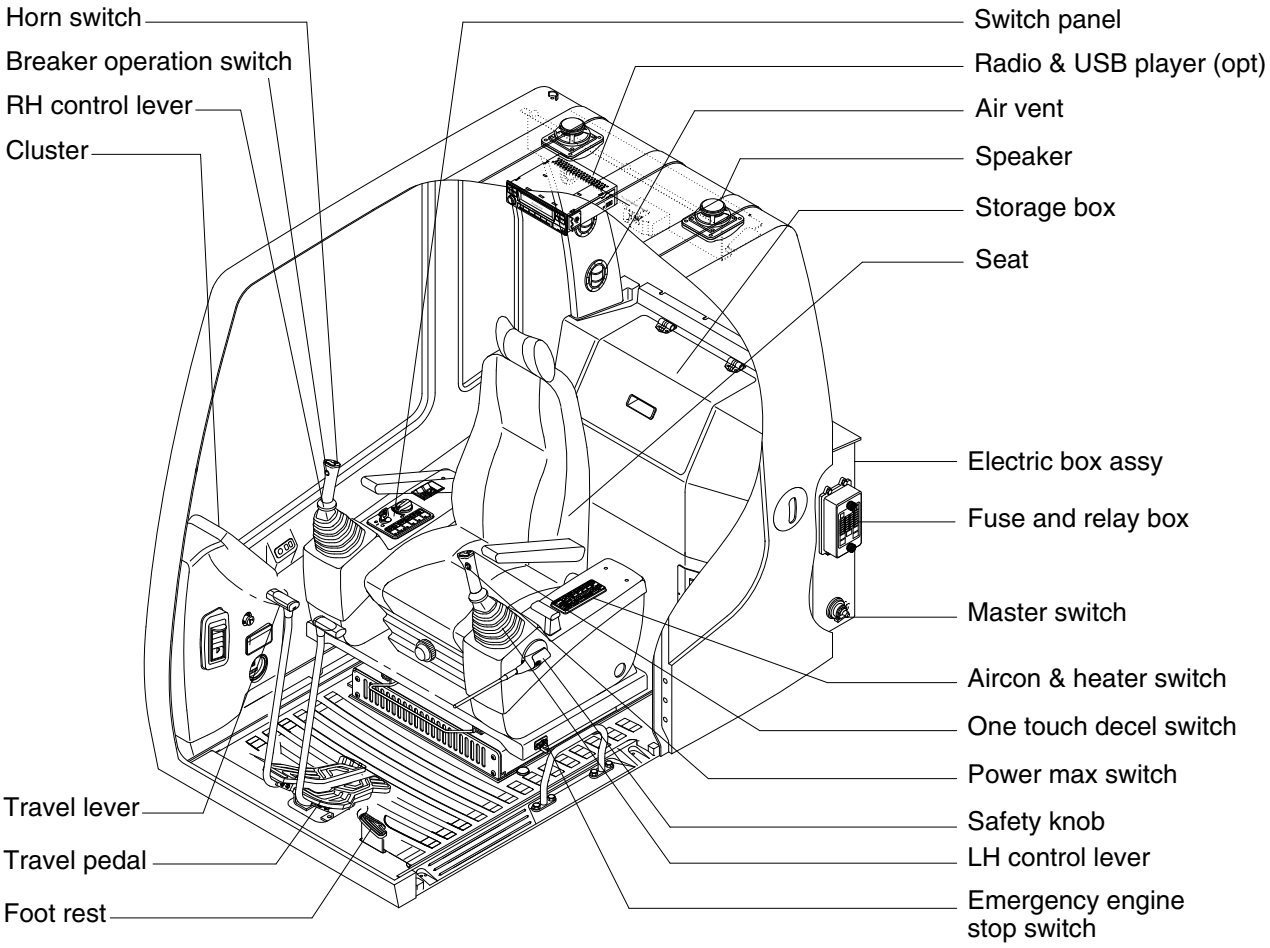
1. CAB DEVICES

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.



300SG3CD01

2. CLUSTER

1) MONITOR PANEL

The monitor panel consists of LCD and lamps as shown below, to warn the operator in case of abnormal machine operation or conditions for the appropriate operation and inspection.

- LCD : Indicate operating status of the machine.
- Warning lamp : Indicate abnormality of the machine(Red).
- Pilot lamp : Indicate operating status of the machine(Amber).

※ The monitor installed on this machine does not entirely guarantee the condition of the machine. Daily inspection should be performed according to chapter 6, Maintenance.

※ When the monitor provides a warning immediately check the problem, and perform the required action.

※ The warming lamp lights ON and the buzzer sounds when the machine has a problem. In this case, press the buzzer stop switch and buzzer stop, but the warming lamp lights until the problem is cleared.

2) LCD main operation display

Default screen

1607A3CD02A

Option screen

1607A3CD02B

1 Time display
2 RPM display
3 Hydraulic oil temperature gauge
4 Fuel level gauge
5 Engine coolant temperature gauge

(1) Time display

1607A3CD02C

① This displays the current time.

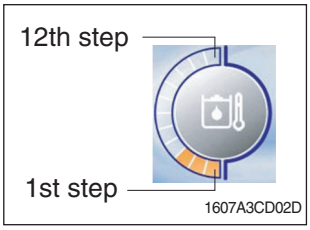
※ **Refer to page 3-7 to set time for details.**

(2) RPM display

1607A3CD02C

① This displays the engine rpm.

(3) Hydraulic oil temperature gauge



1607A3CD02D

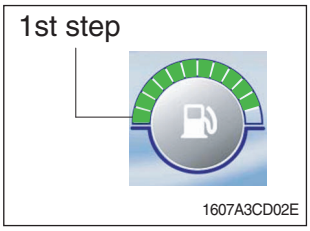
① This gauge indicates the temperature of hydraulic oil in 12 step gauge.
- 1st step : Below 30°C (86°F)
- 2nd–10th step : 30–105°C (86–221°F)
- 11th–12th step : Above 105°C (221°F)

② The gauge between 2nd and 10th steps illuminates when operating.

③ Keep idling engine at low speed until the gauge between 2nd and 10th steps illuminates, before operation of machine.

④ When the gauge of 11th and 12th steps illuminates, reduce the load on the system. If the gauge stays in the 11th–12th steps, stop the machine and check the cause of the problem.

(4) Fuel level gauge



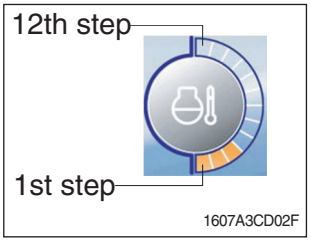
1607A3CD02E

① This gauge indicates the amount of fuel in the fuel tank.

② Fill the fuel when the 1st step or fuel icon blinks in red.

※ **If the gauge illuminates the 1st step or fuel icon blinks in red even though the machine is on the normal condition, check the electric device as that can be caused by the poor connection of electricity or sensor.**

(5) Engine coolant temperature gauge



1607A3CD02F

① This gauge indicates the temperature of coolant in 12 step gauge.
- 1st step : Below 30°C (86°F)
- 2nd–10th step : 30–105°C (86–221°F)
- 11th–12th step : Above 105°C (221°F)

② The gauge between 2nd and 10th steps illuminates when operating.

③ Keep idling engine at low speed until the gauge between 2nd and 10th steps illuminates, before operation of machine.

④ When the gauge of 11th and 12th steps illuminates, turn OFF the engine, check the radiator and engine.

3) Warning of main operation screen

(1) Warning display

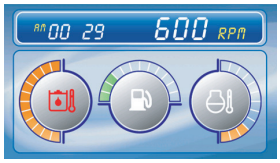
① Engine coolant temperature

- This lamp blinks and the buzzer sounds when the temperature of coolant is over the normal temperature 105°C (221°F).
- Check the cooling system when the lamp blinks.

② Fuel level

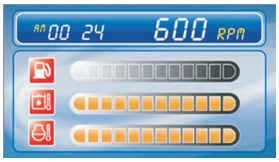
- This lamp blinks and the buzzer sounds when the level of fuel is below 40 ℓ (10.6 U.S. gal).
- Fill the fuel immediately when the lamp blinks.

③ Hydraulic oil temperature



- This warning lamp operates and the buzzer sounds when the temperature of hydraulic oil is over 105°C (221°F).
- Check the hydraulic oil level when the lamp blinks.
- Check for debris between oil cooler and radiator.

④ All gauge



- This lamp blinks and the buzzer sounds when the all gauge is abnormal.
- Check the each system when the lamp blinks.

⑤ Communication error

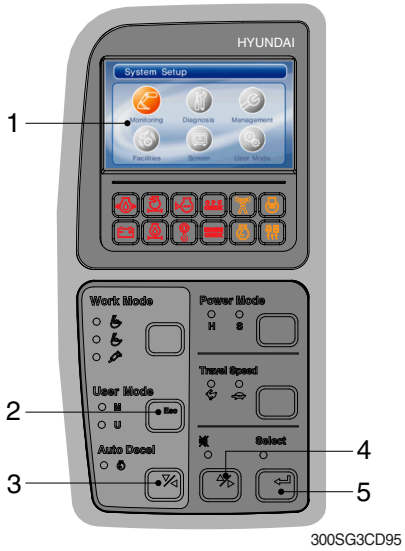
- Communication problem between CPU controller and cluster makes the lamp blinks and the buzzer sounds.
- Check if any fuse for CPU burnt off. If not check the communication line between them.

(2) Pop-up icon display

No	Switch	Selected mode	Display
1	Work mode switch	General work mode	
		Heavy duty work mode	
		Breaker operation mode	
2	Power mode switch	High power work mode	
		Standard power work mode	

No	Switch	Selected mode	Display
3	Auto deceleration switch	Light ON	
		Light OFF	
4	Travel speed control switch	Low speed	
		High speed	

4) LCD



300SG3CD95

1 : LCD

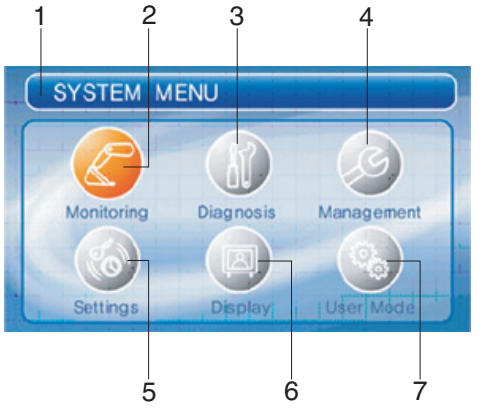
2 : Escape,
Return to the previous menu

3 : Down/Left Direction

4 : Up/Right Direction

5 : Select (Enter)
Activate the currently chosen item

(1) Main menu



2507A4OP94

1 : Menu information

2 : Monitoring
- Equipment, Switch, Output

3 : Diagnosis
- Current error, Recorded error

4 : Maintenance

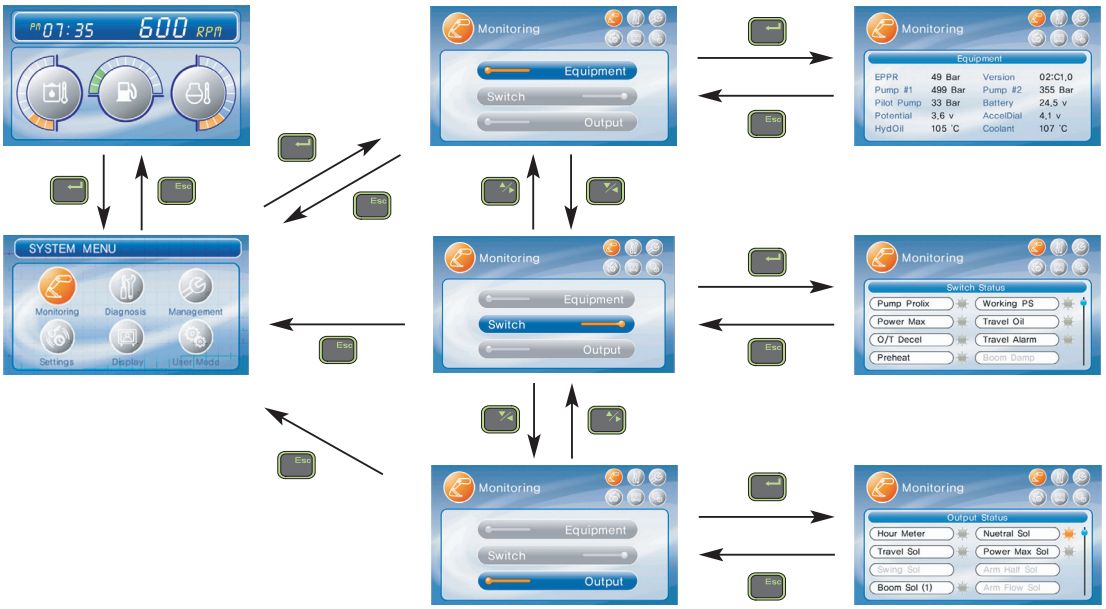
5 : Settings
- Time set, Dual mode
- System lock (Reserved)

6 : Display
- Operation skin, Brightness, Language

7 : User mode

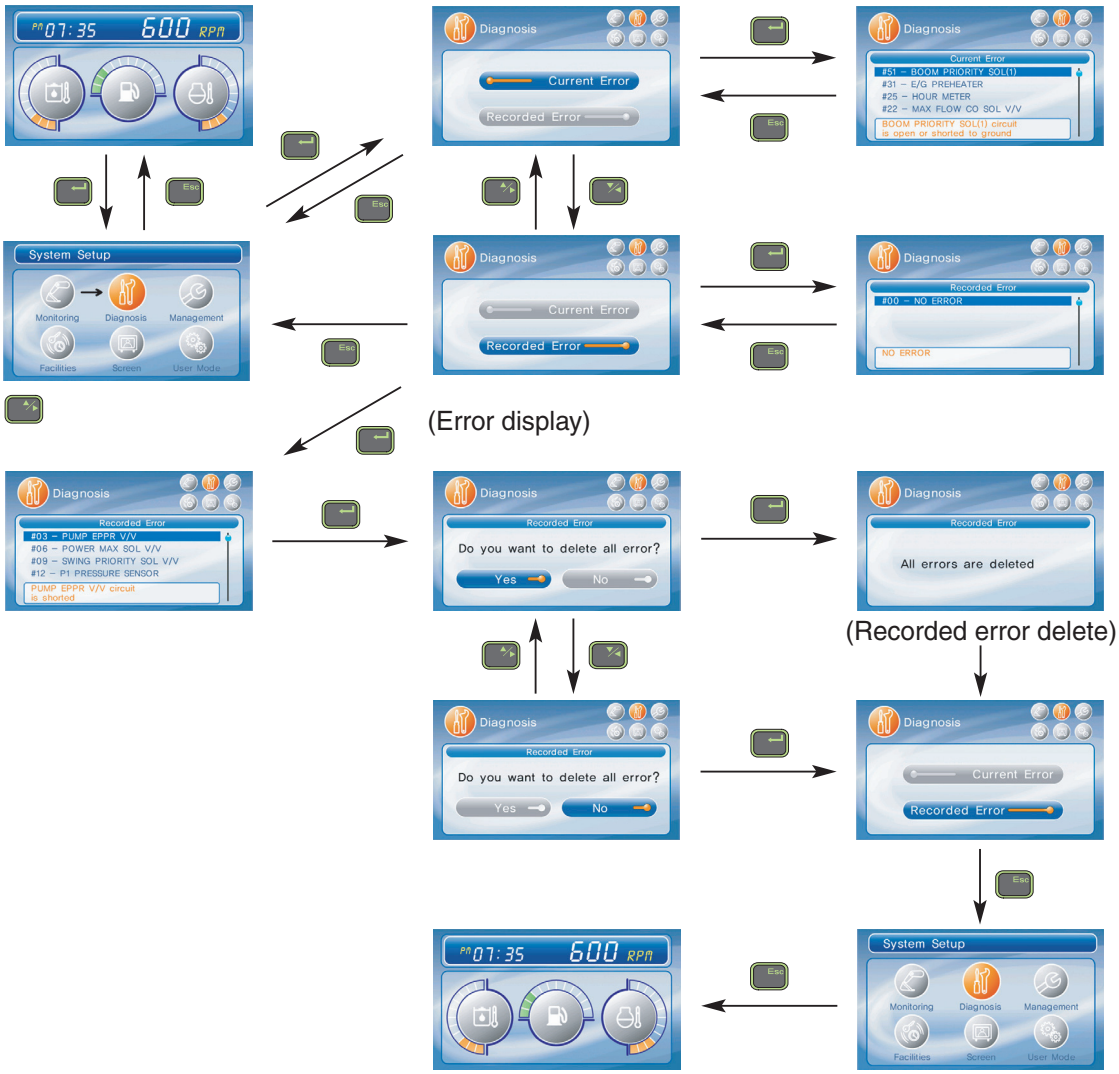
(2) Display map

① Monitoring



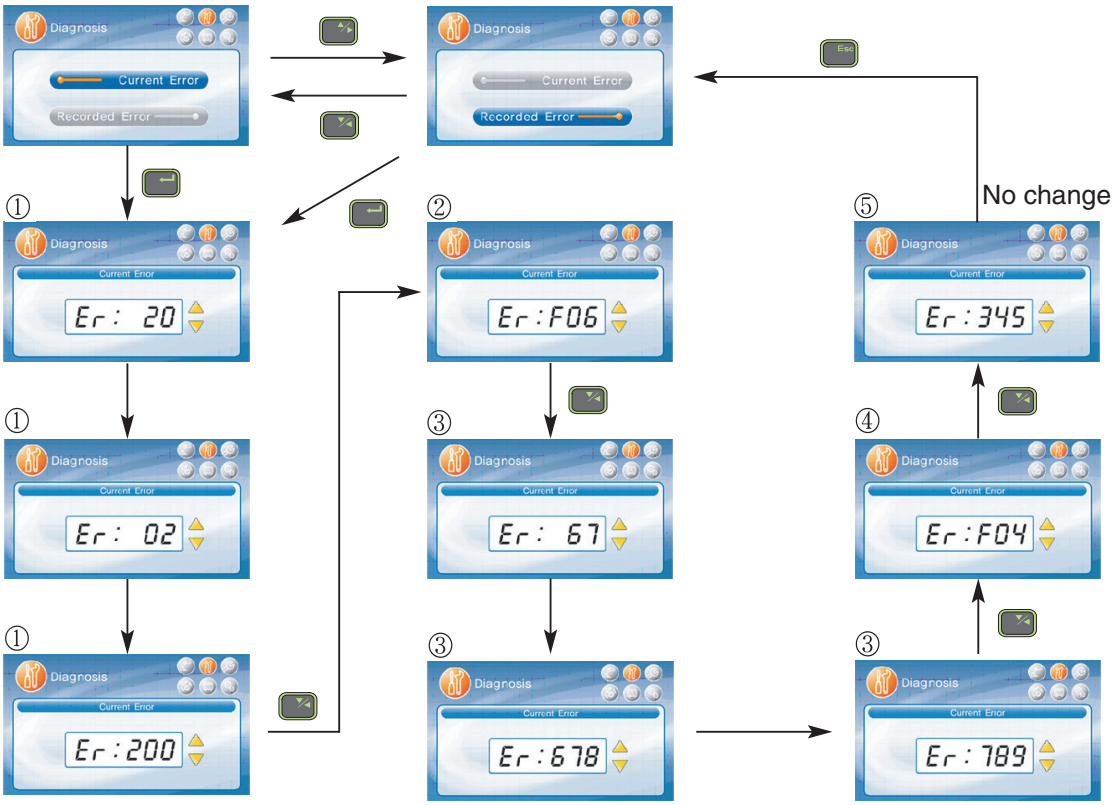
② Diagnosis

a. Protocol type 1

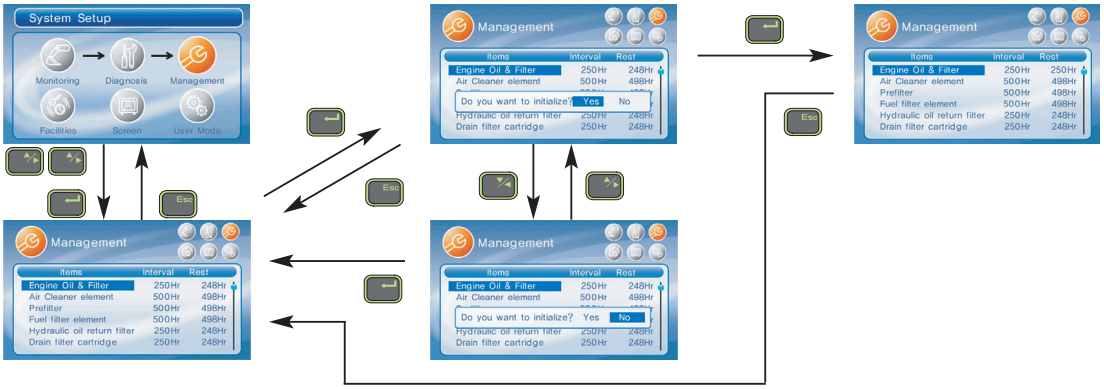


b. Protocol type 2

- If there are more than 2 error codes, each one can be displayed by pressing or switch respectively.
- 3 error codes (① SPN200200, ② FMI06, ③ SPN6789, ④ FMI04, ⑤ 345) display.

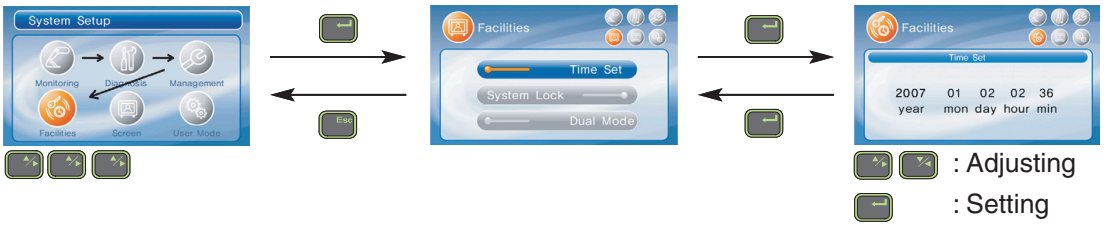


③ Maintenance



④ Setting

a. Time set



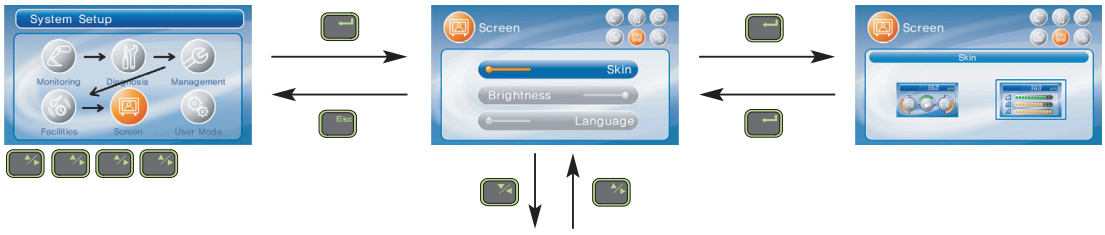
b. System lock - Reserved

c. Dual mode

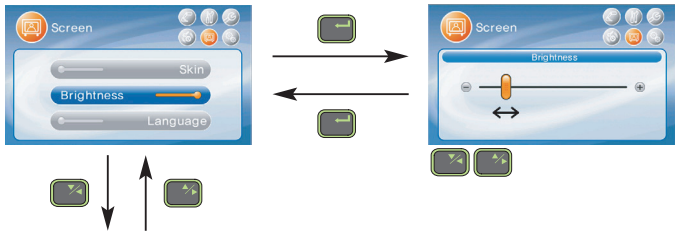
- Changing the MCU mode

⑤ Display

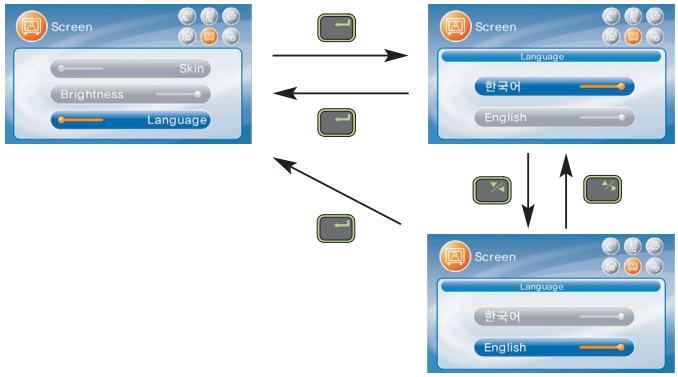
a. Operation skin



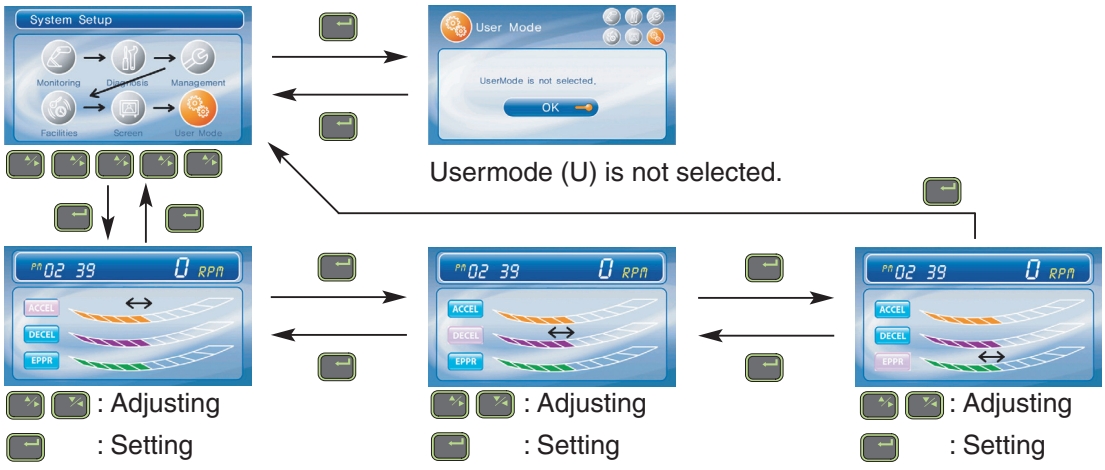
b. Brightness



c. Language

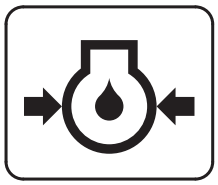


⑥ User mode



5) Warning and pilot lamp

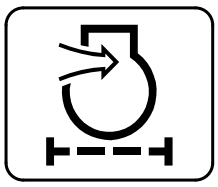
(1) Engine oil pressure warning lamp



21073CD07

① This lamp blinks and the buzzer sounds after starting the engine because of the low oil pressure.
② If the lamp blinks during engine operation, shut OFF engine immediately. Check oil level.

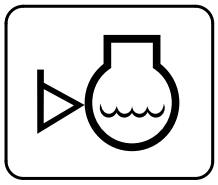
(2) Air cleaner warning lamp



300SG3CD08

① This lamp blinks and the buzzer sounds when the filter of air cleaner is clogged.
② Check the filter and clean or replace it.

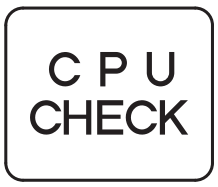
(3) Coolant level warning lamp (null)



300SG3CD58

① This warning lamp indicates lack of coolant.
② Check and refill coolant.

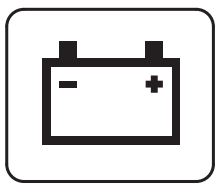
(4) CPU controller check warning lamp



21073CD10

① If any fault code is received from CPU controller, this lamp blinks and the buzzer sounds.
② Check the communication line between CPU controller and cluster.

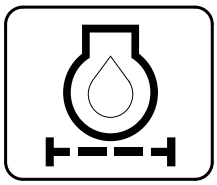
(5) Battery charging warning lamp



21073CD13

① This lamp blinks and the buzzer sounds when the starting switch is ON, it is turned OFF after starting the engine.
② Check the battery charging circuit when this lamp blinks during engine operation.

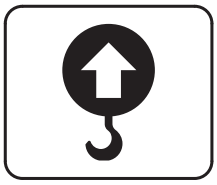
(6) Engine oil filter warning lamp (null)



300SG3CD306

① This warning lamp pops up and the buzzer sounds when the engine oil filter is clogged.
② Check, clean or replace filter.

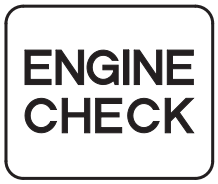
(7) Overload warning lamp (option)



21073CD15

① When the machine is overload, the overload warning lamp blinks during the overload switch is ON.

(8) Engine check warning lamp



29073CD10

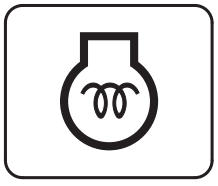
① This lamp blinks and the buzzer sounds when the communication between CPU controller and ECU on the engine is abnormal, or if any fault code received from ECU.
② Check the communication line between them.
If the communication line is OK, then check the fault code on the cluster.

(9) Power max pilot lamp

21073CD11

① The lamp will be ON when pushing power max switch on the LH RCV lever.

(10) Preheat pilot lamp



21073CD12

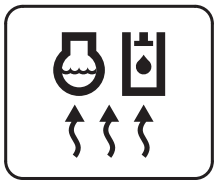
① Turning the start key switch ON position starts preheating in cold weather.
② Start the engine as this lamp is OFF.

(11) Decel pilot lamp

21073CD17

① Operating auto decel or one touch decel makes the lamp ON.
② The lamp will be ON when pushing one touch decel switch on the LH RCV lever.

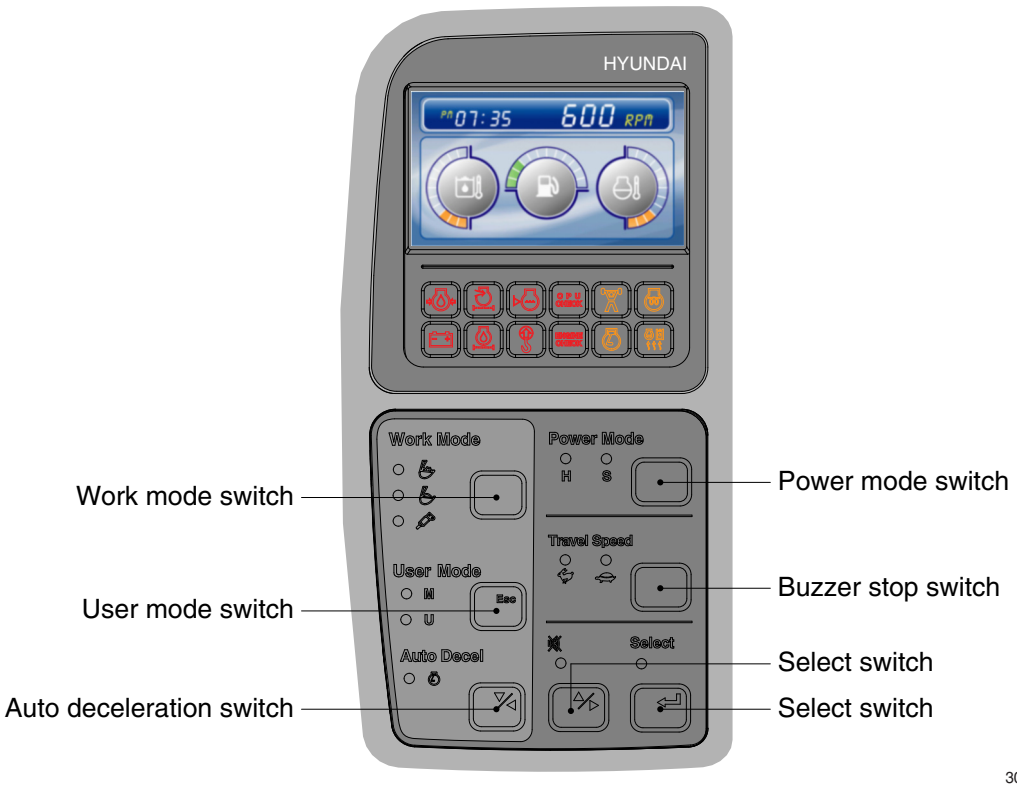
(12) Warming up pilot lamp



21073CD18

① This lamp is turned ON when the coolant temperature is below 30°C (86°F).
② The automatic warming up is cancelled when the engine coolant temperature is above 30°C, or when 10 minutes have passed since starting.

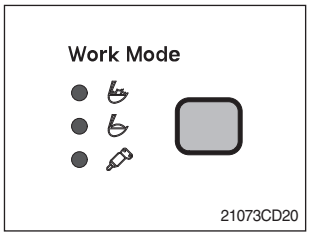
6) SWITCH PANEL



300SG3CD19

※ **When the switches (Work mode, Power mode, Auto decel, Travel speed control) are selected, the pop-up icon is displayed on the LCD.**
Refer to page 3-4 for details.

(1) Work mode switch

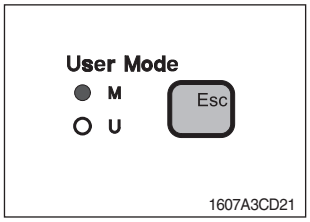


21073CD20

① This switch is to select the machine operation mode, which shifts from general operation mode to heavy operation mode and breaker mode in a raw by pressing the switch.
- : Heavy duty work mode
- : General work mode
- : Breaker operation mode

※ **Refer to page 4-7 for details.**

(2) User modet switch

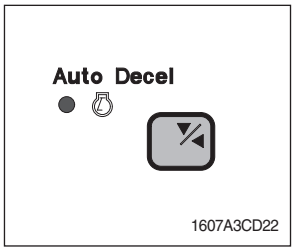


1607A3CD21

① This switch is to select the maximum power or user mode.
- M : Maximum power.
- U : Memorizing operators preferable power setting.

※ **Refer to page 4-7 for details.**

(3) Auto deceleration switch

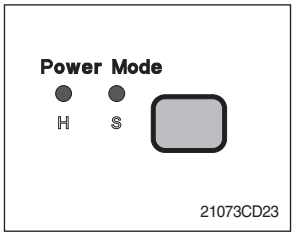


① This switch is used to actuate or cancel the auto deceleration function.

② When the switch actuated and all control levers and pedals are at neutral position, engine speed will be lowered automatically to save fuel consumption.

- Light ON : Auto deceleration function is selected.
- Light OFF : a. Auto deceleration function is cancelled so that the engine speed increased to previous setting value.
  b. One touch decel function is available.

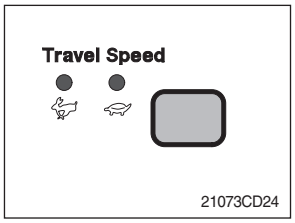
(4) Power mode switch



① The lamp of selected mode is turned ON by pressing the switch( ).

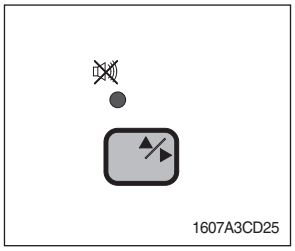
- H : High power work.
- S : Standard power work.

(5) Travel speed control switch



① This switch is to control the travel speed which is changed to high speed(Rabbit mark) by pressing the switch and low speed(Turtle mark) by pressing again.

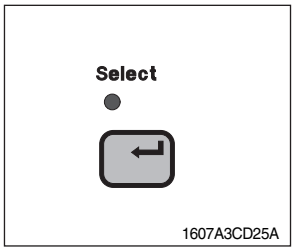
(6) Buzzer stop switch



① When the starting switch is turned ON first, normally the alarm buzzer sounds for 2 seconds during lamp check operation.

② The red lamp lights ON and the buzzer sounds when the machine has a problem.
In this case, press this switch and buzzer stops, but the red lamp lights until the problem is cleared.

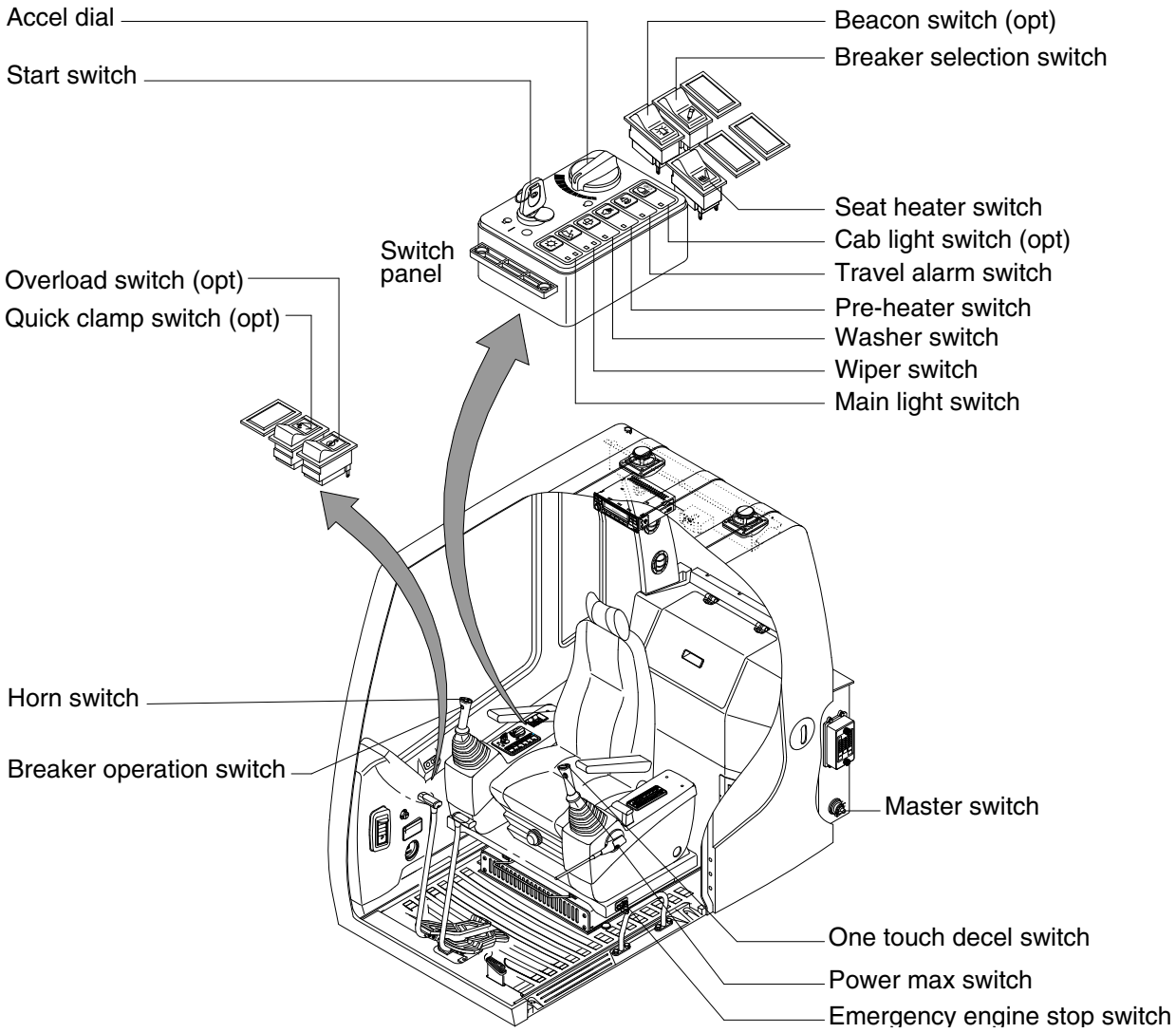
(7) Select switch



① This switch is used to enter main menu and sub menu of LCD.

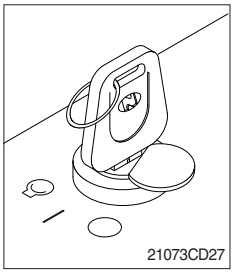
※ **Refer to page 3-5 for details.**

3. SWITCHES



300SG3CD02

1) STARTING SWITCH



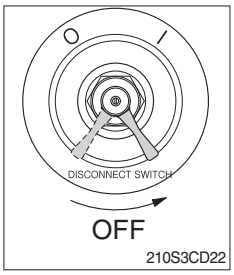
(1) There are three positions, OFF, ON and START.

- ◯ (OFF) : None of electrical circuits activate.
- | (ON) : All the systems of machine operate.
- ⏻ (START) : Use when starting the engine. Release key immediately after starting.

※ If you turn ON the starting switch in cold weather, the fuel warmer is automatically operated to heat the fuel by sensing the coolant temperature. Start the engine in 1~2 minutes after turning ON the starting switch. More time may take according to ambient temperature (opt).

※ Key must be in the ON position with engine running maintain electrical and hydraulic function and prevent serious machine damage.

2) MASTER SWITCH

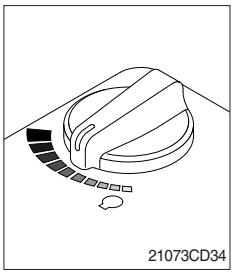


(1) This switch is used to shut off the entire electrical system.

(2) I : The battery remains connected to the electrical system.
O : The battery is disconnected to the electrical system.

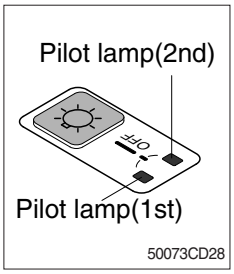
※ **Never turn the master switch to O (OFF) with the engine running. Engine and electrical system damage could result.**

(3) ACCEL DIAL SWITCH



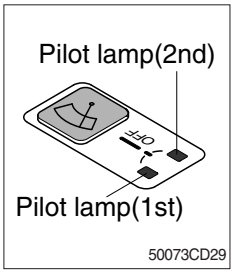
(1) There are 10 dial setting.
Setting 1 is low idle (Turtle) and setting 10 is high idle (Rabbit).
- By rotating the accel dial to right : Engine speed increases
- By rotating the accel dial to left : Engine speed decreases

(4) MAIN LIGHT SWITCH



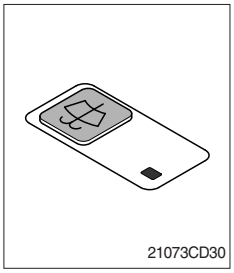
(1) This switch used to operate the head light and work light.
- Press the switch once to head light comes ON.
- Press the switch once more to work light comes ON.
- Press the switch again, return to a first step position.
- Press the switch more than one second to turn off lights.

(5) WIPER SWITCH



(1) This switch used to operate wiper.
- Press the switch once to intermittently operate wiper.
- Press the switch once more to operate wiper low speed.
- Press the switch again return to a first step position.
- Press the switch more than one second to turn off wiper.

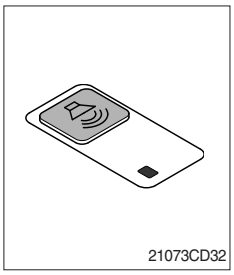
(6) WASHER SWITCH



(1) The washer liquid is sprayed and the wiper is operated only while pressing this switch.

(2) The indicator lamp is turned ON when operating this switch.

7) PRE-HEATER SWITCH

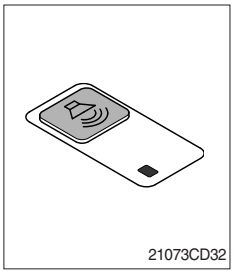


(1) This switch is used for starting the engine in cold weather. If pressed, starting aid fluid injected to get easier engine starting.

※ **Never hold the push button switch for more than 30 seconds, as this can damage the electric valve solenoid.**

(2) The indicator lamp is turned ON when operating this switch

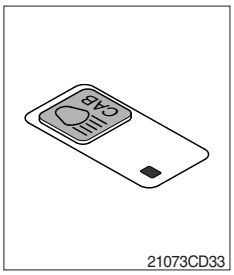
8) TRAVEL ALARM SWITCH



(1) This switch is to activate travel alarm function surrounding when the machine travels to forward and backward.

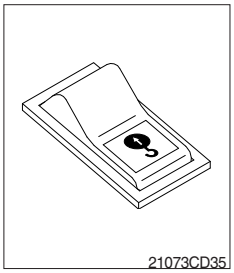
(2) On pressing this switch, the alarm operates only when the machine is traveling.

9) CAB LIGHT SWITCH (option)



(1) This switch turns ON the cab light on the cab.

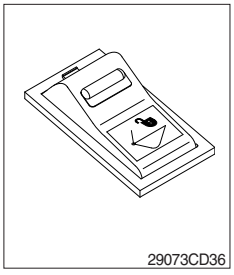
10) OVERLOAD SWITCH (option)



(1) When this switch turned ON, buzzer makes sound and overload warning lamp comes ON in case that the machine is overload.

(2) When turn OFF buzzer stops and warning lamp goes out.

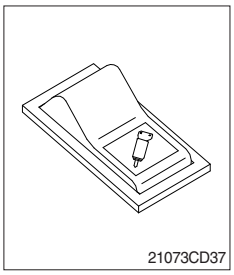
11) QUICK CLAMP SWITCH (option)



(1) This switch is used for engaging or disengaging the moving hook on quick clamp.

※ **Refer to page 8-6 for details.**

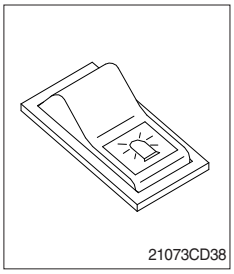
12) BREAKER SELECTION SWITCH



(1) This switch is used to select breaker.

※ **The breaker operates only when this switch is selected.**

13) BEACON SWITCH (option)



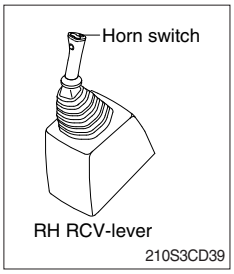
(1) This switch turns ON the rotary light on the cab.

(2) The below indicator lamp is turned ON when operating this switch.

14) SEAT HEATER SWITCH

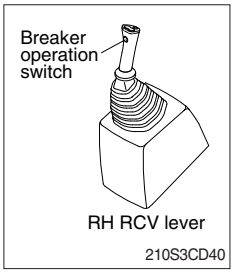
(1) This switch is used to heat the seat.

15) HORN SWITCH



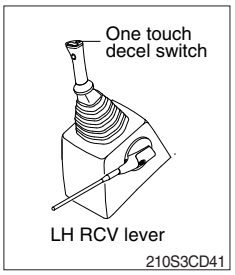
(1) This switch is at the top of right side control lever. On pressing, the horn sounds.

16) BREAKER OPERATION SWITCH



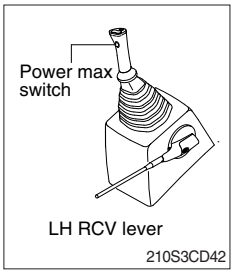
(1) On pressing this switch, the breaker operates only when the breaker selection switch on the switch panel is selected.

17) ONE TOUCH DECEL SWITCH



(1) This switch is used to actuate the deceleration function quickly.
(2) The engine speed is increased to previous setting value by pressing the switch again.

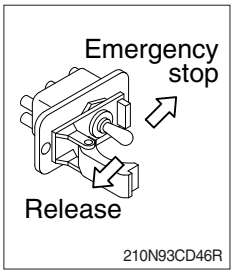
18) POWER MAX SWITCH



(1) This switch activate power max function.
When this switch is kept pressed, hydraulic power of work equipment will increased approx 110 percent during 8 seconds.
(2) After 8 seconds, function is cancelled automatically even switch is keep pressed.

※ **Don not use for craning purposes.**

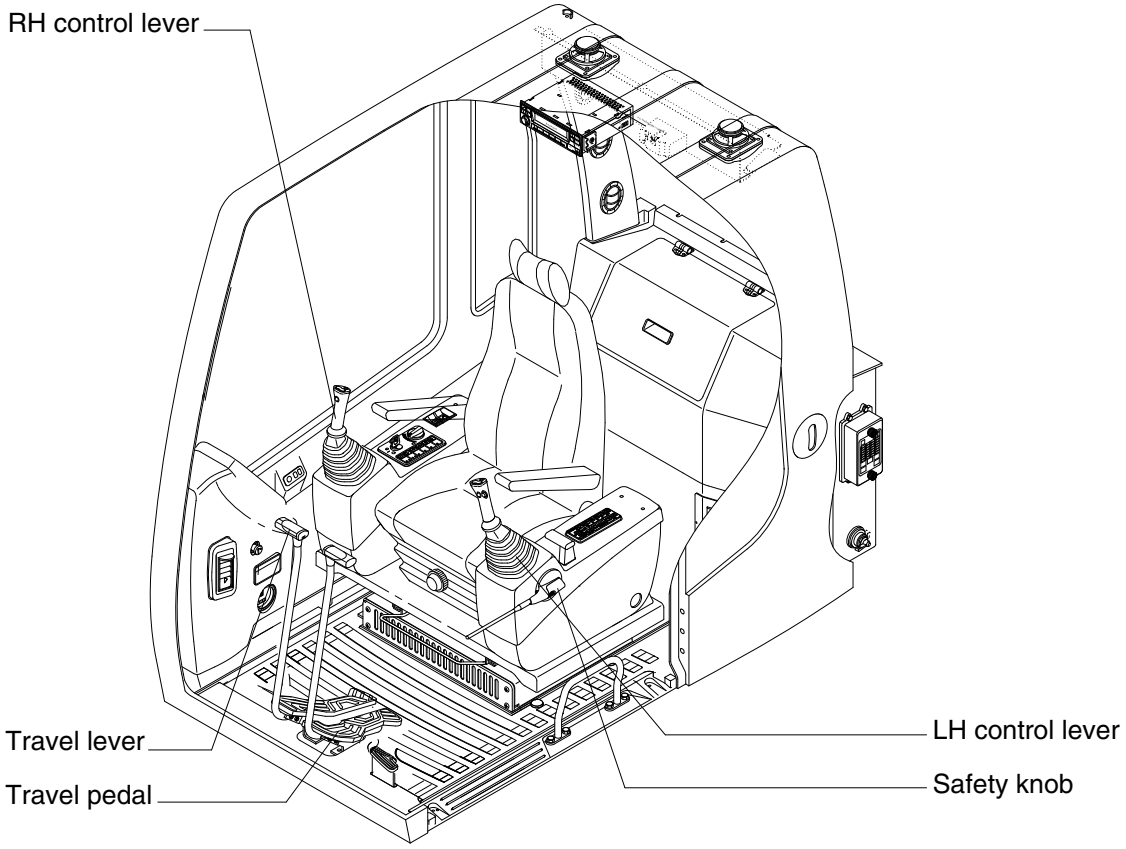
19) EMERGENCY ENGINE STOP SWITCH



(1) This switch is used to emergency stop the engine.

※ **Be sure to keep the emergency switch on the release position when restart the engine.**

4. LEVERS AND PEDALS



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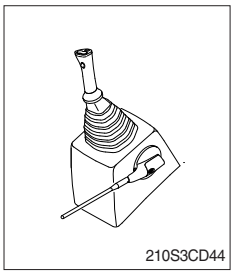
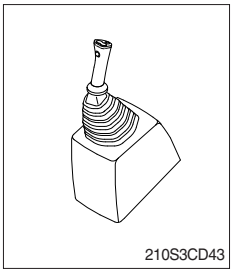
1) LH CONTROL LEVER



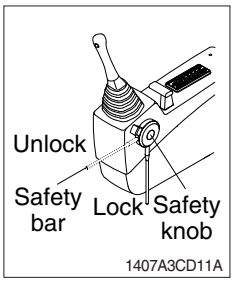
(1) This joystick is used to control the swing and the arm.
(2) Refer to **operation of working device** in chapter 4 for details.

2) RH CONTROL LEVER



(1) This joystick is used to control the boom and the bucket.
(2) Refer to **operation of working device** in chapter 4 for details.

3) SAFETY KNOB



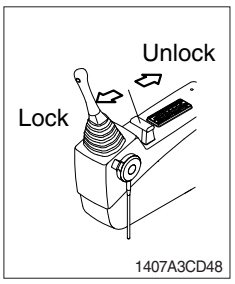
(1) All control levers and pedals are disabled from operation by locating the safety knob to the LOCK position as shown.

※ **Be sure to turn the safety knob to the LOCK position when entering or leaving the operators seat/cabin.**

(2) The machine is operational by turning the safety knob to the UNLOCK position.

※ **Do not use the safety bar for handle when getting on or off the machine.**

4) CONSOLE BOX TILTING LEVER



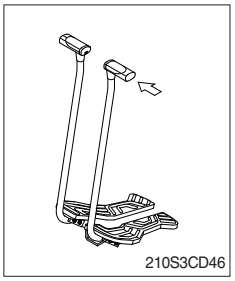
(1) All control levers and pedals are disabled from operation by locating the lever to lock position as shown.

※ **Be sure to tilt the lever to LOCK position when leaving from operator's seat.**

(2) By pulling lever to UNLOCK position, the machine is operational.

※ **Do not use the tilt lever for handle when getting on or off the machine.**

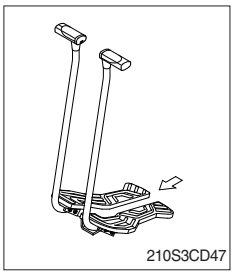
5) TRAVEL LEVER



(1) This lever is mounted on travel pedal and used for traveling by hand. The operation principle is same as the travel pedal.

(2) Refer to **traveling of machine** in chapter 4 for details.

6) TRAVEL PEDAL

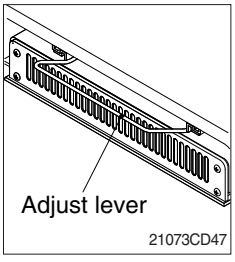


(1) This pedal is used to move the machine forward or backward.

(2) If left side pedal is pressed, left track will move.
If right side pedal is pressed, right track will move.

(3) Refer to **traveling of machine** in chapter 4 for details.

7) SEAT AND CONSOLE BOX ADJUST LEVER



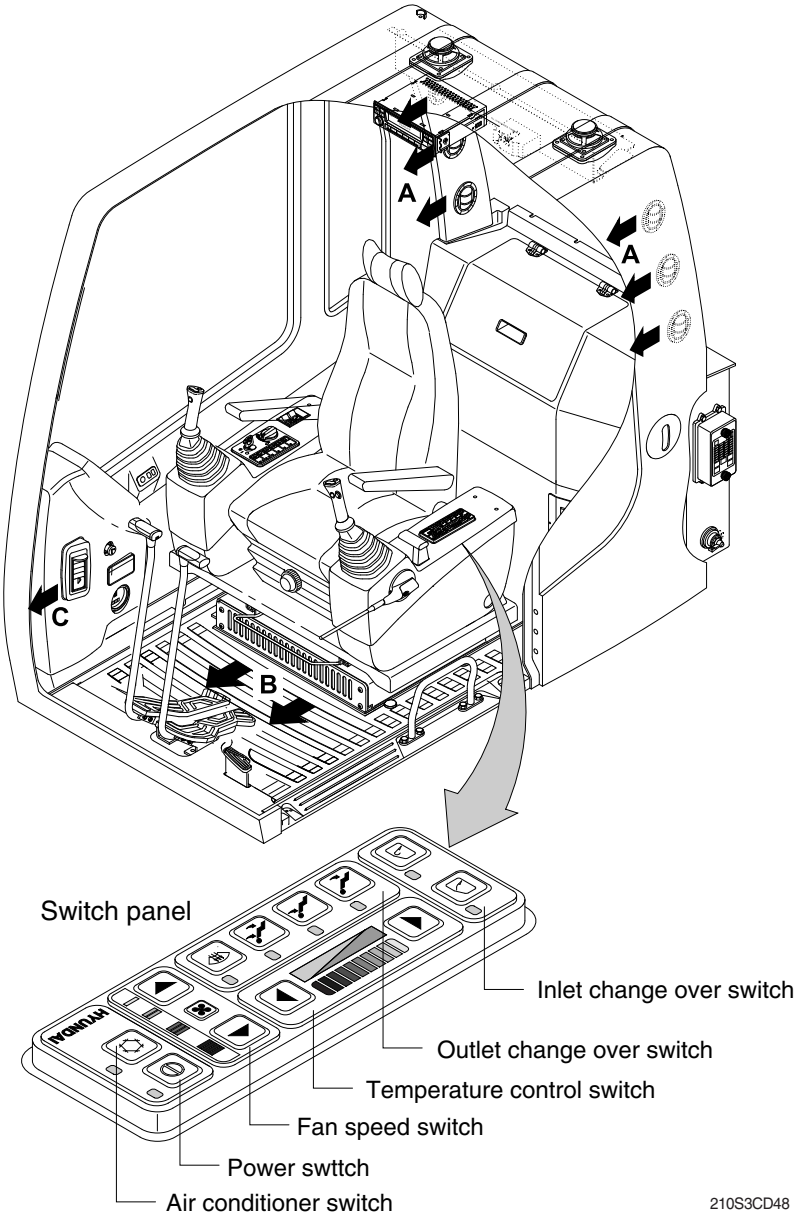
(1) This lever is used to move the seat and console box to fit the contours of the operator's body.

(2) Pull the lever to adjust forward or backward over 170 mm (6.7").

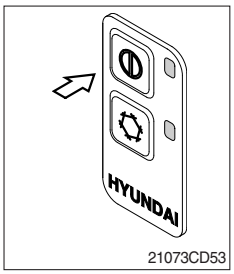
5. AIR CONDITIONER AND HEATER

Air conditioner and heater are equipped for pleasant operation against outside temperature and defrost on window glass.

· **Location of air flow ducts**



1) POWER SWITCH

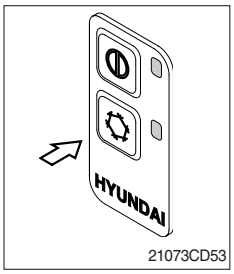


(1) This switch makes the system and the LED simultaneously ON or OFF.

※ **Default setting values**

Function	Air conditioner	Fan speed	Temperature	Outlet	Inlet
Max warm	OFF	1	Max cool	Face	Recirculation

2) AIR CONDITIONER SWITCH(Compressor switch)

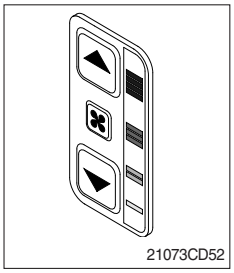


(1) Operating this switch turns the compressor and the LED simultaneously on or off.

(2) In accordance with the evaporator temperature, compressor turns on or off automatically without changing LED stare.

※ **Air conditioner operates to remove vapor and drains water through a drain hose. Water can be sprayed into the cab in case that the vacuum valve of drain hose has a problem.**
In this case, exchange the vacuum valve.

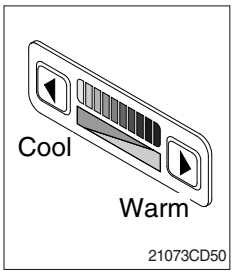
3) FAN SPEED SWITCH



(1) It is possible to control the fan to four steps.

(2) The first step or the fourth step gives 5 times beeps.

4) TEMPERATURE CONTROL SWITCH



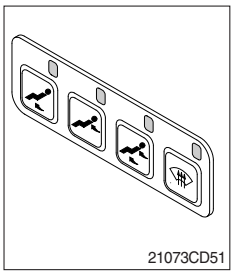
(1) There are 9 steps to control temperature from max cool to max warm controlled up and down by 1 step.

(2) Max cool and max warm arouse 5 times beeps.

(3) For the max warm or the max cool it's better to be configured as following table.

Temperature	Air conditioner	Fan speed	Outlet	Inlet
Max cool	ON	4	Face	Recirculation
Max warm	OFF	3	Foot	Fresh

5) OUTLET CHANGE OVER SWITCH



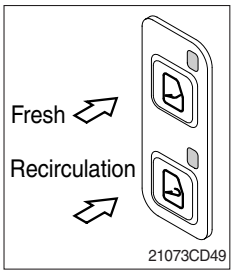
(1) There are four steps of air flow.

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.**

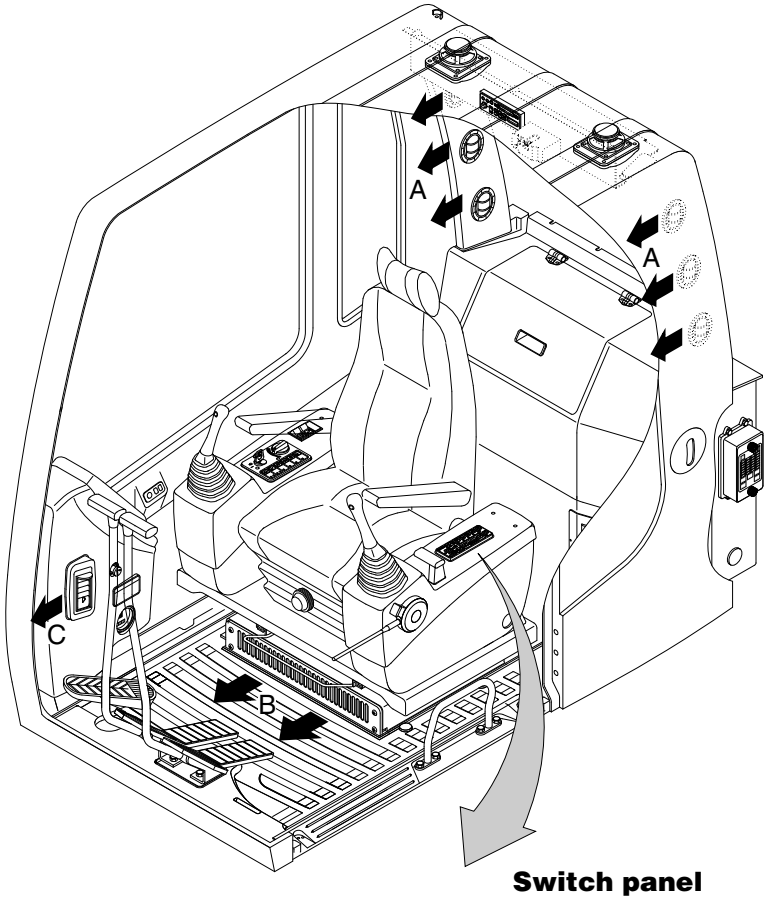
※ **Check out the recirculation filter periodically to keep a good efficiency.**

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

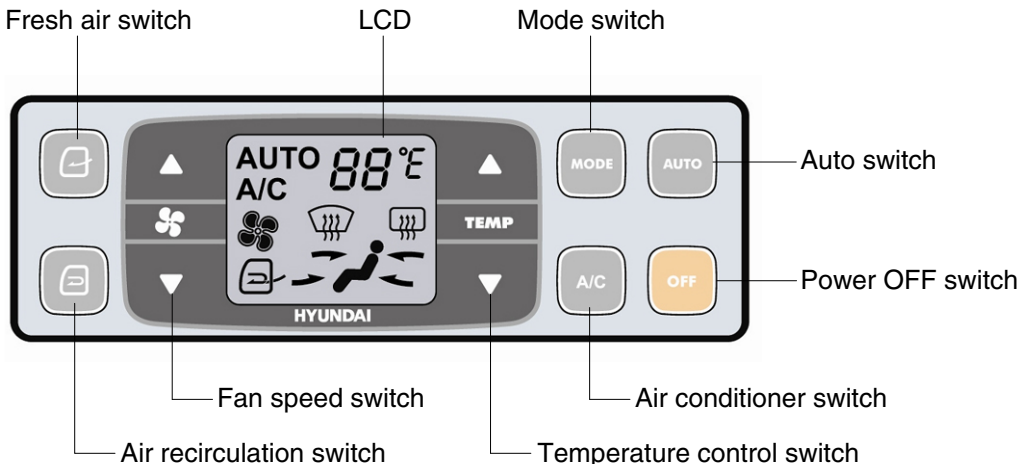
■ FULL AUTO AIR CONDITIONER AND HEATER (option)

Full auto air conditioner and heater system automatically keeps the optimum condition in accordance with operator's temperature configuration sensing ambient and cabin inside temperature.

· **Location of air flow ducts**



Switch panel



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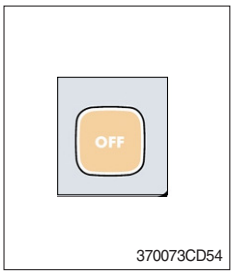
1) POWER OFF SWITCH

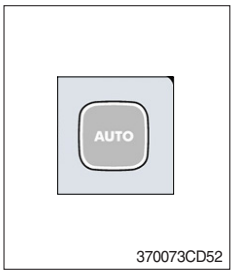


(1) This switch makes the system and the LED OFF.
Just before the power OFF, set values are stored.

(2) Default setting values

Function	Air conditioner	In/outlet	LCD	Temperature	Mode
Value	OFF	Inlet	OFF	Previous sw OFF	Previous sw OFF

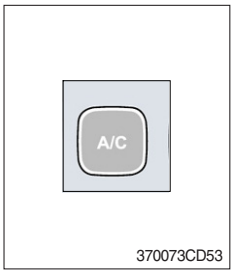
2) AUTO SWITCH



(1) Turn the starting switch to ON position, LCD lights ON.
Auto air conditioner and heater system automatically keeps the optimum condition in accordance with operator's temperature configuration sensing ambient and cabin inside temperature.

(2) This switch can restart system after system OFF.

3) AIR CONDITIONER SWITCH (compressor switch)

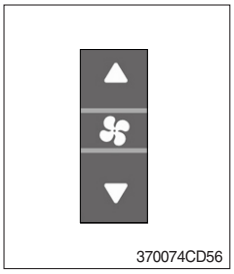


(1) This switch turns the compressor and the LCD ON.

(2) In accordance with the temperature sensed by duct (evaporator) sensor, compressor turns ON or OFF automatically.

※ Air conditioner operates to remove vapor and drains water through a drain hose. Water can be sprayed into the cab in case that the drain cock at the ending point of drain hose has a problem.
In this case, exchange the drain cock.

4) FAN SPEED SWITCH

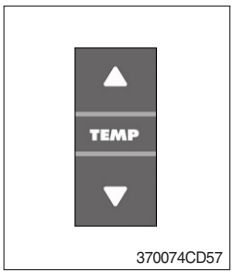


(1) Fan speed is controlled automatically by setted temperature.

(2) This switch controls fan speed manually.
- There are 8 up/down steps to control fan speed.
- The maximum step or the minimum step beeps 5 times.

(3) This switch makes the system ON.
▲ : First step (auto)
▼ : Firest step (manually)

5) TEMPERATURE CONTROL SWITCH



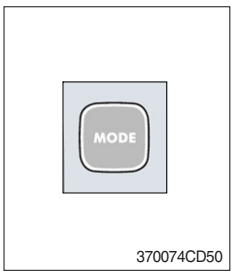
(1) Setting temperature indication (17~32˚C, scale : 1˚C)

(2) Max cool and max warm beeps 5 times.

(3) The max cool or the max warm position operates as following table.

Temperature	Compressor	Fan speed	In/Outlet	Mode
Max cool	ON	Max (Hi)	Recirculation	Vent
Max warm	OFF	Max (Hi)	Fresh	Foot

6) MODE SWITCH



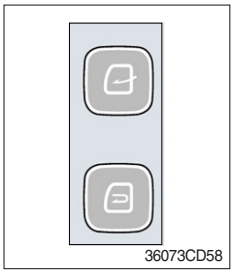
(1) Operating this switch, it beeps and displays symbol of each mode in order. (Vent → Vent/Foot → Foot → Def → Vent)

Mode switch		Vent	Vent/Foot	Foot	Foot/Def
Outlet	A	●	●		
	B		●	●	●
	C				●

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

(3) When this switch ON, the system operates with previous configuration.

7) FRESH AIR/AIR RECIRCULATION SWITCH



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

① **Fresh air ( )**

Inhaling air from the outside.

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

② **Air recirculation ( )**

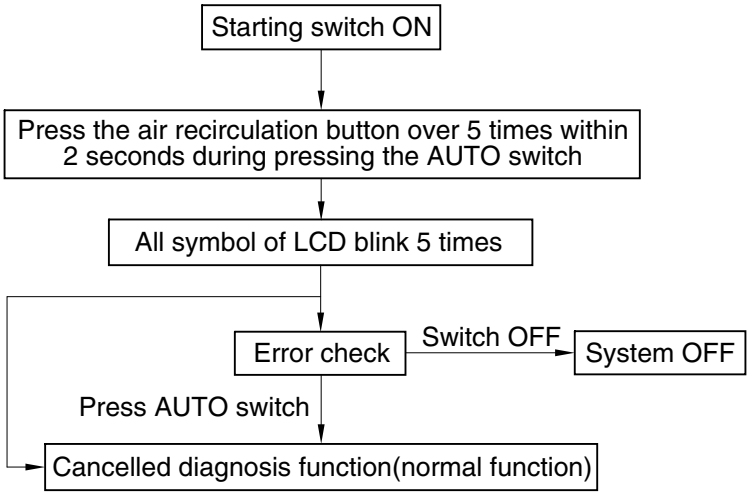
It recycles the heated or cooled air to increase the energy efficiency.

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

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

8) SELF DIAGNOSIS FUNCTION

(1) Procedure



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(2) Error check

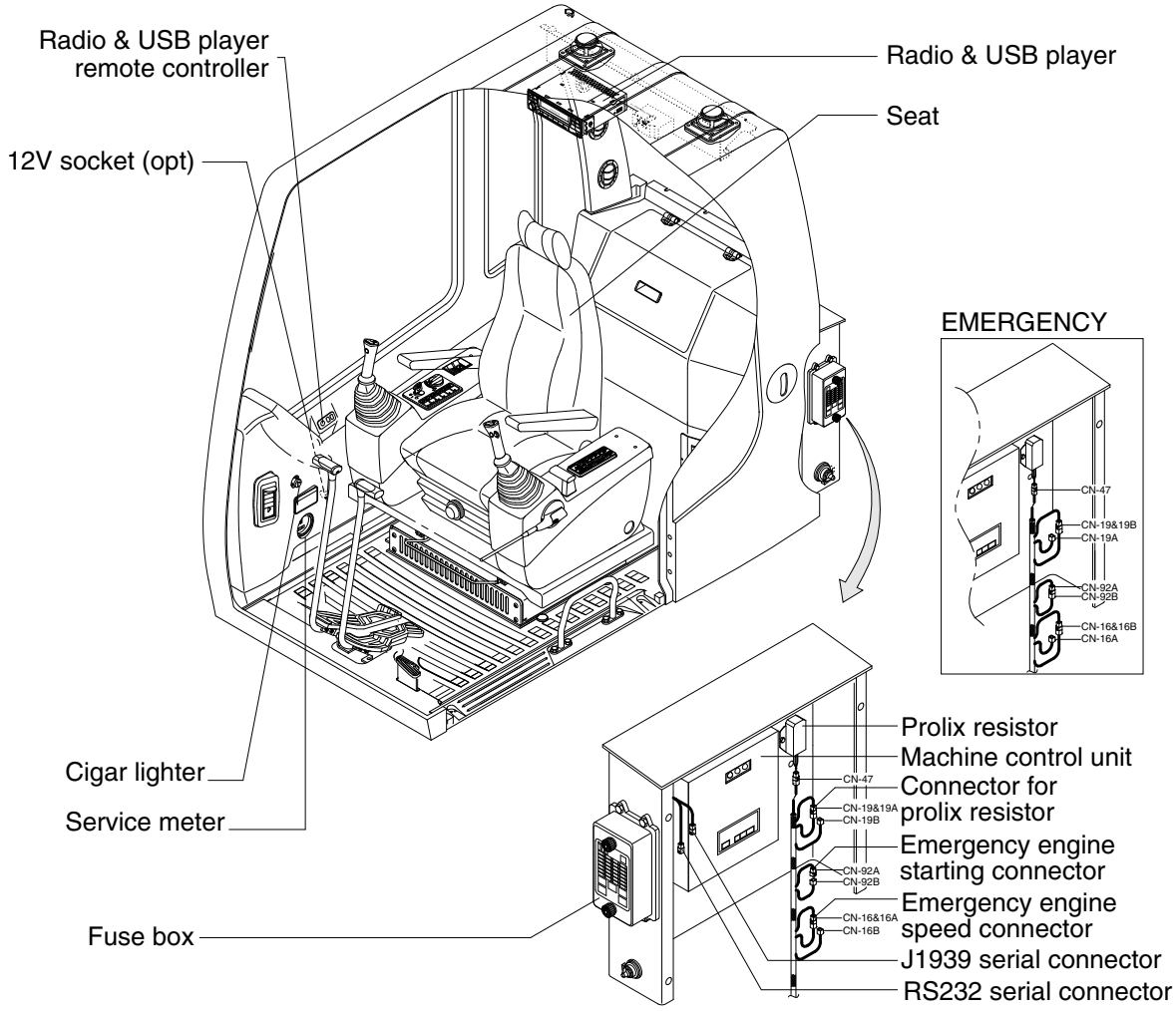
- The corresponding error code flickers on the setup temperature display panel, the other symbol bol will turn OFF.
- Error code flickers every 0.5 second.
- If error code is more than two, each code flickers 2 times in sequence.
- Error code

Error code	Description	Error code	Description
11	Ambient sensor	14	Duct (evaporator) sensor
12	Cabin inside sensor	15	Temp actuator
13	Coolant temp sensor	16	Mode actuator

(3) Fail safe function

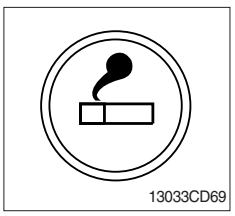
Error description	Fail safe function
Ambient sensor (11)	25˚C alternate value control
Cabin inside sensor (12)	20˚C alternate value control
Coolant temp sensor (12)	Moren than 10 minutes after engine start up, the alternate value is ON
Duct (evaporator) sensor (14)	1˚C alternate value control
Temp actuator (15)	If opening amount is 0 %, the alternate value is 0 %
	If not, the alternate value is 100 %
Mode actuator (16)	The alternate value is Vent

6. OTHERS



300SG3CD03

1) CIGAR LIGHTER



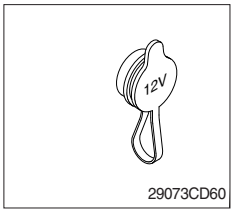
(1) This can be used when the engine starting switch is ON.

(2) The lighter can be used when it springs out in a short while after being pressed down.

※ Service socket

Use cigar lighter socket when you need emergency power.
Do not use the lighter exceeding 24V, 100W.

2) 12V SOCKET (option)



(1) Utilize the power of 12V as your need and do not exceed power of 12V, 30W.

3) RADIO AND USB PLAYER

9403CD101

■FRONT PANEL PRESENTATION

1 ····· Power ON/OFF, Volume UP/DOWN button

2 ····· Manual UP/DOWN Tuning, File search, SEL button

3 ····· Mode button, Audio mute button

4 ····· Radio seek up button

5 ····· Radio seek down button

6 ····· Station preset 1
DIS ····· Display button

7 ····· Station preset 2

8 ····· Station preset 3
RPT ····· Repeat play button

9 ····· Station preset 4
RDM ····· Random play button

10 ····· Station preset 5
DIR- ····· Directory down button

11 ····· Station preset 6
DIR+ ····· Directory up button

12 ····· Scan play button (SCAN)
Best station memory (BSM) button

13 ····· Track up button

14 ····· Track down button

15 ····· USB connector

16 ····· AUX IN Jack

■GENERAL

(1) Power and volume button

① Power ON / OFF button

Press power button (1) to turn the unit on or off.

② Volume UP/DOWN control knob

Turn VOL knob (1) right to increase the volume level.
Turn VOL knob (1) left to decrease the volume.
After 5 seconds the display will return to the previous display mode.

③ Initial volume level set up

I-VOL is the volume level the unit will play at when next turned on. To adjust the I-VOL level, press and hold VOL button (1) for longer than 2 seconds. The current volume level displays on the display panel.
Then turn button (1) right or left to set the volume level as the I-VOL level.

④ Clock ON/OFF control

The CLOCK was default at off status. To turn CLOCK ON, press and hold VOL button (1) for longer than 2 seconds to display I-VOL, then short press VOL again, turn VOL knob while CLOCK OFF display, then the CLOCK ON will be displayed.

※ Due to time tolerance, the clock display on the Audio unit might have little difference.

⑤ Clock adjustment

With CLOCK ON selected, press VOL knob again after CLOCK ON display, the hour will blink, turn VOL knob right or left to adjust hour.
Simply press VOL again, the minute will blink, turn VOL knob to adjust minute. Then press VOL again to confirm the clock once finished.

(2) Menu Selection

① This button can adjust the sound effect and other things.
Each time you press this button (2), LCD displays as follows :

BAS → TREB → BAL L=R → FAD F=R → EQ → LOUD ON → BEEP 2ND

On each setting, the level can be controlled by turning TUNE knob (2). When the last adjustment is made, after 5 seconds, the display will automatically return to the previous display mode.

② Bass control

To adjust the bass tone level, first select the bass mode by pressing SEL button (2) repeatedly until BASS appears on the display panel. Then turn knob (2) right or left within 5 seconds to adjust the bass level as desired. The bass level will be shown on the display panel from a minimum of BASS-7 to a maximum of BASS+7.

③ Treble control

To adjust the treble tone level, first select the treble mode by pressing SEL button (2) repeatedly until TREB appears on the display panel. Then turn knob (2) right or left within 5 seconds to adjust the treble level as desired. The treble level will be shown on the display panel from a minimum of TREB -7 to a maximum of TREB +7.

④ Balance control

To adjust the left-right speaker balance, first select the balance mode by pressing SEL button (2) repeatedly until BAL indication appears on the display panel. Then turn knob (2) right or left within 5 seconds to adjust the balance as desired. The balance position will be shown by the bars on the display panel from BAL 10R (full right) to BAL 10L (full left).

⑤ Fader control

To adjust the front-rear speaker balance, first select the fader mode by pressing SEL button (2) repeatedly until FADER indication appears on the display panel. Then turn knob (2) right or left within 5 seconds to adjust the front-rear speaker level as desired. The fader position will be shown by the bars on the display panel from FAD 10F (full front) to FAD 10R (full rear).

⑥ EQ control

You can select an equalizer curve for 4 music types (CLASSIC, POP, ROCK, JAZZ). Press button (2) until EQ is displayed, then turn knob (2) right or left to select the desired equalizer curve. Each time you turn the knob, LCD displays as follows :

EQ OFF → CLASSIC → POP → ROCK → JAZZ

※ When the EQ mode is activated, the BASS and TREBLE modes are not displayed.

⑦ **Loud control**

When listening to music at low volume levels, this feature will boost the bass and treble response. This action will compensate for the reduction in bass and treble performance experienced at low volume.

To select the loudness feature, press button (2) until LOUD is displayed, then turn knob (2) right or left to activate or deactivate loudness.

⑧ **Beep control**

To adjust the BEEP mode, first select the BEEP mode by pressing button (2) repeatedly until BEEP indication appears on the display panel. Then turn knob (2) left or right within 5 seconds to select BEEP 2ND, BEEP OFF or BEEP ON.

- BEEP 2ND : You will only hear the beep sound when the buttons are held down for more than 2 seconds.
- BEEP OFF : You can not hear the sound beep when you press the buttons.
- BEEP ON : You can hear the beep sound each time you press the buttons.

(3) Mute control

① Press and hold MUTE button (3) for over 2 seconds to mute sound output and MUTE ON will blink on the LCD. Press the button again to cancel MUTE function and resume to normal playing mode.

(4) Mode selection

① Repeat press MODE button (3) to switch between FM1, FM2, AM, USB, AUX, BT MUSIC.

※ If there is no USB, AUX, Bluetooth Phone connected, it would not display USB, AUX, BT when you press button (3).

■RADIO

(1) Mode button

① Repeat press MODE button to select FM1, FM2 or AM.

(2) Manual tuning button

① To manually tune to a radio station, simply turn encoder TUNE (2) left or right to increase or decrease the radio frequency.

(3) Auto tuning button

① To automatically select a radio station, simply press Seek up or Track down button.

(4) Station preset button

① In radio mode, pressing buttons (6) to (11) will recall the radio stations that are memorized. To store desired stations into any of the 6 preset memories, in either the AM or FM bands, use the following procedure :

a. Select the desired station.
b. Press and hold one of the preset buttons for more than 2 seconds to store the current station into preset memory. Six stations can be memorized on each of FM1, FM2, and AM.

(5) Preset scan (PS) / Best station memory (BSM) button

① Press BSM button (12) momentarily to scan the 6 preset stations stored in the selected band. When you hear your desired station, press it again to listen to it.
Press BSM button (12) for longer than 2 seconds to activate the Best Station Memory feature which will automatically scan and enter each station into memory.

※ If you have already set the preset memories to your favorite stations, activating the BSM tuning feature will erase those stations and enter into the new ones. This BSM feature is most useful when travelling in a new area where you are not familiar with the local stations.

■USB PLAYER

(1) USB playback


9403CD110

① The unit was equipped with a front USB jack and also a rear USB Jack.
With a USB device plugged in the front USB jack, it will be detected as front USB mode. And with a USB device plugged in the rear USB jack, it will be detected as rear USB. To get to a USB mode, press MODE (3) button momentarily or insert the USB device in front or rear USB jack.

※ If no mp3 or wma files in USB device, it will convert to the previous mode after display NO FILE.

(2) Track Up / Down button

9403CD106

① Press SEEK up (13) or TRACK down (14) to select the next or previous track. Press and hold the buttons to advance the track rapidly in the forward or backward direction.

9403CD107

(3) MP3 directory / File searching

9403CD111

① Button (2) is used to select a particular directory and file in the device. Turn button (2) right or left to display the available directories. Press button (2) momentarily when the desired directory is displayed, then turn button (2) right or left again to display the tracks in that directory. Press button (2) to begin playback when the desired file is displayed.

(4) Directory Up / Down button

9403CD112

① During MP3/WMA playback, simply press DIR- button (10) to select the previous directory (if available in the device); simply press DIR+ button (11) to select the next directory (if available in the device).

※ If the USB device does not contain directories, it would play MP3/WMA tracks at 10- file when you press DIR- button (10), and play MP3/WMA tracks at 10+ file when you press DIR+ (11) button.

(5) Track Scan Play (SCAN) button

- SCAN playback : Simply press SCAN (12) button to play the first 10 seconds of each track.
- SCAN folder : Press and hold SCAN button for longer than 2 seconds to scan play the tracks in current folder.
- SCAN off : Simply press it again to cancel SCAN feature.

(6) Track Repeat Play (RPT) button

- REPEAT playback : Simply press RPT (8) button to play current track repeatedly.
- REPEAT folder : Press and hold RPT for longer than 2 seconds to repeat play the tracks in current folder.
- REPEAT off : Simply press it again to cancel REPEAT feature.

(7) Track Random Play (RDM) button

- RANDOM playback : Simply press RDM (9) button to play the tracks in the device in a random sequence.
- RANDOM folder : Press and hold RDM button for longer than 2 seconds to random play the tracks in current folder.
- RANDOM off : Simply press it again to cancel RANDOM feature.

(8) ID3 v2 (DISP)

① While a MP3 file is playing, press DISP button (6) to display ID3 information. Repeat push DISP button (6) to show directory name / file name and album name / performer / title.

※ If the MP3 disc does not have any ID3 information, it will show NO ID3.

* USB Information and Notice

a. Playback FILE SYSTEM and condition allowance.
   - FAT, FAT12, FAT16 and FAT32 in the file system.
   - V1.1, V2.2 and V2.3 in the TAG (ID3) version.

b. Display up to 32 characters in the LCD display.

c. No support any of MULTI-CAED Reader.

d. No high speed playback but only playing with normal full speed.

※ DRM files in the USB may cause malfunction to playback in the radio unit.

※ The temperature below -10 Celsius, the audio unit with USB hook up would be affected to play well.

■AUX OPERATION

It is possible to connect your portable media player to the audio system for playback of the audio tracks via the cab speakers.

To get the best results when connecting the portable media to the audio system, follow these steps :

- Use a 3.5 mm stereo plug cable to connect the media player headphone socket at each end as follows.
- Adjust the portable media player to approximately 3/4 volume and start playback.
- Press the MODE button (3) on the audio unit to change into AUX mode.
- The volume and tone can now be adjusted on the audio unit to the desired level.

※ The audio quality of your media player and the audio tracks on it may not be of the same sound quality as the audio system is CD Player.

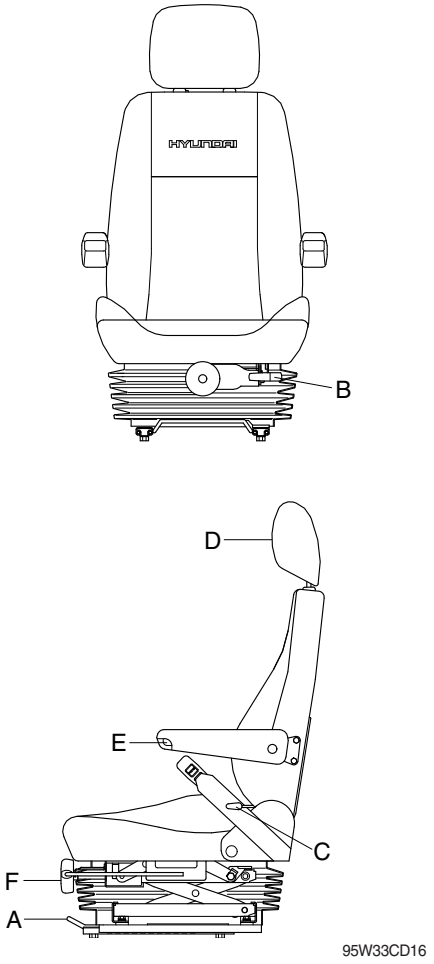
※ If the sound of the media player is too low compared with the radio or CD, increase the volume of the player.

※ If the sound of the media player is too loud and/or distorted, decrease the volume of the player.

※ When in AUX mode, only the Volume, Bass, Treble, EQ and Mode functions of the audio unit can be used.

4) SEAT

The seat is adjustable to fit the contours of the operator's body. It will reduce operator fatigue due to long work hours and enhance work efficiency.



(1) Forward/Backward adjustment (A)

① Pull lever A to adjust seat forward or backward.

② The seat can be moved forward and backward over 170 mm (6.7") in 13 steps.

(2) Upward/Downward adjustment (B)

① Pull lever B to adjust seat upward or downward.

② Forward or backward side adjustment only can be made, tilting to one side, by moving lever B respectively.

(3) Reclining adjustment (C)

Pull lever C to adjust seat back rest.

(4) Arm rest adjustment (E)

This can be adjusted by pushing the button E to right and left.

(5) Head rest adjustment (D)

This is adjustable vertically to fit operator's requirements.

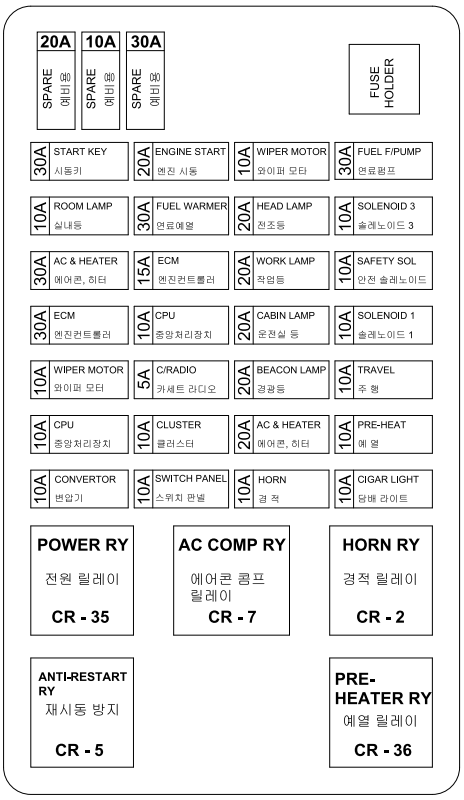
(6) Cushion adjustment (F)

Adjust the handle to the operator's weight.

⚠ Always check the condition of the seat belt and mounting hardware before operating the machine.

⚠ Replace the seat belt at least once every three years, regardless of appearance.

5) FUSE BOX



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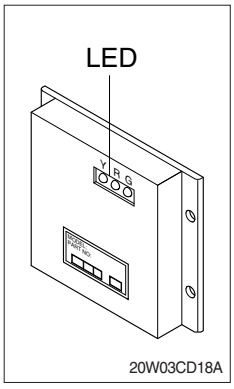
(1) The fuses protect the electrical parts and wiring from burning out.

(2) The fuse box cover indicates the capacity of each fuse and circuit it protects.

※ **Replace a fuse with another of the same capacity.**

⚠ **Before replacing a fuse, be sure to turn OFF the starting switch.**

6) MCU (machine control unit)



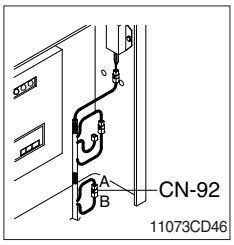
(1) To match the engine torque with the pump absorption torque, MCU controller varies EPPR valve output pressure, which control pump discharge amount whenever feedbacked engine speed drops under the reference rpm of each mode set.

(2) Three LED lamps on the MCU display as below.

LED lamp	Trouble	Service
G is turned ON	Normal	-
G and R are turned ON	Trouble on MCU or ROM	· Change the controller
G and Y are turned ON	Trouble on serial communication line	· Check if serial communication lines between MCU and cluster are connected
Three LED are turned OFF	Trouble on MCU power	· Check if the input power wire (24V, GND) of MCU is disconnected · Check the fuse

G : green, R : red, Y : yellow

7) EMERGENCY ENGINE STARTING CONNECTOR

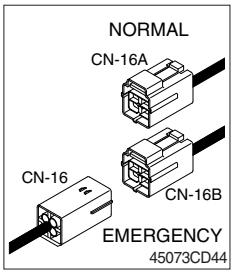


(1) If the MCU controller is removed, the engine does not strat.

(2) Befor staring the engine, connector CN-92 A with B.

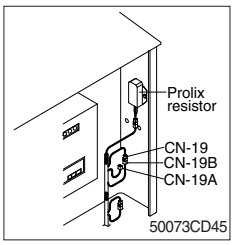
※ Do not connect these connectors when the MCU is not removed.

8) EMERGENCY ENGINE SPEED CONTROL



(1) When the CAN commucation between the ECM and the MCU controller is abnormal due to malfunction of the MCU controller, change CN-16 connection from CN-16A to CN-16B and then control the engine speed by rotating accel dial switch.

9) PROLIX RESISTOR



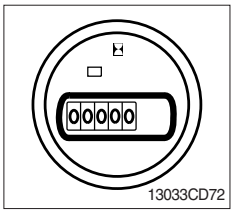
(1) This resistor is used to continuous working in case of malfunction of the MCU.

※ Never connect connector CN-19 with connector CN-19B when MCU is in normal operation.

· Normal : CN-19 connect with connector CN-19A

· Emergency : CN-19 connect with connector CN-19B

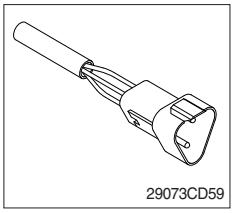
10) SERVICE METER



(1) This meter shows the total operation hours of the machine.

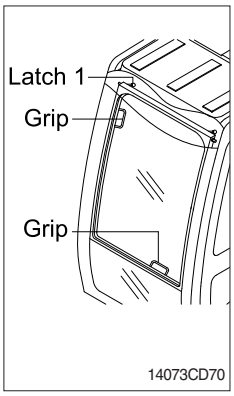
(2) Always ensure the operating condition of the meter during the machine operation. Inspect and service the machine based on hours as indicated in chapter 6, maintenance.

11) RS232 SERIAL CONNECTOR



(1) MCU communicates the machine data with Lap top computer through RS232 connector.

12) UPPER WINDSHIELD



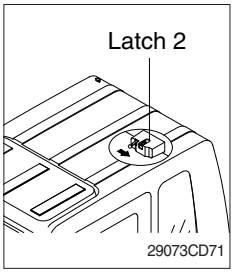
(1) Perform the following procedure in order to open the upper windshield.

① Release both latches(1) in order to release the upper windshield.

② Hold both grips that are located at the bottom of the windshield frame and at the top of the windshield frame push the windshield upward.

③ Hold both grips that are provided on the windshield frame and back into the storage position until auto lock latch(2) is engaged, move the levers of both latches(1) into the locked position. Push the levers toward the rear of the cab in order to hold the windshield in storage position.

⚠ When working, without having locked the windshield by the auto lock (by pushing the windshield to the rear untill it's completely fixed), please be careful as it can cause personal injury if the windshield is not fixed or falls off.



(2) Perform the following procedure in order to close the upper windshield.

① Move the lever of the auto lock latch(2) in the direction of the arrow in order to release the auto lock latch.

② Reverse step ① through step ③ in order to close the upper windshield.