BQ-TADANO

GT-550E-2 / O1-1E

Operation and Maintenance Manual

Truck Crane

Model **GT-550E-2**

Applicable Serial No. GT

CAUTION: Read this manual before operat

Save this manual for future refe

Safety

Most accidents that occur during crane operation and maintenance are caused by failure to observe basic safety rules and precautions. Before operating your machine or performing maintenance, read and become familiar with all the safety precautions and recommendations given in this section. Remember that failure to observe even a single precaution could involve you and the people around the machine in a serious accident.

Foreseeing potential dangers is vital for preventing accidents. All personnel working with the machine, including the supervisor, crane operator and oiler, should be sensitive to potentially dangerous situations and take the necessary measures to prevent accidents.

Safety precautions and recommendations are outlined in this section and are also included in the operation and maintenance instructions given in subsequent sections. Warning labels are also provided on the machine.
The cautionary instructions in this manual are identified as "DANGER", "WARNING", "CAUTION" or "NOTICE". These terms are defined as follows:

⚠ DANGER

⚠ DANGER indicates an imminently hazardous situation, which, if not avoided, would result in death or serious injury.

⚠ WARNING

⚠ WARNING indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

⚠ CAUTION

⚠ CAUTION indicates a potentially hazardous situation, which, if not avoided, may result in a minor or moderate injury.

[NOTICE]
◆NOTICE indicates an important operational or maintenance procedure or condition, which, if not strictly observed, can result in damage to machine components or deteriorated machine performance.

It is virtually impossible to anticipate every situation that might present a hazard. The safety precautions given in this manual and on the machine labels are not exhaustive.
It is important, therefore, to strictly follow the instructions in this manual and be sensitive to potential dangers in order to prevent bodily injury and damage to the machine.

Remember that your most important duty is to ensure the safety of you, your co-workers and any other people in the area.

Safety Rules

⚠ WARNING

⚠ Use of improper or unauthorized method during operation or maintenance of this machine can be dangerous and could lead to serious injury or death. Read this manual thoroughly and be familiar with the proper operating and maintenance procedures before using the machine. Do not operate the machine or perform maintenance on it until you understand the instructions in this manual.

⚠ CAUTION

⚠ "Safety Rules" section describes the general instructions about operation with a hydraulic truck crane. For more detailed instructions about your machine, see corresponding pages (white pages) of this manual.
The figures in this manual are for reference showing the important points. They may be different from an actual machine.

Before Operation

⚠ Qualifications of the Operator

The operator must be fully trained and qualified.
The operator must be fully familiar with on-site safety rules, and national and local crane operation regulations.

⚠ Study the Operation and Maintenance Manual

Improper operation, inspection or maintenance can damage the machine or cause injury or death.
Study the manual carefully. Become familiar with the proper procedures for operation, inspection and maintenance.
Keep the Operation and Maintenance Manual in the crane operator's cab so that it is always readily accessible.

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⚠ Follow All Instructions and Warnings

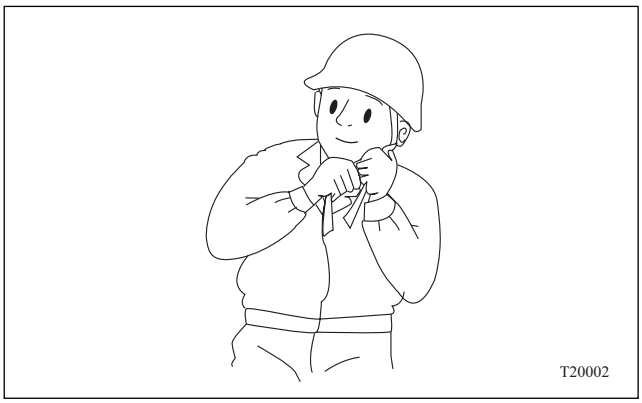
The Operation and Maintenance Manual and the warning labels on the machine contain instructions and must be followed to ensure safe operation.
Read and understand all DANGER, WARNING and CAUTION labels. Neglecting these instructions and warnings can result in injury or death.
If the manual is lost or any labels (decals) become illegible, order replacements from the nearest authorized TADANO distributor or dealer.

⚠Always Maintain Labels

The warning labels on various parts of the machine provide important instructions for safe operation. Always keep the labels (decals) clean and visible. Should labels become lost or damaged, order replacements from the nearest authorized TADANO distributor or dealer.

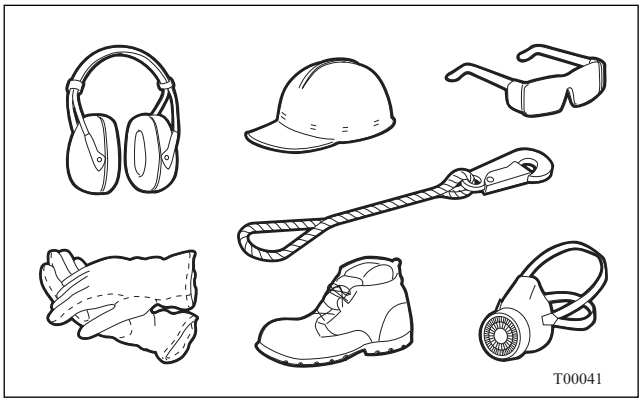
⚠Wear Proper Clothing

Sloppy clothing may result in sleeves or cuffs being caught and then cause an accident.



⚠Wear Approved Protective Gear

To ensure safety, always wear a hard hat and safety shoes. Also protective goggles, dust mask, earplugs, work gloves, safety belt, etc. must be worn as the situation requires. Check that all protective gear is in good condition before wearing it.



⚠Avoid Overwork. Never Operate under the Influence of Alcohol or Drugs

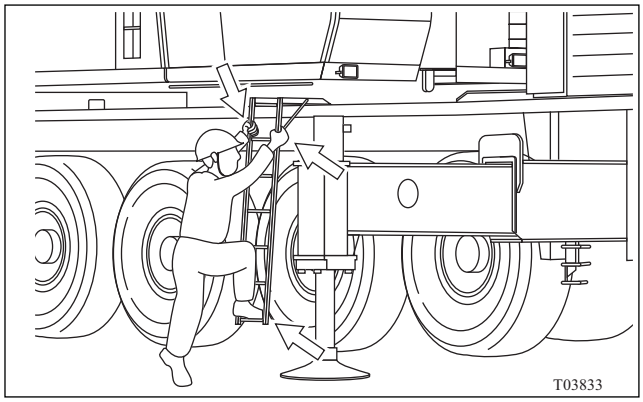
If the operator is tired, lacking in sleep, or under the influence of medication or alcohol, the probability of an accident event is greatly increased since attentiveness and judgment are impaired. Maintain proper physical fitness for crane operation.

⚠Keep All Footings and Shoes Clean

Oil, water or mud on soles of shoes, steps or decks can cause slip off and fall mishaps or cause accidental release of a control pedal. Always remove oil, mud, water or snow before operation and keep shoes and floor of the operator's cab clean.
Do not leave any parts or tools on the operator's cab floor or passageway.

⚠Safely Climbing onto and Descending from the Machine

Do not jump onto or off the machine.
Do not climb onto or descend from the machine with objects in hand.
Only climb onto or descend from the machine while it is completely at standstill. Use the handrails and steps, always support your hands and feet firmly (three point support); that is, one hand-two feet or two hands-one foot.
Never use the steering wheel or control levers as handrails.



⚠Correctly Position the Seat

Incorrect positioning of the operator's seat can result in mistakes or fatigue, possibly leading to an accident.

Before operating the machine, correctly position the seat so that the pedals and levers can be manipulated correctly.

⚠Maintain Good Visibility

Fouled window panels, lights or rearview mirrors can limit the operator's visibility, impairing safe operation. Always keep the window panels and light lenses clean.

Position mirrors correctly as required by job conditions.

⚠Perform Pre-Operation Inspection

Neglecting routine inspections and maintenance can shorten service life of the machine or even result in an accident.

Before starting operation (and before taking over a shift), perform the pre-operation inspection on the carrier and the upper structure to ensure that the machine is in proper condition and free from any problems.

Should any problem be found, report it to the responsible person, remedy it, and only then start operation.

⚠Do Not Operate a Machine Being Inspected or Serviced

Operating the machine while it is undergoing inspection or maintenance work can cause damage or an accident.

Post a "DO NOT OPERATE" sign on the operator's cab door or any control lever. Do not attempt to operate the machine until the sign is removed by maintenance personnel.

⚠Check the Position of Controls before Starting the Engine

If any control lever is in a position other than "neutral", the machine may initiate some mechanical or hydraulic function as soon as the engine is turned over. This situation is very dangerous. Start the engine only when completely sure that all controls are in the proper neutral or inactive position.

⚠Make Sure Work Area Is Safe before Starting the Engine

Starting the engine without performing a thorough safety check of the work area may cause damage to the machine or injury or death.

Make sure there are no personnel or obstacles underneath or around the machine.

Before starting the engine, sound the horn to warn any nearby personnel.

⚠Start the Engine from the Operator's Cab Only

If the engine is started from any location other than the crane operator's cab, it can become impossible to avoid a dangerous hazard if some machine action is initiated when the engine turns over.
Start the engine only from the operator's seat.

⚠Inspection after Starting the Engine

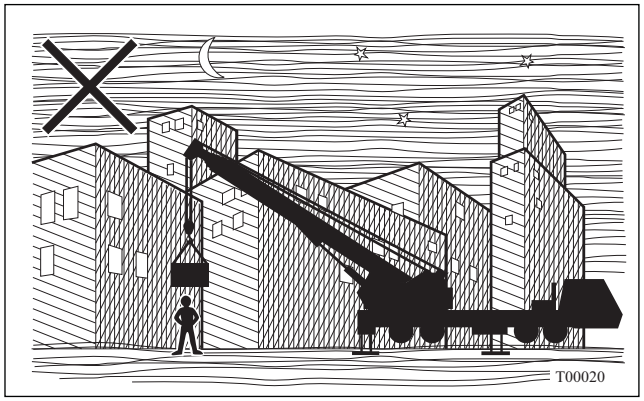
Failure to perform a basic inspection after starting the engine can result in not detecting fault or abnormality with the machine.
Inspect the machine in a safe location that is free from obstacles and people other than maintenance personnel.
Allow the engine to warm up after it is started while the instrument readings and checking the machine components. Once the engine is properly warmed up, make a safety check of the work area, and run the machine without a load to check out condition of the controls, machine elements and safety devices.

⚠Warm Up the Machine

Failure to properly warm-up the engine and various other machine components can result in decrease in service life of the machine or malfunctions. In winter, run the engine for at least five minutes for proper warm-up.
Then, run the engine at low speed without a load to warm up the hydraulic oil and other machine components.

⚠Night Operation

Operation in the dark makes it difficult to ensure good footing, and to locate nearby persons or obstacles, increasing the probability of an accident.
When operating at night, turn on all working lamps. Provide ancillary portable lighting equipment to illuminate the work area.

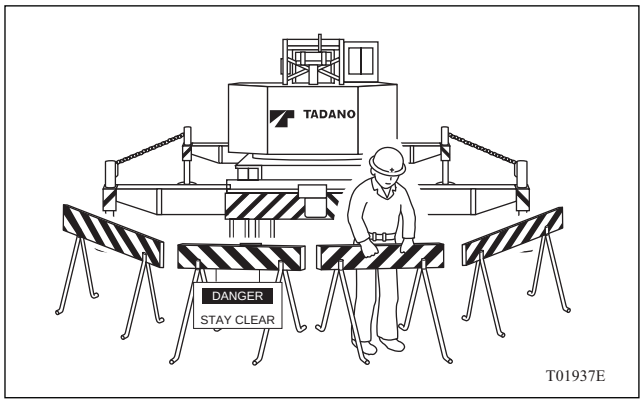


⚠Keep the Engine Clean

Dead leaves, paper dust and oil stains on and around the engine can catch fire. Remove all such debris before commencing operation.

⚠Keep Unauthorized Personnel Away from the Work Area

Unauthorized personnel or vehicles in the work area can result in collision accidents, injury or death.
Before operation, make sure there are no unauthorized personnel or obstacles within the work area.
If the work area is situated near heavy traffic, post a control person to prevent vehicular accidents.
Barricade the work area with appropriate means either colored tape or rope.



⚠Anticipate Accident Situations

To deal with possible accidents or fires, equip the crane with a first-aid kit and fire extinguisher. Be aware of the locations of these safety items, and learn how to use them properly.

An emergency contact person and emergency liaison plan should be carefully prepared, and all personnel concerned must be made aware of the details.

⚠Observe Work-site Rules

Neglecting work-site rules can result in accidents.

To ensure safe operation, observe all work-site rules covering prohibited practices, precautions and correct procedures.

⚠Post a Signal Person

Assign a signal person for all crane operations as necessary and always follow instructions especially when:

- **Working near power lines.**
- **The load is hidden from the crane operator's view.**
- **Moving the carrier along narrow roads or when the operator's vision is obscured.**

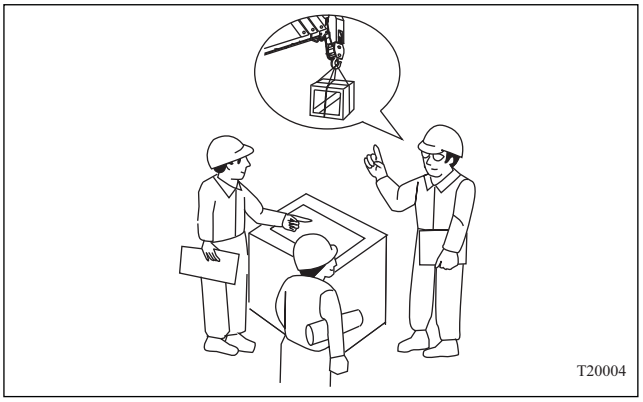
The signal person and the operator should communicate with each other using mobile transceiver phones.

⚠Hold Work Site Meetings with Concerned All Personnel

Lack of sufficient communications with concerned personnel can result in accidents.

Before starting the job, set up a liaison meeting with the site supervisor, rigging personnel, signal person, etc., to agree on the following details:

- **Mass of load, lifting height (per rated lifting capacity table), locations of loading and unloading, work area of the machine, craning procedures, rigging methods, etc.**
- **Conditions of ground where crane is set as well as whether city-water and gas pipings are buried.**
- **Overturning prevention by use of block plates and outriggers.**
- **Mutually agreed upon and OSHA approved signal conventions between rigging personnel and signal person.**
- **Designation of off-limit areas, provision of barricade.**
- **Work stations of all relevant workers.**
- **Emergency liaison plan and emergency contact person, as well as the safety/health organization.**



⚠Always Study Work-site Conditions Carefully

Pay due attention to surrounding conditions.
Before starting the job, inspect the work area, check routes to the work area, and monitor the presence of any obstacles and locations of other machinery.
Note changes in the surroundings or site conditions as crane operations are carried out.

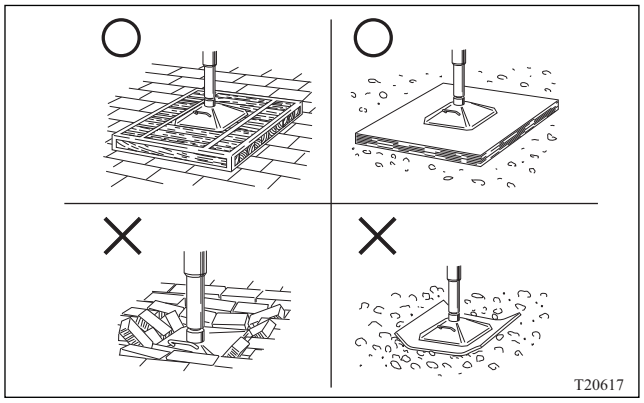
⚠Multi-Crane Operation

In lift situations involving the coordination of two or more cranes, establish an agreed system for communications and assign a signal person. The crane operators must proceed cautiously, strictly observing all instructions of the signal person.

Rules for Operation (Setting Outriggers)

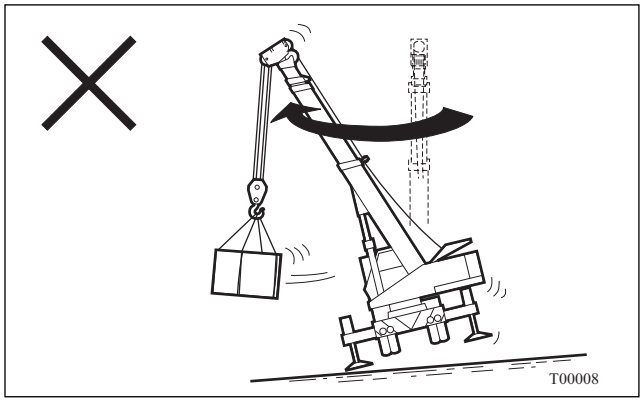
⚠Set the Crane on Firm Level Ground

The machine should not be located on soft ground, which can lead to sinking, sliding or overturning, nor on the edge of a pit, bank or slope.
If the ground conditions are doubtful, use blocks or steel plates of sufficient strength and size below the outrigger floats to disperse the load.



⚠Set the Crane Level

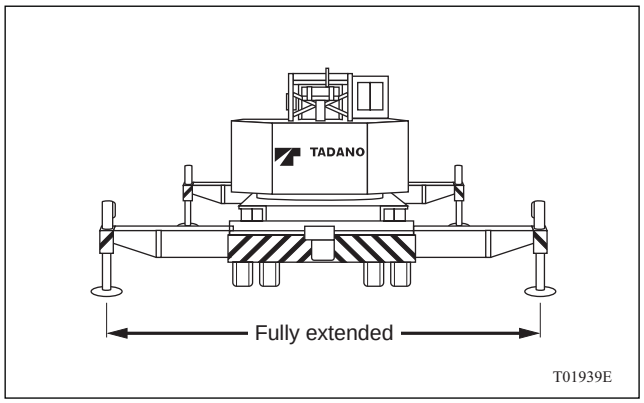
If the crane is tilted, and the load is swung over the side, the load radius will increase, and the machine can overturn.
When setting the outriggers, level the machine carefully using a level.



⚠Fully Extend the Outriggers

If the outriggers are not extended correctly, the crane may become unstable, causing the crane to overturn.

As a general rule, always extend the outriggers fully, even if the crane is rated for operation with the outriggers at middle or minimum extension. If it is absolutely necessary to use the outriggers at middle or minimum extension, make sure the machine is within the rated limits.



⚠Check the Outrigger Setting

Incorrect setting of the outriggers can decrease the load lifting capacity of the machine and result in overturning. To avoid crane instability, make sure:

- **The machine is absolutely level.**
- **All outrigger floats are stable and set firmly on the ground or blocks.**
- **All tires are clear of the ground.**
- **The outriggers are secured with lock pins (if lock pins are available).**

Rules for Operation (General)

⚠Observe Working Conditions

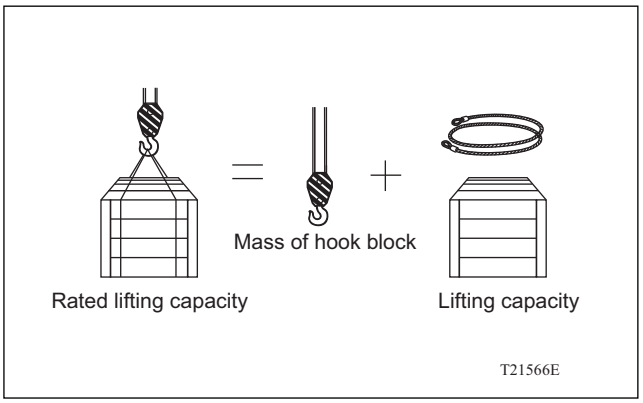
Operating the crane under conditions (outrigger beam length, boom length, load radius, etc.) other than specified in the rated lifting capacity table can cause overturn even when not lifting a load.

Follow all instructions in the rated lifting capacity table.

⚠Do not Exceed Rated Lifting Capacity

Exceeding the rated lifting capacity will overload the machine. Damage or overturning can result from this practice.

Check the rated lifting capacity table before operating to ensure that the lift is safe. Load lifting capacity of the crane varies depending on boom length and load radius. Never exceed the lifting capacity in the table.



⚠Use Safety Devices Correctly

Improper use of safety devices including the overload cutout can lead to damage or overturn the crane.

Use all safety devices according to instructions in the manual.

⚠Do Not Rely Exclusively on Safety Devices

A safety device is not a substitute for human skill and judgment.

The overload cutout, for example, does not warn the operator about conditions on the ground, effects of wind, improperly adjusted devices, load being pulled sideways, or other possibly hazardous situations.

All safety devices are merely auxiliary means to help the operator perform the task at hand. Safe crane work requires the qualities of a good operator, such as skill, experience, judgment, and safety awareness.

⚠Do Not Deactivate Any Safety Devices

Avoid any action that impairs normal operation of the safety devices.

Intentionally deactivating any safety device may result in the inability to detect overloading or overwinding during operation, and lead to a serious accident.

Ensure that all safety devices are functioning correctly before starting any operation.

⚠Before Lifting a Load

Make sure of the following before attempting to pick up a load:

- **The mass does not exceed the rated lifting capacity.**
- **The number of rope parts conforms to the standard in the rated lifting capacity table.**
- **A proper load handling device is used and the load is securely rigged.**
- **The hook block is located directly above the center of gravity of the load.**
- **The wire ropes runs are plumb so that the load can be lifted vertically.**
- **The safety latch on the hook is working properly.**
- **The wire rope has no entanglement or disorderly winding on the drum.**

⚠Rig the Load Securely

Improper rigging procedure can result in the lifted load being dropped. Rig the load securely, paying special attention to the following points:

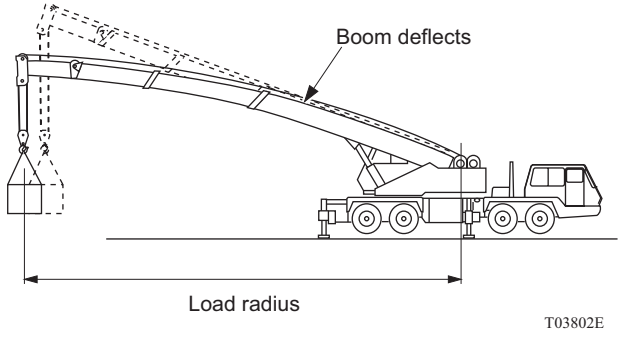
- **Know the mass, shape and center of gravity of the load, and use suitable load handling devices and rigging hardware.**
- **The load handling devices including wire ropes, chains and rigging hardware must have enough strength and be free from damage or excessive wear.**
- **Rig the load so that it is suspended at a point above its center of gravity. Otherwise, the load can overturn or come loose of the handling device when it is raised. Also, wire ropes and chains must not be crossed or twisted around each other.**
- **Do not rig the load with a single wire rope. Such rigging practice is very dangerous as the load can rotate, and untwist the wire rope, reducing its strength.**
- **When rigging a load with sharp corners, fit protective softeners at the load corners to protect the wire ropes and the load itself against damage.**

⚠Consider Boom Deflection before Lifting the Load

When a load is lifted, the boom will deflect downward, increasing the load radius. Swaying of the load also poses a hazard to the people around the crane, and may lead to overloading.

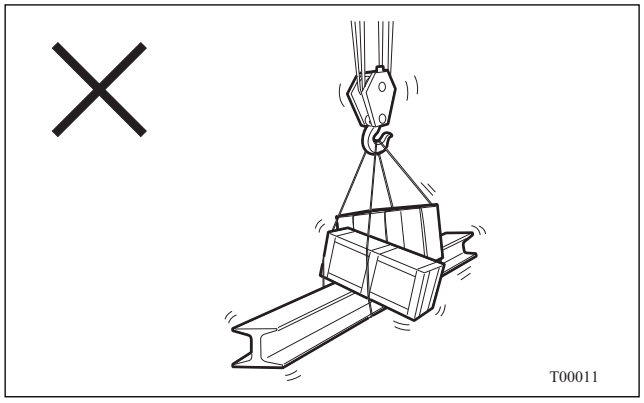
If the load starts to sway when lifted clear of the ground, lower the load back on the ground.

When lifting a heavy load or using the extended boom, anticipate the possible increase in the boom load radius.



⚠Lift Single Loads Only

Do not lift two or more loads simultaneously even if their total mass is within the specified rated lifting capacity; otherwise, the loads may lose balance. It is usually not possible to maintain complete attention to multiple loads.



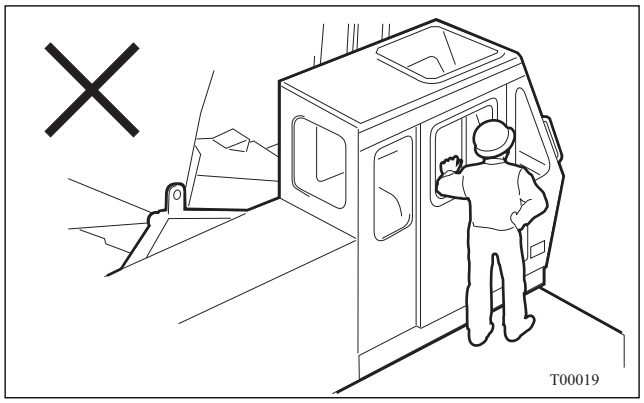
⚠Operate According to Signals

If signals are not obeyed or if signals are improperly made, accidents can occur.

Follow instructions of the signal person. An emergency shut down signal must be acknowledged whoever gives it.

⚠Operate the Crane from the Operator's Cab Only

Controlling the machine from outside the cab, through the cab window, is strictly forbidden and extremely dangerous.



⚠Conduct a Safety Check within the Load Radius of the Crane before Starting Operation

Any person located close to the crane may become caught between machine components or between the counterweight and a fixed obstacle. Before starting any swing motion, make sure that there is no one nearby. Sound the horn to warn all immediate personnel of crane startup.

During crane operations, fence off or barricade the work area to prevent unauthorized persons from approaching the machine.

⚠Be Extremely Careful When Raising the Load Clear of the Ground

Stop lifting the load once the rigging is fully taut, check that the load is suspended at a point just above its center of gravity, and that the load is not stuck to the ground or interfering with a nearby body or structure.

Lift the load vertically. When the load clears the ground, stop lifting and suppress any swaying; then check that the rigging is secure, the load is in a stable position, and the crane is not overloaded. Then, recommence the lift again.

⚠Do Not Lift the Load Clear of the Ground by Raising or Extending the Boom

Raise a load clear of the ground by vertical hoisting only.

Raising or extending the boom to lift a load clear of the ground will cause the load to sway, posing a hazard.

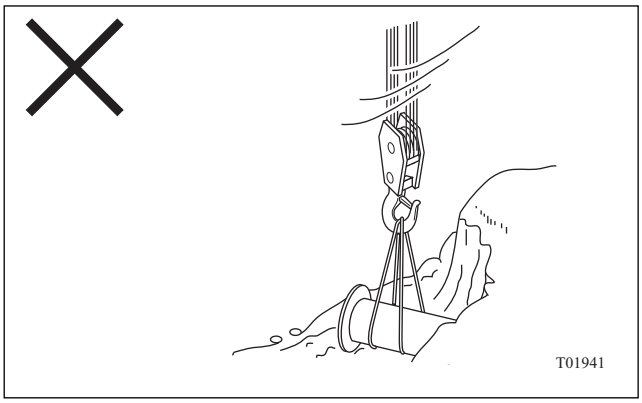
If the boom is elevated to raise a load clear of the ground, the crane will not be automatically stopped even in case of an overload. An overloaded machine can overturn or be damaged.

⚠Move a Lifted Load Carefully

When the crane state comes near the full rating, the AML gives an intermittent alarm. Operate the crane more carefully and slow the load-moving speed.
Take best care for over-loading in boom-lowering operation which enlarges the load radius.

⚠Do Not Lift an Unknown Load

Attempting to uproot a garden tree or raise an object buried or driven into the ground can severely overload various components of the machine, possibly causing the machine to overturn or be damaged. Do not attempt to pull up poles or piles driven into the ground, trees or any objects buried or frozen in mud or sand.
Only lift objects free from all restraining forces.



⚠Avoid Overloading

A load below the rated lifting capacity can still cause overloading of the crane if swaying occurs. Do not trigger overloading while telescoping out or lowering the boom. These actions increase the load radius and are destabilizing.

⚠When Overloading Occurs

When overloading occurs, never attempt to raise or lower the boom rapidly. This situation is very dangerous as the machine can readily overturn.
Immediately set the load on the ground by carefully unwinding the wire rope off the winch drum.

⚠Operate the Crane Carefully

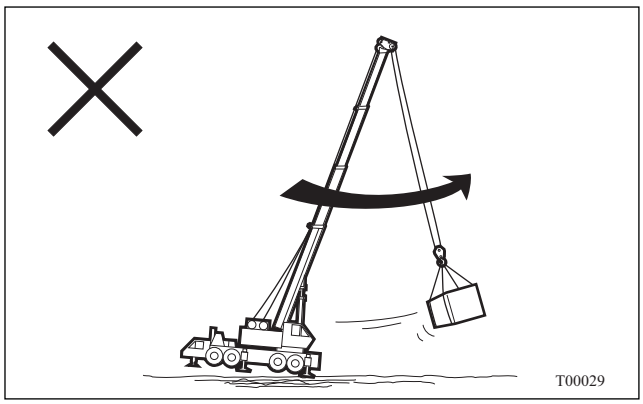
Operating the controls too abruptly can result in an accident: a swaying load can hit an object or damage the machine.
Operate all control levers and pedals smoothly and in a steady manner.

⚠Do Not Make Inadvertent Swing

When the front jack is not employed, lifting capacities in the over-front area are inferior to those in the over-rear and over-side areas. The crane may be overturned if inadvertently swung to the over-front area with a load lifted in the rear or side area. Depending on boom length, boom angle, and outrigger extension, even the unloaded crane may overturn because of inadvertent swing.
Before operation, confirm the living capacity by the rated lifting capacity table. If there is an inferior capacity area, place signal corns or ropes for swing restriction to avoid swing into such a perilous area.

⚠Swing the Crane Carefully

If the swing speed is too high, substantial centrifugal force is applied to a load, resulting in an increased load radius. As a result, the machine may become overloaded and overturn.
Stopping a swing operation abruptly can cause a load to sway posing a hazard to nearby personnel and possibly leading to boom failure.
Swing all loads slowly. Carefully stop any swinging. Be extremely cautious when working with an extended boom.

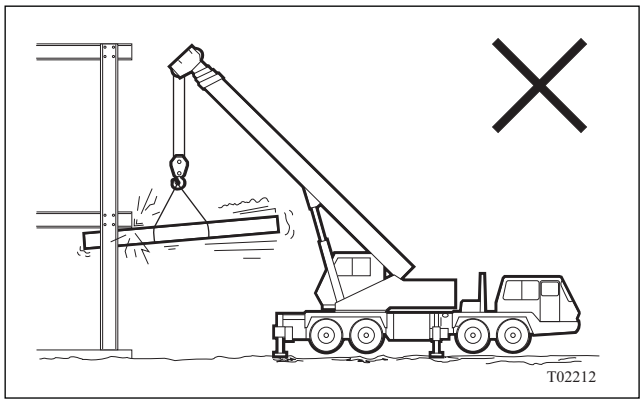


⚠Be Careful during Complex Operations

Actions of the crane will be slower during complex operations. When switching from a complex operation to a simple operation, action of the machine will become faster. When executing a complex operation, do not change speed immediately.
Do not attempt any complex operation until fully familiar with the crane operation.

⚠Avoid Contact with Obstacles

While moving a load, be absolutely sure that the load or any part of the crane does not come into contact with nearby structures or other objects.
When working on a site where potential obstacles are present, post a signal person, and only move the load while following instructions.



⚠Operate the Crane with Correct Boom Position

When the boom configuration is irregular for purpose of inspection or maintenance, never attempt to lift a load.
During crane operation, check that all the boom sections are telescoping in the correct sequence. The rated lifting capacity table has been developed based on assumption that the boom sections are telescoped in the correct sequence.

⚠Do Not Extend the Boom Excessively

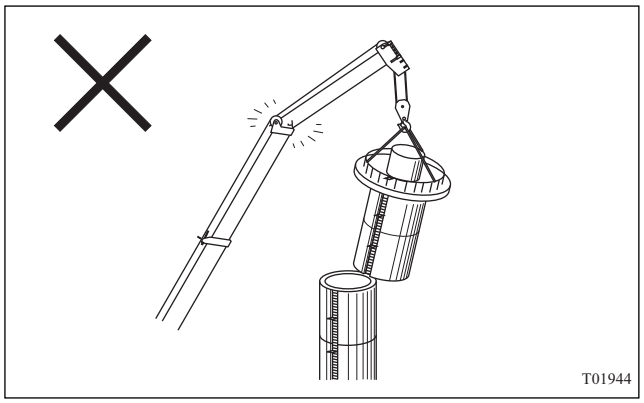
An excessively extended boom decreases the rated lifting capacity and also can cause overswing of the load or lower working efficiency.
Keep the length of the boom as short as possible during operation.

⚠Be Careful When the Boom Is at Maximum Permissible Angle

When the boom is raised to its maximum permissible angle, there exists minimum horizontal clearance between the boom and the load. A swaying load may hit the boom or jib, and cause damage. Handle the load carefully so that it does not strike the boom or jib.

⚠Be Careful in Demolition Work

It is very dangerous to lift parts or components of a structure undergoing demolition, if the mass and center of gravity are unknown. Before starting operation, ascertain the mass and center of gravity of the loads, and establish the lift procedure to be taken.



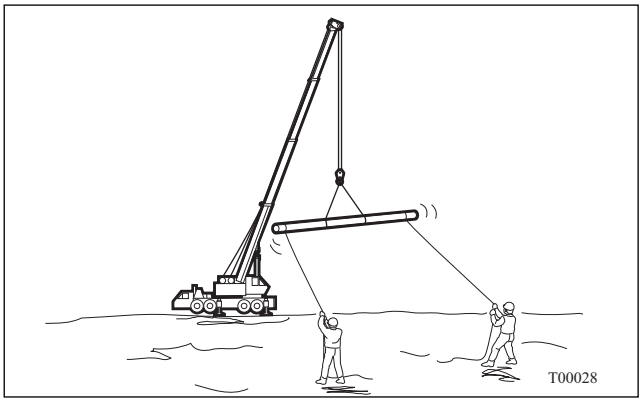
⚠Carefully Lift a Load in Water

When handling a load submerged in water, it is important not to lift the load out “all at once” when it appears above the water’s surface. The load may be impregnated with water and heavier than expected. Allow the load to drain while raising it slowly.
A load lifted out of water, even when fully drained, weighs more than it did when submerged because of buoyancy effects. Lift the load carefully so as not to cause overloading.

⚠ Handle Wide Loads Carefully

Be careful when lifting a wide load. The load can swing and hit a rigging person, the crane itself or a nearby structure.

Use tethers tied to either or both ends of the load to control the position and/or movement of the load.

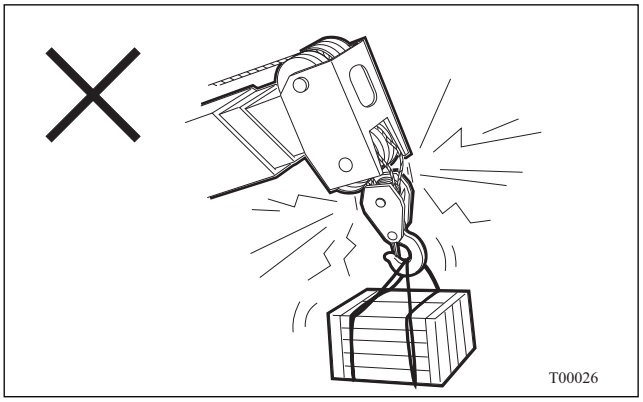


⚠ Do Not Overwind the Hook Block

When the boom is lowered or extended, the hook block is wound up.

Usually, overwinding the hook block will cause the overwind cutout device to trip and the winch automatically stops. However, if the device is damaged or the automatic stop function has been deactivated for some reason, the hook block can impact the boom head.

Always be aware of the position of the hook block. If the hook block approaches the boom head, wind off the wire rope to lower the hook block and avoid contact.



⚠ Know of the Number of Wire Rope Parts

If the number of the part lines is greater than specified for the boom length, the hoist line may become too short. As a result, the line can unwind off the winch drum causing the wire rope to be damaged or broken.

When lowering a very light load, or a bare hook block, the rope will unwind off the winch drum at a faster rate. The rope may then become improperly wound.

Use a number of part lines appropriate to the boom length.

⚠ Wire Rope Must Be Properly Wound on the Drum

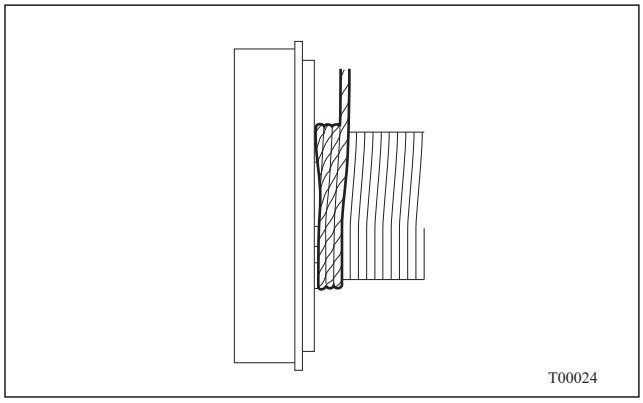
Lifting a load with the wire rope improperly wound on the winch drum can lead to damage of the wire rope, not only decreasing service life of the rope but possibly breaking wires and strands which can lead to ultimate failure.

After reeving or replacement of the wire rope, make sure that the line is properly seated in the sheaves and on the winch drum.

⚠ Do Not Unwind the Wire Rope

If the entire rope is unwound from the winch drum, the frictional anchoring force will be insufficient to support a load. The rope will break or become damaged.

At least three winds of rope must always be left on the winch drum. This condition applies particularly when a load must be lowered below ground level such as a trench or excavation.

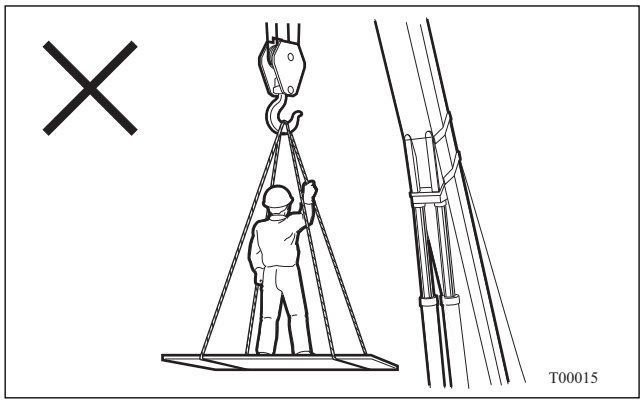


⚠Do Not Leave a Load Suspended

Do not leave a load in a hoisted position. Actuate the winch brake to hold the load safely. Use working procedures that minimize the duration a load is left suspended.

⚠Use the Crane Only for Approved Applications

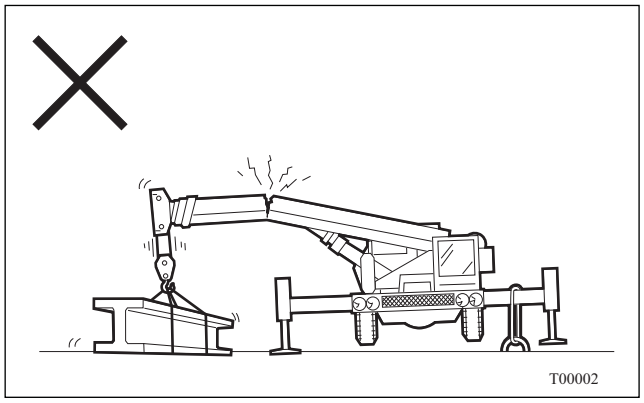
The crane is designed to lift a freely suspended vertical load. Never attempt to lift persons, or push/pull a load with the boom.



⚠Do Not Anchor the Machine

Do not attempt to hold down the crane frame or outrigger or contrary side to the lifted load, using wire rope.

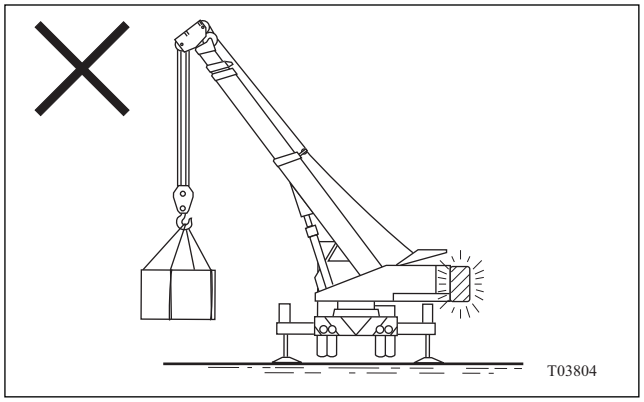
This practice might lead to crane damage or an accidents.



⚠Do Not Add Counterweights

Installing a counterweight(s) other than those specified can damage the machine, or cause the machine to overturn to the rear owing to decreased rearward stability.

Never install or place a counterweight(s) or equivalent other than those specified.



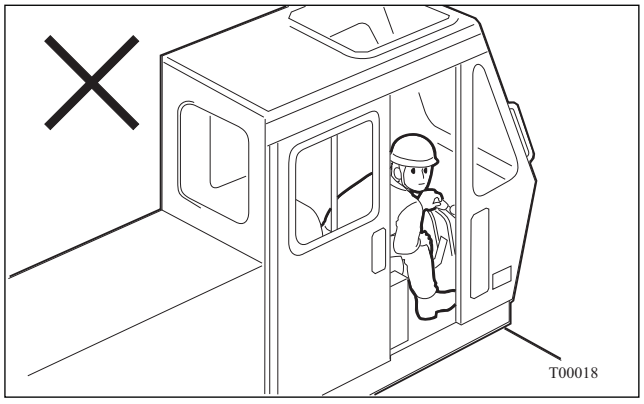
⚠Do Not Position Any Part of Your Body Out of the Window on the Boom Side

Sticking any part of your body out from the window on the boom side can result in being caught between the moving boom and the window frame. Serious injury or death can result from this dangerous practice.

If the window is equipped with a confining guard, do not remove it.

⚠Do Not Look Away from the Load While Operating the Crane

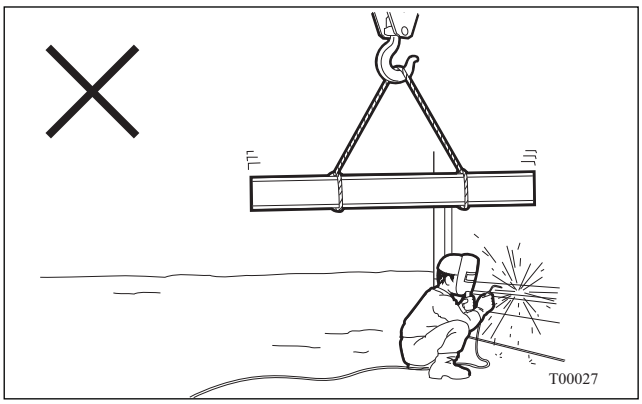
Looking away from the load, eating or performing any other action that can detract from awareness while operating the crane is very dangerous. During operation, concentrate all attention on the load and the signal person.



⚠Do Not Pass a Load over Any Person

Passing a load over a person(s) is very dangerous and must be avoided.

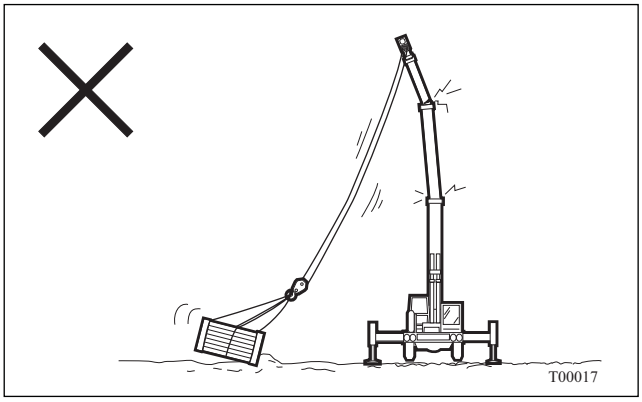
Do not allow anyone to enter the area below the boom or the load.



⚠Do Not Pull a Load Sideways, Do Not Lift a Load Obliquely, Do not Drag a Load

Pulling a load sideways, lifting a load obliquely or attempting to drag a load is very dangerous. Such actions can damage the boom, jib or swing mechanism, and lead to overturning of the crane.

Do not attempt to draw in a load that is located outside the load radius. To handle such a load, move the crane to the vicinity of the load, and lift it vertically.



⚠Do Not Leave the Operator's Cab While a Load Is Suspended

Before leaving the operator's cab for any reason, be sure to:

- **Lower the load to the ground.**
- **Fully retract the boom and stow it.**
- **Actuate all brakes.**
- **Place all control levers in their neutral positions.**
- **Shut off the engine, and remove the starter key.**
- **Lock the crane operator's cab door.**

⚠Never Allow Anyone to Ride on the Machine, Except the Operator

If any persons other than the operator (in the operator's seat) are on the machine, they must be stationed inside the operator's cab.

⚠Do Not Allow Anyone to Ride on the Machine

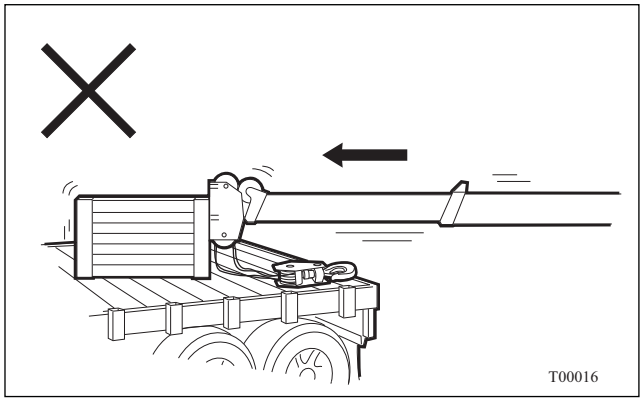
Persons on the machine other than the operator (in the operator's seat) may fall or be caught by a machine component or other objects. Other persons cause distraction and can disturb the attention and work of the operator.

⚠Do Not Push or Pull an Object with the Boom

Never use the boom to push or pull an object. Do not use the boom to thrust up an object or force the boom into an object.

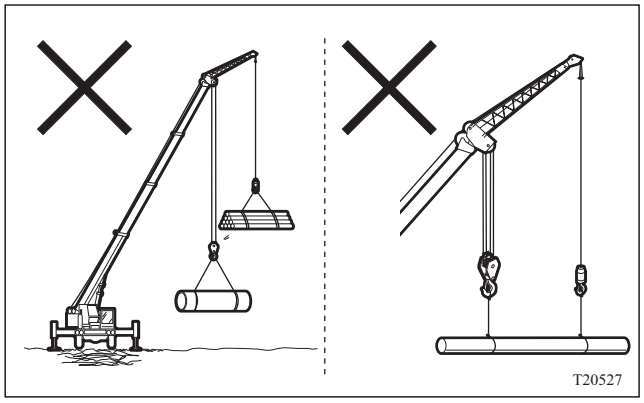
To move an object, use a machine designed for that purpose, such as a fork lift truck or carryall.

Do not use the crane in applications other than those specified.



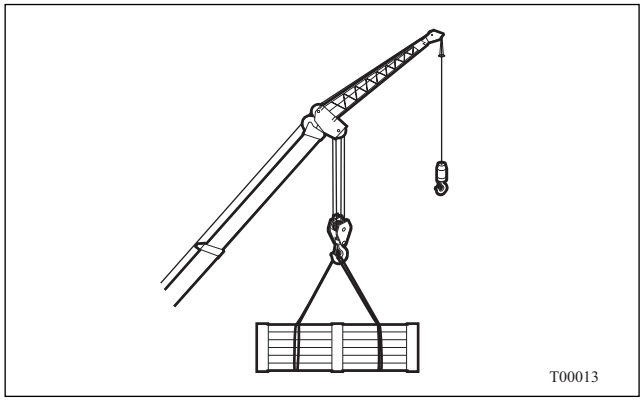
⚠Caution while Using the Jib (1)

Never attempt to lift separate loads on both the boom and jib at the same time, or a single load using both the main and auxiliary winches.
Such practices can damage the boom or jib, or overturn the machine.



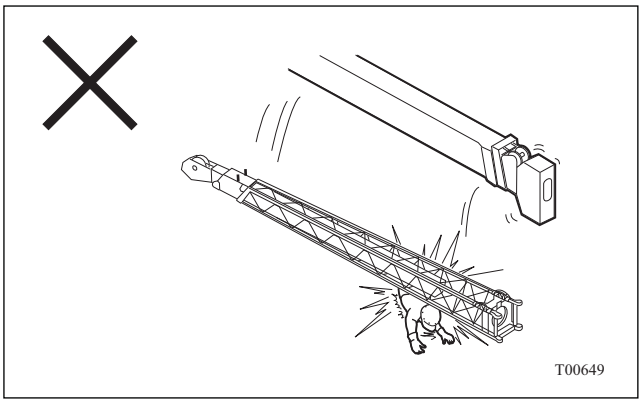
⚠Caution while Using the Jib (2)

Lifting a load on the boom with the jib mounted should be avoided, if possible.
If conditions require such a lift, observe the instructions given in the "AML" section of the manual and perform the operation with the utmost care and attention.



⚠Mount and Stow the Jib Correctly

Failure to observe the specified procedures for mounting and stowing the jib can damage the jib, or may cause the jib to drop.
Be sure to mount and stow the jib in the correct manner by referring to the "Jib" section in the manual.



Rules for Operation (Weather)

⚠Stop Operation When Visibility Becomes Poor

During bad weather such as rain, snow or fog, stop operation and stow the machine. Wait until visibility improves before resuming operation.

⚠Stop Operation When Strong Winds are Present

Under strong winds, a lifted load will start swaying, posing a danger to working personnel and nearby structures and also possibly damaging the boom or overturning the machine.

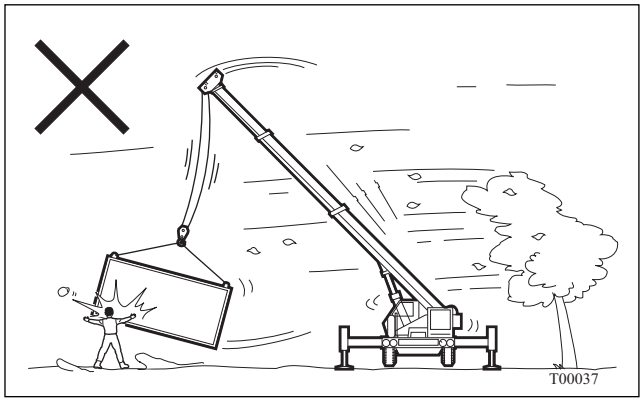
The influence of cross wind on machine stability is directly proportional to length of the boom and size of the load.

When the maximum instantaneous (i.e. gust) wind speed exceeds 10 m/sec, stop crane operation and stow the boom.

When the boom is substantially extended or a large-sized load is lifted, stop crane operation even if the wind speed is below 10 m/sec if there is any possible danger.

The table below lists wind speed ranges and the ground conditions for each range. Note that the wind speeds in the table are those at a point 10 m above open level ground.

Wind speed (m/sec)	Ground conditions
5.5– 8.0	Dust is raised, paper whirls up, and small branches sway.
8.0–10.8	Shrubs with leaves start swaying. Wave crests are apparent in ponds or swamps.
10.8–13.9	Tree branches move. Power lines whistle. It is difficult to open an umbrella.
13.9–17.2	Whole trees sway. It is difficult to walk against the wind.

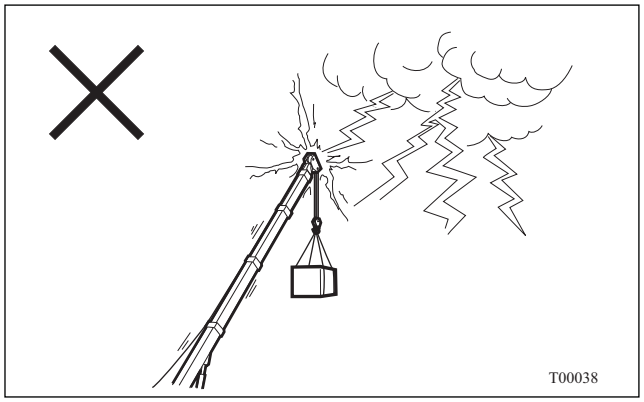


⚠Stop All Operation If There is Any Likelihood of Lightning

Lightning can not only damage the machine but also injure the operator and working personnel. If lightning is forecast or expected, stop operation, stow the boom, and leave the machine.

If the machine is struck by lightning:

- **Stay in the cab. Do not try to move out.**
- **Warn people around not to approach the machine.**
- **Afterward, inspect the entire crane carefully and have any damaged parts repaired.**



⚠Cautions in Cold Weather

- **Snow or ice on the crane should be removed before operation; it is especially important to eliminate any accumulation on the boom, as it could fall and injure someone when the boom is moved.**
- **Do not let bare skin come in contact with the machine's metallic parts when the temperature is below freezing. Skin can freeze to the metallic surface, if any moisture is present.**
- **Warm up the machine sufficiently. Then, check that the machine is functioning correctly. Remove ice and dry machine components as required.**
- **After starting operation, run the machine slowly until oils fully circulates through all machine components.**
- **Before lifting, make sure that the load is not frozen to the ground or any other objects. Attempting to lift a load which is frozen to the ground can result in severe overloading and is very dangerous.**
- **If possible, stow the machine indoors so that the tires are not frozen to the ground. Remove mud from the undercarriage.**
- **Maintain the battery. Use oils and fuel rated for cold weather.**

Rules for Operation (Power Lines, Radio Waves)

⚠Prevent Electric Shock Accidents

Approaching too close to power lines can result in electric shock accidents. If conditions absolutely require operation near power lines or distribution lines, implement the following preventive measures:

- **Meet with the power company concerned to develop a relevant safety plan.**
- **Require that working personnel wear approved insulating shoes.**
- **Keep the crane and load beyond the required distance (stipulated by national or local laws and regulations) and away from power lines.**
- **Post a full-time signal person to ensure the machine or load does not approach power lines or unauthorized personnel do not enter the work area.**
- **Personnel on the ground must not directly touch the machine or load. When necessary to control the lifted load, use dry fiber ropes as tethers to prevent the load from rotating or swaying.**
- **Do not place a load below or near power lines.**
- **Operate the crane slowly with the utmost care and attention.**

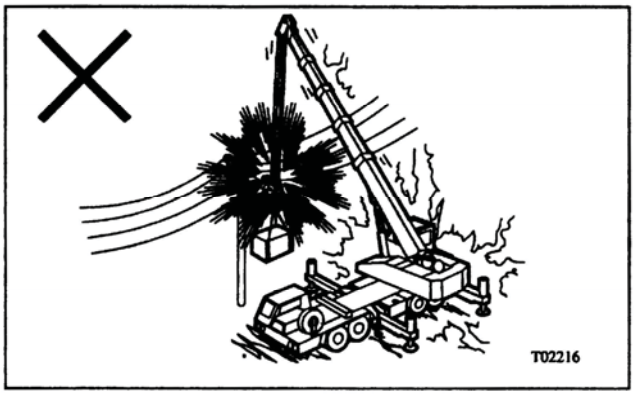
(The data shown below describes the required distance recommended by Japanese power companies.)

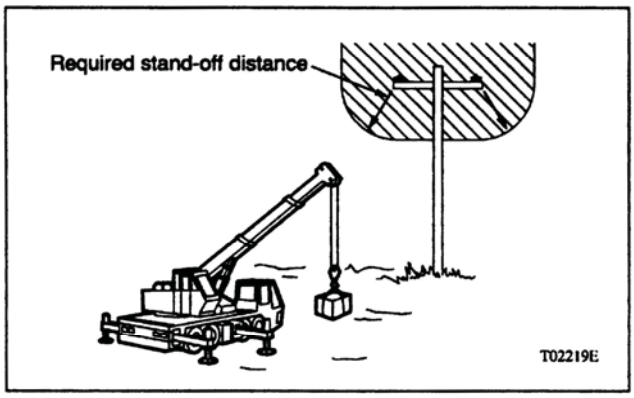
Voltage		Required stand-off distance
Low voltage	100 V, 200 V	2 meters
High voltage	6,600 V	
Extra high voltage	22,000 V	3 meters
	66,000 V	4 meters
	154,000 V	5 meters
	187,000 V	6 meters
	275,000 V	7 meters
	500,000 V	11 meters

Should an electric shock accident occur, do not panic. Follow the instructions below:

- **Contact the power company to cut off the power and obtain instructions for emergency action.**
- **Direct all personnel around the machine to evacuate the site. Strictly control the site and keep everyone away from the electrified crane and load.**

- **The operator should stay calm and cautiously move the crane and load away from the power lines to the required stand-off distance, and only then leave the cab.**
- **Should the machine be damaged and/or disabled, stay in the operator's seat until the power is cut off. If this is impossible, jump directly from the cab as far as possible. Do not touch any parts of the machine which may be electrified and can cause shock.**
- **After the accident, contact an authorized BQ–TADANO distributor or dealer to report the accident and discuss the measures, and inspection and repairs required.**





⚠Be Careful about High-Power Radio Waves

In areas near sources of high-power radio or TV station transmitters, a current can be induced in the crane structure. Electrified crane components can then result. Also, electronic devices such as the overload cutout may be damaged.
If necessary, ground the hook block to discharge any induced voltage and only then start rigging.