

Operation and Maintenance Manual

Rough Terrain Crane

Model TR-450XL-4

Applicable Serial No. 540294 • •

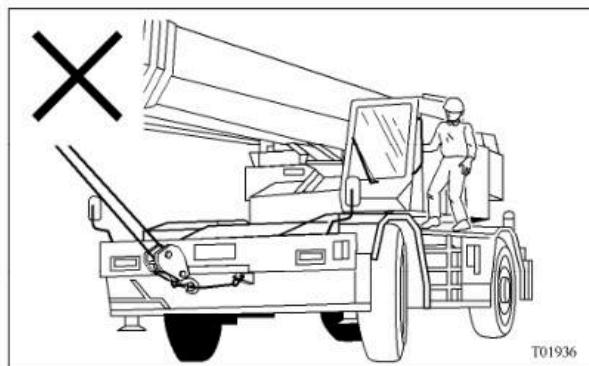
**▲ CAUTION: Read this manual before operating
• • • • • the crane. Save this manual for
• • • • • future reference.**

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▲ 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 crane 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.

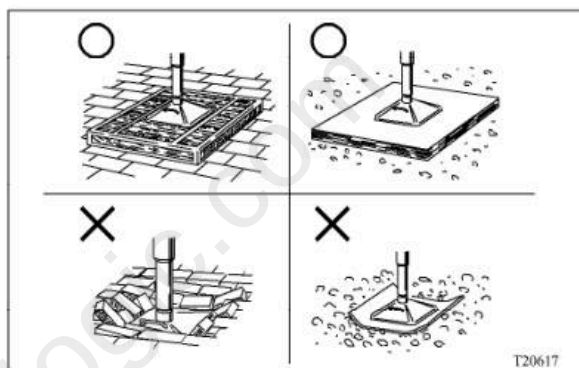
Then, run the engine at low speed without a load to warm up the hydraulic oil and other machine components.

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.

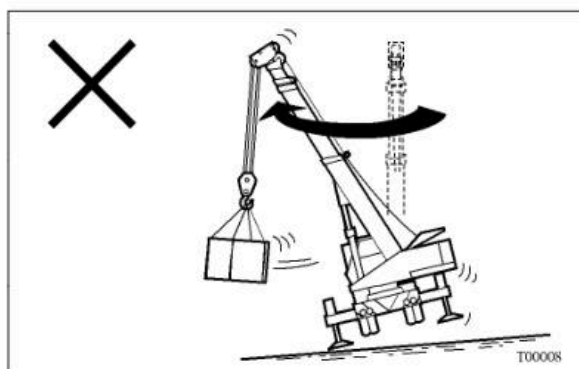
If the ground conditions are doubtful, use blocks or steel plates of sufficient strength and size below the outrigger floats to disperse the load.



▲ Set the Crane Level

If the crane is tilted, and the load is swung over the side, the working radius will increase, and the machine can overturn.

When setting the outriggers, level the machine carefully using a level.



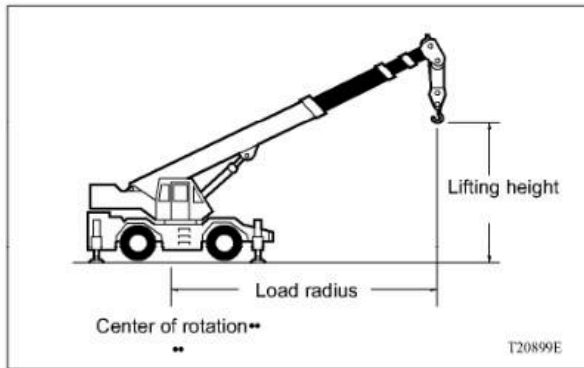
Terminology

This section provides the meaning of some important terms used in this manual.

Load Radius, Lifting Height

"Load radius" refers to the horizontal distance between the crane's center of rotation and the vertical center of the lifted load.

A "lifting height" is defined for each load radius and refers to the vertical distance between the ground and the bottom of the hook block raised to its uppermost position.



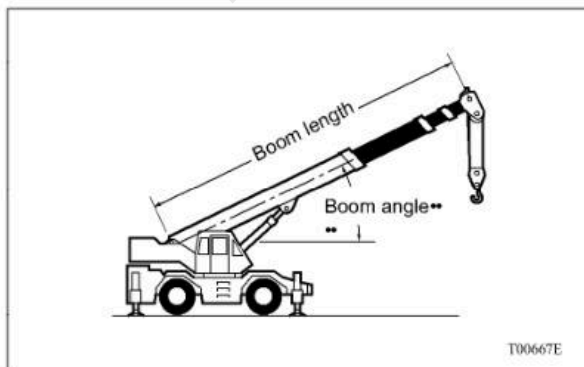
Maximum Lifting Height

"Maximum lifting height" refers to the maximum lifting height allowed.

Boom Length, Boom Angle

"Boom length" refers to the distance from the pivot pin at the foot of the boom to the center axle of the sheave(s) at the boom head.

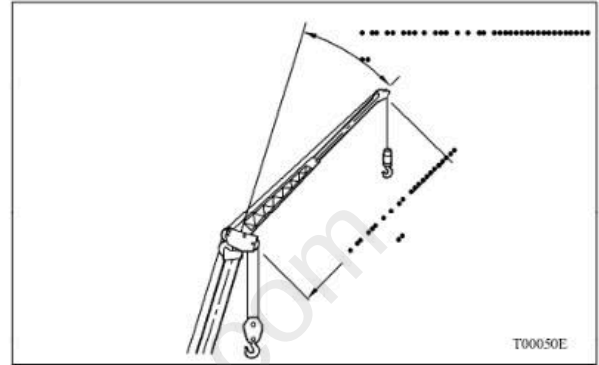
"Boom angle" refers to the angle formed by the boom's centerline and the horizontal.



Jib Length, Jib Offset Angle

"Jib length" refers to the center-to-center distance as illustrated in the figure below.

"Jib offset angle" refers to the angle formed by the centerline of an extended jib and the centerline of the boom.



Rated Lifting Capacity

"Rated lifting capacity" refers to the maximum allowable load for a particular boom length and load radius. The rated lifting capacity includes the mass of the hook block, rigging and load handling devices.

The mass of individual hook blocks are indicated in the "INFORMATION AND DATA" section at the end of this manual.

Without Load

The phrase "without load" is used to indicate that no load is being lifted on the hook block.

Stability Section, Strength Section

"Stability section" refers to the section of the rated lifting capacity table in which the major factor for determining lifting capacity is the stability of the crane.

"Strength section" refers to the section of the rated lifting capacity table in which the major factor for determining lifting capacity is the structural strength of the crane.

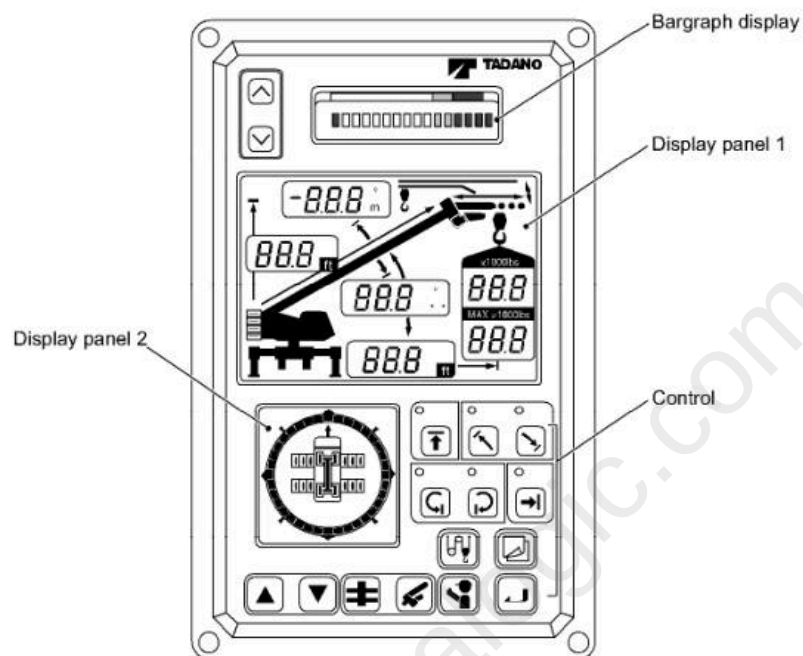
In the rated lifting capacity table, the values below the blue line are based on the stability of the crane.

The values above the blue line are based on the structural competence of the crane for on-outrigger operation, or of the tires for on-rubber operation.

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Names and Functions of Load Moment Indicator Main Unit Parts



T23212E

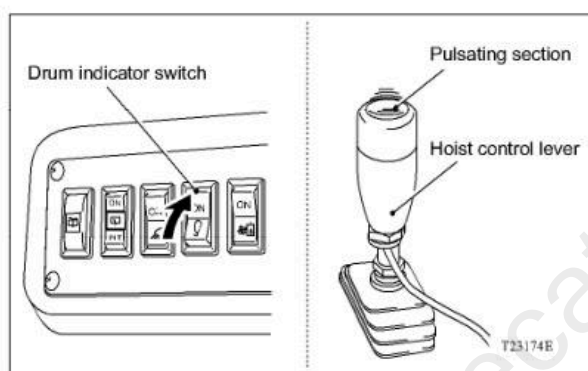
Other Winch-related Controls and Devices

Winch Drum Indicator (option)

The hoist control lever knob has a function of detecting the rotating status of the winch drum. Turn ON the drum indicator switch and, then, operate the hoist control lever. When you lightly touch the knob by your thumb, you will feel the pulsation sound of knocks.

◆The indicator functions only when the winch drum is rotating at low speed. The indicator becomes inoperable, when the winch is rotating at high speed.

◆Normally keep the drum indicator switch at the ON position, and turn OFF the switch only when it is not used.



Anti-twoblock Disable Switch

For details, see the "Other Safety Devices" section.

Winch Speed Reducer Oil Level

Check • Every 500 Hours

or Every 6 Months

Winch Speed Reducer Oil

Replacement • Every 1,000

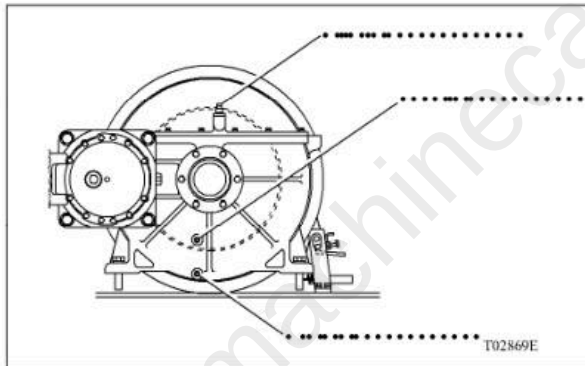
Hours or Once a Year

⚠ WARNING

⚠ The speed reducer is very hot immediately after operating. Let the speed reducer cool down until it can be touched with your bare hand before performing maintenance work on it.

Checking Oil Level

1. Set the crane on a level surface.
2. Remove the level plug and check the oil level.
There is no need to add oil if the oil level comes to the bottom of the plug hole. If low, remove the filler plug and add oil through the filler plug hole.



3. Install and tighten the level and filler plugs.

Replacing Oil

1. Set the crane on a level surface.
2. Place an oil pan under the drain plug to catch the oil being changed.
3. Remove the drain, filler and level plugs, and drain the oil.

4. After all of the oil has drained out, install and tighten the drain plug.
5. Pour fresh gear oil through the filler plug hole until it begins to come out of the level plug hole.
6. Install and tighten the filler and level plugs.

Return Filter Replacement • • Every 500 Hours or Every 6 Months

◆ Location: front of the hydraulic oil tank

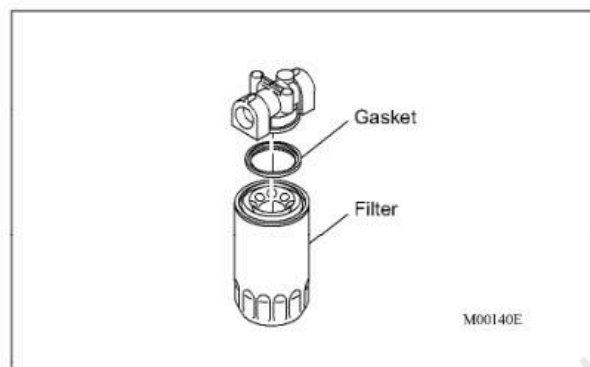
1. Remove the filter using a strap wrench.

◆ Place a waste beforehand to catch the hydraulic oil which may spill when the filter is removed.

2. Attach a new filter.

◆ Apply hydraulic oil thinly to the gasket beforehand.

◆ Tightening torque: 28.8 ft-lb {390 N•m}

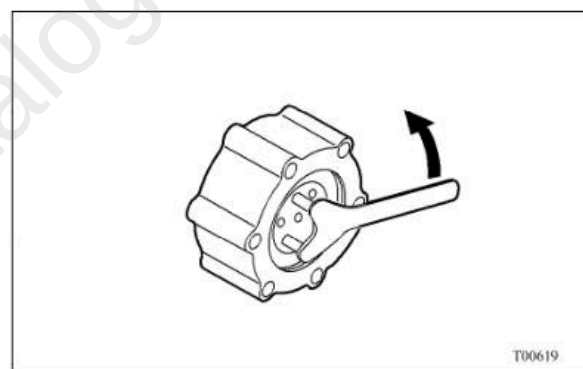
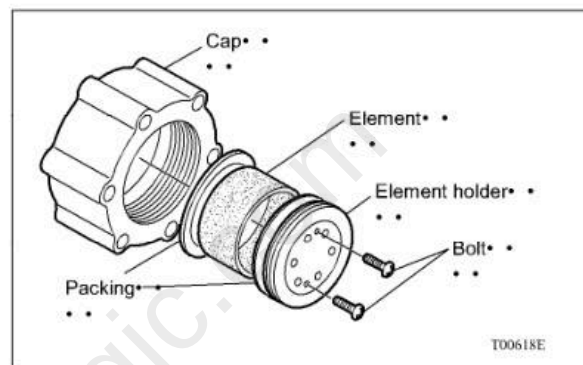


Air Breather Replacement (Hydraulic Oil Tank) • • • Every 500 Hours or Every 6 Months

Unlock the air breather cap to remove it.

Remove the two bolts, then use a wrench (spanner) as shown in the figure to remove the element holder.

Replace the element with a new one.



Full Version Available

Tadano TR-450XL-4 Rough Terrain Crane Operator Manual

Tadano TR-450XL-4 rough terrain crane operator manual covering controls, safe operation, setup, daily checks and care. 2 PDF files. Instant PDF download.

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