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SAFETY

⚠ WARNING

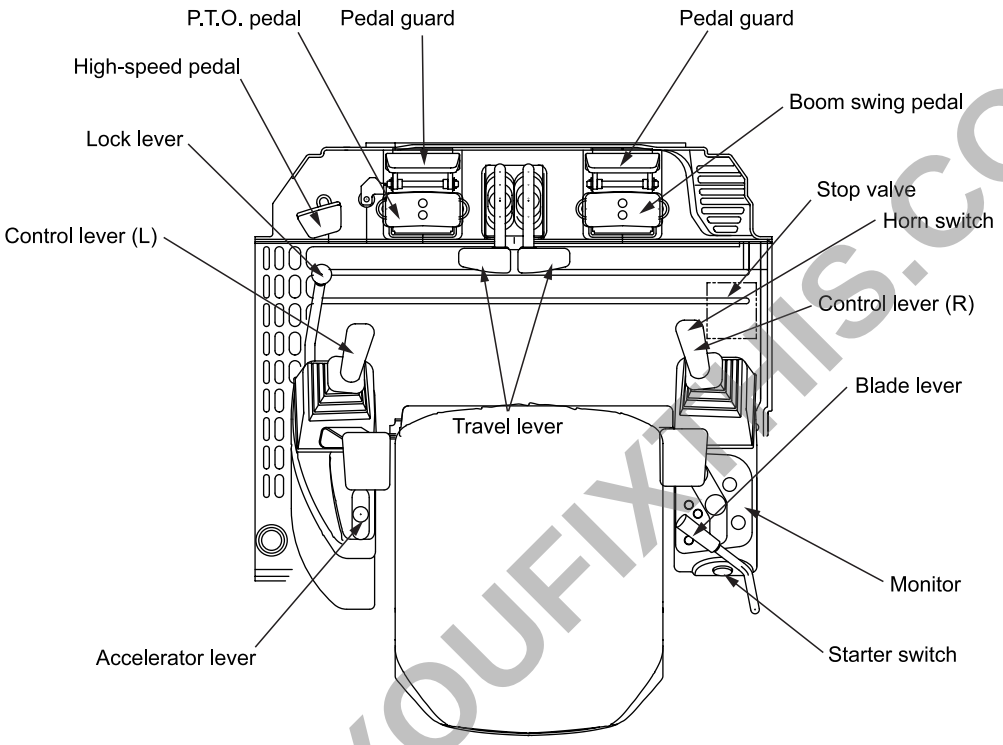
Never attempt to operate or service this Excavator until you have first read and understood all of the applicable Safety Instructions that are set forth in this Manual.

The failure to comply with all relevant Safety Instructions could result in bodily injury.

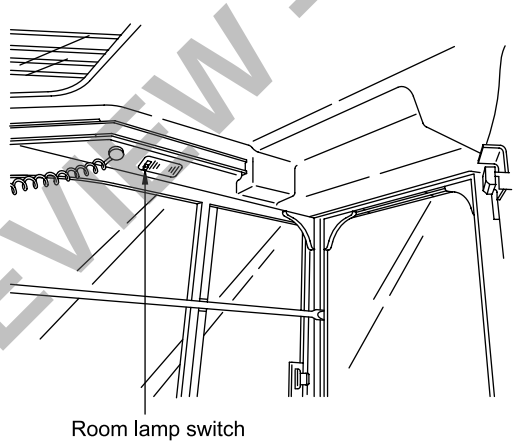
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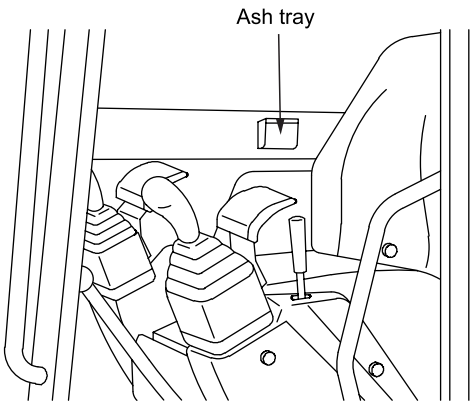
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11-2. Controls and switches



For cabin type





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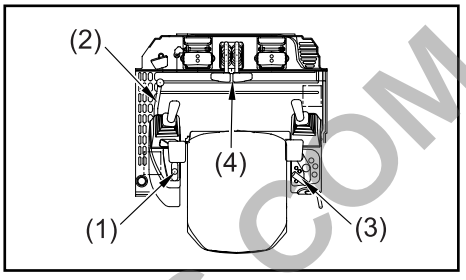
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13-4. Traveling

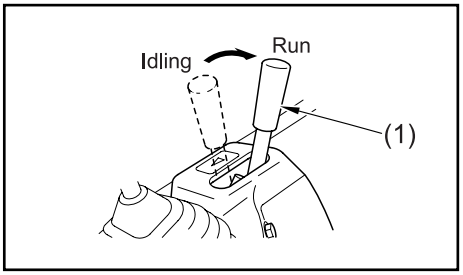
13-4-1. Traveling forward

⚠ WARNING

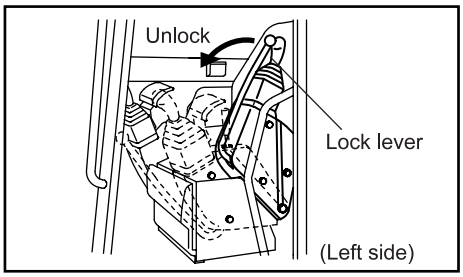
- **Always check the position of the blade before operating the travel levers.**
  When the blade is in the rear, the travel levers operate in reverse of normal operation.
- **A signal person should be in attendance to give signals at sites which are dangerous or not clearly in view of the operator.**
- **Clear all people from the working area.**
- **Sound the horn before beginning travel, to alert the people near the machine.**
- **Clear obstacles from the path of the machine.**
- **Do not operate the travel levers rapidly while the engine is running at high speed. Otherwise, the machine may move unexpectedly, causing a serious accident.**



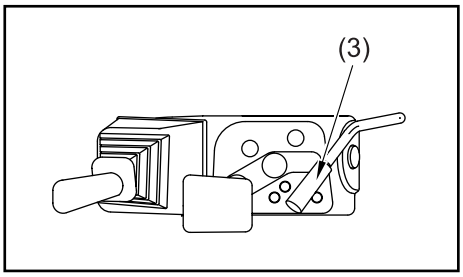
1) Pull the accelerator lever (1) back to the "RUN" position to increase the engine speed.



2) Unlock the lock levers (2), and retract the implement to raise it 16 to 20 in. (40 to 50 cm) above the ground.



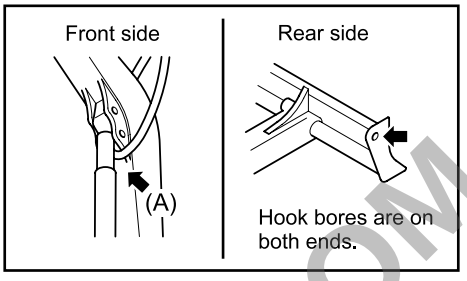
3) Pull back the blade lever (3) to raise the blade.



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Suspend the machine on the level ground as follows:



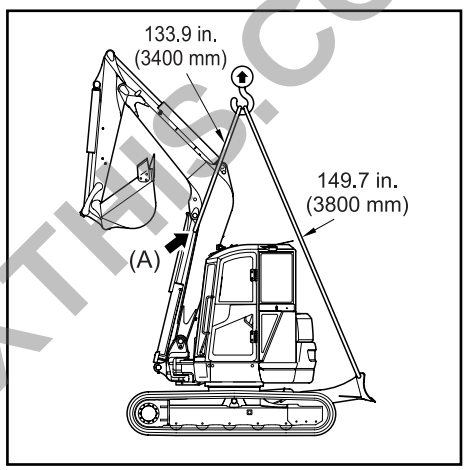
1) Swing the upperstructure so that the blade is behind the operator's seat.

2) Raise the blade to the highest limit.

3) Extend the hydraulic cylinders of the front implement (except for the boom swing cylinder) to the maximum.

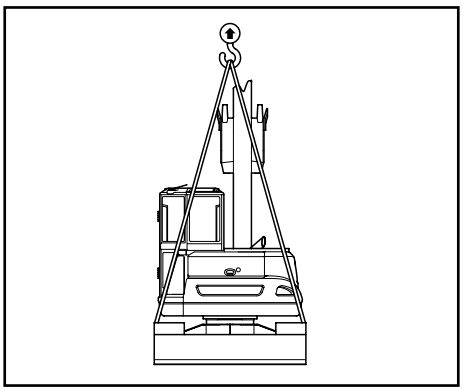
4) Stop the engine, and make sure that nothing is left around the operator's seat before leaving the machine.

5) Put a slingbelt (or a wire rope) through (A) illustrated in the figure on the right and install shackles in the right and left holes in the side plate of the blade on the rear side, then securely fasten the slingbelt to the shackles.



6) Put splints on the machine where the slingbelt touches when the slingbelt is pulled.

7) Suspend the machine above the ground, wait until the machine is stable and then suspend it slowly.



IMPORTANT

- **For a machine with a cabin, be sure to close the side door and the windshield.**
- **Set each lock lever at the lock position.**

Shipping weight:

lbs. (kg)

Machine with steel crawler		Machine with rubber crawler	
With canopy	With cabin	With canopy	With cabin
17309 (7850)	17419 (7900)	17199 (7800)	17309 (7850)

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17-4. Troubleshooting

17-4-1. Engine and electrical equipment

- Contact your dealer for assistance, regarding the measures indicated in parentheses in the list below.
- If any abnormalities or troubles are encountered that are not included among those shown below, ask your dealer for assistance.

Trouble		Cause	Measure
Engine	Steam comes out of top of radiator.	• Shortage of cooling water	• Check cooling water level. Refill, if necessary. (Check cooling water for leak from water port.)
	Water temperature alarm lamp lights.	• Loose fan belt	• Adjust belt tension.
		• Buildup of dust and water scale on cooling system	• Replace cooling water. Clean inside of cooling system.
		• Defective thermostat	• Replace thermostat.
		• Clogged radiator fin or inclined fin	• Clean or repair fin.
		• Defective electrical system	• Check or replace electrical system.
	Turning on starter motor does not start engine.	• Shortage of fuel	• Refill fuel tank.
		• Air mixed in fuel system	• Repair air leak. Release air from fuel system.
		• Defective fuel injection pump or deteriorated nozzle performance	(• Contact dealer for repair.)
		• Improper compression	(• Check and repair.)
		• Blown out fuse	• Replace fuse.
		• Damaged starter switch key stop solenoid. Link disengagement	(• Check and repair.)
	Dark fumes come out of machine.	• Clogged air cleaner element	• Clean or repair element.
		• Deteriorated nozzle performance	(• Check and repair.)
		• Improper compression	(• Check and repair.)
	Fume color is white or bluish white.	• Too much oil in oil pan	• Drain oil from oil pan up to specified level.
		• Improper fuel	• Replace fuel with recommended one.
		• Worn cylinder or piston ring	(• Repair.)
Electrical equipment	Turning starter switch to "START" dose not start starter motor.	• Defective wiring system	• Check and repair wiring system.
		• Defective starter switch	• Replace starter switch.
		• Insufficiently charged battery	• Recharge battery.
		• Defective starter motor	(• Check and repair.)
	Maximum engine speed does not provide enough brightness of lamps.	• Defective wiring system	• Check terminals for looseness and disconnection. Repair terminal, if necessary.
		• Defective generator or regulator	(• Check and repair.)
	During engine operation, lamp is extremely bright, and frequently burns out.	• Defective regulator	(• Replace regulator.)
	Electrolyte leaks from battery.	• Defective battery	(• Replace battery.)
	Speed of starter motor is too low.	• Defective wiring system	• Check and repair wiring system.
		• Insufficiently charged battery	• Recharge battery.
		• Defective starter motor	(• Check and repair.)

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■ List of periodic inspection and servicing

◇ : Check ○ : Supply ● : Replace □ : Adjust (clean) ■ : Oil & grease

Check & service items			Daily	Every 50	Every 100	Every 250	Every 500	Every 1000 hrs
General	Check falling off, breakage of parts		◇					
	Check loosened bolts & nuts, retighten		◇					
	Check engine condition		◇					
	Clean		□					
Lube oil	*Swing gear case oil	Check, resupply				○		
		Replace			●1st time			●
	Travel reduction gear oil	Check, resupply				○		
		Replace			●1st time			●
	*Transmission oil	Check, resupply	◇					
		Replace			●1st time			●
	*Differential gear oil	Check, resupply			◇			
		Replace			●1st time			●
Hydraulic system	Hydraulic oil	Check, resupply	◇					
		Replace						●
	Clean suction filter					□1st time		□
	Replace return filter					● 1st time	●	
	Check for abnormality of hydraulic pump		◇					
Grease	Check grease-up positions, grease		■					
	Greasing the swing gears and the swing bearings			■				
Undercarriage	Check, adjust track tension		◇					
	*Check air pressure, wear, flaw in tyres		◇					
Steering equipment	Check performance, play of steering lever		◇					
	Check performance, play of travel lever		◇					
	*Check performance of speed change lever		◇					
	*Check performance of forward/reverse pedal		◇					
	*Check performance, play of steering wheel		◇					
	*Brake pedal	Stroke	◇					
		Performance	◇					
	*Parking brake	Stroke	◇					
		Performance	◇					
	Check performance of accel. lever		◇					
Electric equipment	Check front & work lights, horn		◇					
	Check hourmeter function		◇					
	Check function of change, oil and pilot lamps		◇					
	Check wire breakage, short-circuits, loosened terminals retighten		◇					
	Check, resupply battery fluid		◇					
	Check specific gravity of electrolyte						□As required	
	Check function of OK monitor		◇					

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25-6. Maintenance every 250 service hours

Also perform the maintenance every 50 service hours.

25-6-1. Replacing the engine oil and the engine oil filter element

⚠ WARNING

- **Do not replace the oil immediately after the engine stops to prevent bodily injury, because all the components are hot.**
- **Do not allow hot oil or components to contact skin.**
- **Replace the oil and the filter element after the oil and the components have cooled sufficiently.**

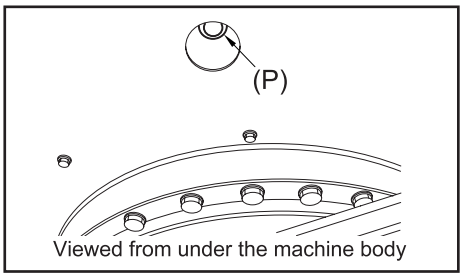
■ Things to prepare

• Replacement new oil and container for waste oil

Model	Amount of oil	Container
ViO75	10.78 Qts. (10.2 L)	10.78 Qts. (10.2 L)

• Filter wrench for engine oil filter cartridge

1) Swing the upperstructure so that the drain plug (P) on the bottom of the engine is positioned in the middle of the right and left crawlers.



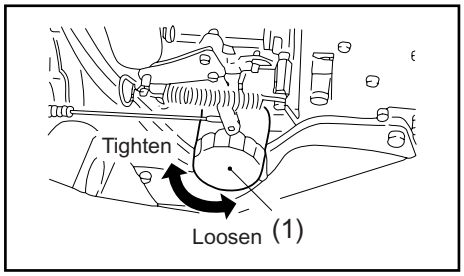
2) Put the container for waste oil under the drain plug (P) on the bottom of the machine body.

3) Slowly remove the drain plug (P) so that the oil should not splash on you and drain the waste oil.

4) Check the waste oil, and contact your dealer if any metallic particles or foreign objects are mixed in it.

5) Reinstall the drain plug (P).

6) Turn the oil filter cartridge (1) counterclockwise with the filter wrench to remove it.
After removing the oil filter, wait 10 to 15 minutes before replacing it.



7) Wipe the dirt and oil from the filter mount and apply engine oil (or apply grease lightly) to the seal surface of a new oil filter (cartridge).

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2. Safety Information

- The following Signal Words have been used in this Manual and on the Safety Signs to indicate the seriousness of the hazards that could be encountered by failing to comply with the applicable Product Warnings, as follows:

⚠ DANGER	Could result in death or catastrophic bodily injury.
⚠ WARNING	Could result in bodily injury.
⚠ CAUTION	Could result in property damage.
IMPORTANT	The signal Word “IMPORTANT” has been utilized in this Manual to denote those User Directions that must be followed to assure the safe operation and maintenance of the Excavator.

- **WARNING** : Never attempt to operate or service this Excavator until you have first read and understood all of the applicable Product Warnings and User Directions that are set forth in this Manual and on the Safety Signs that are affixed to this Excavator.

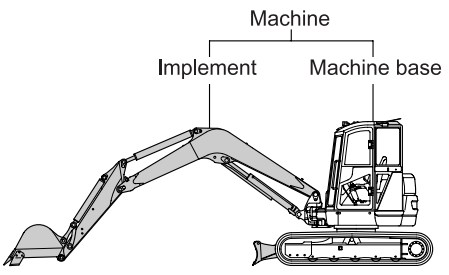
  The failure to comply with all relevant Safety Instructions could result in bodily injury.

- **WARNING** : Never modify the design of this Excavator or its engine; never remove or disable any of the installed safety guards or devices; and never use any unauthorized attachments in the operation of this equipment.

  The implementation of any unauthorized design modifications or the use of unauthorized attachments could result in bodily injury.

  Furthermore, since those actions would expressly violate the terms of Yanmar's Product Warranty, the applicable Warranty would also be voided.

In this Manual, the major sections of the product are designated as follows:
Machine.....refers to the entire product.
Machine base.....refers to the section consisting of the upperstructure and the undercarriage.
Implement.....refers to the section consisting of the arm, boom and bucket or other attachment.

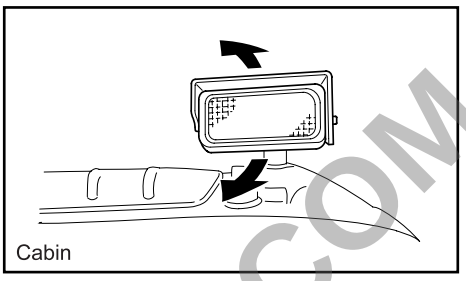


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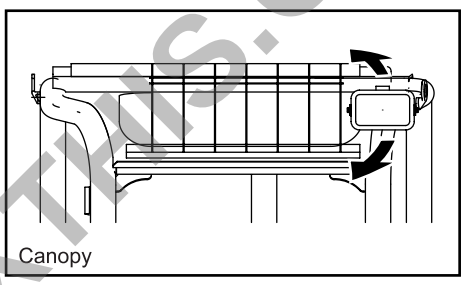
12-10. Headlight

⚠ WARNING

The headlight gets hot when it is turned on. Do not touch it with your bear hand before it cools, to prevent burns.



The irradiation (direction) of the headlight can be adjusted. Move the light up and down to adjust the irradiation in the direction where the lighting is needed for the nighttime work.



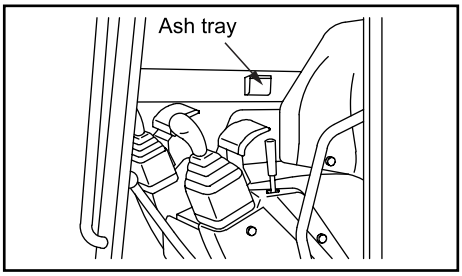
IMPORTANT

Do not turn the cabin light excessively to prevent damage to the harness.

12-11. Ash tray (for cabin)

⚠ WARNING

Do not place any combustible matter in the ash tray.

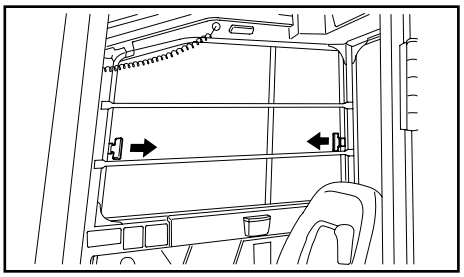


Open the ash tray by pulling it toward you, and close the ash tray when it is not in use.

To empty and clean the ash tray, lift it up by holding both ends.

12-12. Right window glass (for cabin)

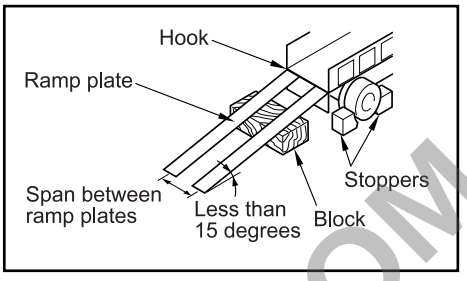
Open the window on the right by sliding the glass in direction indicated.



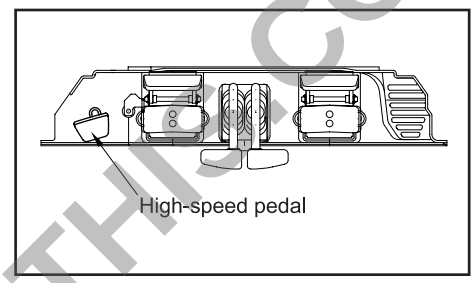
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1) Firmly brake the truck and apply wheel stoppers to the tires. Securely install the ramp plates on the bed of the truck in a position where the center of the truck aligns with the center of the machine. Make sure that the left and right ramp plates are at the same level.

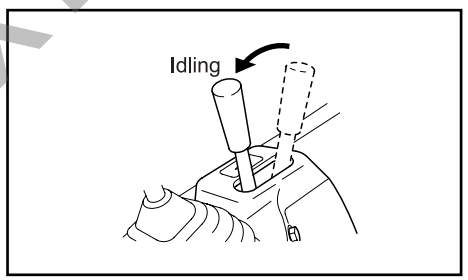


The ramp plates should be set at an angle of less than 15 degrees.
Determine the span between the ramp plates on the basis of the centers of the track shoes.
Do not operate the high-speed pedal.



2) Return the accelerator lever to reduce engine speed.

3) Travel toward the ramp plates at a low speed, and load or unload the machine with the implement lowered as close as possible to the deck of the truck.
Do not operate any levers other than the travel levers while driving on the ramp plates.



4) Load the machine in a safe position on the truck.

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25-2-6. Cleaning the inside of the cooling system

⚠ WARNING

- **The cooling water is very hot immediately after the engine has stopped. Discharging the cooling water immediately after the engine has stopped may cause burns. Start cleaning the inside of the cooling system after the engine has cooled down sufficiently.**
- **Stepping into the area behind the machine to clean the inside of the cooling system while the engine is running is very dangerous, because you may not be visible from the operator's seat and the machine could start moving.**
  Also, with the engine hood being open, contacting the radiator fan or fan belt could result in serious bodily injury.
  Never step into the area behind the machine while the engine is running.
- **Do not remove the radiator cap while the water temperature in the radiator is high. Hot water may spout from the radiator.**
  When you do remove the radiator cap after the water has cooled down, slowly turn the radiator cap to relieve the internal pressure before removing it.

Clean the inside of the cooling system and replace the anti-freeze according to the following table.

Anti-freeze type	Cleaning inside of cooling system and replacing anti-freeze
YANMAR Super Long-Life Coolant (LLC anti-freeze) (All season type for anticorrosion)	Every 2 years (autumn)
LLC anti-freeze (all season type)	Every 1 year (autumn)
AF-PT anti-freeze (winter, one season type)	Every 6 months (spring, autumn) Add anti-freeze only in autumn
No anti-freeze	Every 6 months

Park the machine on level ground to clean or replace the cooling water.
The YANMAR Long-Life Coolant has anticorrosive effect as well as anti-freeze effect.
Though the mixing ratio of an anti-freeze to water differs with air temperature, at least 30% of anti-freeze by volume is required to obtain anticorrosive effect.
Determine the mixing ratio of the anti-freeze to water on the basis of the lowest past temperature, referring to the ratio table below.
Actually set the temperature 18°F (10°C) lower than the lowest temperature.

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