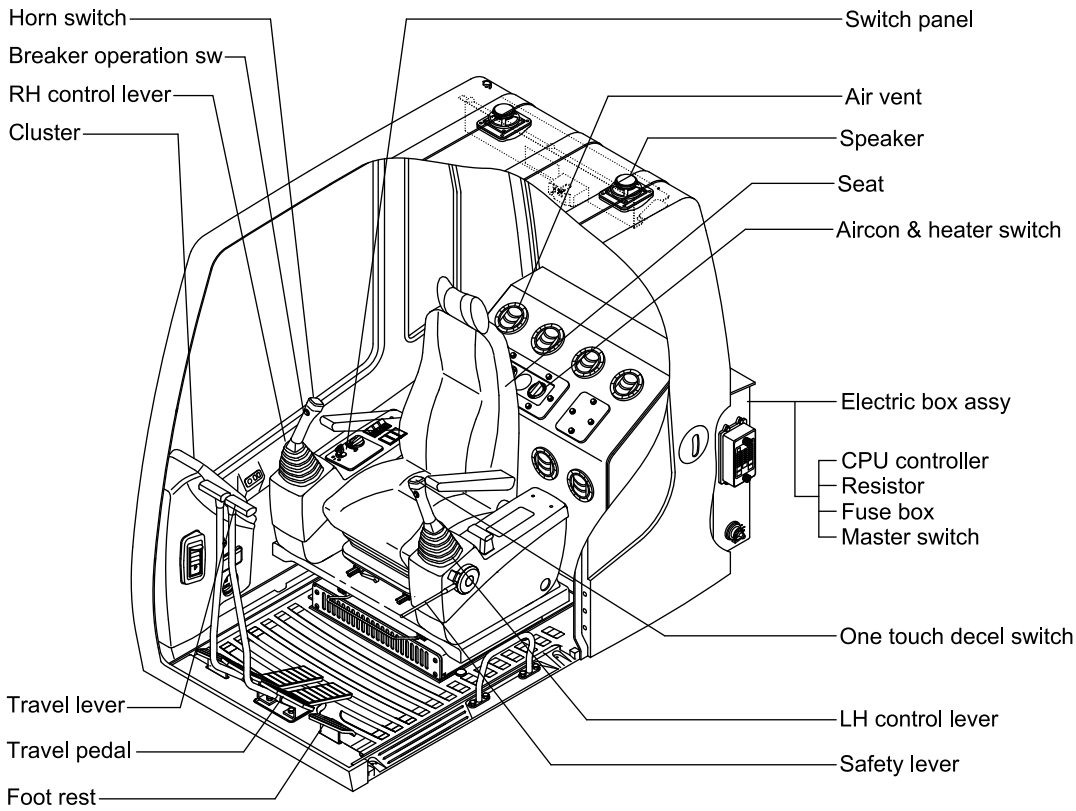
1. CAB DEVICES

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.



RD21073CD01

2. CLUSTER

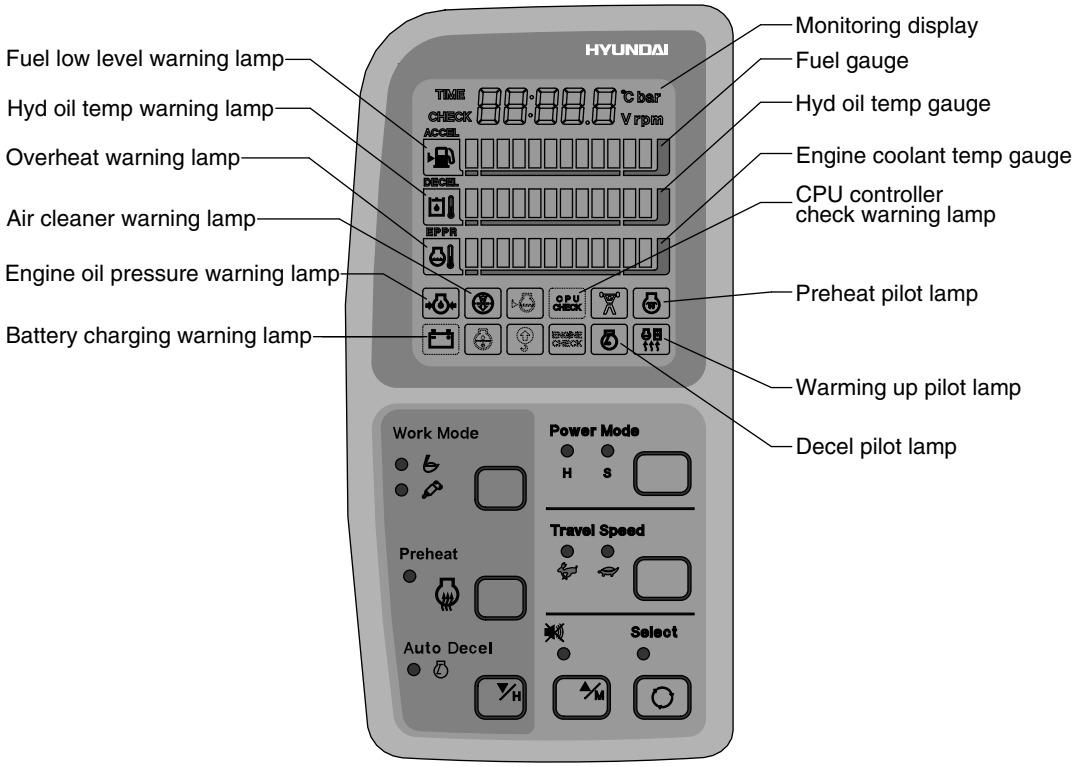
1) MONITOR PANEL

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

- Gauges : 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.**

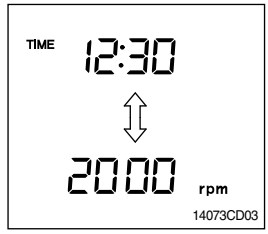
※ **When the monitor provides a warning immediately check the problem, and perform the required action.**



RD21073CD02

※ **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.**

(1) Monitoring display



① This displays the current time and machine information such as engine rpm, coolant/hydraulic oil temperature, hydraulic oil pressure and also error codes.

※ **Refer to the page 4-10 for details.**

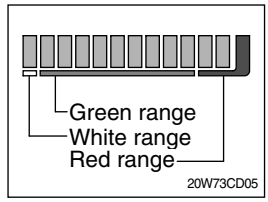
(2) Fuel gauge

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

② Fill the fuel when the white range or warning lamp blinks.

※ **If the gauge illuminates the white range or warning lamp blinks 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.**

(3) Hydraulic oil temperature gauge



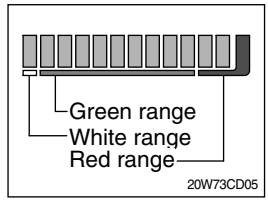
① This indicates the temperature of coolant.
- White range : Below 30℃(86℉)
- Green range : 30-105 ℃(86-221℉)
- Red range : Above 105℃(221℉)

② The green range illuminates when operating.

③ Keep idling engine at low speed until the green range illuminates before operation of machine.

④ When the red range illuminates, reduce the load on the system. If the gauge stays in the red range, stop the machine and check the cause of the problem.

(4) Engine coolant temperature gauge



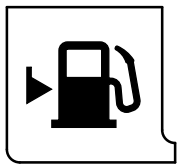
① This indicates the temperature of coolant.
- White range : Below 30℃(86℉)
- Green range : 30-105 ℃(86-221℉)
- Red range : Above 105℃(221℉)

② The green range illuminates when operating.

③ Keep idling engine at low speed until the green range illuminates before operation of machine.

④ When the red range illuminates, turn OFF the engine, check the radiator and engine.

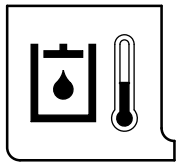
(5) Fuel low level warning lamp



21073CD04A

① This lamp blinks and the buzzer sounds when the level of fuel is below 31 ℓ (8.2U.S. gal).
② Fill the fuel immediately when the lamp blinks.

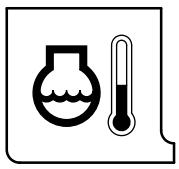
(6) Hydraulic oil temperature warning lamp



21073CD05A

① This warning lamp operates and the buzzer sounds when the temperature of hydraulic oil is over 105 ℃(221 ℉) .
② Check the hydraulic oil level when the lamp blinks.
③ Check for debris between oil cooler and radiator.

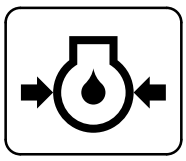
(7) Overheat warning lamp



21073CD06A

① This lamp blinks and the buzzer sounds when the temperature of coolant is over the normal temperature 110℃(230℉) .
② Check the cooling system when the lamp blinks.

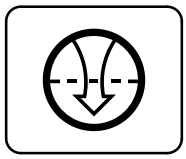
(8) Engine oil pressure warning lamp



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.

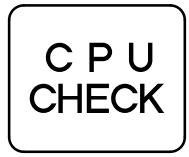
(9) Air cleaner warning lamp



21073CD08

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.

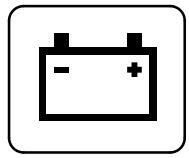
(10) CPU controller check warning lamp



21073CD10

① Communication problem between CPU controller and cluster makes the lamp blinks and the buzzer sounds.
② Check if any fuse for CPU burnt off.
③ If not check the communication line between them.

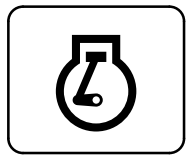
(11) Battery charging warning lamp



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.

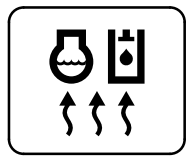
(12) Decel pilot lamp



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.

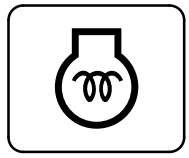
(13) Warming up pilot lamp



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.

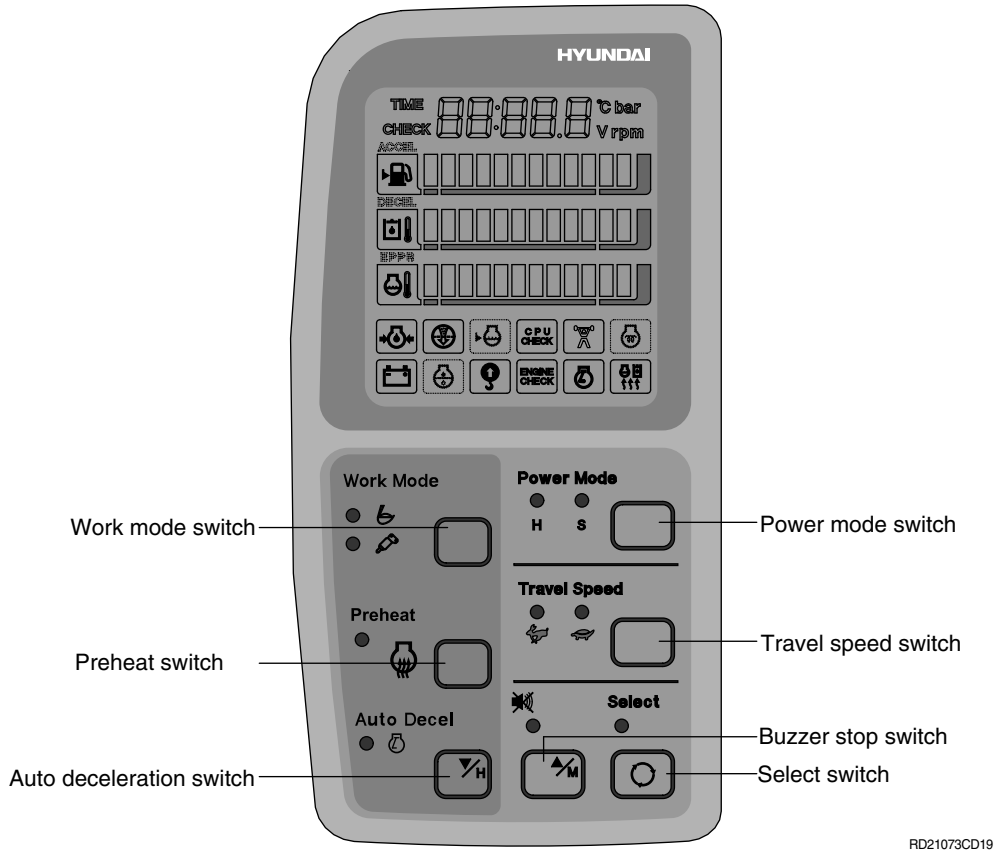
(14) Preheat pilot lamp



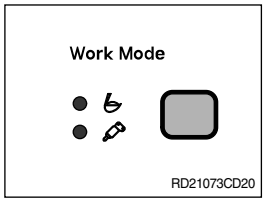
21073CD12

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

2) SWITCH PANEL



(1) Work mode switch

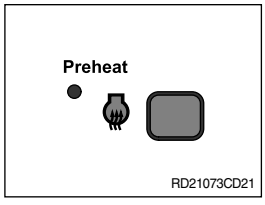


① This switch is to select the machine operation mode, which shifts from general operation mode to breaker mode by pressing the switch.

- : General work mode
- : Breaker operation mode

※ **Refer to the page 4-7 for details.**

(2) Preheat switch

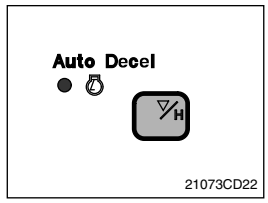


① This switch is used for starting the engine in cold weather.
If pressed, grid heater is activated to get easier engine starting.

※ **Never hold the push button switch in for more than 30 seconds, as this can damage the grid heater.**

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

(3) Auto deceleration switch



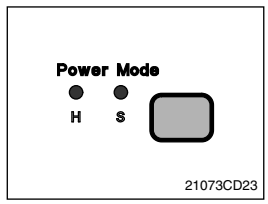
① This switch is used to actuate or cancel the auto deceleration function.

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 : Auto deceleration function is cancelled so that the engine speed increased to previous setting value.

③ Operating the auto deceleration function makes the decel indicating lamp on the LCD panel ON.

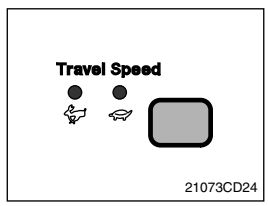
(4) Power mode switch



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

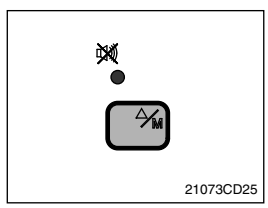
- H : High power work.
- S : Standard power work.

(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 it again.

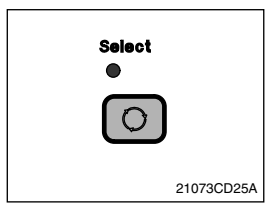
(6) Buzzer stop switch



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



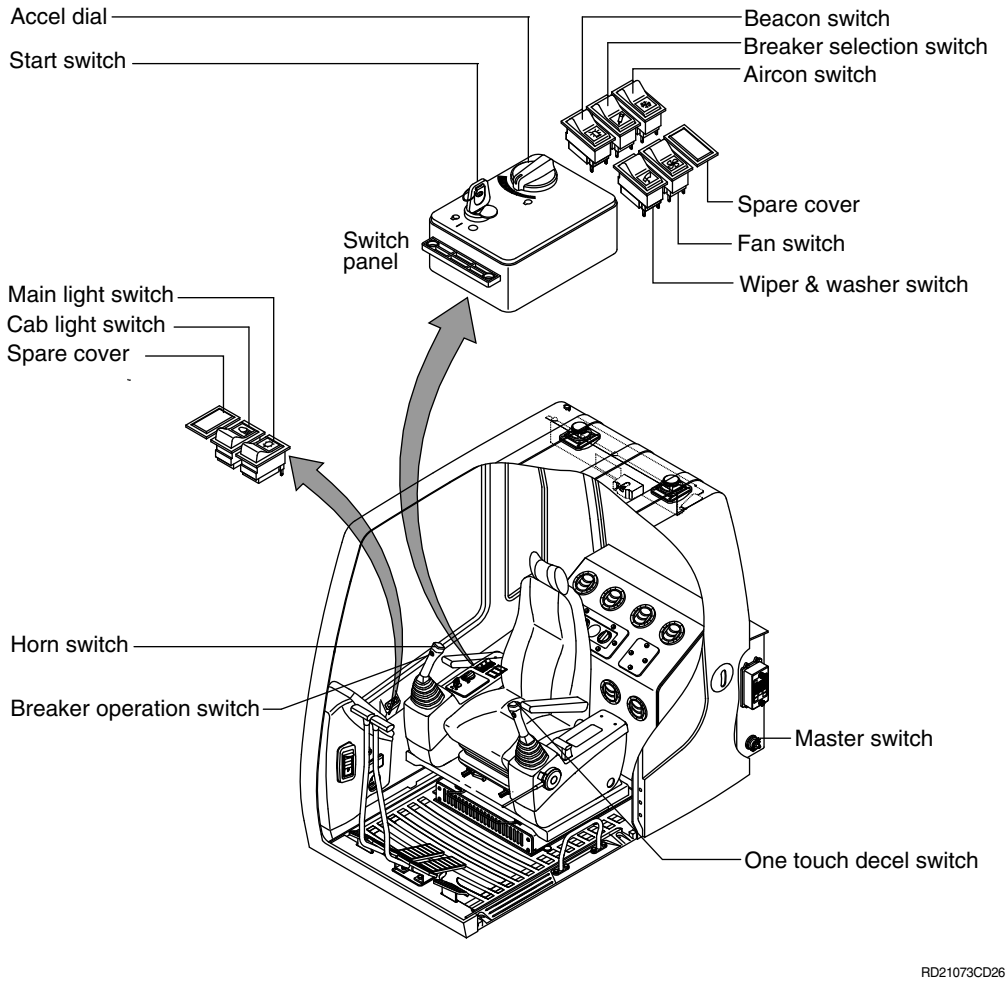
① This switch is used to select the monitor display function.

※ **Refer to the page 4-10 for details.**

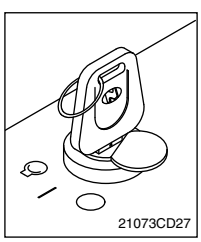
② If the switch is pressed for 3 seconds in time display mode, it moves to time adjusting function, and you can adjust the time as below.

- Hour by auto decel(▭)switch
- Minute by buzzer stop(▭) switch.

③ After time set, the switch is pressed, it returns to clock display.



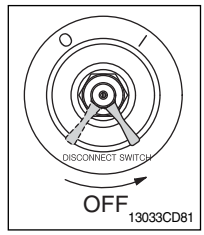
1) STARTING SWITCH



(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.

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

2) MASTER SWITCH

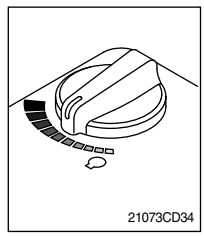


(1) This switch is used to shut off the entire electrical system.

(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. It could result in engine and electrical system damage .**

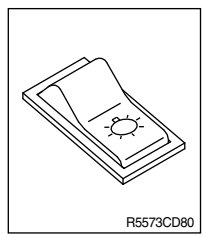
3) ACCEL DIAL SWITCH



(1) There are 10 dial setting.

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

4) MAIN LIGHT SWITCH

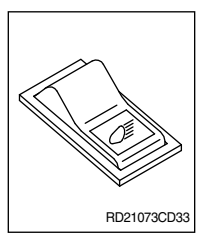


(1) This switch use to operates the head light and work light by two step.
- First step : Head light and cluster illumination lamp comes ON.
- Second step : Work light comes ON. Also, the below indicator lamp comes ON.

5) WIPER AND WASHER SWITCH

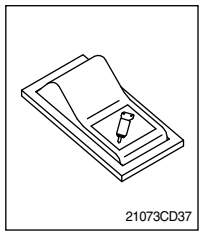
(1) The switch use to operates the wiper and washer by two step.
- First step : The wiper operates.
- Second step : The washer liquid is sprayed and the wiper is operated only while pressing. If release the switch, return to the first step position.

6) CAB LIGHT SWITCH



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

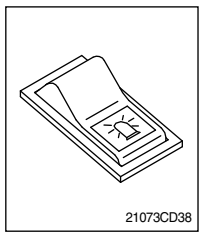
7) BREAKER SELECTION SWITCH(Option)



(1) This switch is used to select breaker.

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

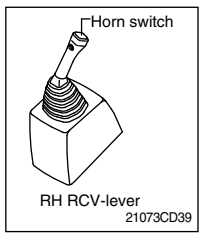
8) BEACON SWITCH(Option)



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

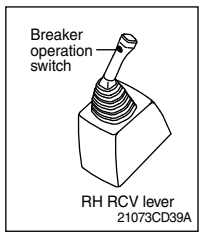
(2) The below indicator lamp is turned ON when operating this switch.

9) HORN SWITCH



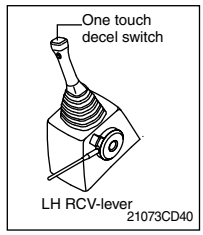
(1) This switch is at the top of right side control lever.
On pressing, the horn sounds.

10) BREAKER OPERATION SWITCH



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

11) 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.

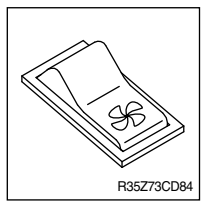
12) AIR CONDITIONER SWITCH(Compressor switch)

(1) This switch turn on air conditioner compressor when the blower switch is act.

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

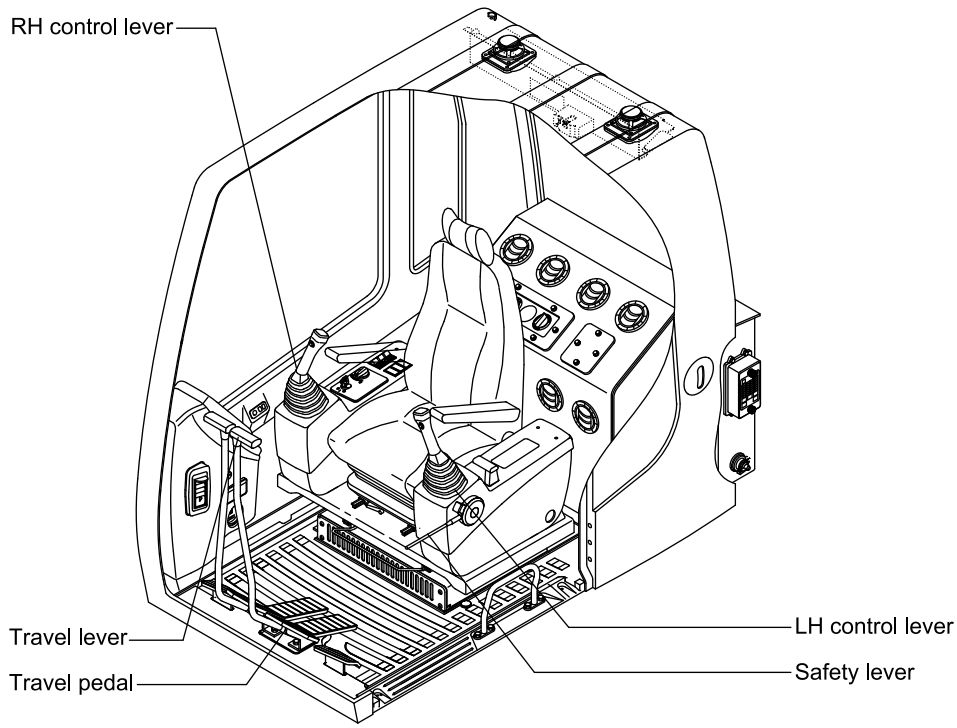
※ **Air conditioner operates to remove vapor and drain water through a drain hose. Water can be sprayed into the cab in case that the vacuum valve of drain hose has a problem.**
In this case, exchange the vacuum valve.

13) FAN SWITCH



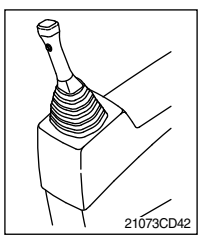
(1) This switch is used to operate fan.

4. LEVERS AND PEDALS



RD21073CD41

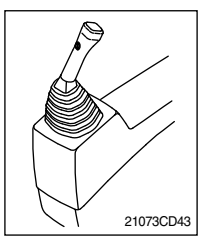
1) LH CONTROL LEVER



(1) This joystick is used to control the swing and the arm.

(2) Refer to **operation of working device** in chapter 4 for details.

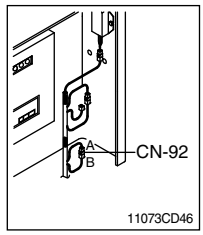
2) RH CONTROL LEVER



(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) EMERGENCY ENGINE STARTING CONNECTOR

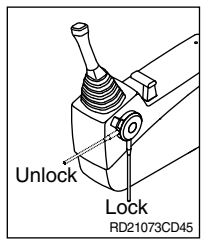


(1) If the CPU controller is removed, the engine does not start.

(2) Before starting the engine, connect the connector CN-92 A with B.

※ **Do not connect these connectors when the CPU is not removed.**

4) SAFETY LEVER



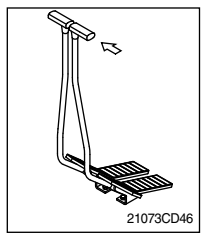
(1) All control levers and pedals are disabled from operation by locating the lever to lock position as shown.

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

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

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

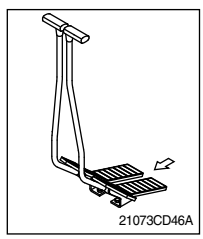
5) TRAVEL LEVER



(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 the machine** in chapter 4 for details.

6) TRAVEL PEDAL

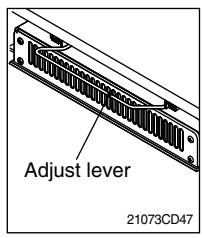


(1) This pedal is used to move the machine forward or backward.

(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



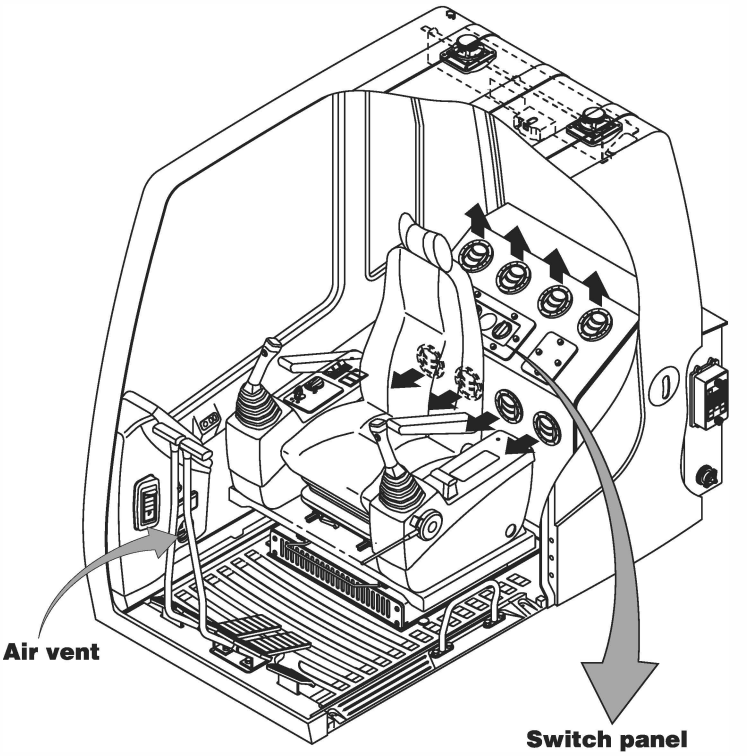
(1) This lever is used to move the seat and console box to fit the contours of the operator's body.

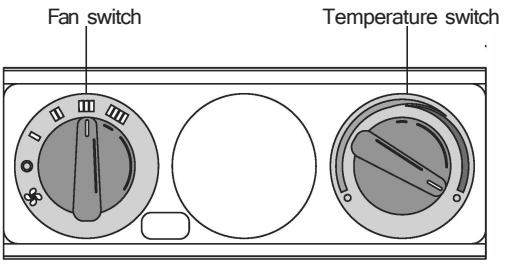
(2) Pull the lever to adjust forward or backward over 170mm(6.7").

5. AIR CONDITIONER AND HEATER

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

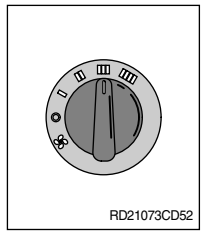
•Location of air flow ducts





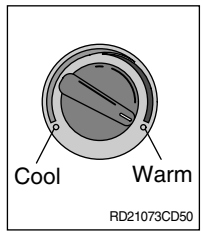
RD21073CD48

1) FAN SWITCH



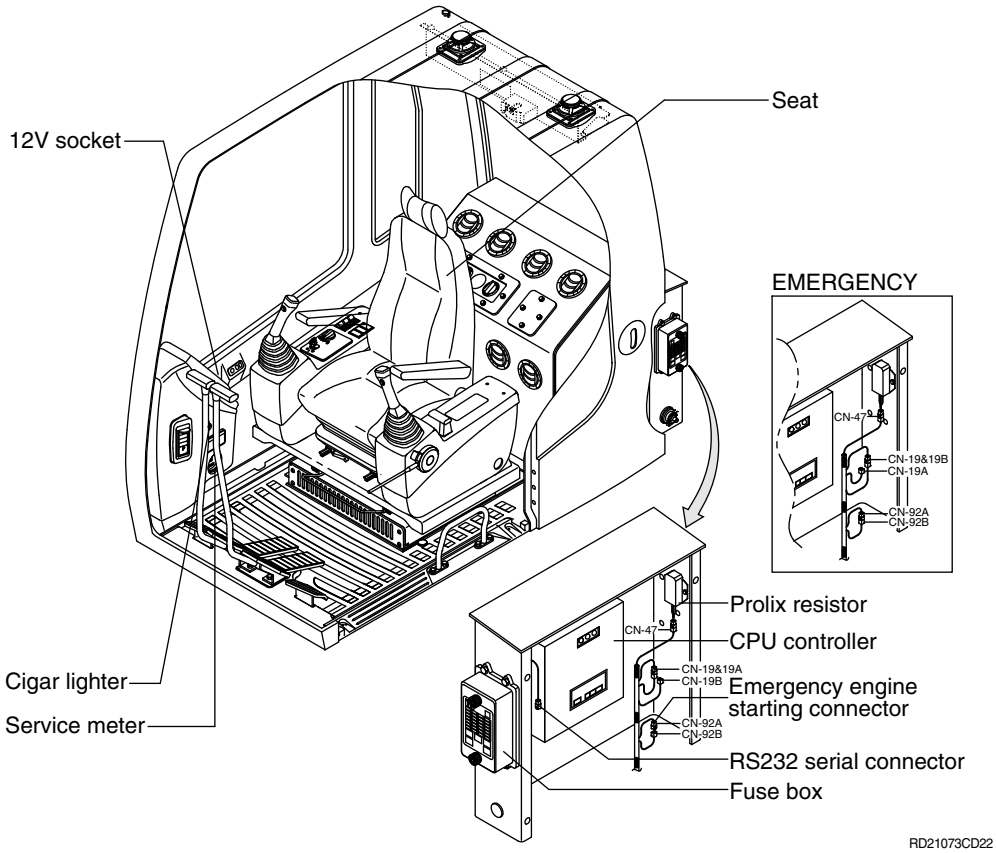
(1) It is possible to control the fan speed as four steps.
- Turn to right : Fan speed increases
- Turn to left : Fan speed decreases

2) TEMPERATURE SWITCH

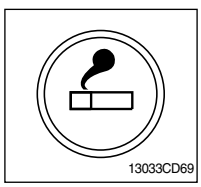


(1) It is possible to control the temperature inside of cab.
- Turn to right : Temperature increases
- Turn to left : Temperature decreases

6. OTHERS



1) CIGAR LIGHTER



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

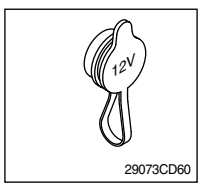
(2) The lighter can be used when it springs out in a short while after being pressed down.

※ **Service socket**

Use cigar lighter socket when you need emergency power.

Do not use the lighter exceeding 24V, 100W.

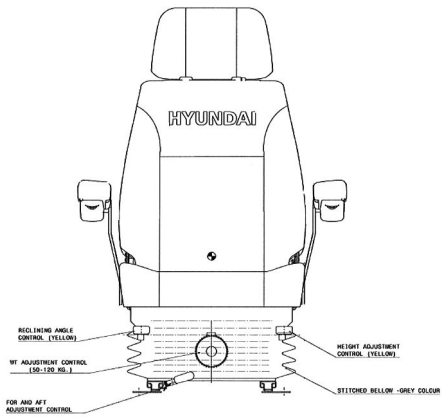
2) 12V SOCKET(Option)



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

3) 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

① Pull lever A to adjust seat forward or backward.

② The seat can be moved forward and backward over 140mm(5.5") in 7 steps.

(2) Reclining adjustment

Pull lever B to adjust seat back rest.

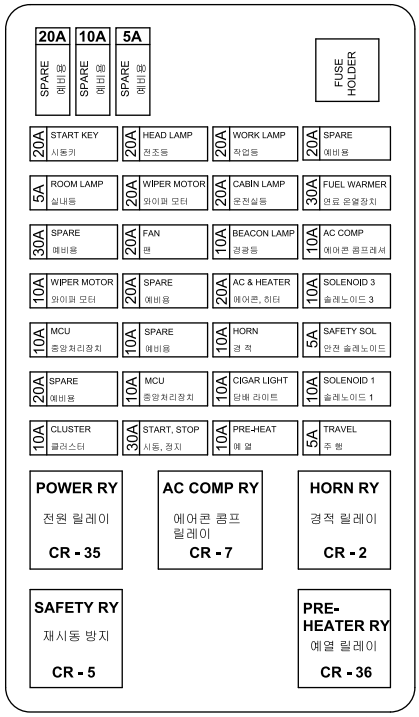
(3) Height adjustment

Height adjustment travels for 60mm distance.

(4) Weight adjustment

Weight adjusts between 50kg - 120kg range.

4) FUSE BOX



RD21073CD55

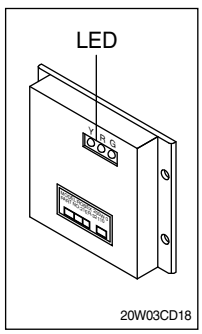
(1) The fuses protect the electrical parts and wiring from burning out.

(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.**

5) CPU CONTROLLER



20W03CD18

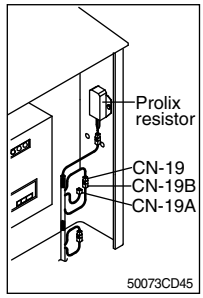
(1) To match the engine torque with the pump absorption torque, CPU controller varies EPPR valve output pressure, which control pump discharge amount whenever feedbacked engine speed drops under the reference rpm of each mode set.

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

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

G : green, R : red, Y : yellow

6) PROLIX RESISTOR(Option)

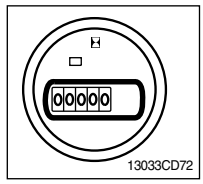


(1) This resistor is used to continuous working in case of malfunction of the CPU controller.

※ **Never connect connector CN-19 with connector CN-19B when CPU controller is in normal operation.**

- **Normal** : CN-19 connect with connector CN-19A
- **Emergency** : CN-19 connect with connector CN-19B

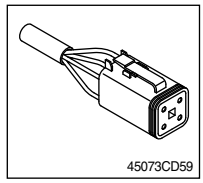
7) SERVICE METER



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

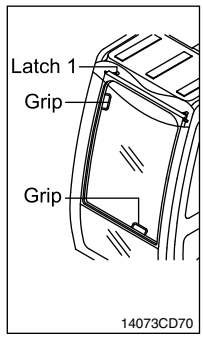
(2) Always ensure the operating condition of the meter during the machine operation. Inspect and service the machine based on hours as indicated in chapter 6, **maintenance.**

8) RS232 SERIAL CONNECTOR



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

9) UPPER WINDSHIELD

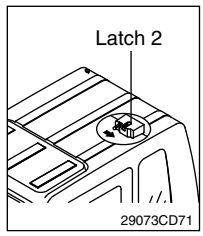


(1) Perform the following procedure in order to open the upper windshield.

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.



(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.