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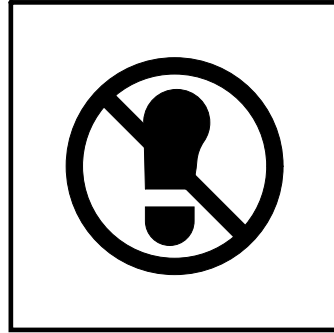
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14) NO STEP-ENGINE HOOD(Item 16)

This warning label is positioned on the engine hood.

△ Don't step on the engine hood.



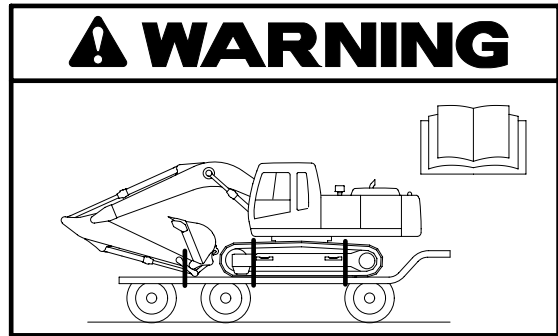
21070FW16

15) TRANSPORTING(Item 17)

This warning label is positioned right side of upper frame.

▲ Study the operator's manual before transporting the machine, if provided and tie down arm and track to the carrier with lashing wire.

※ See page 5-6 for details.



14070FW17

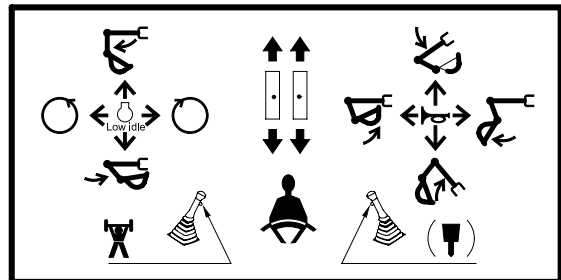
16) CONTROL IDEOGRAM(Item 19)

This warning label is positioned in right window of the cab.

▲ Check the machine control pattern for conformance to pattern on this label. If not, change label to match pattern before operating machine.

▲ Failure to do so could result in injury or death.

※ See page 4-10 for details.



36070FW19

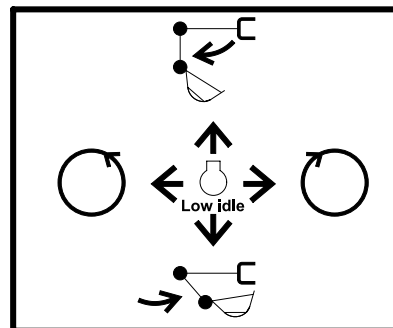
17) CONTROL IDEOGRAM-LH(Item 20)

This warning label is positioned on the LH console box.

▲ Check the machine control pattern for conformance to pattern on this label. If not, change label to match pattern before operating machine.

▲ Failure to do so could result in injury or death.

※ See page 4-10 for details.



36070FW20

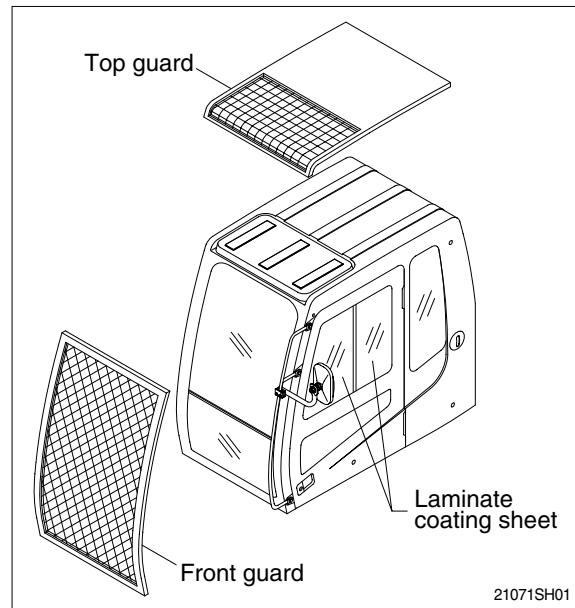
## PROTECTION AGAINST FALLING OR FLYING OBJECTS

If there is any danger of falling or flying objects hitting the operator, install protective guards in place to protect the operator as required for each particular situation.

Be sure to close the front window before commencing work.

Make sure to keep all persons other than operator outside the range of falling or flying objects.

In case you need top guard, front guard and FOPS(Falling object protective structure), please contact Hyundai distributor in Europe.



## UNAUTHORIZED MODIFICATION

Any modification made without authorization from Hyundai can create hazards.

Before making a modification, consult your Hyundai distributor. Hyundai will not be responsible for any injury or damage caused by any unauthorized modification.

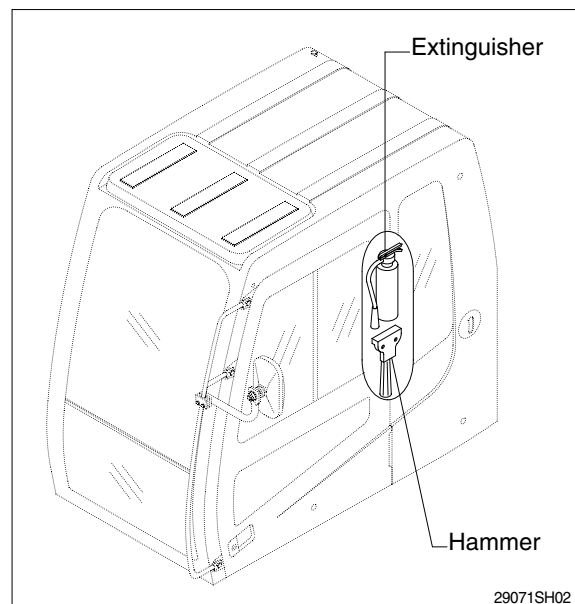
## PREPARE FOR EMERGENCY

Only in case of emergency, use the installed hammer for breaking the windshield of the cab, and then exit carefully.

Have a fire extinguisher and first aid kit ready for emergencies such as fires or accidents.

Learn how to use the fire extinguisher.

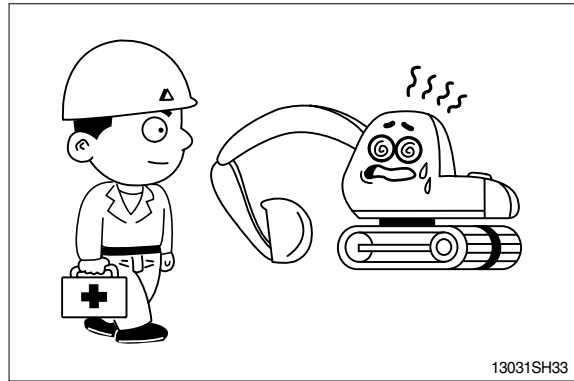
Be sure you know the phone numbers of persons you should contact in case of an emergency.



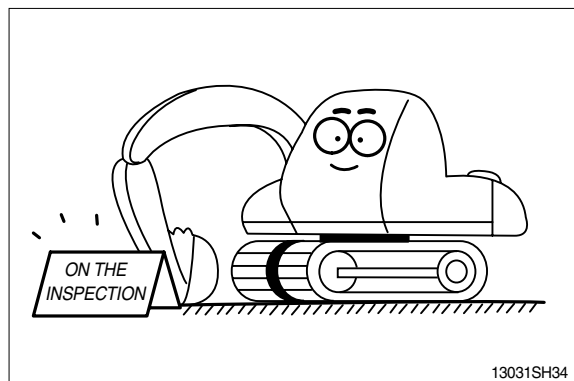
### 3. DURING MAINTENANCE

Stop the engine immediately when the trouble of the machine is found.

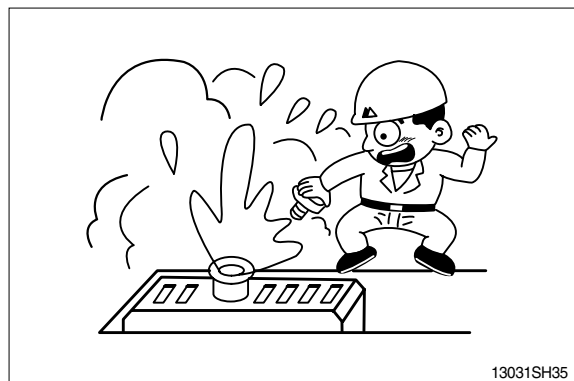
Inspect immediately the cause of trouble such as vibration, overheating and trouble in the cluster then repair.



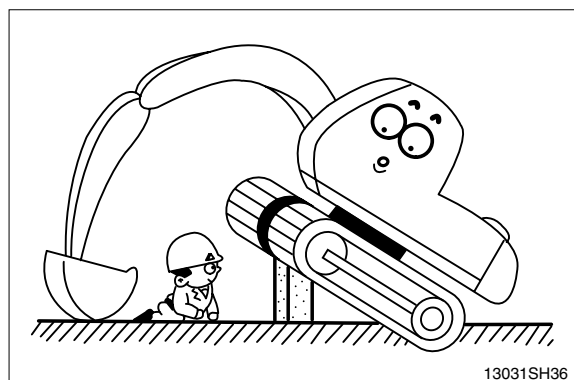
Park on a flat place and stop the engine for inspecting and repairing. Properly TAG machine is not operational. (Remove start key)  
Extreme care shall be taken during maintenance work. Parts may require additional safe guard.



Do not remove the radiator cap from hot engine.  
Open the cap after the engine cools, below 50° C(112°F) to prevent personal injury from heated coolant spray or steam.













Do not work below the machine.  
Be sure to work with proper safety supports.  
Do not depend on the hydraulic cylinders to hold up the equipment and attachment.













## 5. LIFTING CAPACITIES

### 1) ROBEX 110-7A

(1) 4.3m(14' 1") boom, 2.26m(7' 5") arm equipped with 0.45m<sup>3</sup>(SAE heaped) bucket and 500mm(20") triple grouser shoe and 1450kg counterweight.

Load point height		Load radius								At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		Capacity		Reach
												m(ft)
6.0m (20ft)	kg lb					*1750 <b>*3860</b>	*1750 <b>*3860</b>			*1750 <b>*3860</b>	*1560 <b>*3440</b>	5.99 <b>(19.7)</b>
4.5m (15ft)	kg lb					*1790 <b>*3950</b>	*1790 <b>*3950</b>	*1530 <b>*3370</b>	1490 <b>3280</b>	1520 <b>3350</b>	1130 <b>2490</b>	6.92 <b>(22.7)</b>
3.0m (10ft)	kg lb			*2820 <b>*6220</b>	*2820 <b>*6220</b>	*2270 <b>*5000</b>	*2270 <b>*5000</b>	1940 <b>4280</b>	1450 <b>3200</b>	1300 <b>2870</b>	940 <b>2070</b>	7.38 <b>(24.2)</b>
1.5m (5ft)	kg lb			*4700 <b>*10360</b>	4370 <b>9630</b>	*2970 <b>*6550</b>	2250 <b>4960</b>	1840 <b>4060</b>	1360 <b>3000</b>	1240 <b>2730</b>	880 <b>1940</b>	7.46 <b>(24.5)</b>
Ground Line	kg lb			5660 <b>12480</b>	3950 <b>8710</b>	2830 <b>6240</b>	2060 <b>4540</b>	1760 <b>3880</b>	1280 <b>2820</b>	1300 <b>2870</b>	930 <b>2050</b>	7.18 <b>(23.6)</b>
-1.5m (-5ft)	kg lb	*5580 <b>*12300</b>	*5580 <b>*12300</b>	5550 <b>12240</b>	3850 <b>8490</b>	2740 <b>6040</b>	1980 <b>4370</b>	1720 <b>3790</b>	1240 <b>2730</b>	1560 <b>3440</b>	1130 <b>2490</b>	6.49 <b>(21.3)</b>
-3.0m (-10ft)	kg lb	*8530 <b>*18810</b>	*8530 <b>*18810</b>	*5440 <b>*11990</b>	3930 <b>8660</b>	2770 <b>6110</b>	2010 <b>4430</b>			*2270 <b>*5000</b>	1730 <b>3810</b>	5.17 <b>(17.0)</b>

(2) 4.3m(14' 1") boom, 1.96m(6' 5") arm equipped with 0.45m<sup>3</sup>(SAE heaped) bucket and 500mm(20") triple grouser shoe and 1450kg counterweight.

Load point height		Load radius								At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		Capacity		Reach
												m(ft)
6.0m (20ft)	kg lb					*1770 <b>*3900</b>	*1770 <b>*3900</b>			*1820 <b>*4010</b>	1710 <b>3770</b>	5.62 <b>(18.4)</b>
4.5m (15ft)	kg lb					*1950 <b>*4300</b>	*1950 <b>*4300</b>			1610 <b>3550</b>	1180 <b>2600</b>	6.62 <b>(21.7)</b>
3.0m (10ft)	kg lb			*3160 <b>*6970</b>	*3160 <b>*6970</b>	*2410 <b>*5310</b>	2390 <b>5270</b>	1870 <b>4120</b>	1380 <b>3040</b>	1350 <b>2980</b>	970 <b>2140</b>	7.10 <b>(23.3)</b>
1.5m (5ft)	kg lb			*4940 <b>*10890</b>	4150 <b>9150</b>	2930 <b>6460</b>	2150 <b>4740</b>	1780 <b>3920</b>	1290 <b>2840</b>	1280 <b>2820</b>	910 <b>2010</b>	7.18 <b>(23.6)</b>
Ground Line	kg lb			5490 <b>12100</b>	3800 <b>8380</b>	2740 <b>6040</b>	1980 <b>4370</b>	1700 <b>3750</b>	1220 <b>2690</b>	1360 <b>3000</b>	960 <b>2120</b>	6.89 <b>(22.6)</b>
-1.5m (-5ft)	kg lb	*6090 <b>*13430</b>	*6090 <b>*13430</b>	5440 <b>11990</b>	3750 <b>8270</b>	2670 <b>5890</b>	1910 <b>4210</b>			1670 <b>3680</b>	1200 <b>2650</b>	6.15 <b>(20.2)</b>
-3.0m (-10ft)	kg lb	*9180 <b>*20240</b>	*9180 <b>*20240</b>	*5080 <b>*11200</b>	3880 <b>8550</b>	2750 <b>6060</b>	1980 <b>4370</b>					

- Note
1. Lifting capacity are based on SAE J1097 and ISO 10567.
  2. Lifting capacity of the ROBEX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
  3. The load point is a hook located on the back of the bucket.
  4. \*indicates load limited by hydraulic capacity.

# CONTROL DEVICES

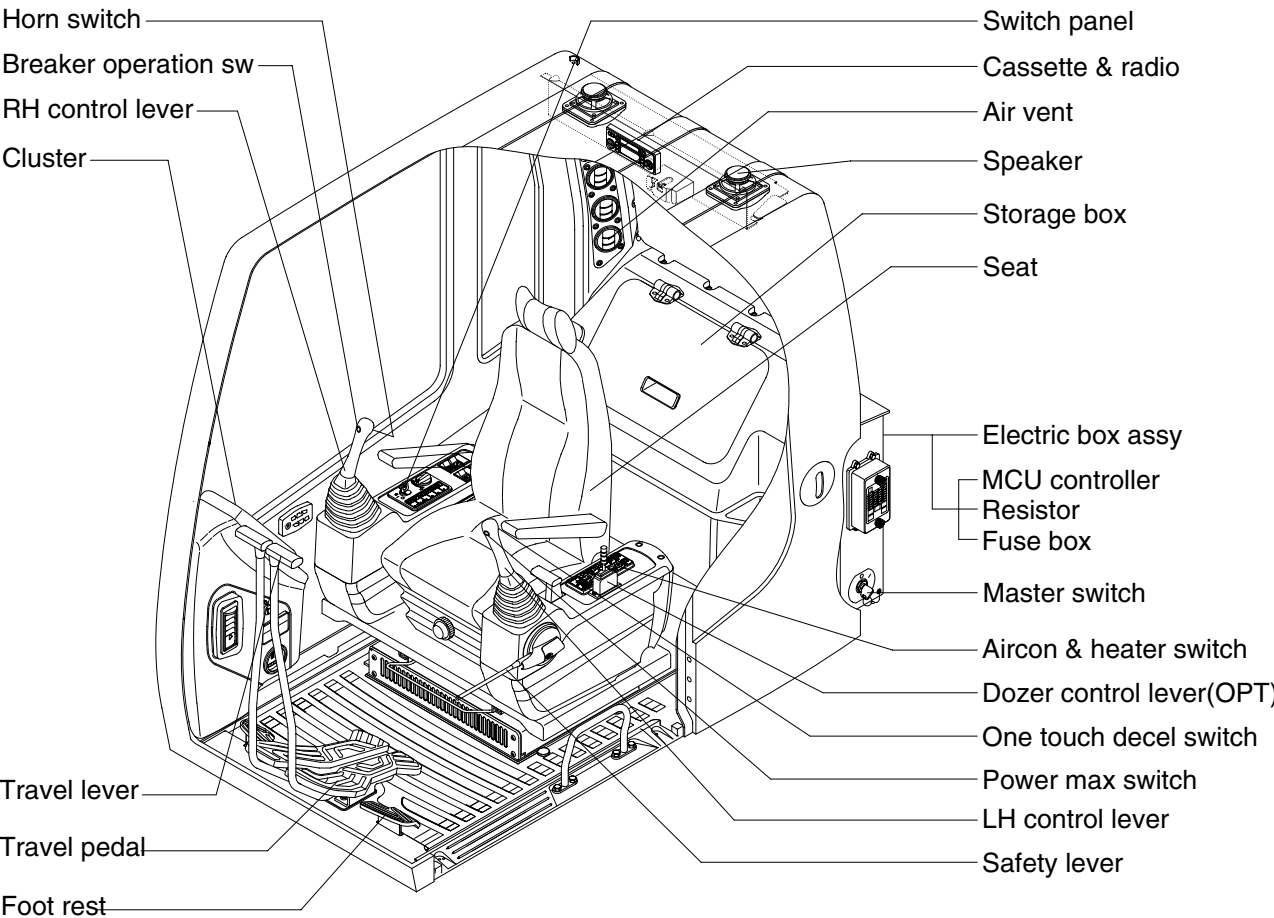
## 1. CAB DEVICES

1) The ergonomically designed console box and suspension type seat provide the operator with comfort.

### 2) ELECTRONIC MONITOR SYSTEM

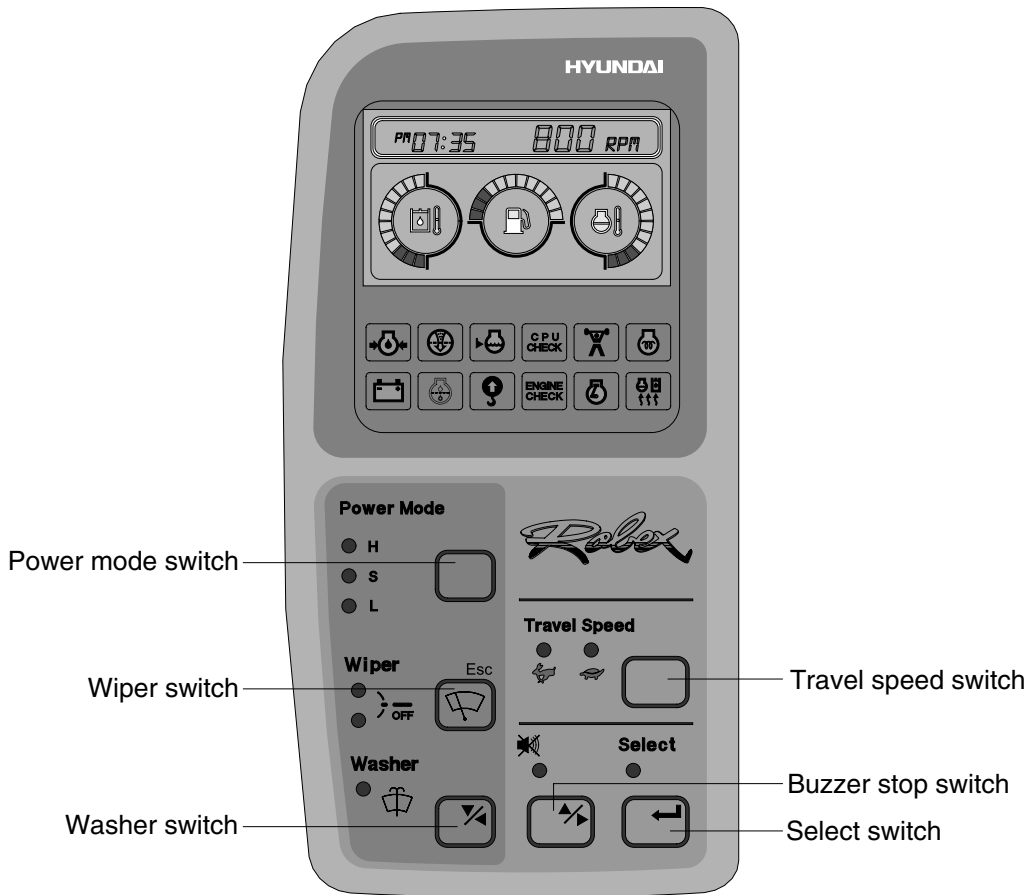
(1) The centralized electronic monitor system allows the status and conditions of the machine to be monitored at a glance.

(2) It is equipped with a safety warning system for early detection of machine malfunction.



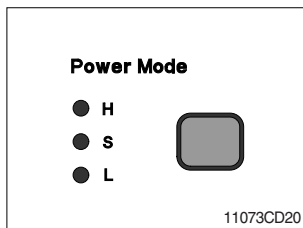
1107A3CD01

## 6) SWITCH PANEL



1107A3CD19

### (1) Power mode switch

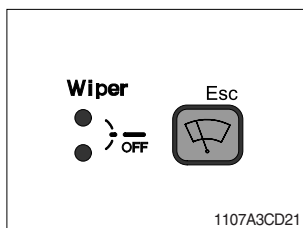


① This switch is to select the machine power mode, which shifts from high power work to standard power work and light power work in a row by pressing the switch.

- H : High power work mode
- S : Standard power work mode
- L : Light power work mode

※ Refer to the page 4-7 for details.

### (2) Wiper mode switch



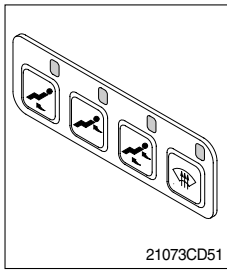
① This switch is used to operate wiper.

- Press the switch once to operate wiper.
- Press the switch once more to intermittently operate wiper low speed.
- Press the switch once more to turn off wiper.

※ Wiper motor doesn't operate with front sliding door open.

※ If wiper does not operate with the start switch in the ON position, turn the switch off immediately. Check the cause. If the switch remains ON, it can result in motor failure.

## 5) OUTLET CHANGE OVER SWITCH



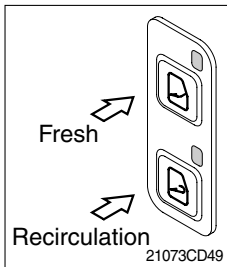
(1) There are four steps of air flow.

Switch position		Mode			
Outlet	A		●	●	
	B	●		●	●
	C				●

(2) When defroster switch operating, INLET switch turns to FRESH mode and air conditioner switch turns ON.

(3) In case of heating range(5~Max warm), air conditioner won't turns ON.

## 6) INLET CHANGE OVER SWITCH



(1) It is possible to change the air-inlet method.

### ① Fresh

Inhaling air from the outside to pressurize cab inside.

※ **Check out the fresh air filter periodically to keep a good efficiency.**

### ② Recirculation

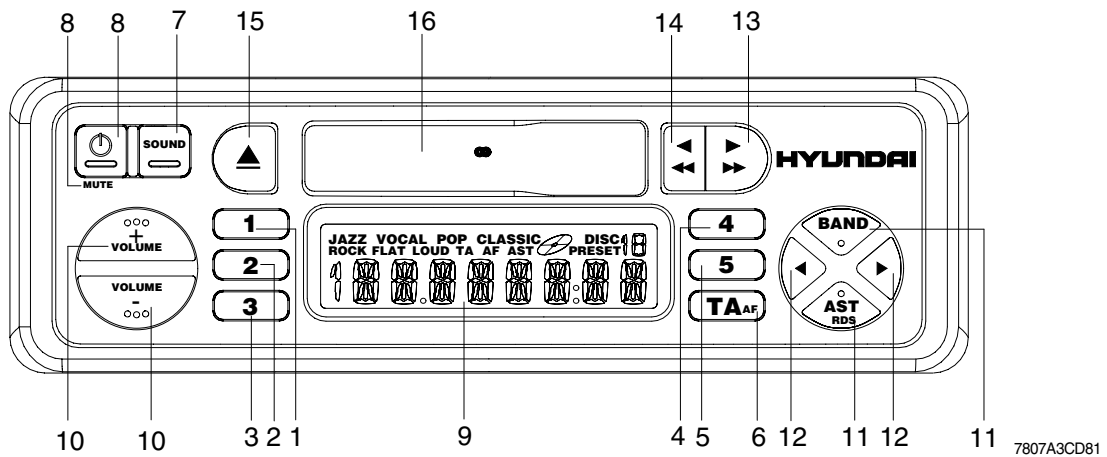
It recycles the heated or cooled air to increase the energy efficiency.

※ **Change air occasionally when using recirculation for a long time.**

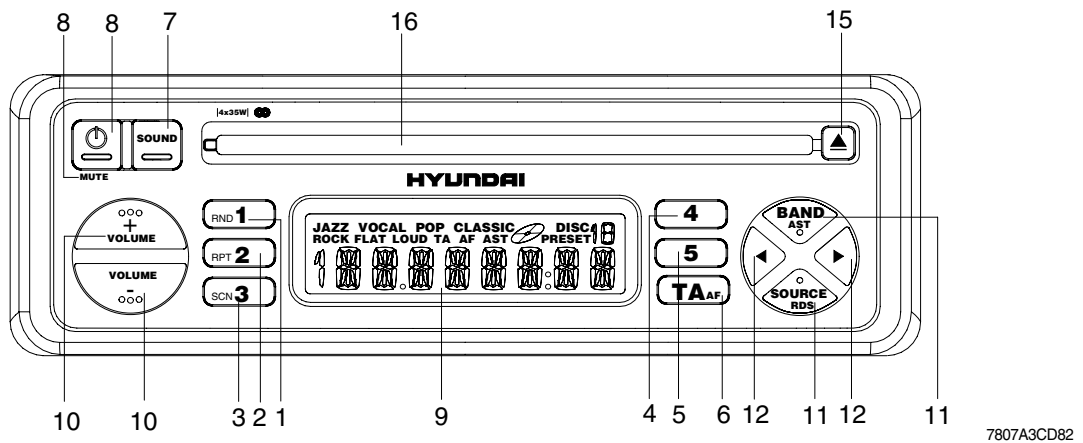
※ **Check out the recirculation filter periodically to keep a good efficiency.**

(2) Recirculation function operates when the system is OFF but it can be changed whenever needed.

### 13) RADIO AND CASSETTE(Standard)



### RADIO AND CD PLAYER(Optional)



#### FRONT PANEL PRESENTATION

- |    |   |    |  |
|----|---|----|--|
| 1  | <b>1</b> ..... Preset button 1  | 11 | <b>SOURCE</b> .. Short press : Change source(Radio/CD) |
|    | <b>RND</b> ..... CD random playback on/off  |    | <b>RDS</b> ..... Long press : RDS on/off               |
| 2  | <b>2</b> ..... Preset button 2  |    | <b>BAND</b> ..... Short press : To select band         |
|    | <b>RPT</b> ..... CD repeat track on/off   |    | <b>AST</b> ..... Long press : Autostore(CD)            |
| 3  | <b>3</b> ..... Preset button 3  |    | Short press : Autostore(Cassette)                      |
|    | <b>SCN</b> ..... CD's track scan  | 12 | <b>◀▶</b> ..... <b>Tuner mode</b>                      |
| 4  | <b>4</b> ..... Preset button 4  |    | Short press : Auto search up/down                      |
| 5  | <b>5</b> ..... Preset button 5  |    | Long press : Manual search up/down                     |
| 6  | <b>TA AF</b> ..... Short press : TA on/off  |    | <b>Cassette mode</b> : No function                     |
|    | Long press : AF on/off  |    | <b>CD mode</b>   |
| 7  | <b>SOUND</b> ..... Select sound/audio styles  |    | Short press : Next/previous track                      |
| 8  | <b>⏻</b> ..... Short press : power on   |    | Long press : Fast forward or fast rewind               |
|    | Long press : power off  | 13 | <b>▶▶</b> ..... Fast forward(cassette deck)            |
|    | <b>MUTE</b> ..... Short press : To mute or cancel mute.                             | 14 | <b>◀◀</b> ..... Fast rewind(cassette deck)             |
| 9  | ..... Display   | 15 | <b>▲</b> ..... Disc eject(CD)                          |
| 10 | ..... Volume knob : Press up/down to adjust the volume ; adjust selected audio mode |    | Eject cassette   |
|    |   | 16 | ..... CD opening / Cassette opening                    |

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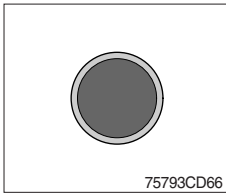


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## ■ GENERAL

### (1) Power and volume button



#### ① Power ON/OFF button

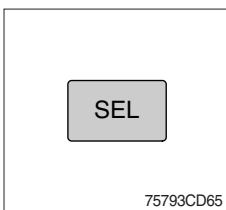
Press power button to turn the unit ON or OFF shortly.

When the power is ON, the previous mode (last memory) will appear.

#### ② Volume up / down control

Turn volume up / down button right to increase the volume level. The level will be shown in VOLUME xx on the LCD display. Turn it left to decrease the volume level. After 5 seconds of volume indication, display will return to the previous mode.

### (2) Sound function selection button (audio selection)




① This button is to adjust the sound. Each time you press power button shortly, LCD displays each mode as follows :

BASS → TREBLE → BAL → BEEP → LOUD → VOLUME  
↑

※ When this button is pressed, LCD display shows selected function for 5 seconds and then returns back to the previous mode. On selected function, level can be controlled by turning this button. The display will automatically return to normal indication in 5 seconds after the last adjustment is made or when another function is activated.


#### ② Bass control

To adjust the bass level, first select the bass mode by pressing the select button  until BASS indication appears on the LCD display. Within 5 seconds of choosing the bass mode, turn power button right / left to adjust the bass level as desired.

The bass level will be shown on the LCD display from a minimum of BASS -10 to a maximum of BASS +10.

The display will automatically return to the normal indication in 5 seconds after the last adjustment or when another function is activated.

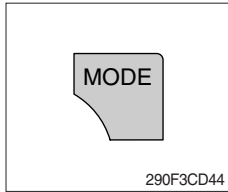
#### ③ Treble control

To adjust the treble level, first select the treble mode by pressing the select button  until TREBLE indication appears on the LCD display. Within 5 seconds of choosing the treble mode, turn power button right / left to adjust the treble level as desired.

The treble level will be shown on the LCD display from a minimum of TREBLE -10 to a maximum of TREBLE +10.

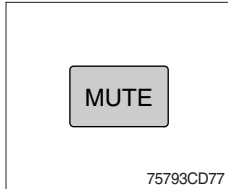
The display will automatically return to the normal indication in 5 seconds after the last adjustment or when another function is activated.

### (3) Mode button



- ① Press mode button to select RADIO / USB / AUX audio.

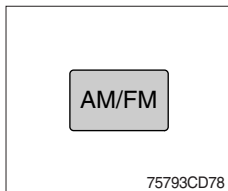
### (4) Audio mute button



- ① Press mute button momentarily to mute volume and MUTE mark will blink on the LCD display. Press the button again to return to the mode in use before the mute mode was activated.

## ■ RADIO

### (1) AM / FM / LW band selector

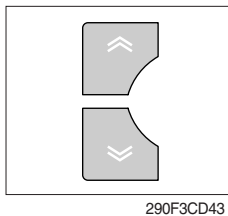




- ① Each time this button is pressed, the radio button is changed. Each time this button is pressed, LCD displays each band as follows :

FM1 → FM2 → FM3 → AM → LW → FM1

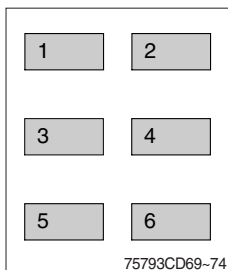
※ LW band is only available for Europe.

### (2) Up / down tuning



- ① To automatically select a radio station, momentarily press the up tune seek button  or down tune seek button  for less than 3 seconds to search for the closest radio station. To manually select a radio station, press the up tuning & down tuning button for longer than 3 seconds. The radio frequency will move up or down step by step each time you press button.

### (3) Station pre-set button



- ① Pressing these buttons shortly will recall your favorite pre-set radio stations. To store your favorite stations into any of the 6 pre-set memories in each band (AM/FM/LW), use the following procedure :
  - Turn the radio ON and select the desired band.
  - Select the first station to be pre-set using the manual up/down or automatic seek tuning control button.
  - Press the chosen pre-set button to store your selected station into and continue to hold it in. The beep sound will be momentarily heard and the pre-set number will appear on the LCD display indicating that the station is now set into that pre-set memory position and can be recalled at any time, by pressing that pre-set button.

## 4. MODE SELECTION SYSTEM

### 1) STRUCTURE OF CAPO SYSTEM

CAPO, Computer Aided Power Optimization system, is the name of mode selection system developed by Hyundai.

#### (1) Power mode

3 power modes can be selected for the optimal power of the machine operation.

##### ① H mode

This mode is used for heavy-duty work.

##### ② S mode

When key switch is turned ON, this mode is selected automatically. This mode is used for standard work.

##### ③ L mode

This mode is used for light-duty work.



#### (2) Wiper switch

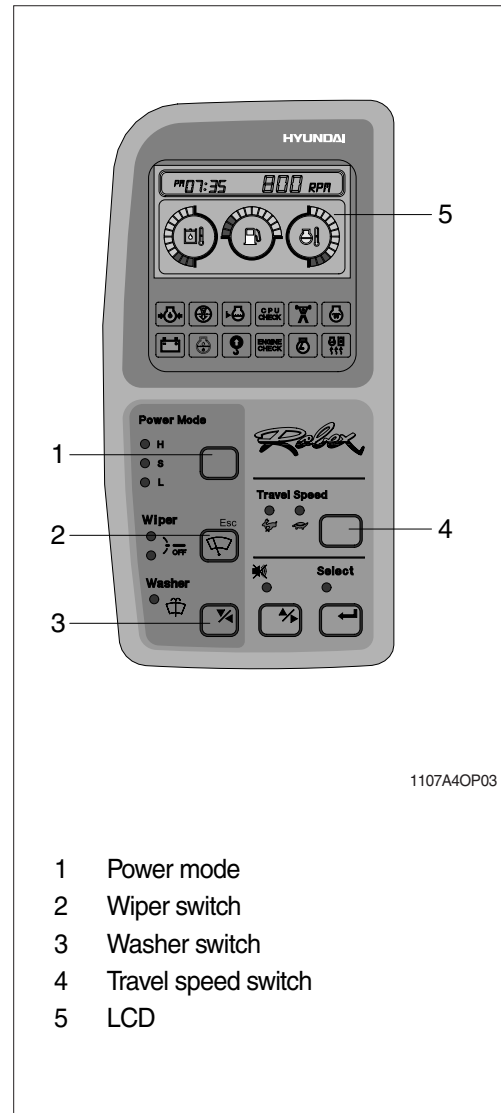
- Press the switch once to operate wiper.
- Press the switch once more to intermittently operate wiper low speed.
- Press the switch a third time to turn off wiper.

#### (3) Washer switch

The washer liquid is sprayed and the wiper is operated only while pressing the switch.

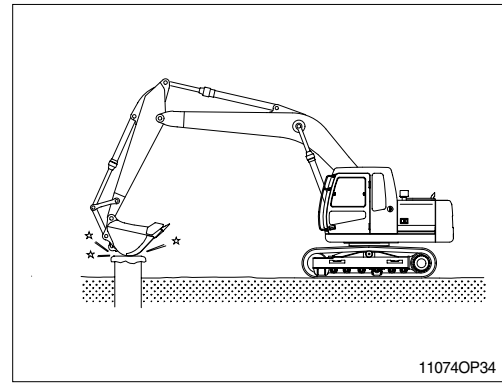
#### (4) Travel speed switch

-  : Low speed traveling.
-  : High speed traveling.

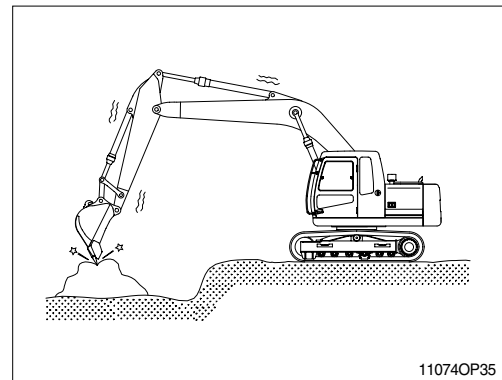


- 1 Power mode
- 2 Wiper switch
- 3 Washer switch
- 4 Travel speed switch
- 5 LCD

- 9) Do not use the dropping force of the work equipment for digging.  
The machine can be damaged by the impact.



- 10) Do not use the bucket to crack hard objects like concrete or rocks.  
This may break a tooth or pin, or bend boom.



**11) NEVER CARRY OUT EXCESSIVE OPERATIONS**

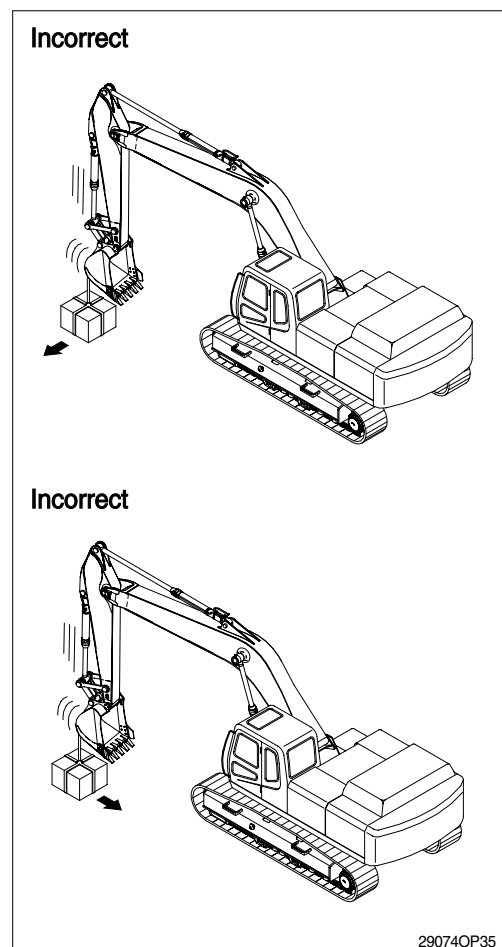
Operation exceeding machine performance may result in accident or failure.

Carry out lifting operation within specified load limit.

Never carry out operations which may damage the machine such as overload or over-impact-load.

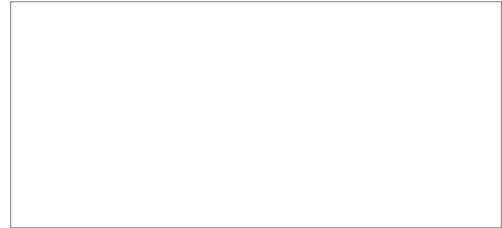
Never travel while carrying a load.

In case you need installing over load warning device for object handling procedure, please contact Hyundai distributor.

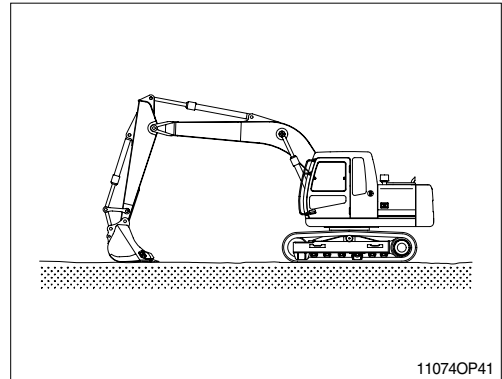


### 13. SWITCHING HYDRAULIC ATTACHMENT CIRCUIT

- 1) The combined hydraulic attachment circuit is capable of providing single action or double action.
- 2) The position of 3 way valve selects the single action hydraulic attachment circuit or the double action hydraulic attachment circuit.

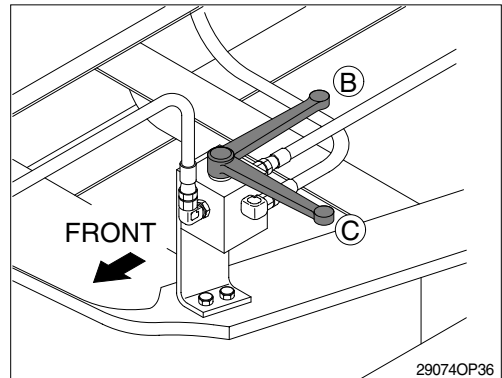


- 3) Before you change the flow mode of hydraulic attachment circuit, place the machine in the servicing position as shown. Stop the engine.



- 4) Use the manual lever to turn the 3 way valve. Make sure that you fully turn the valve until the valve stops.

- (1) **One way flow**(Hydraulic breaker)  
Position the manual lever parallel to the piping (B).
- (2) **Two way flow**(Clamshell or shear)  
Position the manual lever perpendicular to the piping (C).

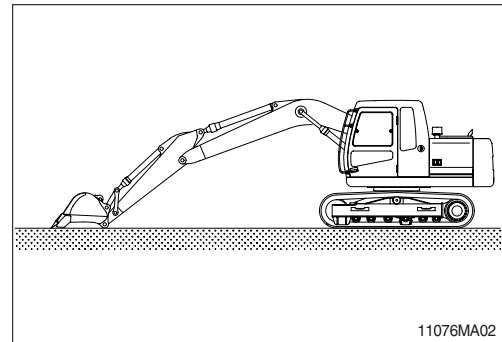


#### 4) RELIEVING THE PRESSURE IN THE HYDRAULIC SYSTEM

※ Spouting of oil can cause the accident when loosening the cap or hose right after the operating of machine as the machine or oil is on the high pressure on the condition.

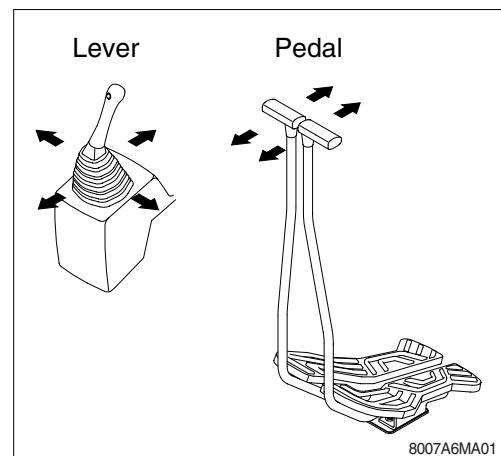
Be sure to relieve the pressure in the system before repairing hydraulic system.

- (1) Place machine in parking position, and stop the engine.

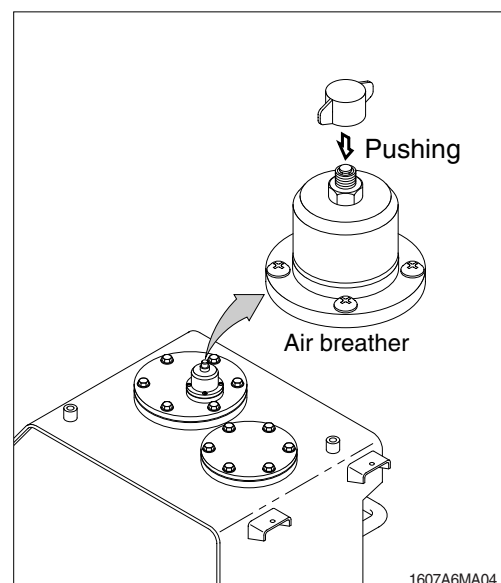


- (2) Set the safety lever completely in the release position, operate the control levers and pedals fully to the front, rear, left and right, to release the pressure in the hydraulic circuit.

※ This does not completely release the pressure, so when serving hydraulic component, loosen the connections slowly and do not stand in the direction where the oil spurt out.



- (3) Loosen the cap and relieve the pressure in the tank by pushing the top of the air breather.



## 6) EVERY 250 HOURS SERVICE

Check items	Service	Page
Battery electrolyte	Check, Add	6-39
Aircon & heater flesh filter	Check	6-43
Air breather element	Replace	6-31
Bolts & Nuts	Check, Tight	6-8
· Sprocket mounting bolts		
· Travel motor mounting bolts		
· Swing motor mounting bolts		
· Swing bearing mounting bolts		
· Engine mounting bolts		
· Counterweight mounting bolts		
· Turning joint locating bolts		
· Track shoe mounting bolts and nuts		
· Hydraulic pump mounting bolts		

## 7) INITIAL 500 HOURS SERVICE

Check items	Service	Page
Travel reduction gear oil	Change	6-33

## 8) EVERY 500 HOURS SERVICE

Check items	Service	Page
★Engine oil	Change	6-18, 19
★Engine oil filter	Replace	6-18, 19
Radiator, cooler fin and charge air cooler	Check, Clean	6-23
☆Air cleaner element (Primary)	Check, Clean	6-25
Fuel filter element	Replace	6-27
Prefilter	Change	6-26

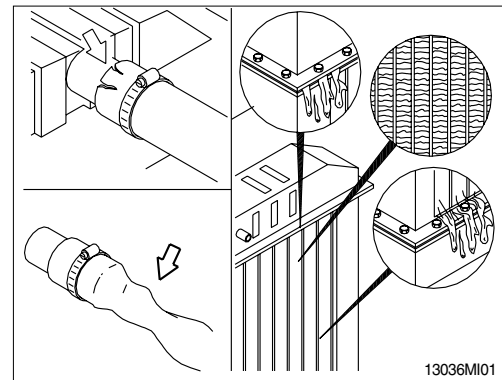
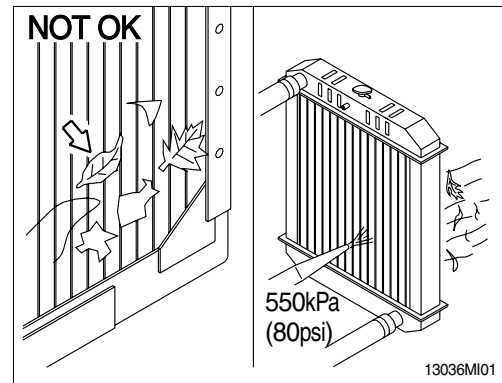
★ If you use high sulfur containing fuel above than 0.5% or use low grade of engine oil reduce change interval.

☆ Clean the primary element only after 500 hours operation or when the air cleaner warning lamp blinks. Replace primary element and safety element after 4 times cleanings of primary element.

## 5) CLEAN RADIATOR AND OIL COOLER

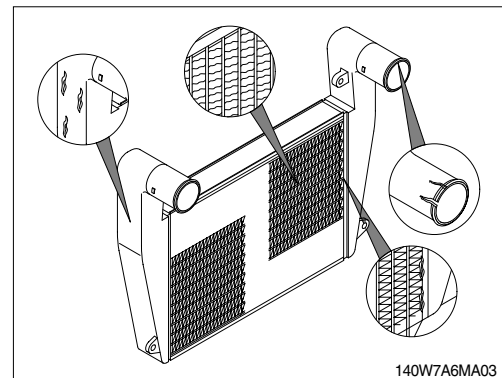
Check, and if necessary, clean and dry outside of radiator and oil cooler. After working in a dusty place, clean radiator more frequently.

- (1) Visually inspect the radiator for clogged radiator fins.
- (2) Use 550kPa(80psi) air pressure to blow the dirt and debris from the fins.  
Blow the air in the opposite direction of the fan air flow.
- (3) Visually inspect the radiator for bent or broken fins.  
※ **If the radiator must be replaced due to bent or broken fins which can cause the engine to overheat, refer to the manufacturer's replacement procedures.**
- (4) Visually inspect the radiator for core and gasket leaks.



## 6) CHECK CHARGE AIR COOLER

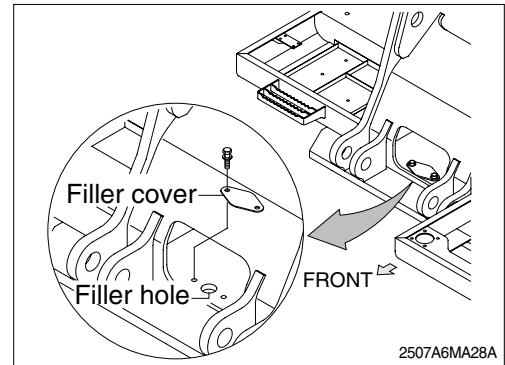
Inspect the charge air cooler for dirt and debris blocking the fins. Check for cracks, holes, or other damage. If damage is found, please contact Hyundai distributor.



## 27) SWING GEAR AND PINION

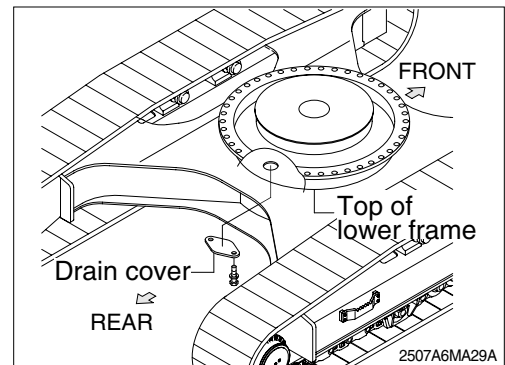
### (1) Drain old grease

- ① Remove under cover of lower frame.
- ② Remove drain cover of lower frame.
- ③ Remove filler cover of upper frame.
- ④ Operate full turn(360°) of swing several times.



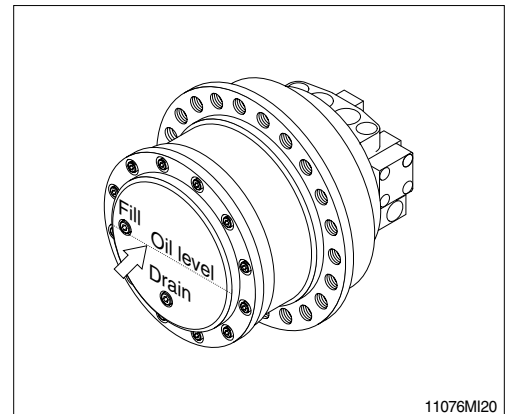
### (2) Refill new grease

- ① Install drain cover.
  - ② Fill with new grease.
  - ③ Install filler cover.
- Capacity : 4.0kg(8.7lb)



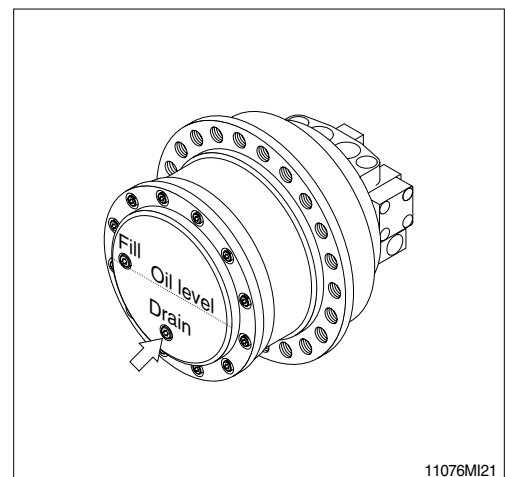
## 28) CHECK THE TRAVEL REDUCTION GEAR OIL

- (1) Operate the machine to the position of drain plug down to the flat ground.
- (2) Loosen the level plug and check the oil level.  
If the level is at the hole of the plug, it is normal.  
Fill the oil if it is not sufficient.  
Amount of oil : 2.5 l (0.7 U.S.gal)

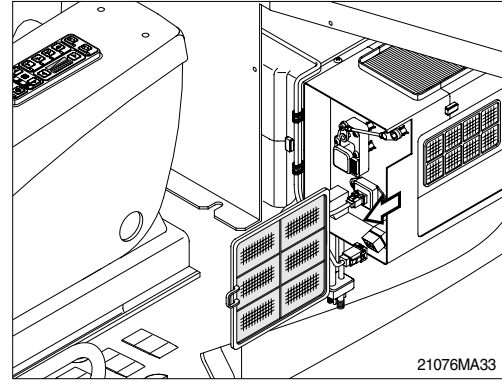


## 29) CHANGE OF THE TRAVEL REDUCTION GEAR OIL

- (1) Raise the temperature of the oil by traveling machine first.
- (2) Stop when the position of the drain plug is down.
- (3) Loosen the level plug and then the drain plug.
- (4) Drain the oil to adequate container.
- (5) Tighten the drain plug and fill specified amount of oil at filling port.
- (6) Tighten the level plug and travel slowly to check if there is any leakage of oil.



(2) Remove recirculation filter.

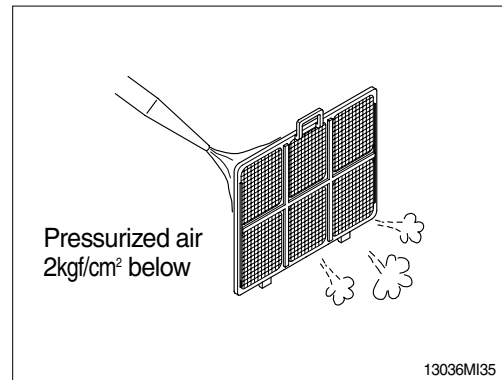


(3) Clean the recirculation filter using a pressurized air (Below  $2\text{kgf/cm}^2$ , 28psi) or washing with water.

△ **When using pressurized air, be sure to wear safety glasses.**

※ **Dry off after washing with water.**

(4) Inspect the filter after cleaning. If it is damaged or badly contaminated, use a new filter.



### 3) PRECAUTIONS FOR USING AIR CONDITIONER

(1) When using the air conditioner for a long time, open the window once every one hour.

(2) Be careful not to overcool the cab.

(3) The cab is properly cooled if the operator feels cool when entering there from outside (About  $5^{\circ}\text{C}$  lower than the outside temperature).

(4) When cooling, change air occasionally.

### 4) CHECK DURING SEASON

Ask the service center for replenishment of refrigerant or other maintenance service so that the cooling performance is not damaged.

### 5) CHECK DURING OFF-SEASON

Operate the air conditioner 2 or 3 times a month (Each for a few minutes) to avoid loss of oil film in the compressor.

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