

Operation and Maintenance Manual

Rough Terrain Crane

Model **GR-300XL-1**

Applicable Serial No. **560918** ~

⚠ CAUTION: Read this manual before operating the crane. Save this manual for future reference.

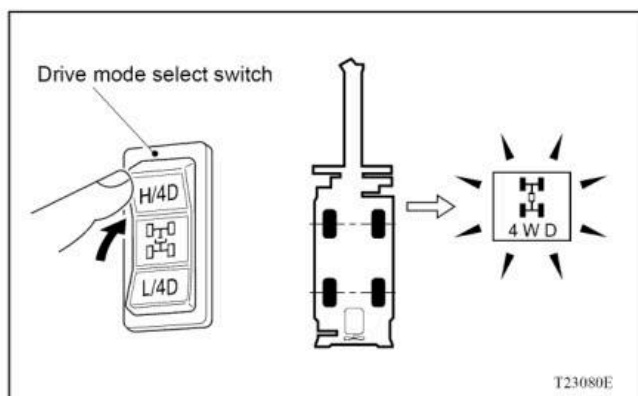
TADANO LTD.

(2) High-speed four-wheel drive mode

Turning the drive mode select switch to "H/4D" allows the crane to travel in the high-speed four-wheel drive mode.

Select this drive mode when traveling on slippery road surfaces such as rough or snow-covered roads.

◆ When this drive mode is selected, the four-wheel drive indicator lamp is lit.

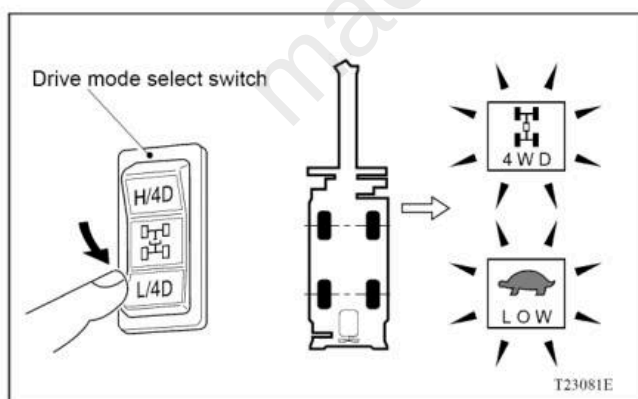


(3) Low-speed four-wheel drive mode

Turning the drive mode select switch to "L/4D" allows the crane to travel in the low-speed four-wheel drive mode.

Select this drive mode when traveling on unpaved roads, rough terrain, or traveling with a load on the hook block.

◆ When this drive mode is selected, the four-wheel drive indicator lamp and the low travel speed indicator lamp are lit.



Changing Drive Mode

1. Stop the vehicle on level ground.
 2. Make sure that the transmission is in Neutral, then change the drive mode select switch to the desired drive mode.
 3. Make sure that the corresponding indicator lamp comes on (goes off).
- ◆ If the machine starts to travel while the indicator lamps corresponding to the actual condition of the drive mode select switch remain unlit, the alarm buzzer sounds. If you continue traveling in this condition, the transmission will be damaged.

Equipment Outside the Cab

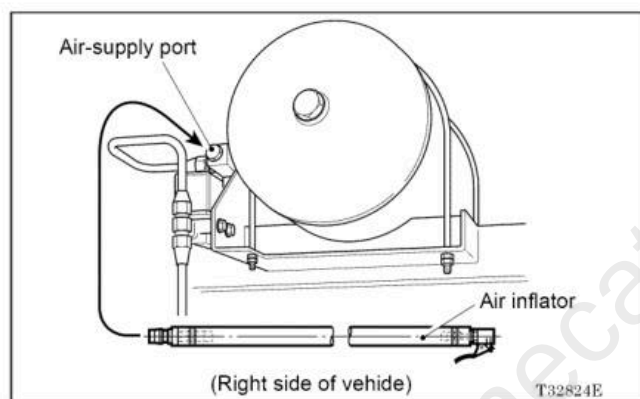
How to Use the Air Inflator (Option)

⚠ WARNING

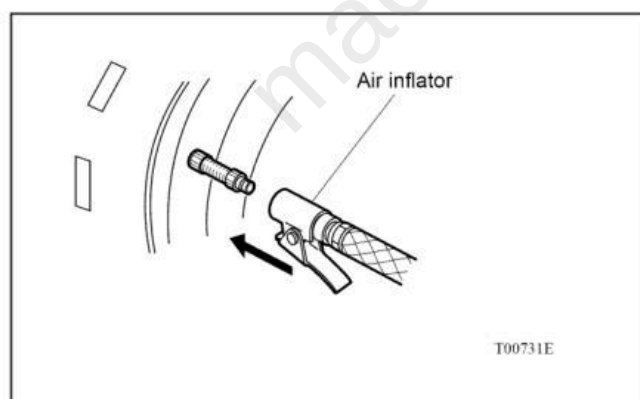
⚠ Never stand facing the side of a tire when inflating it. The lock ring may fly off, causing serious injury or death. Use a tire guard to surround the tire and stand behind the tire treads to inflate it.

If the crane is equipped with an air inflator, the tires can be inflated directly from the pneumatic circuit of the crane as follows:

1. Remove the cap to the air-supply port. Connect the air inflator to the air-supply port.



2. Remove the tire valve cap. Connect the other end of the air inflator to the tire valve.



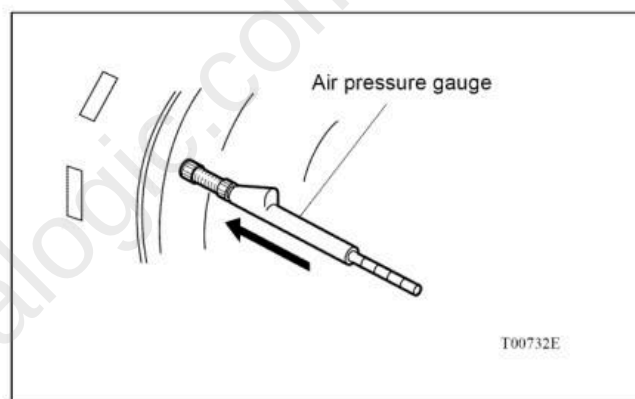
3. Start the engine to drive the air compressor and inflate the tire.

◆ The tire can be inflated more quickly if the engine speed is increased.

4. Check the approximate air pressure level with the air pressure gauge in the cab. Remove the air inflator from the tire at the proper inflation pressure.

5. Check the tire air pressure level with an air pressure gauge. If the pressure exceeds the specified level, bleed air off. Check air pressure while the tires are not warm.

Usage	Air pressure
	20.5-25-24PR
Travel	75 psi (5.25 kgf/cm ²)
On-rubber operation	93 psi (6.5 kgf/cm ²)



6. After the tires have been inflated, remove the air inflator from the air-supply port.

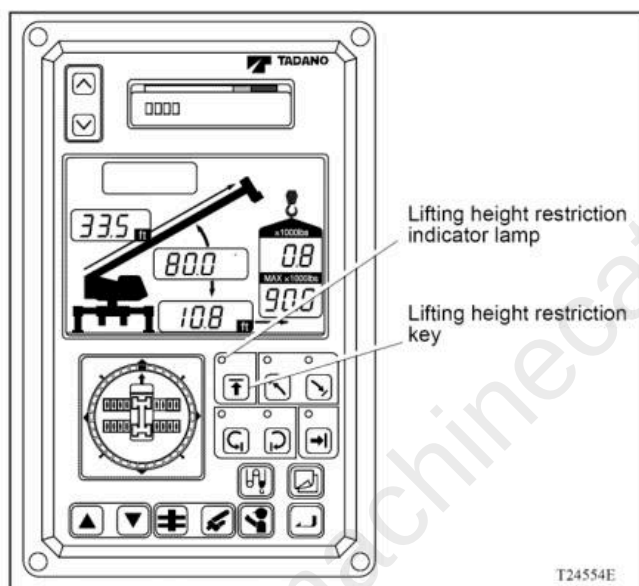
◆ Replace the caps on the crane air-supply port and the tire valves.

Lifting Height Limit

Move the boom to the desired height, and press the lifting height restriction key. The lifting height restriction indicator lamp will flash and the buzzer will sound continuously, indicating that the limit height has been stored in the memory. When the boom is moved back to a height within the set limit, the lifting height restriction indicator lamp stops flashing and stays lit and the buzzer stops.

Thereafter, the lifting height restriction indicator lamp flashes and the buzzer sounds continuously whenever the height limit previously registered is reached.

To cancel the height limit function, press the lifting height restriction key again. The corresponding lifting height restriction indicator lamp will go off.

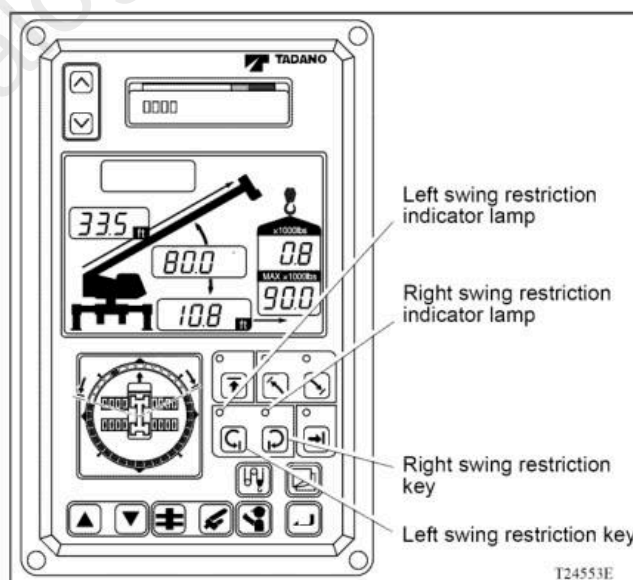


Swing Limit

Swing the boom to the desired position, and press a swing restriction key. The corresponding swing restriction indicator will flash and the buzzer will sound continuously, indicating that the swing angle limit has been registered in the memory. When the boom is swing back to an angle within the set limit, the swing restriction lamp stops flashing and stays lit and the buzzer stops. Thereafter, a swing restriction indicator lamp will flash and the buzzer will sound whenever the limit previously registered is reached. (The swinging boom stops automatically.)

To cancel the restriction function, press the corresponding swing restriction key again. The corresponding swing restriction indicator lamp will go out.

◆ When registering the swing angle limit, register both the right and left boom swinging restriction positions. Registering only one side cannot fulfill this working range limit function nor make the alarm buzzer sound.

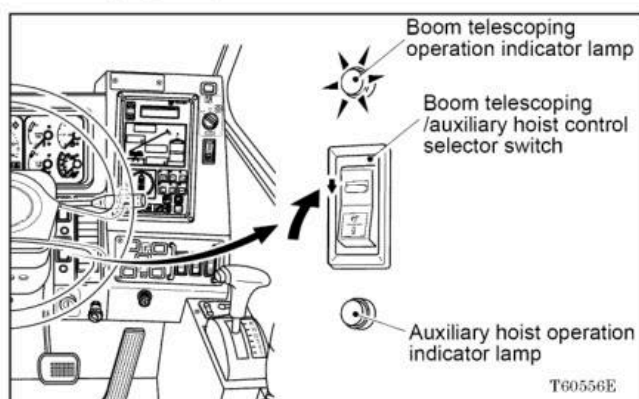


Extension

1. Flip the boom telescoping /auxiliary hoist selector switch to the "boom telescoping" side.

◆ When turning the switch, keep pressing the lock button on the switch downward.

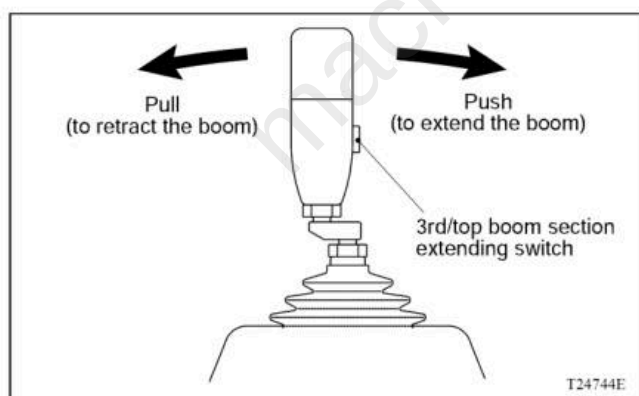
◆ Make sure that the boom telescoping operation indicator lamp lights up.



2. Push the boom telescoping /auxiliary hoist control lever forward. The 2nd boom section will extend.

3. After the 2nd boom section has fully extend, push the 3rd/top boom section extending switch while keeping pushing the lever. The 3rd and top boom sections will extend simultaneously.

◆ When the 3rd and top boom section begins to extend, release the switch.



4. Once the boom has extended to the desired length, return the boom telescoping control /auxiliary hoist control lever to the neutral position.

Retraction

1. Flip the boom telescoping /auxiliary hoist selector switch to the "boom telescoping" side.

◆ When turning the switch, keep pressing the lock button on the switch downward.

◆ Make sure that the boom telescoping operation indicator lamp lights up.

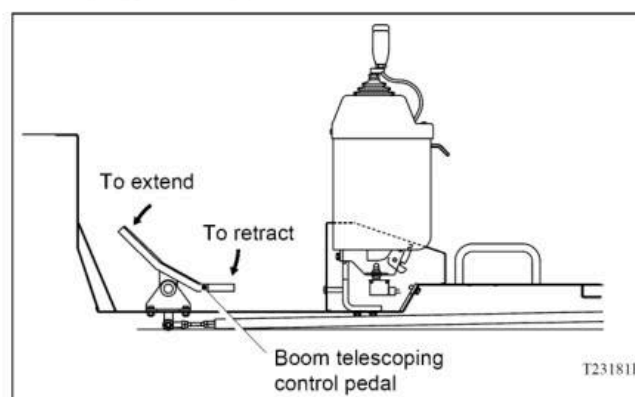
2. Pull the boom telescoping /auxiliary hoist control lever rearward. The boom will begin to retract. When retracting a fully extended boom, first the 3rd and top boom sections will retract simultaneously. After the 3rd and top boom sections have completely retracted, the 2nd boom section will retract.

3. Once the boom has retracted to the desired length, return the boom telescoping /auxiliary hoist control lever to the neutral position.

Boom Telescoping Control Pedal

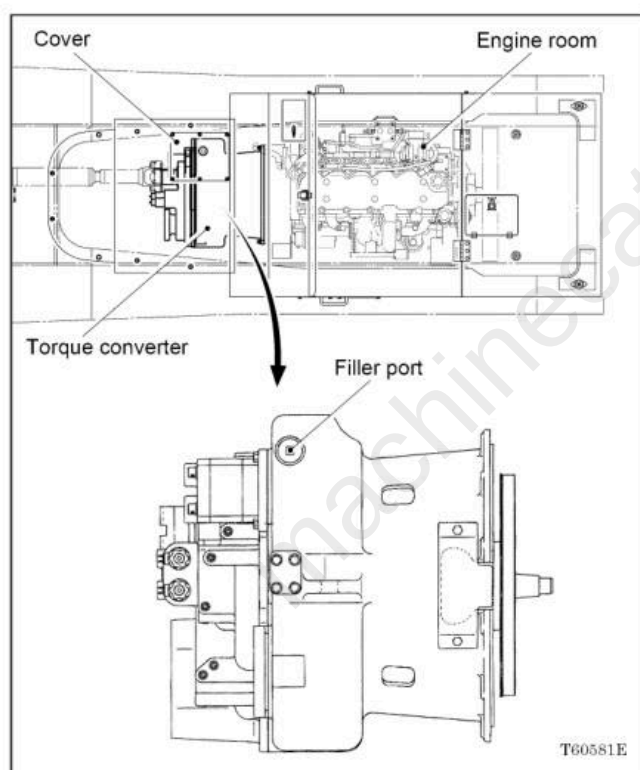
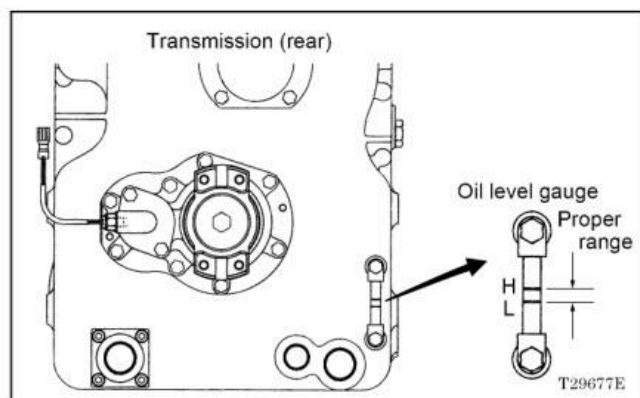
This pedal is for extending and retracting the boom.

◆ You can telescope the boom by using the boom telescoping control pedal independent of the boom telescoping /auxiliary hoist control switch condition.



4. After making sure that the level in the oil gauge on the transmission does not sink any more, check the oil level. If the oil level is in the middle of "H" and "L", the oil level is ok. If the oil level is low, add oil through the filler port of the torque converter.

◆ The filler port is located beneath the cover.

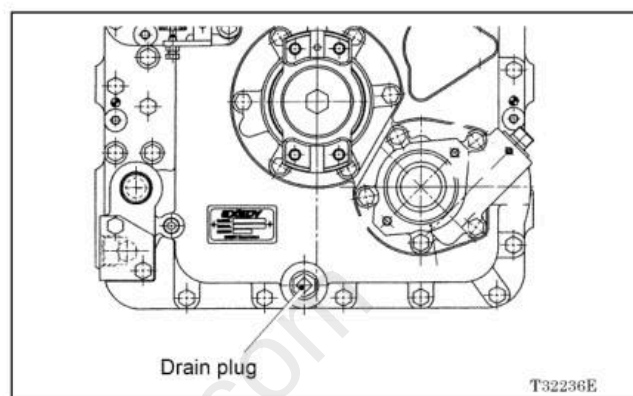


Replacing Oil

- ◆ Clean the area around the plug before removing it to prevent dust and other foreign materials from entering the torque converter system.
- ◆ When replacing the oil, also clean the strainer and replace the oil filter.

1. Set the crane in the traveling configuration on level ground.

2. Remove the drain plug at the lower part of the transmission to completely drain the oil.



3. Clean the drain plug. Install the drain plug and tighten it.

4. With the engine shut off, add oil through the torque converter filler port until the level reaches the "H" mark of the transmission oil level gauge.

5. Switch the PTO switch to OFF and shift into Neutral. Start the engine and let it idle.

6. The oil level drops gradually because the oil is passing through the torque converter, pipes, oil-cooler, filter, etc.

Add oil little by little to compensate for the drop in oil level. Keep the engine idling for approximately 5 minutes and continue to add oil until the indicator bar in the transmission oil level gauge remains in the specified range with the oil at a temperature of 122°F (50°C).

Battery Electrolyte Check

..... **Every 300 Hours**
or Every 3 Months

⚠ WARNING

⚠ Using or charging the battery with its fluid level below the "LOWER LEVEL" line indicated on its side may cause an explosion of the battery.

Always take care of the battery fluid level.

⚠ The hydrogen gas released from the battery is explosive. Never use a cigarette lighter or other open flame near the battery, particularly at the battery vent openings. Use a flashlight for illumination when checking battery fluid level.

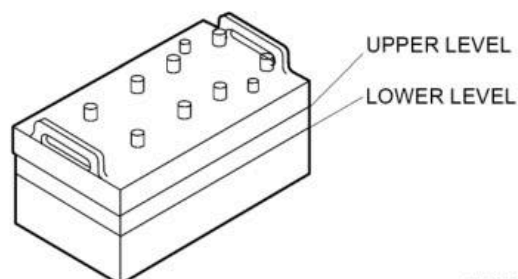
⚠ If battery fluid gets in your eyes, it may cause blindness. Should this happen, immediately flush your eyes with a large amount of water and seek medical attention.

⚠ When removing batteries, set the starter switch OFF; remove them from the ground side terminals (-). To connect the terminals, begin with the positive (+) side. Take care to the terminal positions.

The fluid level should be between the "UPPER LEVEL" and "LOWER LEVEL" lines. If the fluid level is low, add battery fluid or distilled water to the "UPPER LEVEL" line.

Standard specific gravity of the battery fluid is 1.27–1.29 (68°F or 20°C).

Recharge the battery if it is smaller than 1.21.



T00636E

⚠️ 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.

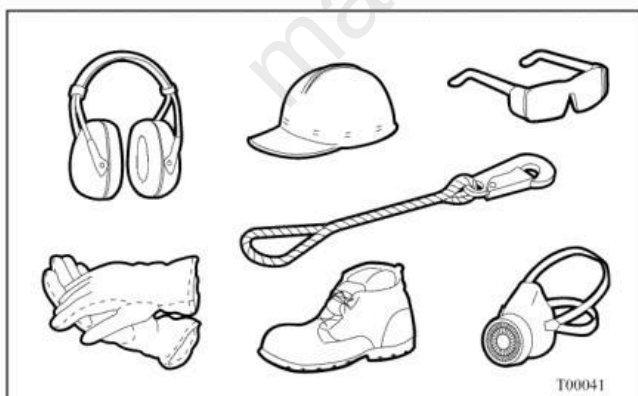
⚠️ Wear Proper Clothing

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.



⚠️ 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.

Full Version Available

Tadano GR-300XL-1 Rough Terrain Crane Operator Manual

Tadano GR-300XL-1 rough terrain crane operator manual covering controls, safe operation, setup, daily checks and care. 15-file PDF set.

VIEW THE FULL MANUAL

<https://machinecatalogic.com/tadano-gr-300xl-1-rough-terrain-crane-operator-manual/>

File Pages: 2,141 · File Count: 15 · File Language: English