

# **MINI-CRAWLER CRANE**

**MODEL**

## **URW506CDE SERIES**

### **OPERATION & MAINTENANCE MANUAL**

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### ◆2. Steps to be taken after engine has started

## CAUTION

★Do not make engine to accelerate abruptly before it has been warmed up.

After the engine has started, do not rush into crawling the crane but take the steps as follows:

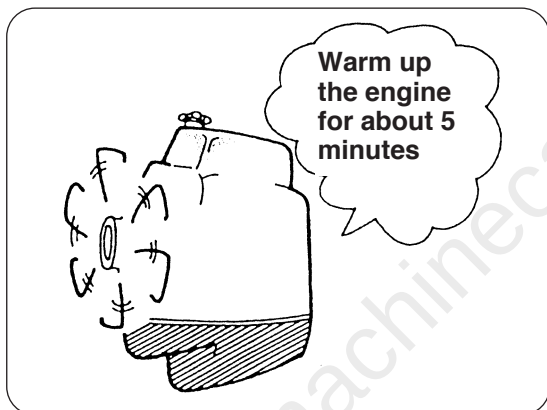
**1** Make sure that each warning lamp does not light after the engine has started. If any one of the lamps lights, stop the engine to find the cause.

**2** After idling the engine at a lower speed for about 5 minutes to warm it up, shift each operation lever with the accelerator pedal depressed halfway to warm up the hydraulic system.

The warming-up allows not only the lubricant to circulate well enough through each operating section but also allows the engine to be warmed up gradually to raise temperature of both water and oil which in turn creates the better operating conditions.

**3** Check the engine for unusual vibration and noise, bad odor, and for color of exhaust gas.

**4** Check the hydraulic equipment and the engine for oil leakage.

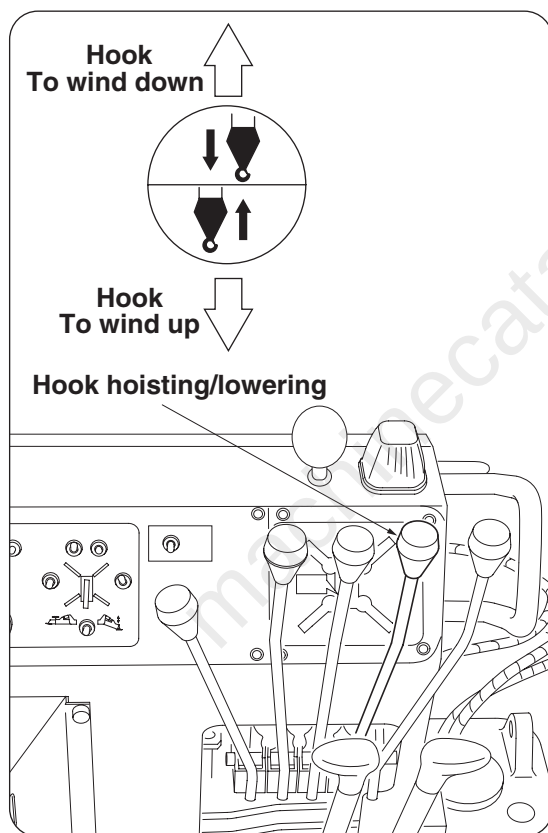


## 6 How to hoist and lower the hook

### **WARNING**

★Pay attention that the hook will not be over-wound.  
Be sure to turn ON the “voice switch”.

★If the hook hits against the boom top due to being overwound of the hook, it may cause damage to the wire rope and the sheaves at the boom top and may cause the lifted cargo to fall.



To hoist

Shift the lever to “UP” to raise the hook.

To lower

Shift the lever to “DOWN” to lower the hook.

To stop

Return the lever to neutral position to stop the hook being wound up/down.

#### ◆Power automatic accelerator

When the control lever is shifted further to “UP” or to “DOWN”, the engine speed increases according to the movement of the lever which in turn increases hoisting speed of the hook as the lever is interlocked with the accelerator.

#### ◆Hook control together with accelerator pedal

Engine changes from the idling to the highest speed.

Operate the boom by controlling boom dericking lever together with by adjusting the accelerator pedal.

The crane can only be operated through the radio control transmitter when it is on the radio remote control mode but it cannot be operated via manual control levers (including outriggers).

List of available functions to be operated on each control mode

| Crane operation                  |                           | Operation mode |                      |
|----------------------------------|---------------------------|----------------|----------------------|
|                                  |                           | Manual         | Radio remote control |
| Manual lever                     | Boom Raising/Lowering     | ○              | ×                    |
|                                  | Hook Hoisting/Lowering    | ○              | ×                    |
|                                  | Boom Extending/Retracting | ○              | ×                    |
|                                  | Slewing C.C.W./C.W.       | ○              | ×                    |
|                                  | Outrigger Extend/Retract  | ○              | ×                    |
| Radio remote control transmitter | Boom Raising/Lowering     | ×              | ○                    |
|                                  | Hook Hoisting/Lowering    | ×              | ○                    |
|                                  | Boom Extending/Retracting | ×              | ○                    |
|                                  | Slewing C.C.W./C.W.       | ×              | ○                    |
|                                  | Storing hook              | ×              | ○                    |
|                                  | Mode                      | ×              | ○                    |
|                                  | Speed select              | ×              | ○                    |
|                                  | Horn                      | ×              | ○                    |
|                                  | Emergency stop            | ×              | ○                    |
|                                  | Engine Start/Stop         | —              | ○                    |

Operation ○: Possible ×: Impossible

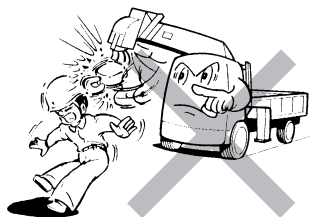
### ●Remarks

The crane cannot be operated both by manual and by radio remote control without selecting operation mode.

The operation mode is to be memorized even after power to the crane has been turned OFF.

◆3. How to store hook

## ! WARNING



★ Since releasing the hook from its stored position allows it to swing, it may cause an accident if a person stands under or in front of the hook.

In addition, excessive pulling of the “speed lever” increases the hook to swing that is dangerous so that do not pull the lever extremely.

★ It is strictly prohibited to operate the crane with the “storing hook” as this is very dangerous.

★ Retract the boom fully and lower it to its extreme to store it.

★ Do not operate the “storing hook” with any one of control levers at the same time.

This may cause an incorrect action and/or a breakdown of the crane.

★ Pay attention that the manual control lever for “hook Up/Down” moves “Up” side when retracting the hook.

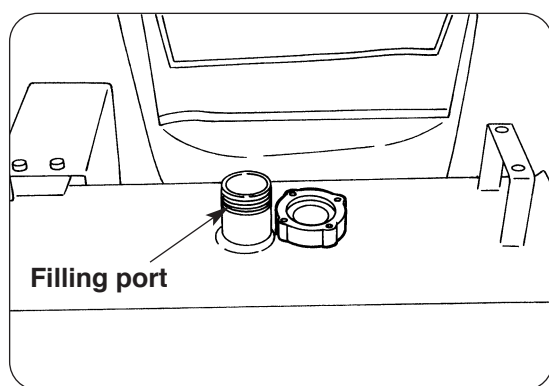


## CAUTION

★If the monitor lamp lights soon after the cleaned air cleaner element has been fitted, replace it with new element.

★Repeated cleaning of the air filter element is up to 5 times. Do not try cleaning 6 times but replace it with new element.

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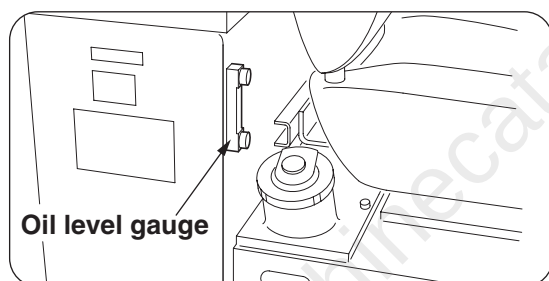
**5** Pour the specified amount of specified oil into the filling port.  
Capacity of hydraulic oil tank: 70 liters

**6** Fit the filling port plug, then bleed the air in the hydraulic system.

**7** Idle the engine at low speed and repeat extending and retracting each cylinder between positions where it will not come to the stroke end of either side (approx. 10cm before the stroke end ).

### **CAUTION**

★Extension or retraction of a cylinder to its stroke ends may cause the sealing to be damaged by the air entered into the cylinder.



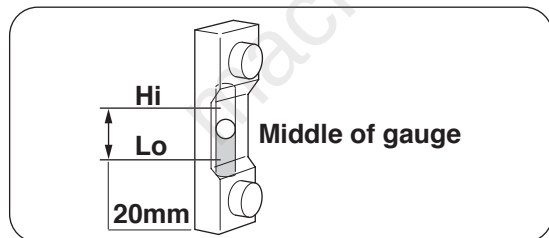
**8** Then, allow each cylinder to repeat extending and retracting between both sides by 3 to 4 times.

**9** Put the crane at the stored position and stop the engine.

Check the oil level gauge located in front of the oil tank, and supply the oil as necessary. If hydraulic oil level is checked at the operating position of the crane, the oil may be over-supplied because hydraulic oil in each cylinder will not be returned to the oil tank.

Therefore, be sure to check the oil level at the stored position.

A proper oil level should be at the middle between “Hi” and “Lo” limits on the gauge.



### **CAUTION**

★Since hydraulic oil temperature is too high and its volume is expanded immediately after the machine operation has been stopped, the oil level gauge will not indicate the correct oil quantity. Therefore, be sure to check the oil quantity when the oil temperature has returned to an ambient temperature of 20~40℃.

★There is a risk that the hydraulic oil may be spurted out if the oil is supplied beyond the “Hi” level limit on the gauge.

## **WATER SUPPLY AND LUBRICATION TO CARRIER**

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- ◆5. Hydraulic oil is the same as the oil used in the crane.
- ◆6. Use the gear oils for the reduction gears of crawling motor as below:  
Use the gear oils SAE#90 GL4 or equivalent.

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## Full Version Available

### Unic URW506CDE Mini-Crawler Crane Operator Manual

Unic URW506CDE mini-crawler crane operator manual covering controls, safe operation, setup, daily checks and care. 190-page English PDF.

**VIEW THE FULL MANUAL**

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