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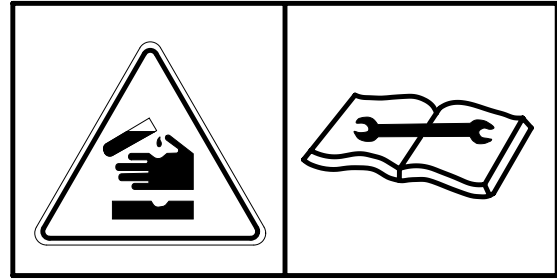
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14) BATTERY (Item 24)

This warning label is positioned on the battery box.

- ▲ Electrolyte containing sulfuric acid cause severe burns. Avoid being in contact with skin, eyes or clothes. In the event of accident flush with sufficient water, call a physician immediately.
- ※ Maintain the electrolyte at the recommended level. Add distilled water to the battery only when starting up, never when shutting down. With electrolyte at proper level, less space may cause the gases to be accumulated in the battery.



21070FW05

15) HYDRAULIC OIL LUB (Item 25)

This warning label is positioned on the top of the hydraulic oil tank.

- ※ Do not mix with different brand oils.
- ▲ Never open the filler cap while engine running or at high coolant temperature.
- ▲ Loosen the cap slowly and release internal pressure completely.



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16) STAY FIX (Item 28)

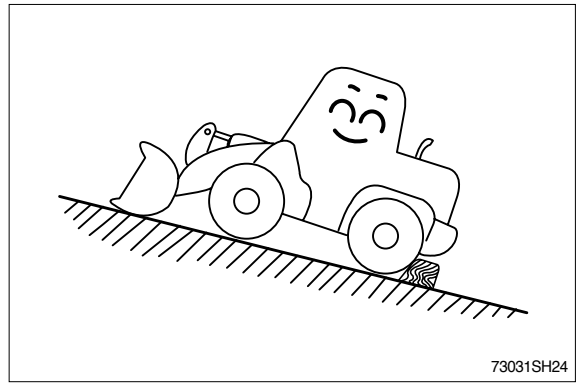
The warning label is positioned on the engine side door.

- ▲ Be sure to support the stay when the door needs to be opened.
- ▲ Be careful that the opened door may be closed by the external or natural force like strong wind.

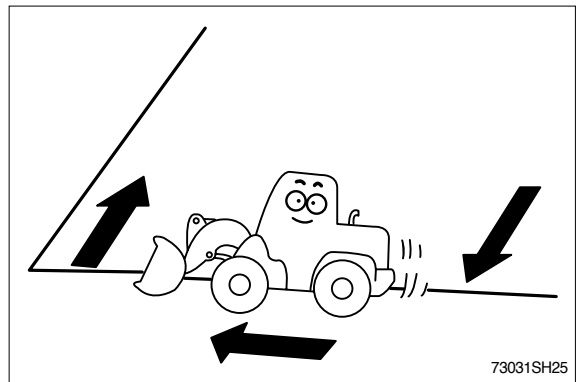


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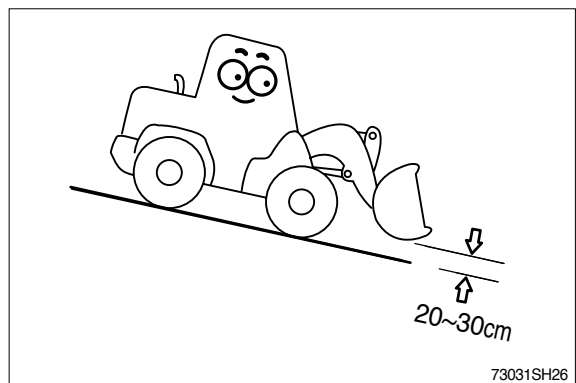
Avoid parking and stopping on a slope.
Lower the bucket to the ground and block the tire when parking.



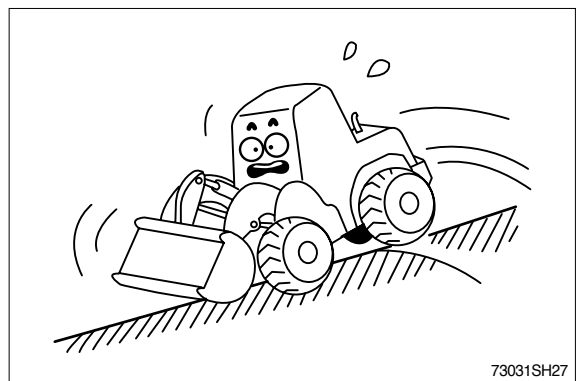
Avoid traveling in a cross direction on a slope as it can cause the danger of rolling over and sliding.



Traveling on the slope is dangerous.
Be sure to operate slowly when driving down a slope and maintain the bucket at a height of 20~30cm(1ft) above the ground so that it can be used as brake in an emergency.

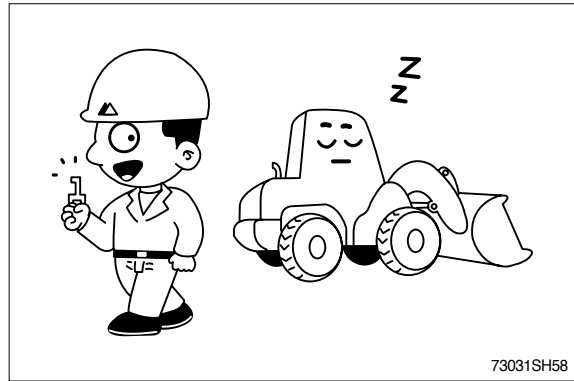


Steering of the machine while traveling on a slope is dangerous.
When an inevitable turning of direction is required, turn on the flat and solid ground.

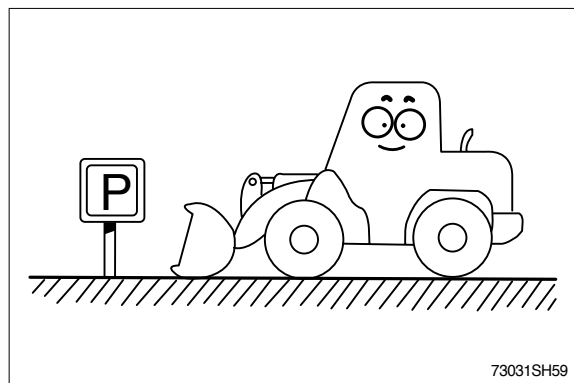


4. PARKING

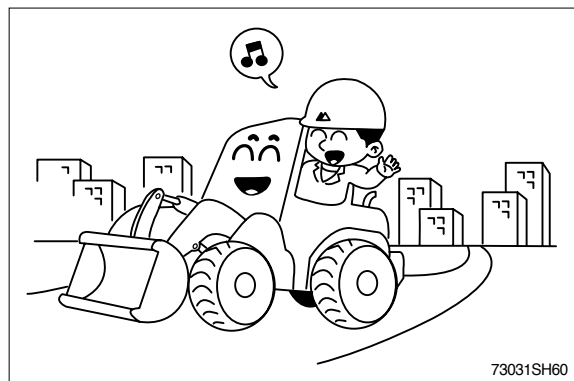
When leaving the machine lower the bucket to the ground completely and put the safety lever at parking position then remove the key. Lock the cab door.



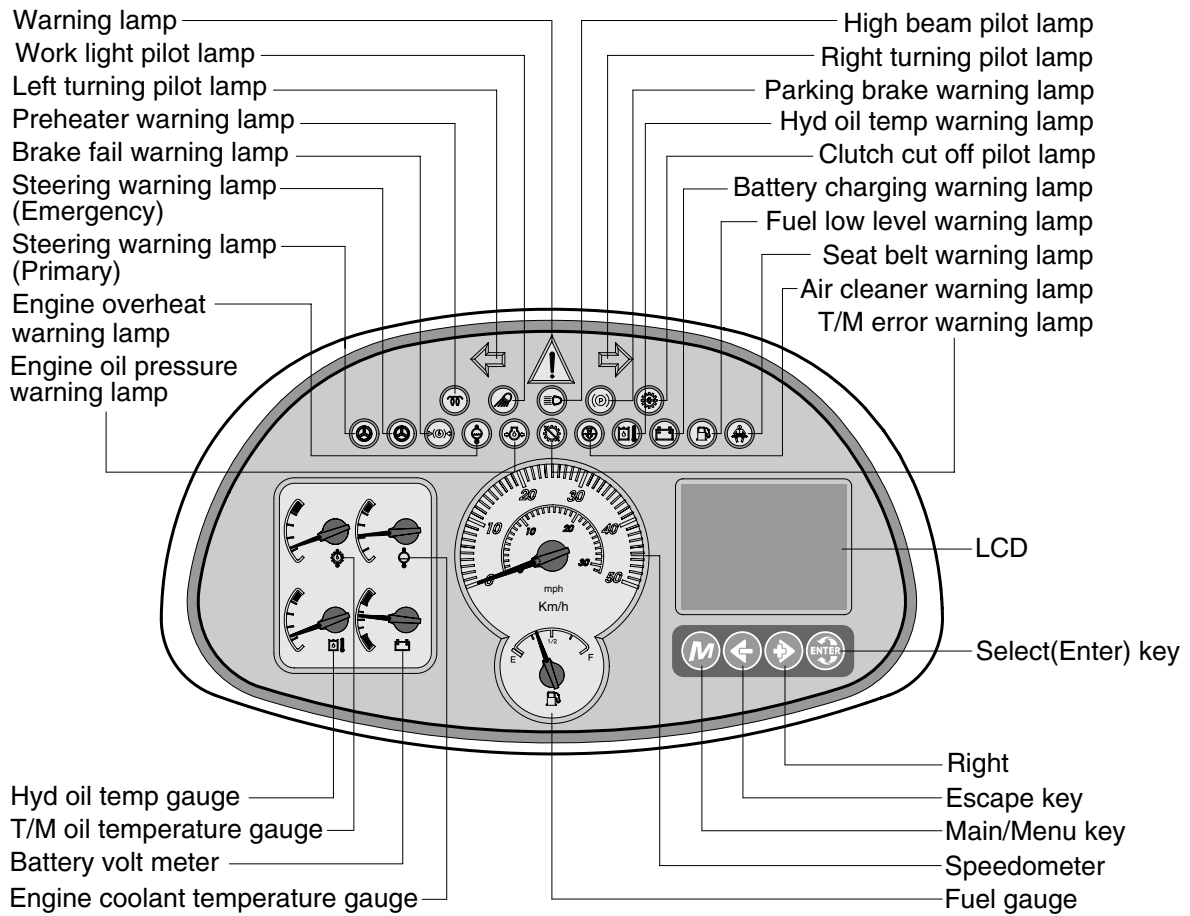
Park the machine in the flat and safe place.



Hope you can work easily and safely observing safety rules.
For safe operation, observe all safety rules.

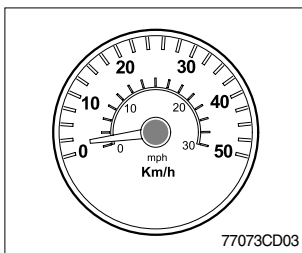


■ Cluster(Machine serial no. ; #0107-)



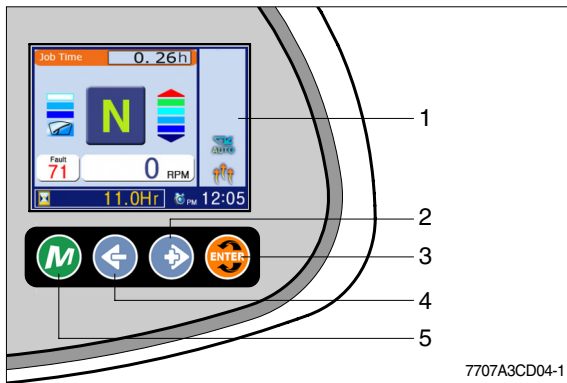
77073CD02-1

1) SPEEDOMETER



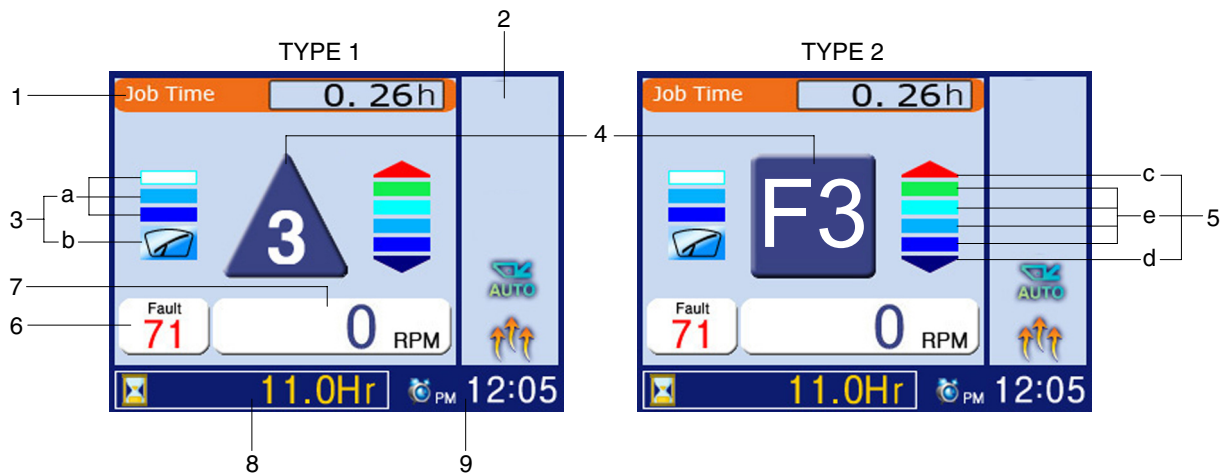
(1) The speedometer displays the speed of machine in mph and km/h.

LCD(Machine serial no. ; #0107-)



- 1 LCD
- 2 Right
Move to the next selection
- 3 Select(Enter)
Activate the currently chosen item
- 4 Escape
Return to the previous menu
- 5 Main, Menu
- Display menu
- Return to the main display

(1) Main display

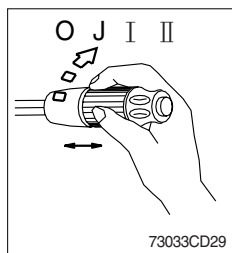


7707A3CD10-1

| No | Symbol | Meaning | Remark |
|----|------------|------------------------|--|
| 1 | | Monitoring information | Job timer, Odometer, Hydraulic temperature, Battery voltage, Coolant temperature, T/M oil temperature. |
| 2 | | State information | Ride state(option), Warming up |
| 3 | a | Wiper display | When operating intermittently, it shows an operating time interval |
| | b | | Wiper motor intermittently operating |
| 4 | | Actual gear display | Forward, reverse, neutral LCD type 1 |
| | F, R, N | | Forward, reverse, neutral LCD type 2 |
| | 1, 2, 3, 4 | | Actual gear |
| | P | | Parking brake mode active |
| 5 | c, d | Select gear display | Up and down shifting c: Forward, d: Reverse Automatic mode |
| | e | | Pre-selected gear |
| 6 | | Fault code display | Fault code state display |
| 7 | | Engine rpm display | Now engine rpm state display |
| 8 | | Hour meter display | Hour meter state display |
| 9 | | Timer & alarm display | Now time & alarm state display |

※ Both type1 and type2 are LCD modes and they can be changed each other by operator's selection.
(Adjustment/Display, see page 3-15)

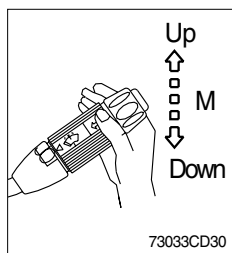
17) MULTI FUNCTION SWITCH



(1) Front wiper and washer switch

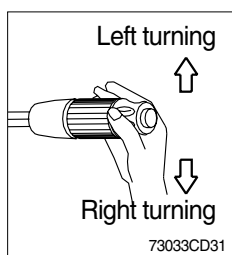
- ① When the switch is in J position, the wiper moves intermittently.
- ② When placed in I or II position, the wiper moves continuously.
- ③ If you push the grip of the lever, washer liquid will be sprayed and the wiper will be activated 2-3 times.

※ Check the quantity of washer liquid in the tank. If the level of the washer liquid is LOW, add the washer liquid (In cold, winter days) or water. The capacity of the tank is 1 liter.



(2) Dimmer switch

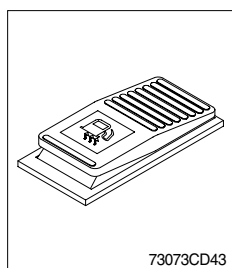
- ① This switch is used to turn the head lights direction.
- ② Switch positions
 - Up : To flash for passing
 - Middle : Head lights low beam ON
 - Down : Head lights high beam ON
- ③ If you release the switch when it's in up position, the switch will return to middle.



(3) Turning switch

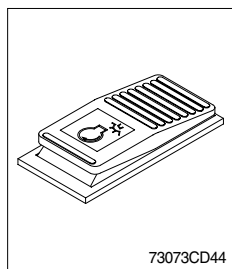
- ① This switch is used to warn or signal the turning direction of the machine to other vehicles or equipment.
- ② Push the lever up for turning left, pull the lever down for turning right.

18) FUEL WARMER SWITCH



- (1) This switch is used to operate fuel warmer.

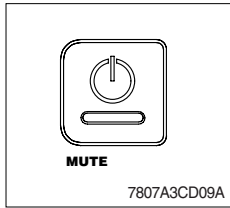
19) ETHER SWITCH(OPTION)



- (1) This switch is required during cold weather operation.
 - (2) Turn the start switch to the ON position and press the switch for 3~5 seconds in order to a premeasured amount of ether into the air intake.
- ※ Do not operate the switch for more than 5 seconds.
- ※ After engine started, do not operate the switch.

■ AUDIO

(1) Power and mute button



① POWER ON/OFF

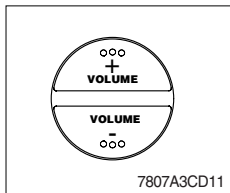
Press to switch on the set. Press for more than 2 seconds to switch off the set.

② MUTE(Silence)

Short press key to mute or cancel the mute(silence).

※ The silence period may be interrupted by ALARM announcement or traffic announcement messages(if TA is switched on).

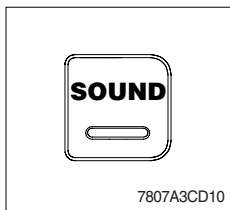
(2) Volume button



① Press the volume button up/down to adjust the volume.

Please make sure you can still hear the traffic(horns, sirens..).

(3) Sound button



① SOUND

Whether you listen to Jazz, Vocal, Pop, Classic or Rock music, the SOUND button is the perfect setting for your choice.

- Press SOUND then the sound button to select BASS-Treb for your own sound style, or adjust the settings with the volume up/down buttons to select one of the pre define sound styles:

- BASE -TRE : Your own settings of bass and treble.
- FLAT : Original
- JAZZ : Jazz music
- VOCAL : Speech
- POP : Pop music
- CLASSIC : Classical music
- ROCK : Rock music

② AUDIO SETTING

- Press SOUND to select desired audio mode.
- Adjust the settings with the volume up/down buttons :

- Sound style : BASS-TRE, FLAT, JAZZ, VOCAL, POP, CLASSIC, ROCK
- BASS : Low notes
- TREBLE : High notes
- BALANCE : Left-right
- FADER : Rear-front
- LOUD : OFF, LOW, MID, HIGH

- Press the volume button to adjust the selected audio mode. After 5 seconds the display goes back to the last mode of operation. Adjustment of Bass and Treble settings is only possible when BASS-TRE is selected as the sound style.

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2. CHECK BEFORE STARTING THE ENGINE

- 1) Make sure that the steering frame lock bar is stored in the unlocked position.

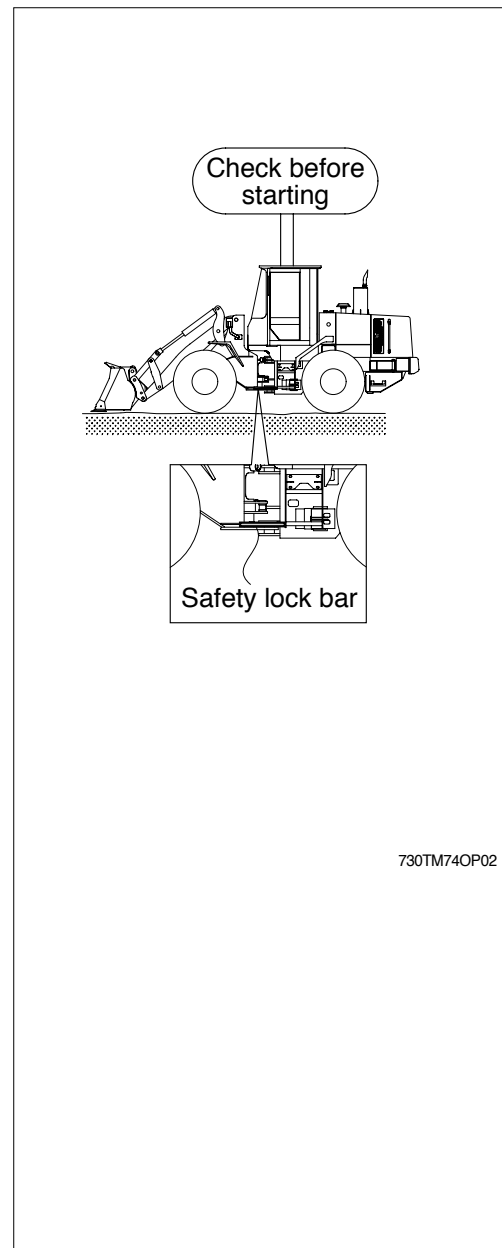
▲ The steering frame lock bar must be removed in order to steer the machine.

- 2) Look around the machine and under the machine to check for loose nut or bolts, collection of dirt, or leakage of oil, fuel or coolant and check the condition of the work equipment and hydraulic system. Check also loose wiring, and collection of dust at places which reach high temperature.

Refer to the daily check on the chapter 6, Maintenance.

- 3) Adjust seat to fit the contours of the operator's body for the pleasant operation.
- 4) Make sure that the machine is equipped with a lighting system that is adequate for the job conditions. Ensure that all lights are in proper working condition.
- 5) Adjust the rear view mirror.
- 6) Make sure that there are no personnel in the area before you start the engine. Make sure that there are no personnel in area before you move the machine. Make sure that there are no personnel on the machine, underneath the machine, or around the machine.

▲ If a warning tag is attached to the starting switch or to the controls, do not start the engine. Also, do not move any controls.



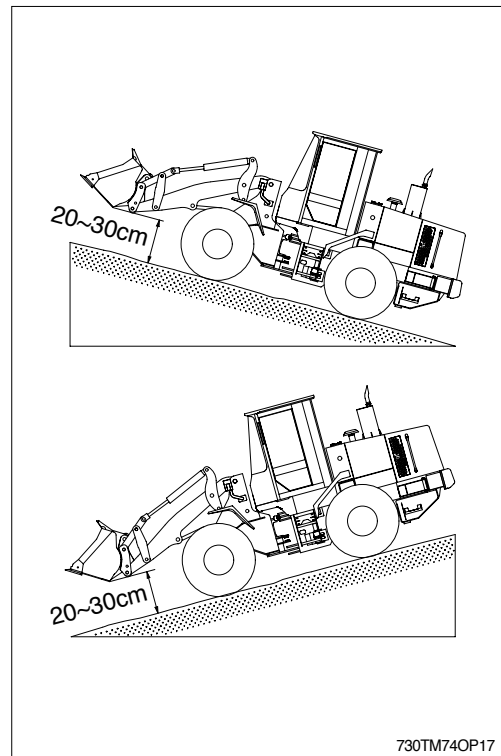
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2) TRAVELING ON A SLOPE

- (1) Never travel down a slope in neutral.
- (2) Lower the bucket 20-30cm(1ft) to the ground so that it can be used as a brake in an emergency.
- (3) If the machine starts to slide or loses stability, lower the bucket immediately and brake the machine.
- (4) When parking on a slope, use the bucket as a brake and place blocks behind the tires to prevent sliding.

Machine cannot travel effectively on a slope when the oil temperature is low. Do the warming-up operation when it is going to travel on a slope.

Be careful when working on slopes. It may cause the machine to lose its balance and turn over.



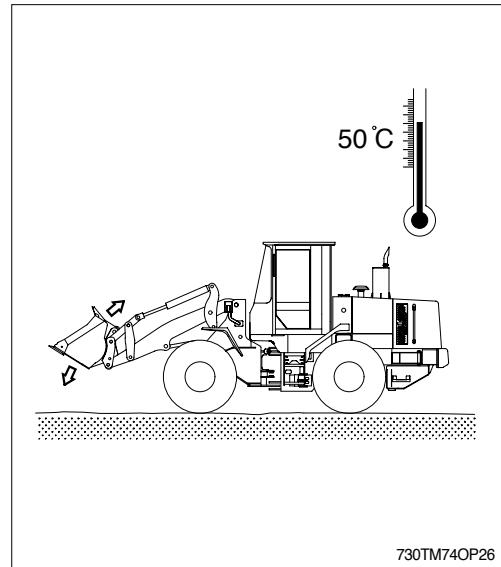
9. OPERATION IN THE SPECIAL WORK SITES

1) OPERATION THE MACHINE A COLD WEATHER

- (1) Use proper engine oil and fuel for the weather.
- (2) Fill the required amount of antifreeze in the coolant.
- (3) Refer to the starting engine in cold weather.
Start the engine and extend the warming-up operation.
- (4) Be sure to open the heater cock when using the heater.
- (5) Always keep the battery completely charged.

Discharged batteries will freeze more easily than fully charged.

- (6) Clean the machine and park on the wood plates.



2) OPERATION IN SANDY OR DUSTY WORK SITES

- (1) Inspect air cleaner element frequently. Clean or replace element more frequently, if warning lamp comes ON and buzzer sounds simultaneously, regardless of inspection period.
- (2) Inspect radiator frequently, and keep cooling fins clean.
- (3) Prevent sand or dust from getting into fuel tank and hydraulic tank during refilling.
- (4) Prevent sand or dust from penetrating into hydraulic circuit by tightly closing breather cap of hydraulic oil tank. Replace hydraulic oil filter frequently.
- (5) Keep all lubricated part, such as pins and bushings, clean at all times.
- (6) If the air conditioner and heater filters clogged, the heating or cooling capacity will drop. Clean or replace the filters more frequently.

6. TOWING THE MACHINE

▲ Personal injury or death could result when towing a disabled machine incorrectly.

▲ Block the machine to prevent movement before releasing the brakes. The machine can roll free if it is not blocked.

Except for an emergency, do not tow this machine. If it is inevitable to tow this machine, observe the following.

1) GENERAL

(1) Parking brake cylinder of the machine is operated by the spring force and released by hydraulic pressure.

If the engine does not operate, the brake will be operated to stop the machine.

(2) When the machine is towed move it for a repair to nearby place at the speed less than 2km/hr(1.2mph). Transport it on a trailer, if it has to be moved for a long distance.

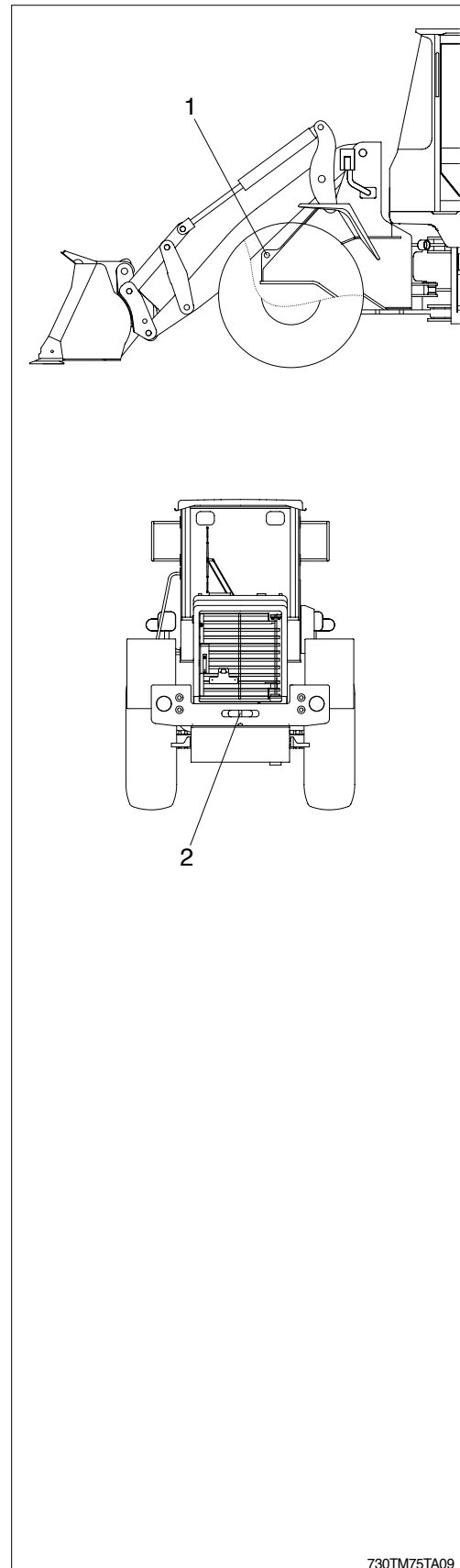
(3) When the steering device and the brake of the machine to be towed can not be operated, transport by trailer.

▲ Be careful when towing.

▲ Be careful that the brake will not work if there is any disorder in the braking system.

(4) When you tow the machine from the front, attach the tow line to the tow eyes on the front frame(1). When you tow the machine from the rear, attach the tow line to the towing pin(2).

(5) Do not use a chain for pulling a disabled machine. A chain link can break. This may cause personal injury. Use a wire rope cable with ends that have loops or rings. Place an observer in a safe position in order to watch the pulling procedure. The observer can stop the procedure, if necessary. The procedure should be stopped if the cable starts to break. Also, stop the procedure if the cable starts to unravel. Stop pulling whenever the towing machine moves without moving the towed machine.



730TM75TA09

3. SPECIFICATION OF FUEL, COOLANT AND LUBRICANTS

1) NEW MACHINE

New machine used and filled with following lubricants.

| Description | Specification |
|------------------|---|
| Engine oil | SAE 15W-40(CH-4) |
| Hydraulic oil | ISO VG46(ISO VG32, ISO VG68 based on the ambient temperature) |
| Transmission oil | SAE 10W-30/15W-40 |
| Axle oil | SAE 85W-90 with LS-ADDITIVE(API GL-5) |
| Grease | Lithium base grease NLGI No. 2 |
| Fuel | ASTM D975-No. 2 |
| Coolant | Mixture of 50% ethylene glycol base antifreeze and 50% water |

- SAE : Society of Automotive Engineers
- API : American Petroleum Institute
- ISO : International Organization for Standardization
- NLGI : National Lubricating Grease Institute
- ASTM : American Society of Testing and Material

4) FLUSHING AND REFILLING OF RADIATOR

(1) Change coolant

▲ **Avoid prolonged and repeated skin contact with used antifreeze. Such prolonged repeated contact can cause skin disorders or other bodily injury.**

Avoid excessive contact-wash thoroughly after contact.

Keep out of reach of children.

▲ **Protect the environment : Handling and disposal of used antifreeze can be subject to federal, state, and local law regulation.**

Use authorized waste disposal facilities, including civic amenity sites and garages providing authorized facilities for the receipt of used antifreeze.

If in doubt, contact your local authorities for guidance as to proper handing of used antifreeze.

▲ **Wait until the temperature is below 50°C (120°F) before removing the coolant system radiator cap. Failure to do so can cause personal injury from heated coolant spray.**

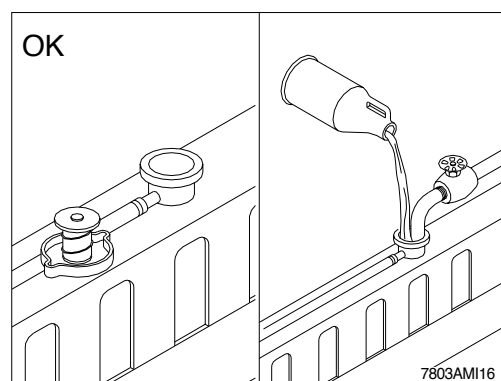
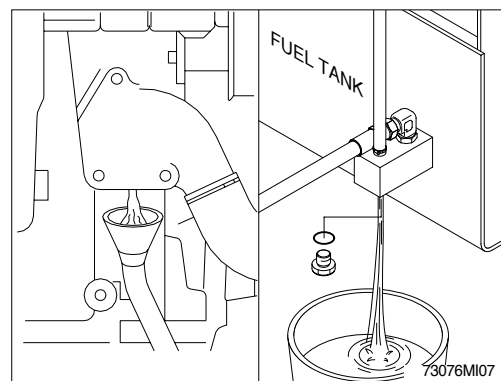
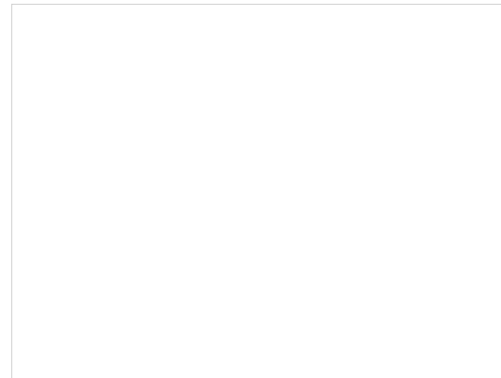
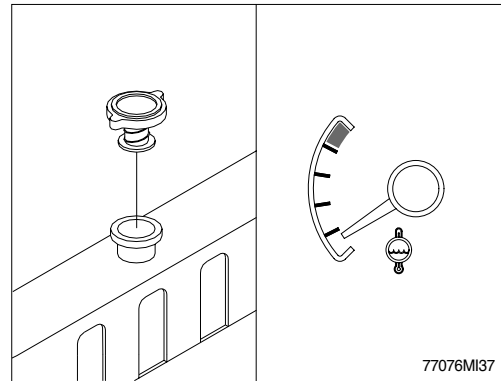
Drain the cooling system by removing the plug on the fuel tank and removing the plug in the bottom of the water inlet.

A drain pan with a capacity of 40 liters (10.0 U.S.gallons) will be adequate in most applications.

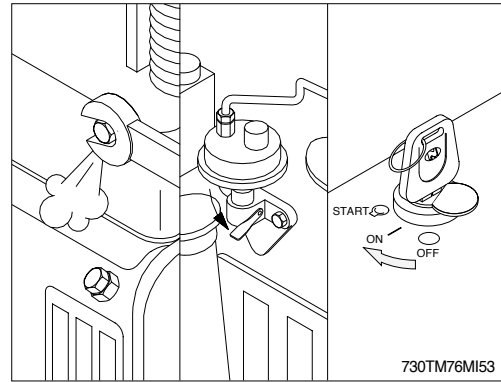
(2) Flushing of cooling system

Fill the system with a mixture of sodium carbonate and water(or a commercially available equivalent).

- ※ **Use 0.5kg (1.0pound) of sodium carbonate for every 23 liters(6.0 U.S. gallons) of water.**
- ※ **Do not install the radiator cap. The engine is to be operated without the cap for this process.**



Air/fuel can be pumped from this location with the hand lever on the lift pump if the fuel solenoid valve is energized.

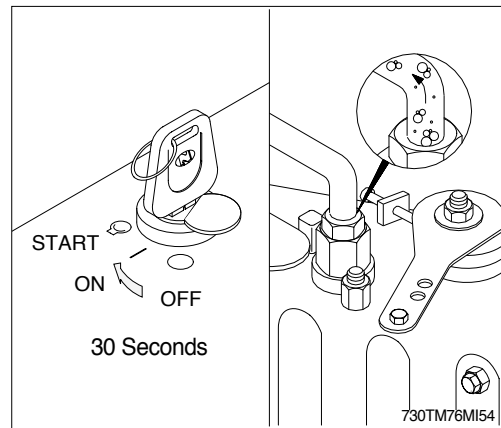


Air can be vented from both pumps through the fuel drain manifold line by operating the starting motor.

When using the starting motor to vent the system, do not engage it for more than 30 seconds at a time : wait 2 minutes between engagements.

It is necessary to put the engine in the RUN position. Because the engine may start, be sure to follow all the safety precautions.

Use the normal engine starting procedure.



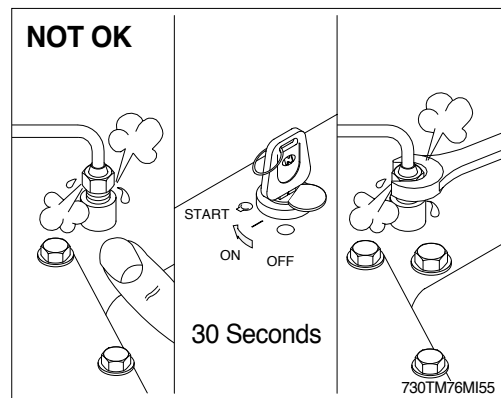
(4) Venting the high pressure lines

▲ The pressure of the fuel in the line is sufficient to penetrate the skin and cause serious bodily harm.

Loosen the fittings at the injectors, and crank the engine to allow entrapped air to bleed from the lines. Tighten the fittings.

· Wrench size :17mm

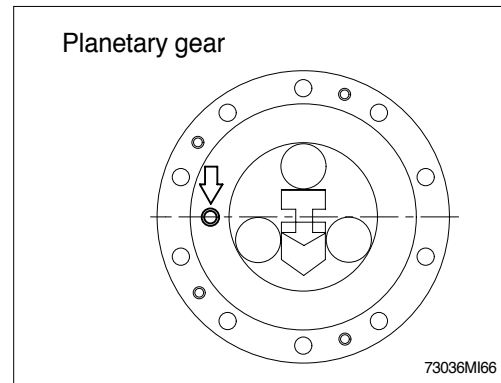
Start the engine and vent one line at a time until the engine runs smoothly.



(4) If the oil level is below the plug hole, supply oil through a plug hole.

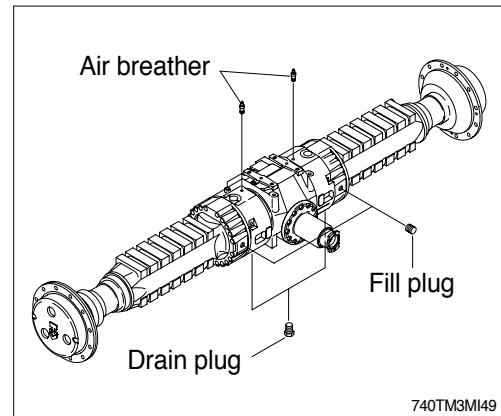
⚠ When checking the oil level, press the parking brake switch and fix front and rear frames using the safety lock bar.

**⚠ As the machine is hot after operation, wait until the temperature has dropped.
Set the plug of planetary gear in parallel to the ground.**

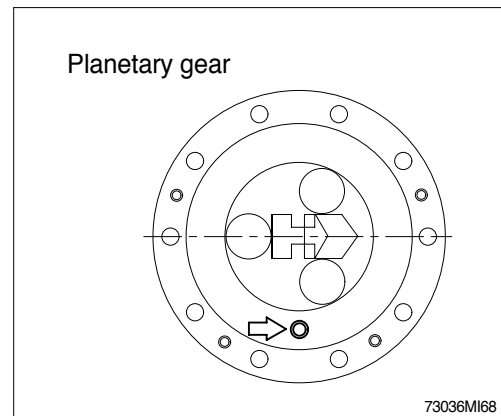


30) CHANGE THE AXLE OIL

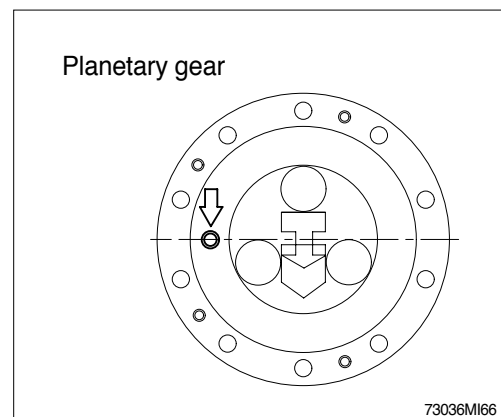
- (1) Place a case under drain plug to catch oil.
- (2) Remove the air breather to relieve internal pressure.
- (3) Drain oil the differential gear.
Remove the refilling plug and remove the drain plug to drain oil off.
Wash drain plug and install it.



- (4) Drain oil planetary gear.
Drain oil by removing drain plug.
The drain plug should be facing the ground.



- (5) After draining, put the drain plug of planetary gear in parallel to the ground.



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