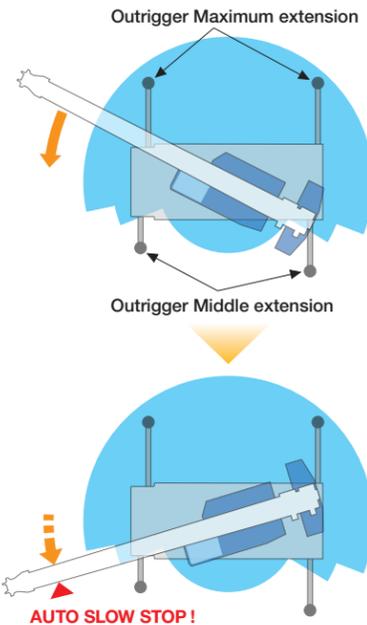
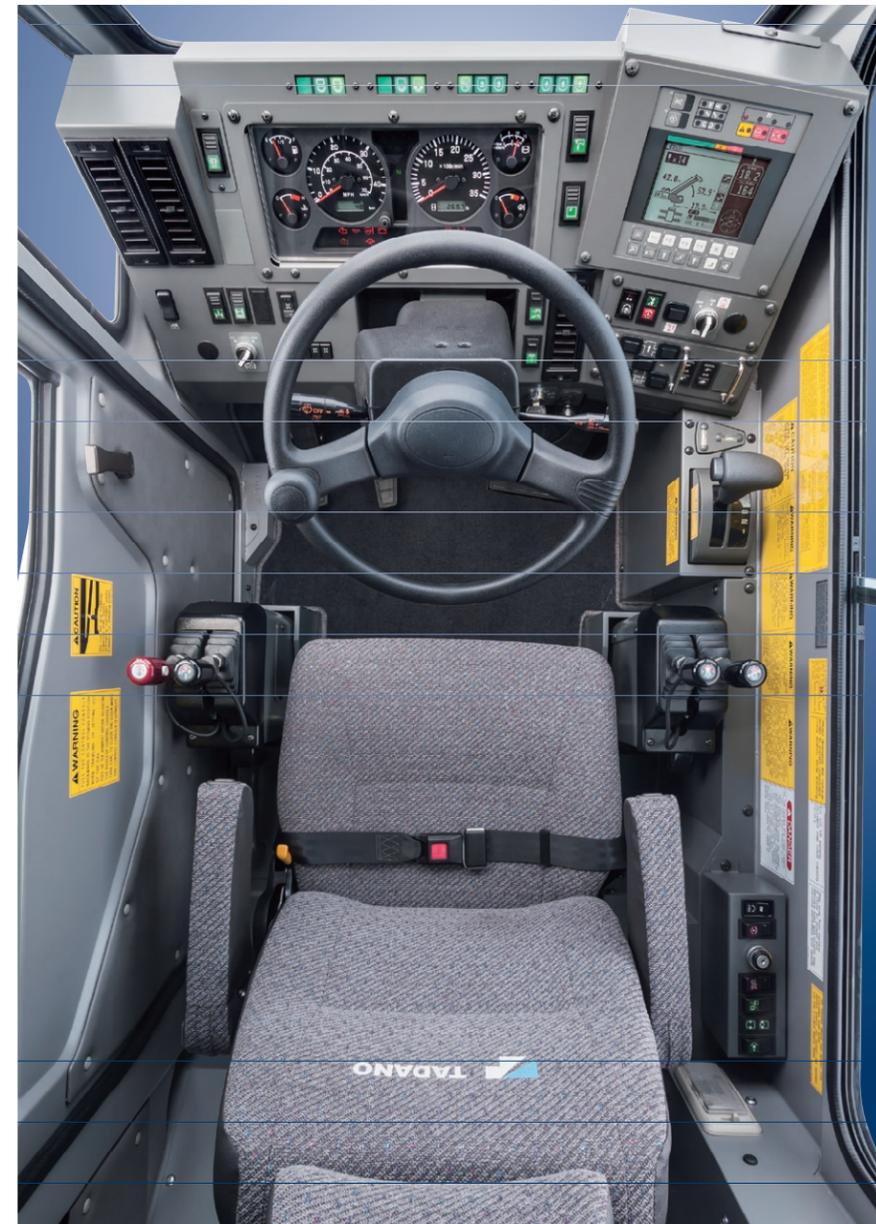


Photo: Hydraulic offset jib



## Operator comfort

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



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



Front steps



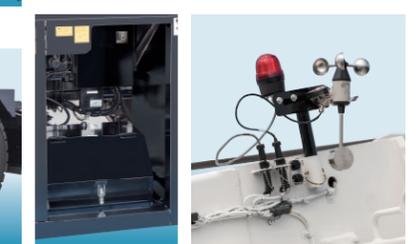
Rear steps



Left side steps



Air conditioning and heating  
 Hot-water heater and air conditioning.



Tool box

Aviation obstruction light (optional) and anemometer (optional)

## New Design

### Compact carrier for rough terrain crane

The GR-1600XL-2 has a 3-axle, compact width/height carrier which offers improved maneuverability and the ability to reduce space for transportation.



Photo: Hydraulic offset jib

- Overall length: approx. 53' 1-3/8" (16,190 mm)
- Overall width: approx. 10' 10-1/2" (3,315 mm)  
approx. 11' 5-3/4" (3,500 mm) (+ Extra weights)
- Overall height: approx. 12' 5" (3,785 mm)
- Min. turning radius (at center of extreme outer tire)
  - 2-wheel steering: 48' 11" (14.9 m)
  - 6-wheel steering: 32' 6" (9.9 m)

Max. traveling speed (with counterweight): 9.3 mph (15 km/h)

Gradeability (tan  $\theta$ ) (with 40,100 lbs (18.2 t) counterweight): computed 52 % (at stall) \*30 %

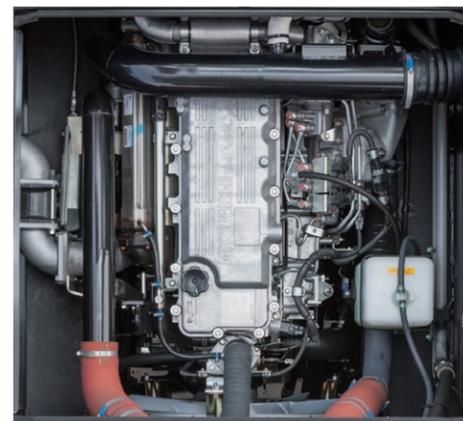
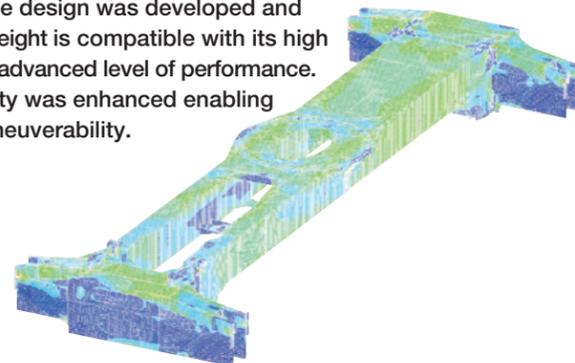
\* Machine should be operated within the limit of engine crankcase design (17": MITSUBISHI 6M60).

### Smooth transmission

- Electronically controlled, fully automatic transmission.
- Torque converter with full power shift 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  
4 cycle, turbo charged and after cooled,  
6 cylinder in line, direct injection, water cooled diesel engine.

Horse power (kW): Gross 267 (200) at 2,600 min<sup>-1</sup> {rpm}  
Max. torque ft-lb (Nm): 579 (785) 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.

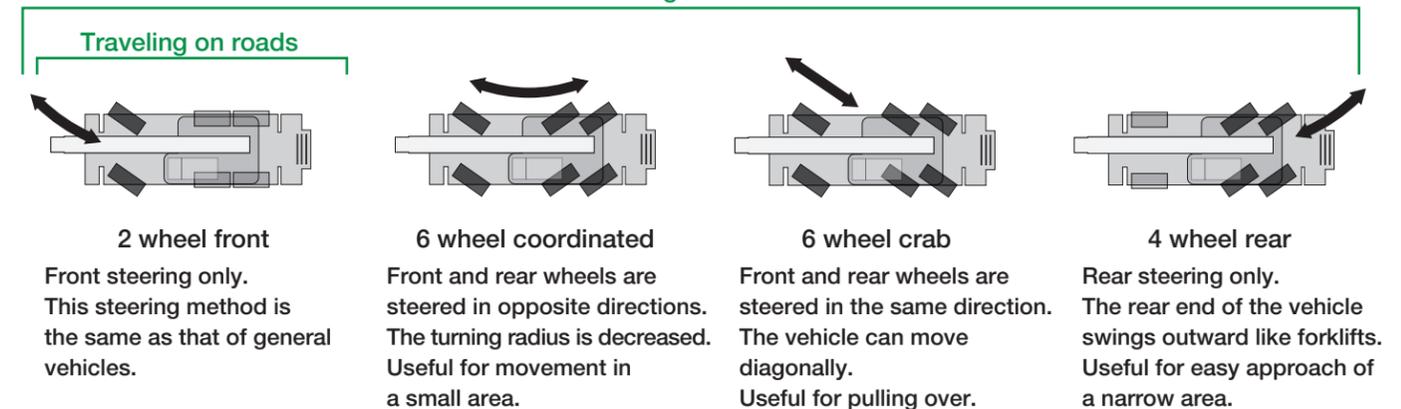


Photo: Hydraulic offset jib

### 4 Steering mode

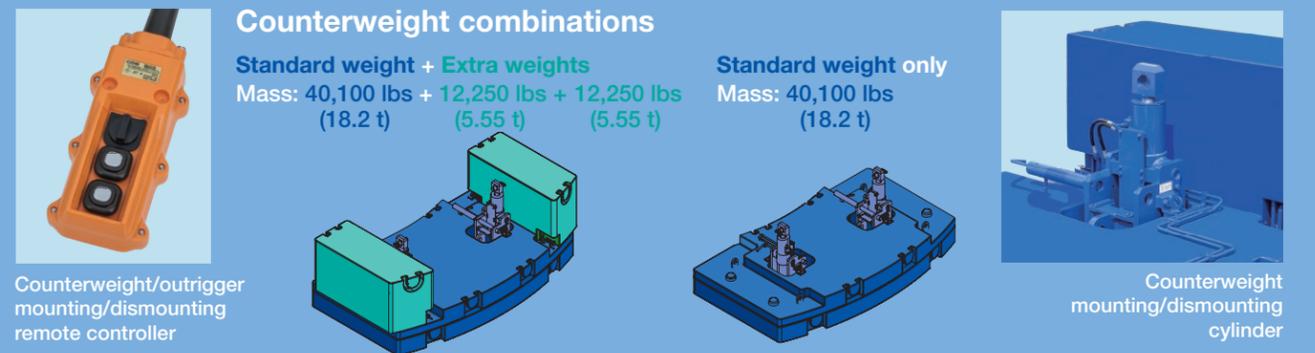
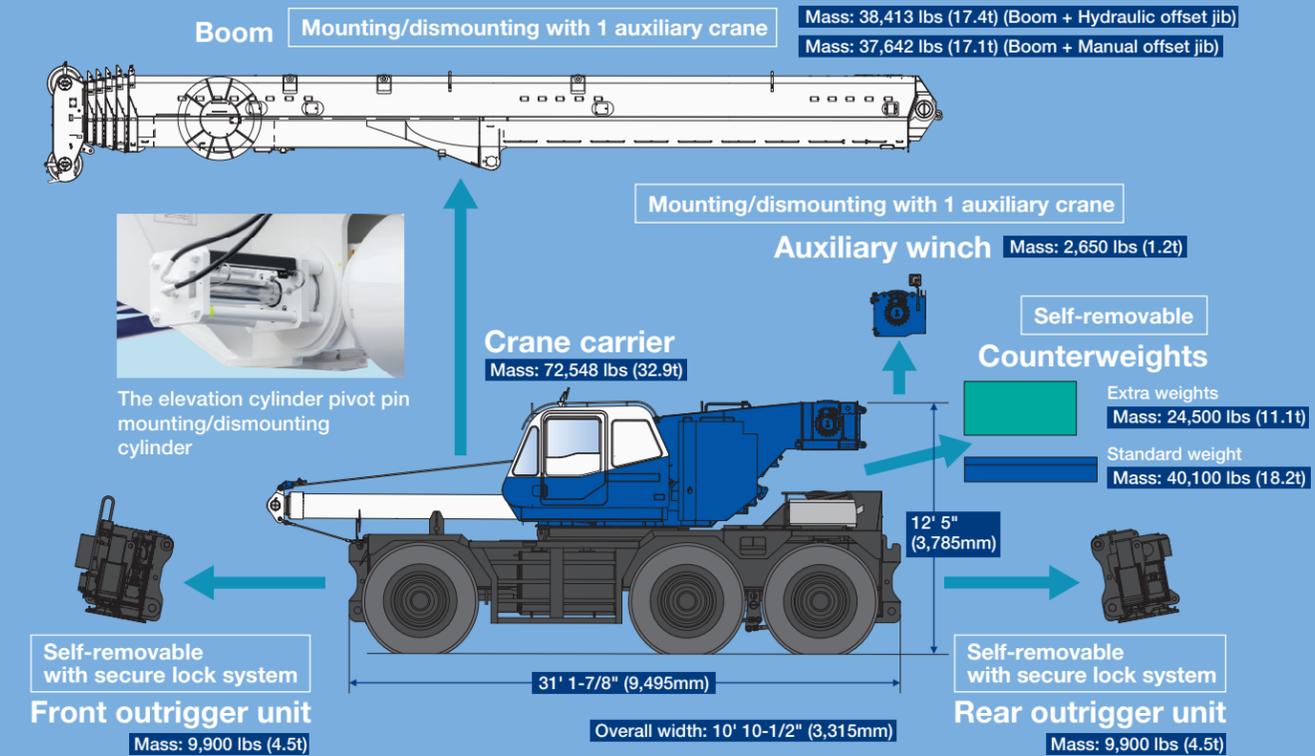
Hydraulic power steering controlled by steering wheel.

#### Driving in work site



# Mounting and dismounting systems

The GR-1600XL-2 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 hoist is hydraulically mounting/dismounting; in addition, dismantled counterweight can be lifted and moved for transport without a helper crane, as well as being re-mounted at a work site for operation.



Front



Left



Rear



Right