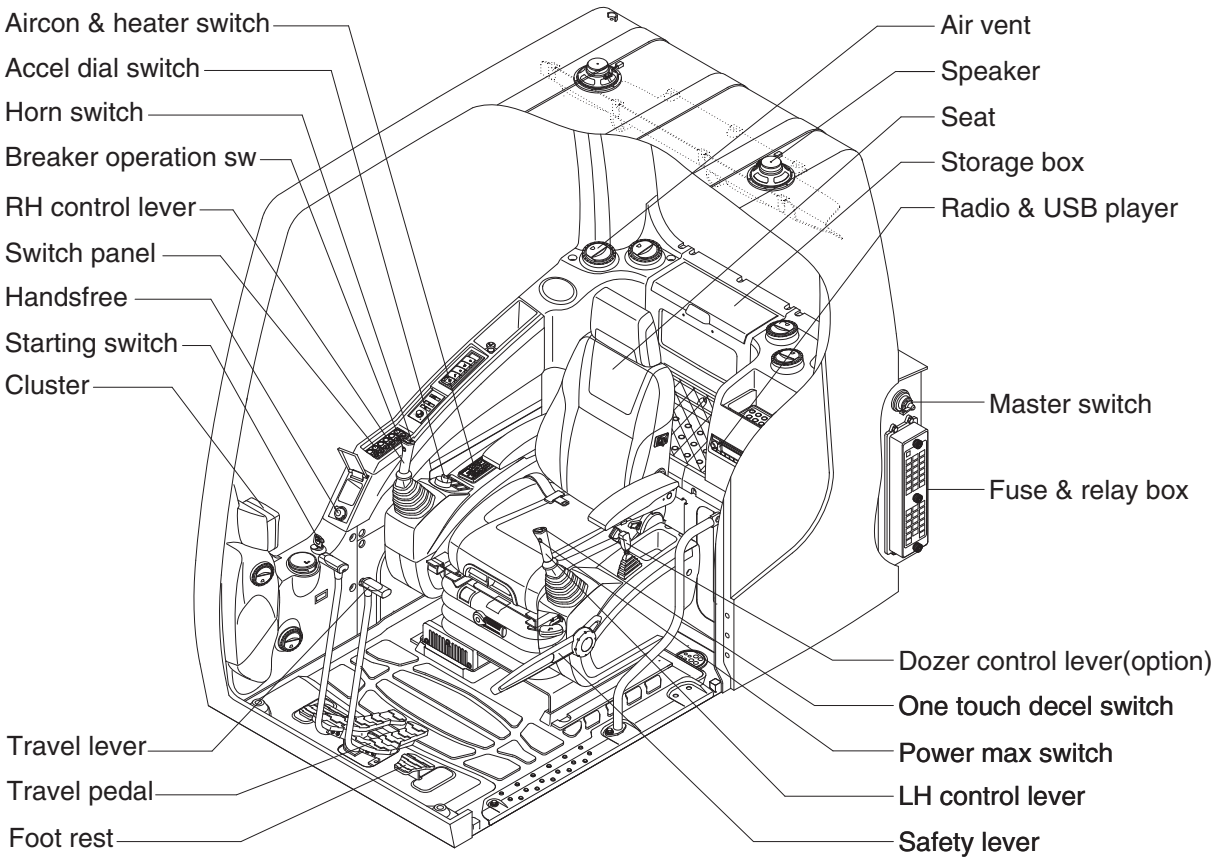
## 1. CAB DEVICES

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.




1609A3CD01

## 2. CLUSTER

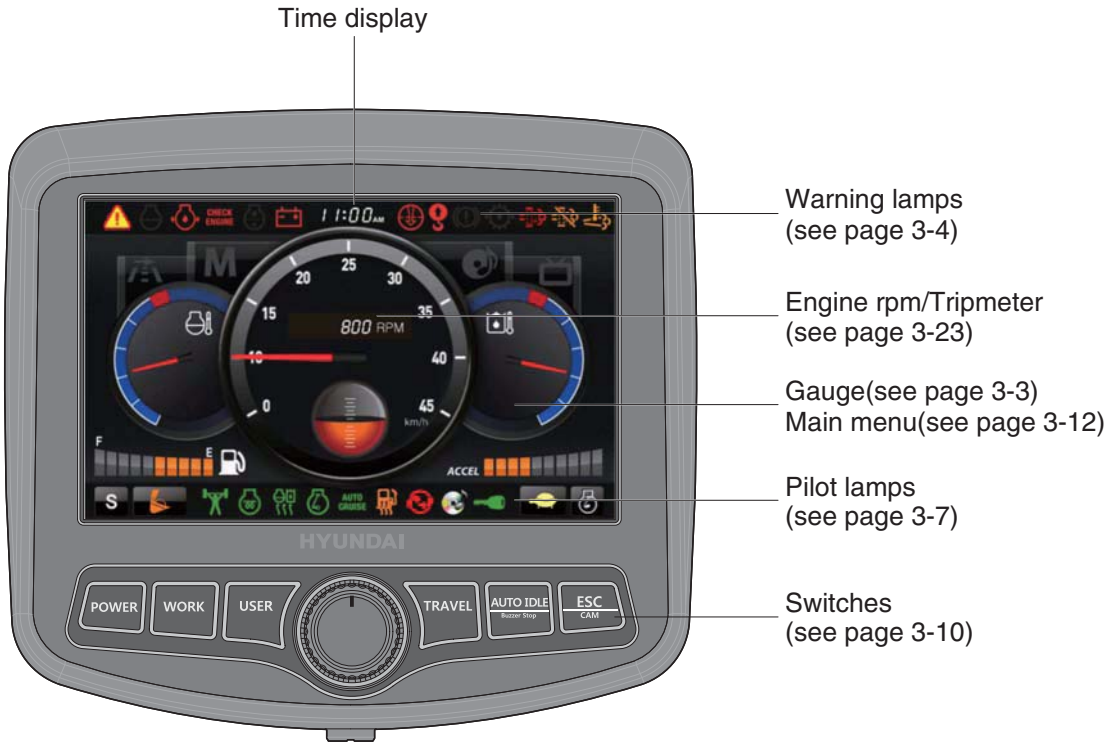
### 1) STRUCTURE

The cluster consists of LCD and switches as shown below. The LCD is to warn the operator in case of abnormal machine operation or conditions for the appropriate operation and inspection. Also, The LCD is to set and display for modes, monitoring and utilities with the switches.

The switches or touch screen are to set the machine operation modes.

**※ The cluster 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 cluster provides a warning immediately check the problem, and perform the required action.**




2209A3CD12

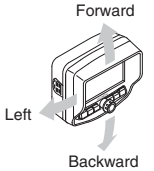
**※ The warning lamp pops up and/or blinks and the buzzer sounds when the machine has a problem.**

**The warning lamp blinks until the problem is cleared. Refer to page 3-4 for details.**

**※ This cluster is adjustable.**

**· Vertical (forward/backward) : each 15°**

**· Horizontal (left only) : 15°**




2609A6MA48

## 2) GAUGE

### (1) Operation screen

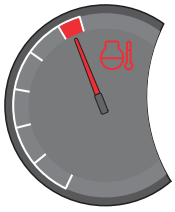
When you first turn starting switch ON, the operation screen will appear.


2609A3CD13

1 Engine coolant temperature gauge
2 Hydraulic oil temperature gauge
3 Fuel level gauge
4 RPM / Tripmeter display

**※ Operation screen type can be set by the screen type menu of the display.**
**Refer to page 3-22 for details.**

### (2) Engine coolant temperature gauge



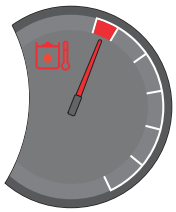
2609A3CD14

① This gauge indicates the temperature of coolant.
- White range : 40-107˚C (104-225˚F)
- Red range : Above 107˚C (225˚F)

② If the indicator is in the red range or lamp blinks in red, turn OFF the engine and check the engine cooling system.

**※ If the gauge indicates the red range or lamp 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.**

### (3) Hydraulic oil temperature gauge



2609A3CD15

① This gauge indicates the temperature of hydraulic oil.
- White range : 40-105˚C(104-221˚F)
- Red range : Above 105˚C(221˚F)

② If the indicator is in the red range or lamp blinks is red, reduce the load on the system. If the gauge stays in the red range, stop the machine and check the cause of the problem.

**※ If the gauge indicates the red range or lamp 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.**

### (4) Fuel level gauge


2609A3CD16

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

② Fill the fuel when the red range, or lamp blinks in red.

**※ If the gauge indicates the red range or lamp 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.**

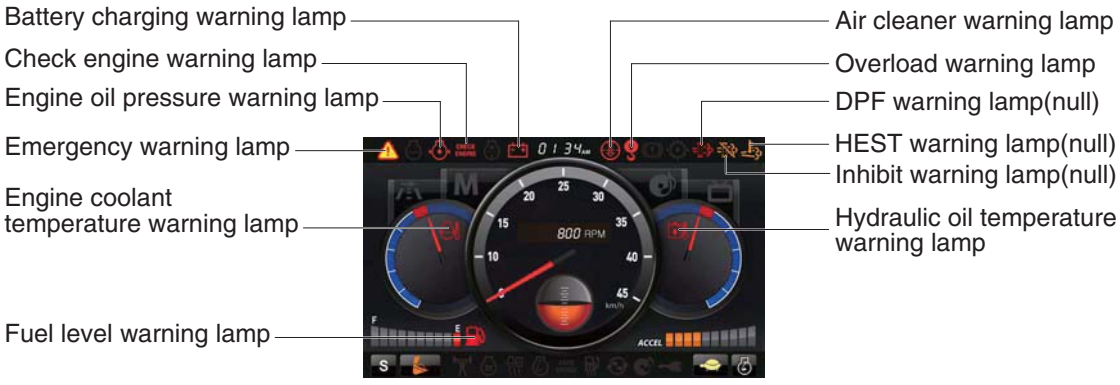
### (5) RPM / Tripmeter display


2609A3CD17

① This displays the engine speed or the tripmeter.

**※ Refer to page 3-21, 23 for details.**

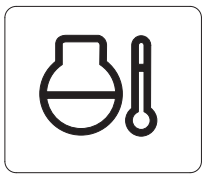
### 3) WARNING LAMPS




2209A3CD18

※ **Each warning lamp on the top of the LCD pops up on the center of LCD and the buzzer sounds when the each warning is happened. The pop-up warning lamp moves to the original position and blinks when the select switch is pushed. And the buzzer stops.**
**Refer to page 3-11 for the select switch.**

#### (1) Engine coolant temperature warning lamp



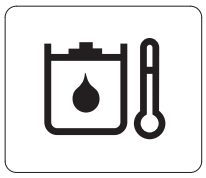
21093CD08A

① Engine coolant temperature warning is indicated two steps.
- 103˚C over : The lamp blinks and the buzzer sounds.
- 107˚C over : The lamp pops up on the center of LCD and the buzzer sounds.

② The pop-up lamp moves to the original position and blinks when the select switch is pushed. Also, the buzzer stops and lamp keeps blink.

③ Check the cooling system when the lamp keeps ON.

#### (2) Hydraulic oil temperature warning lamp



21093CD08C

① Hydraulic oil temperature warning is indicated two steps.
- 100˚C over : The lamp blinks and the buzzer sounds.
- 105˚C over : The lamp pops up on the center of LCD and the buzzer sounds.

② The pop-up lamp moves to the original position and blinks when the select switch is pushed. Also, the buzzer stops and lamp keeps blink.

③ Check the hydraulic oil level and hydraulic oil cooling system.

#### (3) Fuel level warning lamp

21093CD08B

① This warning lamp blinks and the buzzer sounds when the level of fuel is below 38 ℓ (10.0 U.S. gal).

② Fill the fuel immediately when the lamp blinks.

### (4) Emergency warning lamp

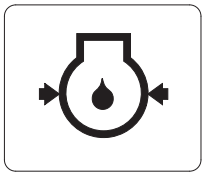
21093CD30

① This lamp pops up and the buzzer sounds when each of the below warnings is happened.
- Engine coolant overheating (over 107˚C)
- Hydraulic oil overheating (over 105˚C)
- Pump EPPR circuit abnormal or open
- Attachment flow EPPR circuit abnormal or open
- MCU input voltage abnormal
- Accel dial circuit abnormal or open
- Cluster communication data error
- Engine ECM communication data error

**※ The pop-up warning lamp moves to the original position and blinks when the select switch is pushed. Also the buzzer stops. This is same as following warning lamps.**

② When this warning lamp blinks, machine must be checked and serviced immediately.

### (5) Engine oil pressure warning lamp

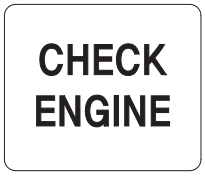


21093CD32

① This lamp blinks when the engine oil pressure is low.

② If the lamp blinks, shut OFF the engine immediately. Check oil level.

### (6) Check engine warning lamp

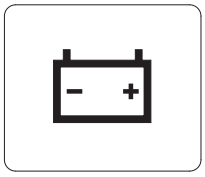



21093CD33

① This lamp blinks when the communication between MCU and engine ECM on the engine is abnormal, or if the cluster received any fault code from engine ECM.

② Check the communication line between them.
If the communication line is OK, then check the fault codes on the cluster.

### (7) Battery charging warning lamp

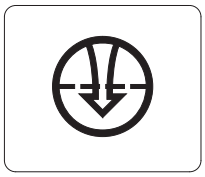



21093CD34

① This lamp blinks when the battery charging voltage is low.

② Check the battery charging circuit when this lamp blinks.

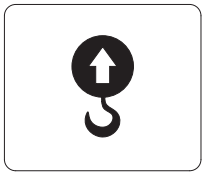
### (8) Air cleaner warning lamp



21093CD35

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

### (9) Overload warning lamp (opt)



21093CD36

① When the machine is overload, the overload warning lamp blinks during the overload switch is ON. (if equipped)
② Reduce the machine load.

## 4) PILOT LAMPS


2609A3CD22

### (1) Mode pilot lamps

| No | Mode | Pilot lamp | Selected mode |
|---|---|---|---|
| 1 | Power mode | P | Heavy duty power work mode |
| | | S | Standard power mode |
| | | E | Economy power mode |
| 2 | User mode | U | User preferable power mode |
| 3 | Work mode | | General operation mode |
| | | | Breaker operation mode |
| | | | Crusher operation mode |
| 4 | Travel mode | | Low speed traveling |
| | | | High speed traveling |
| 5 | Auto idle mode | | Auto idle |
| 6 | Work tool mode | 594 | Oil flow level of breaker or crusher mode |

### (2) Power max pilot lamp

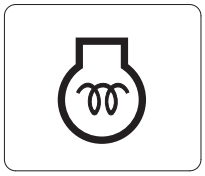
21093CD38

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

② The power max function is operated maximum 8 seconds.

※ **Refer to the page 3-28 for power max function.**

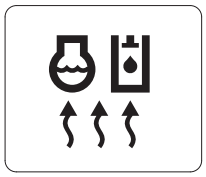
### (3) Preheat pilot lamp



21093CD39

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

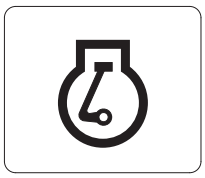
### (4) Warming up pilot lamp



21093CD40

① This lamp is turned ON after 1 minute from engine start 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 the engine.

### (5) Decel pilot lamp



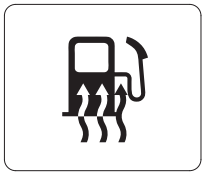
21093CD41

① Operating one touch decel switch on the RCV lever makes the lamp ON.
② Also, the lamp will be ON and engine speed will be lowered automatically to save fuel consumption when all levers and pedals are at neutral position, and the auto idle function is selected.

**※ One touch decel is not available when the auto idle pilot lamp is turned ON.**

**※ Refer to the page 3-28.**

### (6) Fuel warmer pilot lamp



21093CD43

① This lamp is turned ON when the coolant temperature is below 10˚C(50˚F) or the hydraulic oil temperature 20˚C(68˚F).
② The automatic fuel warming is cancelled when the engine coolant temperature is above 60˚C, or the hydraulic oil temperature is above 45˚C since the start switch was ON position.

### (7) Maintenance pilot lamp

2609A3CD23

① This lamp will be ON when the consuming parts are needed to change or replace. It means that the change or replacement interval of the consuming parts remains below 30 hours.
② Check the message in maintenance information of main menu. Also, this lamp lights ON for 3 minutes when the start switch is ON position.

**※ Refer to the page 3-16.**

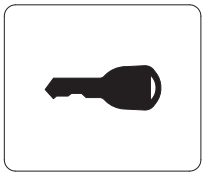
### (8) Entertainment pilot lamp

2609A3CD133

① This lamp is on when MP4 or video files are playing.

※ Refer to the page 3-22.

### (9) Smart key pilot lamp (opt)



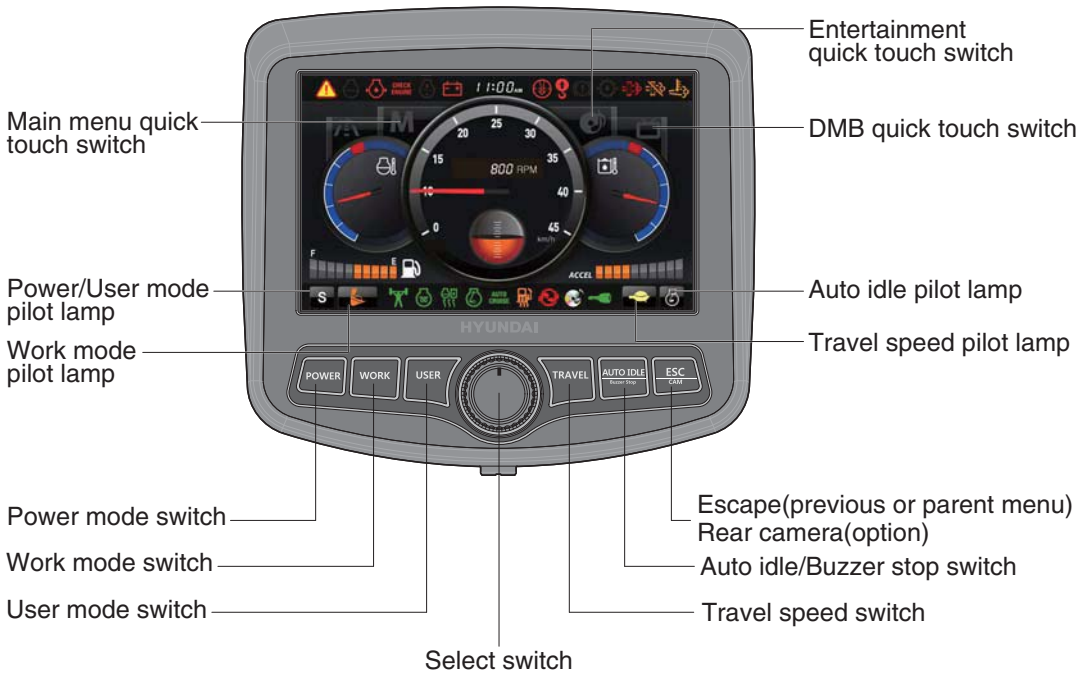
2609A3CD132

① This lamp is ON when the engine is started by the start button.

② This lamp is red when the a authentication fails, green when succeeds.

※ Refer to the page 3-18.

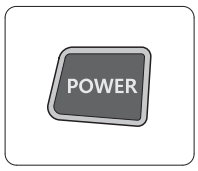
## 5) SWITCHES




2609A3CD24

※ **When the switches are selected, the pilot lamps are displayed on the LCD. Refer to the page 3-7 for details.**

### (1) Power mode switch

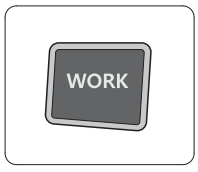



2609A3CD25

① This switch is to select the machine power mode and selected power mode pilot lamp is displayed on the pilot lamp position.
- P : Heavy duty power work.
- S : Standard power work.
- E : Economy power work.

② The pilot lamp changes E → S → P → E in order.

### (2) Work mode switch

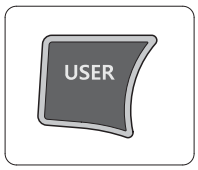



2609A3CD26

① This switch is to select the machine work mode, which shifts from general operation mode to optional attachment operation mode.
- : General operation mode
- : Breaker operation mode (if equipped)
- : Crusher operation mode (if equipped)
- Not installed : Breaker or crusher is not installed.

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

### (3) User mode switch

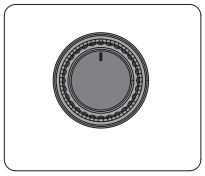



2609A3CD27

① This switch is used to memorize the current machine operating status in the MCU and activate the memorized user mode.
- Memory : Push more than 2 seconds.
- Action : Push within 2 seconds.
- Cancel : Push this switch once more within 2 seconds.

② Refer to the page 3-15 for another set of user mode.

### (4) Select switch



21093CD45E

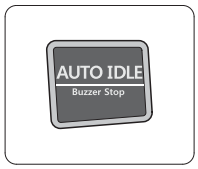
① This switch is used to select or change the menu and input value.

② Knob push
- Long (over 2 sec) : Return to the operation screen
- Medium (0.5~2 sec) : Return to the previous screen
- Short (below 0.5 sec) : Select menu

③ Knob rotation

This knob changes menu and input value.
- Right turning : Down direction / Increase input value
- Left turning : Up direction / Decreased input value

### (5) Auto idle/ buzzer stop switch

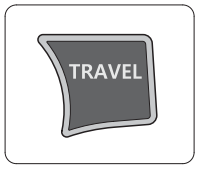



2609A3CD28

① This switch is used to activate or cancel the auto idle function.
- Pilot lamp ON : Auto idle function is activated.
- Pilot lamp OFF : Auto idle function is cancelled.

② The buzzer sounds when the machine has a problem.
In this case, push this switch and buzzer stops, but the warning lamp blinks until the problem is cleared.

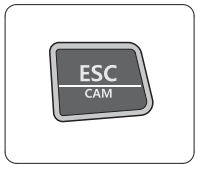
### (6) Travel speed control switch




2609A3CD29

① This switch is used to select the travel speed alternatively.
- : Low speed
- : High speed

### (7) Escape/Camera switch




2609A3CD30

① This switch is used to return to the previous menu or parent menu.

② In the operation screen, pushing this switch will display the view of the camera on the machine (if equipped).
Please refer to page 3-23 for the camera.

③ If the camera is not installed, this switch is used only ESC function.

## 6) MAIN MENU

※ You can select or set the menu by the select switch or touch screen (M).
On the operation screen, tap M to access the main menu screen.
On the sub menu screen, you can tap the menu bar to access functions or applications
To return to the parent menu screen, tap the top menu bar. To return to operation screen, tap ( ) icon.

· Operation screen

2609A3CD32

2609A3CD32A

Press

Tap

M

Main menu screen


2609A3CD31

Sub menu screen


2609A3CD38

※ Please refer to select switch, page 3-11 for selection and change of menu and input value.

### (1) Structure

| No | Main menu | Sub menu | Description |
|---|---|---|---|
| 1 |  Mode 2609A3CD33 | Work tool<br>U mode power<br>Boom/Arm speed<br>Auto power boost<br>Initial mode | Breaker, Crusher, Not installed<br>User mode only<br>Boom speed, Arm speed<br>Enable, Disable<br>Default, U mode, P mode |
| 2 |  Monitoring 2609A3CD34 | Active fault<br>Logged fault<br>Delete logged fault<br>Monitoring (analog)<br>Monitoring (digital)<br>Operating hours | MCU, Engine ECM<br>MCU, Engine ECM<br>All logged fault delete, Initialization canceled<br>Machine information<br>Switch status, Output status<br>Operating hours for each mode |
| 3 |  Management 2609A3CD35 | Maintenance information<br>Machine security<br>Machine Information<br>A/S phone number<br>Service menu<br><br>Clinometer | Replacement, Change interval oils and filters<br>ESL mode setting, Password change<br>Cluster, MCU, Engine, Machine<br>A/S phone number, A/S phone number change<br>Power shift, Hourmeter, Replacement history, Lock lever, Upgrade, EPPR current level<br>Clinometer setting |
| 4 |  Display 2609A3CD36 | Display item<br>Clock<br>Brightness,Touch calibration<br>Unit setup<br>Language selection<br>Screen type | Engine speed, Tripmeter A, Tripmeter B, Tripmeter C<br>Clock<br>Manual, Auto, Calibrating the touch screen<br>Temperature, Pressure, Flow, Distance, Date format<br>Korean, English, Chinese<br>A type, B type |
| 5 |  Utilities 2609A3CD37 | Entertainment<br>Tripmeter<br>Camera<br>FMT<br>DMB | Play MP4, codec.<br>3 kinds (A, B, C)<br>Number of active, Display order, Camera No.<br>FMT setting<br>DMB select, DAB select, Channel scan, Exit |

## (2) Mode setup

### ① Work tool


2609A3CD38


2609A3CD39

A


2609A8HB01

B

· A : Select one installed optional attachment.
· B : Max flow - Set the maximum flow for the attachment.
Flow level - Reduce the operating flow from maximum flow.
Breaker - Max 7 steps, Reduced 10 lpm each step.
Crusher - Max 4 steps, Reduced 20 lpm each step.

※ **The flow level is displayed with the work mode pilot lamp.**

### ② U mode power


2609A3CD41


2609A3CD42

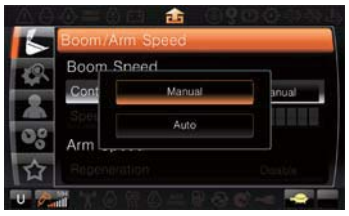
· Engine high idle rpm, auto idle rpm and pump torque (power shift) can be modulated and memorized separately in U-mode.
· U-mode can be activated by user mode switch.

| Step ( ▮ ) | Engine speed (rpm) | Idle speed (rpm) | Power shift (bar) |
|---|---|---|---|
| 1 | 1400 | 900 | 0 |
| 2 | 1500 | 950 | 3 |
| 3 | 1600 | 1000 (auto decel) | 6 |
| 4 | 1700 | 1050 | 9 |
| 5 | 1800 | 1100 | 12 |
| 6 | 1900 | 1150 | 16 |
| 7 | 2000 | 1200 | 20 |
| 8 | 2050 | 1250 | 26 |
| 9 | 2100 | 1300 | 32 |
| 10 | 2150 | 1350 | 38 |

※One touch decel & low idle : 950 rpm

### ③ Boom/Arm speed


2609A3CD43




2609A3CD126


2609A3CD44

· **Boom speed**
- Control type
Manual - Boom up speed is fixed as set steps.
Auto - Boom up speed is automatically adjusted as working conditions by the MCU.
- Speed setting - Boom up speed is increased as much as activated steps.

· **Arm speed**
- Regeneration - Arm regeneration function can be activated or cancelled.
Enable - Arm in speed is up.
Disable - Fine operation.

### ④ Auto power boost


2609A3CD45 2609A3CD46

· The power boost function can be activated or cancelled.
· Enable - The digging power is automatically increased as working conditions by the MCU.
It is operated max 8 seconds.
· Disable - Not operated.

### ⑤ Initial mode


2609A3CD47 2609A3CD48

· Default - The initial power mode is set E mode when the engine is started.
· U mode - The initial power mode is set U mode when the engine is started.

## (3) Monitoring

### ① Active fault


2609A3CD51 2609A3CD52 2609A3CD53

· The active faults of the MCU or engine ECM can be checked by this menu.

### ② Logged fault


2609A3CD54 2609A3CD55 2609A3CD56

· The logged faults of the MCU or engine ECM can be checked by this menu.

### ③ Delete logged fault


2609A3CD57 2609A3CD58 2609A3CD59

· The logged faults of the MCU or engine ECM can be deleted by this menu.

### ④ Monitoring(Analog)


2609A3CD60 2609A3CD61 2609A3CD62

· The machine status such as the engine rpm, oil temperature, voltage and pressure etc. can be checked by this menu.

### ⑤ Monitoring (digital)


2609A3CD63 2609A3CD64 2609A3CD65

· The switch status or output status can be confirmed by this menu.
· The activated switch or output pilot lamps ☀ are light ON.

### ⑥ Operating hours


2609A3CD66 2609A3CD67

· The operating hour of each mode can be confirmed by this menu.

## (4) Management

### ① Maintenance information


2609A3CD68


2609A3CD69


2609A3CD70


2609A3CD71


2609A3CD72


2609A3CD73

- Alarm( ☼ ✹ ✹ ) : Gray ☼ - Normal
  Yellow ✹ - First warning
  Red ✹ - Second warning
- Replacement : The elapsed time will be reset to zero (0).
- Change interval : The change or replace interval can be changed in the unit of 50 hours.
- OK : Return to the item list screen.
- **Change or relpace interval**

| No | Item | Interval |
|---|---|---|
| 1 | Engine oil | 500 |
| 2 | Final gear oil | 1000 |
| 3 | Swing gear oil | 1000 |
| 4 | Hydraulic oil | 5000 |
| 5 | Pilot line filter | 1000 |
| 6 | Drain filter | 1000 |
| 7 | Hydraulic oil return filter | 1000 |
| 8 | Engine oil filter | 500 |
| 9 | Fuel filter | 500 |
| 10 | Pre-filter | 500 |
| 11 | Hydraulic tank breather | 1000 |
| 12 | Radiator coolant | 2000 |
| 13 | Air cleaner (inner & outer) | 2000 |
| 14 | Swing gear pinion grease | 1000 |

② **Machine security**


2609A3CD74


2609A3CD75


2609A3CD76

· **ESL mode setting**

- ESL : Engine Starting Limit
- ESL mode is desingned to be a theft deterrent or will prevent the unauthorized operation of the machine.
- If the ESL mode was selected Enable, the password will be required when the start switch is turned ON.
- **Machine security**

  Disable : Not used ESL function

  Enable (always) : The password is required whenever the operator starts engine.


2609A3CD77


2609A3CD78

- **Interval** : The password is required when the operator starts engine first. But the operator can restart the engine within the interval time without inputting the password.

  The interval time can be set maximum 4 hours.

  ※**Default password : 00000＊**

  ※**Password length : (5~10 digit)＋＊**


2609A3CD137


2609A3CD138

- **Smart key** (option) : Smart key is registered when the operator starts engine by start button first. If smart key is not inside of the cabin, authentication process fails and the password entering is needed.


2609A3CD139


2609A3CD147


2609A3CD140


2609A3CD145

· **Password change**

- The password is 5~10 digits.


2609A3CD74


2609A3CD79


2609A3CD80

Enter the current password


2609A3CD81

Enter the new password


2609A3CD82

Enter the new password again


2609A3CD83

The new password is stored in the MCU.

### ③ Machine Information

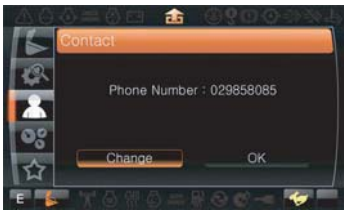

2609A3CD84


2609A3CD85

· This can confirm the identification of the cluster, MCU, engine and machine.

### ④ A/S phone number


2609A3CD86




2609A3CD90


2609A3CD88

Enter the new A/S phone number


2609A3CD89


2609A3CD90

The new phone number is stored in MCU

### ⑤ Service menu


2609A3CD128


Enter the password

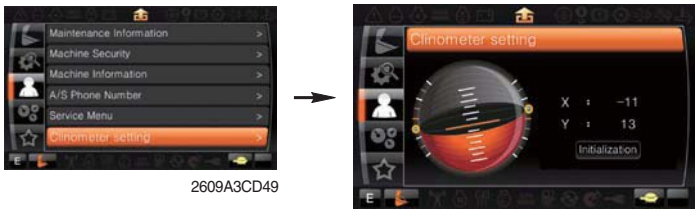
2609A3CD88


2609A3CD129


2609A3CD130

· Power shift (standard/option) : Power shift pressure can be set by option menu.
· Hourmeter : Operating hours since the machine line out can be checked by this menu.
· Replacement history : Replacement history of the MCU and cluster can be checked by this menu.
· Lock level (not in use/in use)
· Upgrade : Firm ware can be upgraded by this menu. (the USB port is located under the cluster)
· EPPR current level (attach EPPR/boom priority EPPR)

### ⑥ Clinometer




2609A3CD49 2609A3CD50

- When the machine is on the flatland, if tap the "initialization", the values of X, Y reset "0".
- You can confirm tilt of machine in cluster's operating screen.

## (5) Display

### ① Display item


2609A3CD91 2609A3CD92 2609A3CD93

2609A3CD94 2609A3CD95

- The center display type of the LCD can be selected by this menu.
- The engine speed or each of the tripmeter (A,B,C) is displayed on the center display.

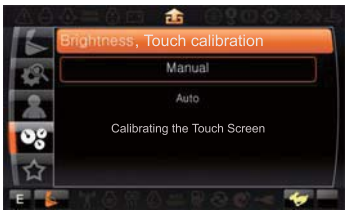
### ② Clock


2609A3CD96 2609A3CD97 2609A3CD123

- The first line's three spots "**/**/****" represent Month/Day/Year each.
- The second line shows the current time. (0:00~23:59)

### ③ Brightness and touch calibration

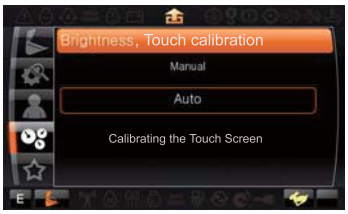

2609A3CD98A




2609A3CD160


2609A3CD100

Manual (1st~10th step)




2609A3CD161

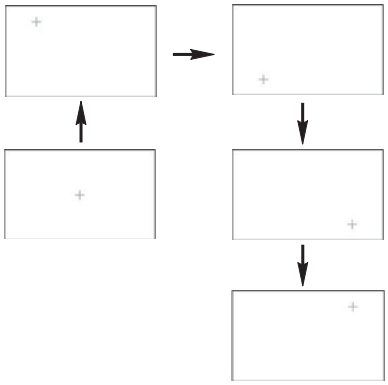

2609A3CD102

Auto (day/night)

· If "Auto" is chosen, brightness for day and night can be differently set up. Also by using the bar in lower side, users can define which time interval belongs to day and night.
(in bar figure, white area represents night time while orange shows day time)

· **Touch calibration -** When touch awareness goes wrong, this function use.
Fall in the next step if touches the middle point of cross with fingernail.
If touches total five points as follows, the setting is completed.


2609A3CD148



2609A3CD149-153

### ④ Unit


2609A3CD103


2609A3CD104

2609A3CD124

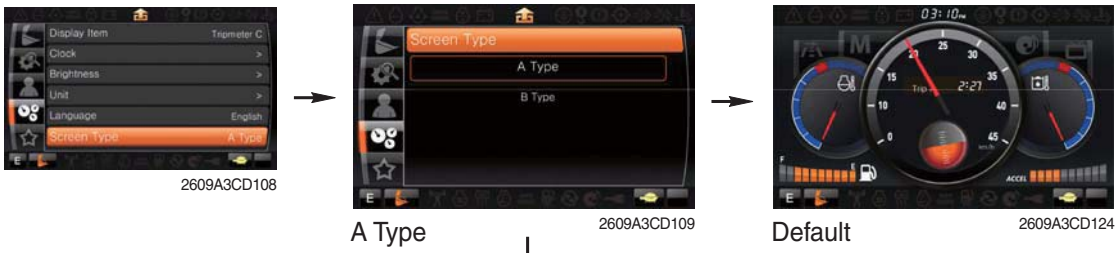
· Temperature : ˚C ↔ ˚F
· Pressure : bar ↔ MPa ↔ kgf/cm²
· Flow : lpm ↔ gpm
· Date format : yy/mm/dd ↔ mm/dd/yy ↔ dd-Mar-yy
· Distance : km ↔ mile

### ⑤ Language


2609A3CD105 2609A3CD106 2609A3CD107

· User can select preferable language and all displays are changed the selected language.

### ⑥ Screen type




2609A3CD108 2609A3CD109 2609A3CD124

A Type Default

2609A3CD125 2609A3CD131

B Type Option

## (6) Utilities

### ① Entertainment

· Play MP4 or codec file of external hard disk through USB port.
· The USB port is located under the cluster.


2609A3CD114 2609A3CD115

· Over 1100 engine rpm, the screen turns into the operation screen with MP4 or codec file playing for the safety.

## ② Tripmeter


2609A3CD110


2609A3CD111

· Maximum 3 kinds of tripmeters can be used at the same time.
· Each tripmeter can be turned on by choosing "Start" while it also can be turned off by choosing "Stop".
· If the tripmeter icon is activated in the operation screen, it can be controlled directly there.

## ③ Camera setting

· Three cameras can be installed on the machine and the display order can be set by this menu.
· If the camera was not equipped, this menu is not useful.


2609A3CD116


2609A3CD118


2609A3CD172

· Turnning the select switch in clockwise direction, the next ordered will be shown and in counter-clockwise direction, the previously ordered will be shown.
· Push the select switch, the displayed screen will be enlargement.

2609A3CD119


2609A3CD167

2609A3CD120

2609A3CD168

## ④ FMT setting


2609A3CD121 2609A3CD154 2609A3CD155


2609A3CD156 2609A3CD157

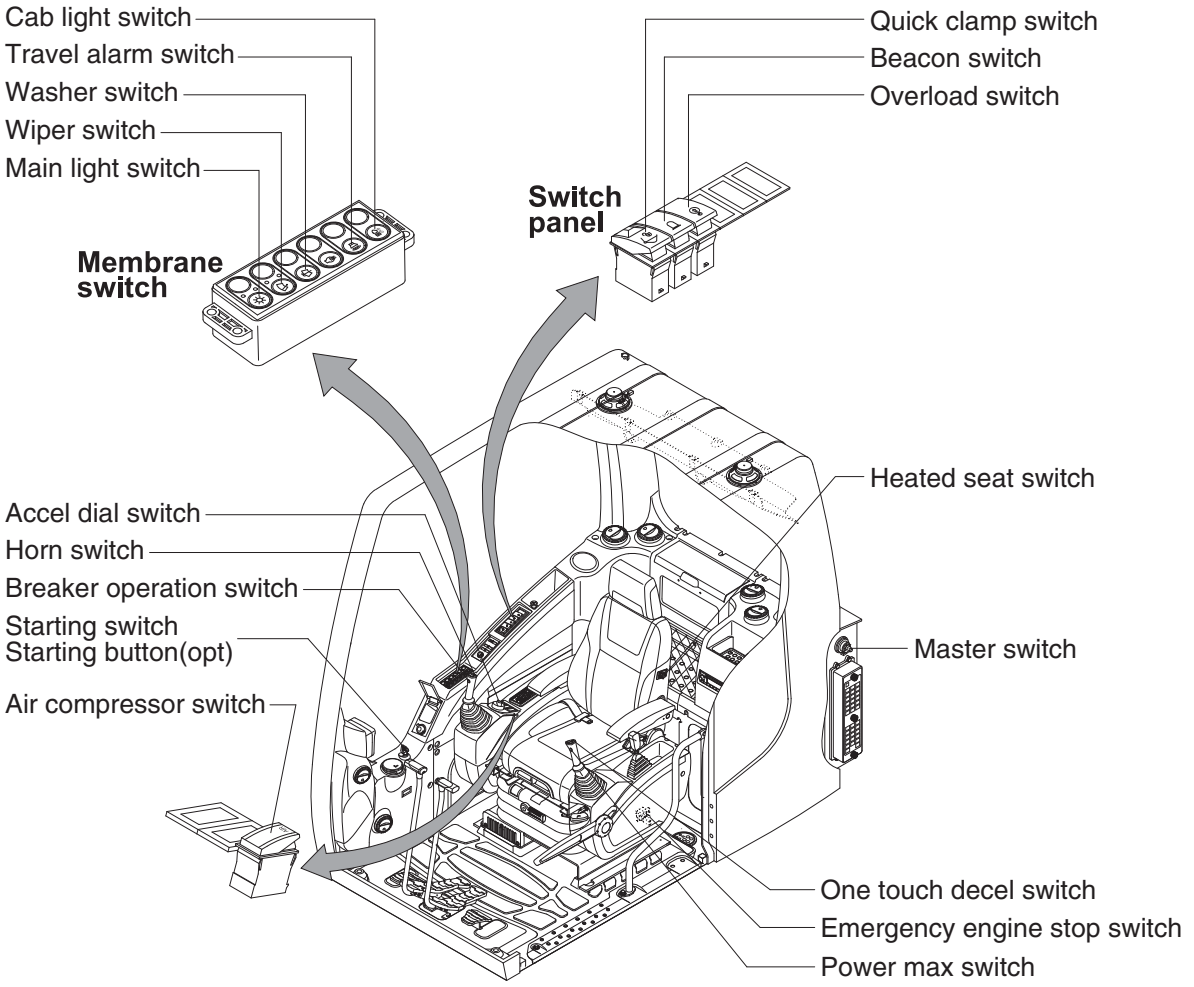

2609A3CD158 2609A3CD159

- The function that can listen cluster's occurrence sound by inside speaker of cabin making frequency of audio identical in cluster's frequency and machine.
- Turn on the FMT function and sets frequency equally with frequency of audio in cabin.
  - Not in use : Cluster speaker only
  - In use (FMT only) : Cabin speaker only
  - In use (FMT+Built) : Cabin speaker + Cluster speaker

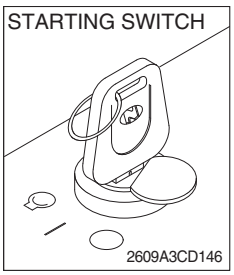
## ⑤ DMB (option)

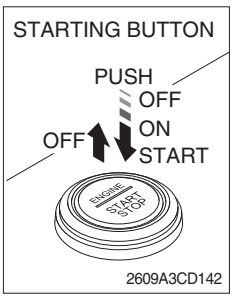

2609A3CD112 2609A3CD113

## 3. SWITCHES




### 1) STARTING SWITCH & STARTING BUTTON (OPT)



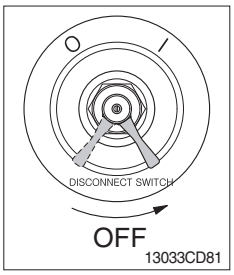

Starting button with smart key tag (opt)

(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.**

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

## 2) MASTER SWITCH

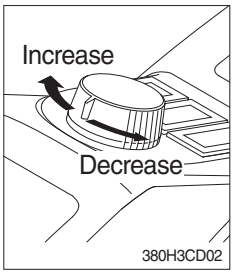



(1) This switch is used to shut off the entire electrical system.

(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. Engine and electrical system damage could result.**

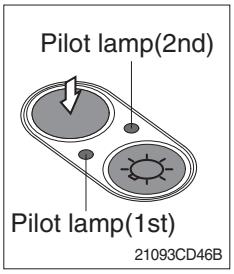
## 3) ACCEL DIAL SWITCH




(1) There are 10 dial setting.

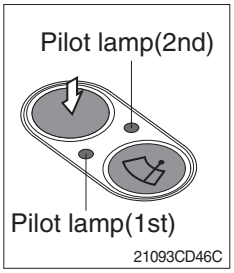
(2) Setting 1 is low idle and setting 10 is high idle.
- By rotating the accel dial to right : Engine speed increases
- By rotating the accel dial to left : Engine speed decreases

## 4) MAIN LIGHT SWITCH



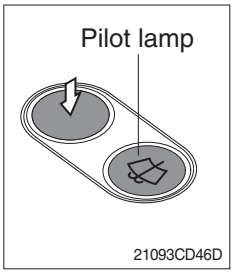

(1) This switch used to operate the head light and work light.
- Press the switch once, the head light comes ON and the 1st pilot lamp ON.
- Press the switch once more, the work light comes ON and the 2nd pilot lamp ON.
- Press the switch again, return to a first step position.
- Press the switch more than one second to turn off lights.

## 5) WIPER SWITCH




(1) This switch used to operate wiper.
- Press the switch once the wiper operates intermittently and the 1st pilot lamp comes ON.
- Press the switch once more, the wiper operates low speed and the 2nd pilot lamp comes ON.
- Press the switch again return to a first step position.
- Press the switch more than one second to turn off wiper.

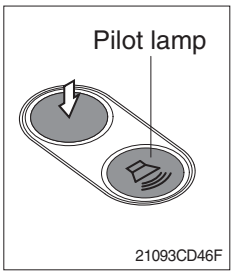
## 6) WASHER SWITCH




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

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

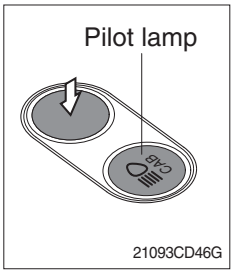
### 7) TRAVEL ALARM SWITCH




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

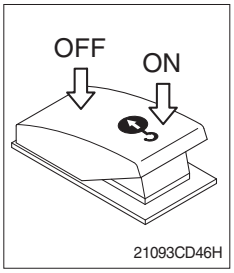
(2) On pressing this switch, the alarm operates only when the machine is traveling.

### 8) CAB LIGHT SWITCH (option)




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

### 9) 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.

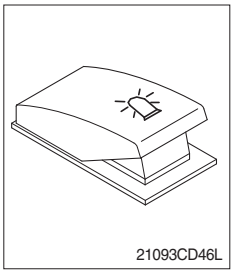
(2) When it turned OFF, buzzer stops and warning lamp goes out.

### 10) QUICK CLAMP SWITCH (option)


(1) This switch is used to engage or disengage the moving hook on quick clamp.

※ **Refer to the page 8-6 for details.**

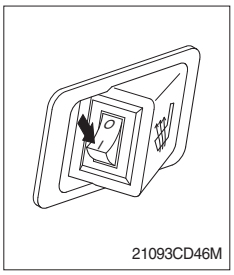
### 11) BEACON SWITCH (option)




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

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

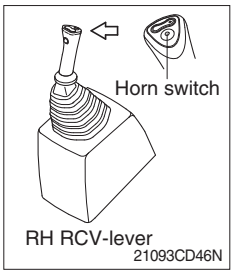
### 12) HEATED SEAT SWITCH (option)




(1) This switch is used to heat the seat.
- Heater ON : 10±3.5˚C
- Heater OFF : 20±3˚C

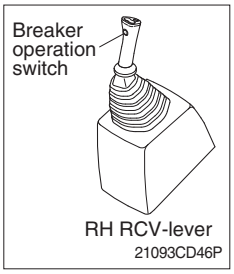
(2) On pressing the switch, the indicator lamp is turned ON.

### 13) HORN SWITCH



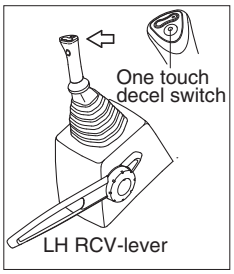

(1) This switch is at the top of right side control lever.
On pressing, the horn sounds.

### 14) BREAKER OPERATION SWITCH




(1) On pressing this switch, the breaker operates only when the breaker operation mode is selected.

### 15) ONE TOUCH DECEL SWITCH

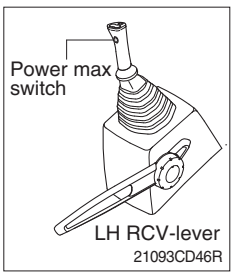



(1) This switch is used to actuate the deceleration function quickly.

(2) The engine speed is increased to previous setting value by pressing the switch again.

(3) One touch decel function is available only when the auto idle pilot lamp is turned OFF.

### 16) POWER MAX SWITCH

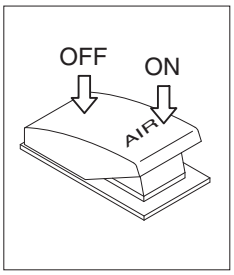



(1) This switch activate power max function.
When this switch is kept pressed, hydraulic power of work equipment will be increased to approx 110 percent during 8 seconds.

(2) After 8 seconds, function is cancelled automatically even the switch keeps pressed.

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

### 17) AIR COMPRESSOR SWITCH (option)

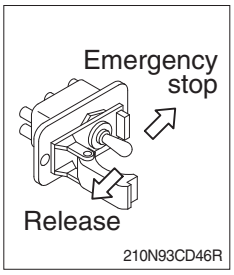


17W93CD46N

(1) This switch is used to activate the air compressor.

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

### 18) EMERGENCY ENGINE STOP SWITCH

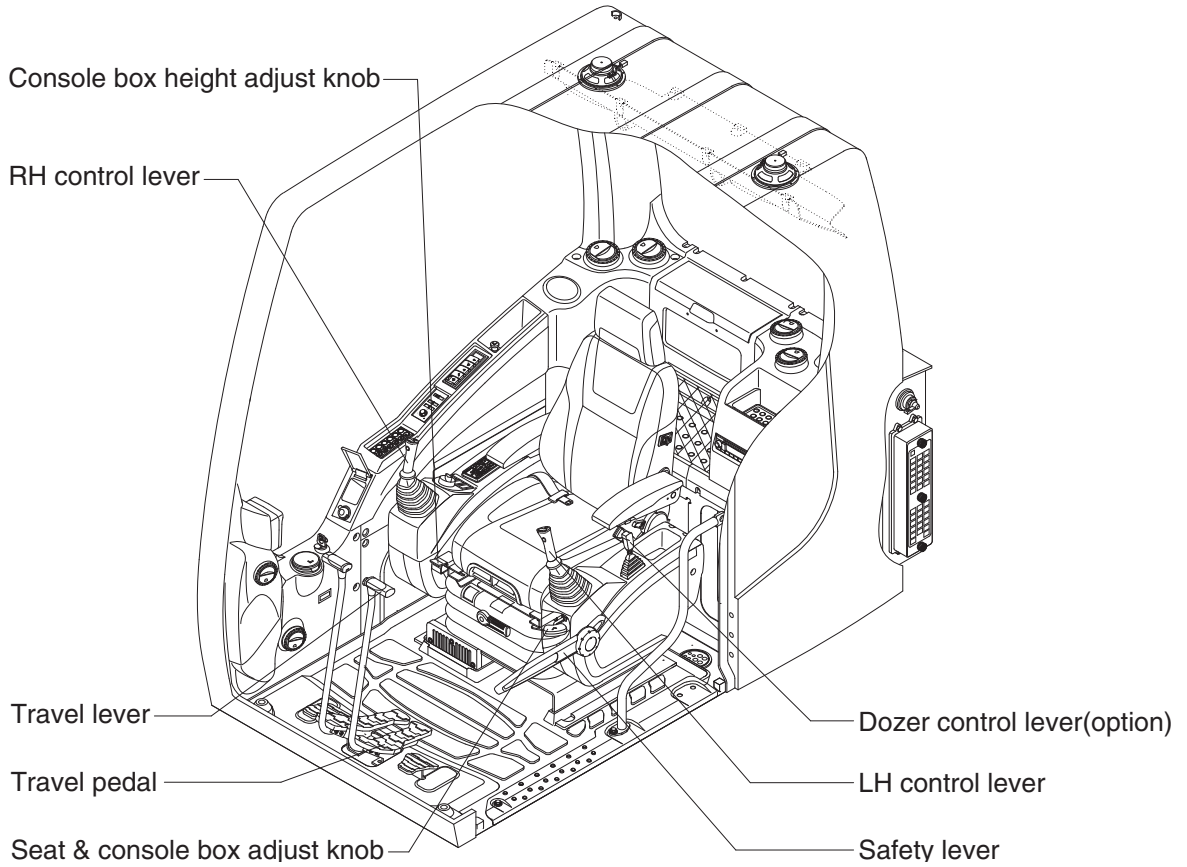


210N93CD46R

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

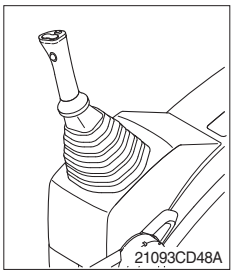
※ **Be sure to keep the emergency switch on the release position when restart the engine.**

# 4. LEVERS AND PEDALS




1609A3CD03

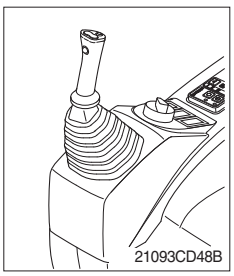
## 1) LH CONTROL LEVER




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

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

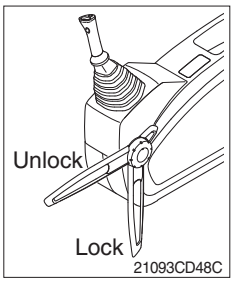
## 2) RH CONTROL LEVER




(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 LEVER



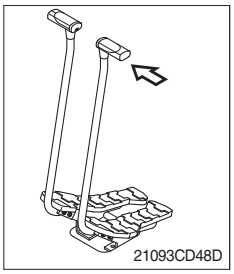

(1) All control levers and pedals are disabled from operation by locating the lever to lock position as shown.

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

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

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

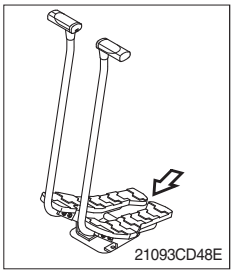
### 4) TRAVEL LEVER




(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.

### 5) TRAVEL PEDAL

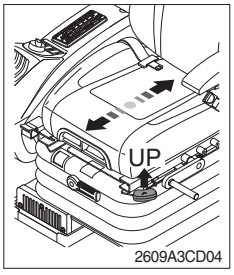



(1) This pedal is used to move the machine forward or backward.

(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.

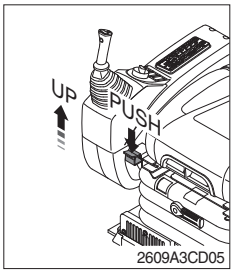
### 6) SEAT AND CONSOLE BOX ADJUST KNOB




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

(2) Pull the knob to adjust forward or backward over 150 mm (5.9").

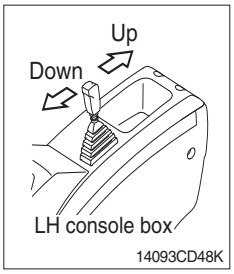
### 7) CONSOLE BOX HEIGHT ADJUST KNOB




(1) This knob is used to move the LH and RH control lever to fit the contours of the operator's body.

(2) The control lever can be moved upward and downward over 60 mm (2.4").

### 8) DOZER CONTROL LEVER (option)



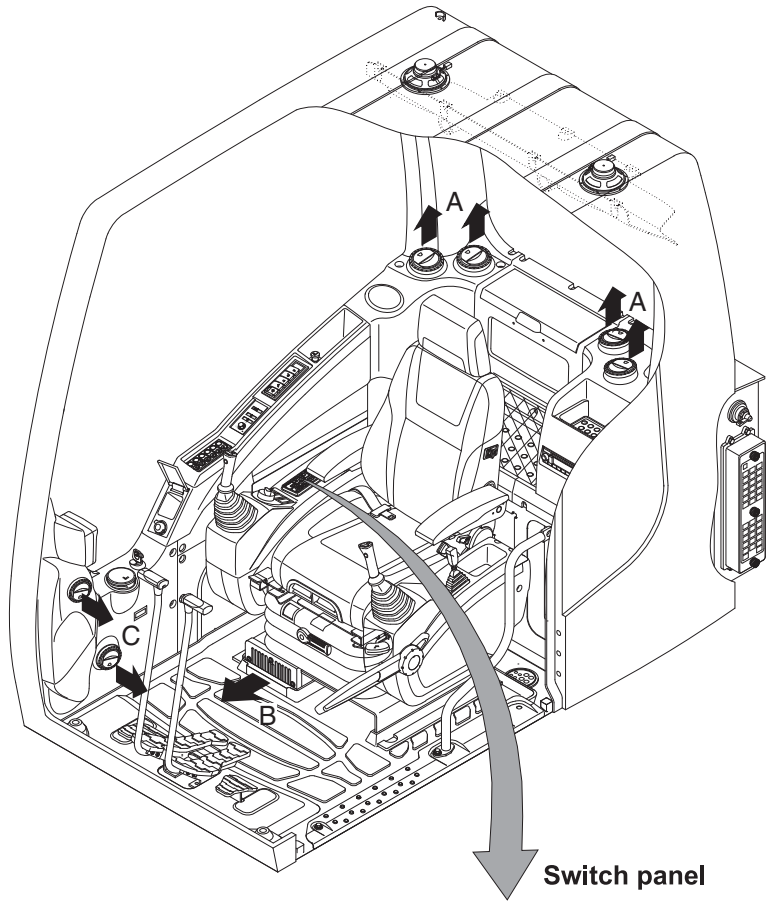

(1) This lever is used to operate the dozer blade.

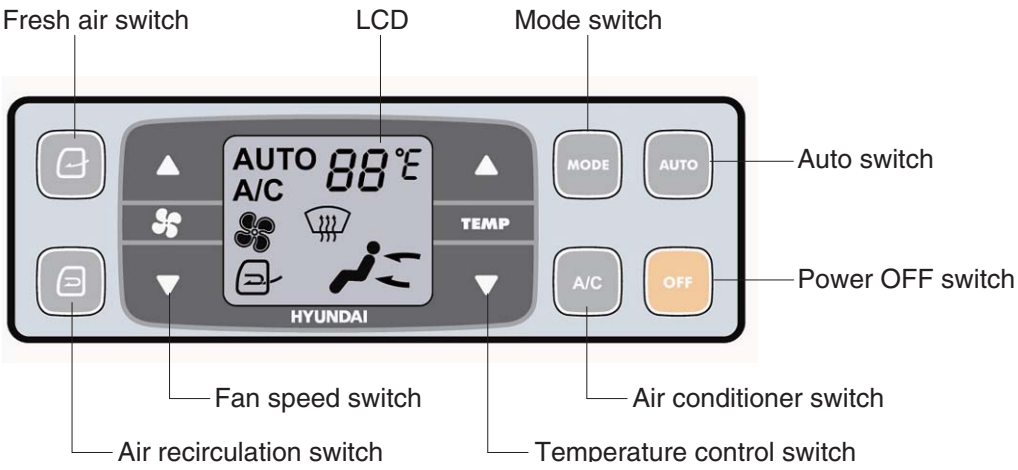
(2) If the lever is pushed forward, the dozer blade will be going down. And the lever is pulled back, the dozer blade will be going up.

## 5. AIR CONDITIONER AND HEATER

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.

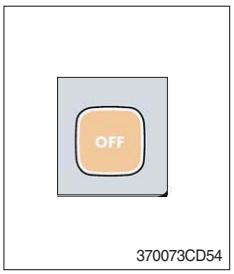
· **Location of air flow ducts**




1609A3CD06

### 1) POWER OFF SWITCH

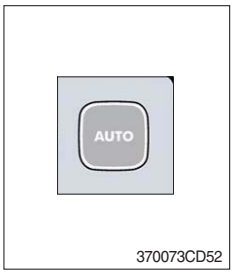



(1) This switch makes the system and the LED OFF.
Just before the power OFF, set values are stored.

**(2) Default setting values**

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

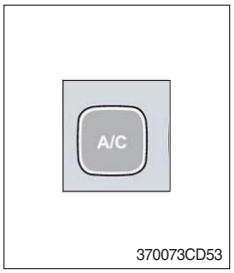
### 2) AUTO SWITCH




(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)

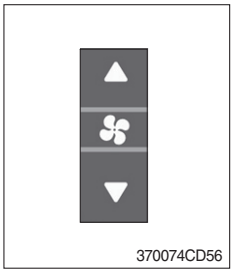



(1) This switch turns the compressor and the LCD ON.

(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

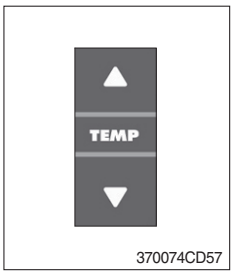



(1) Fan speed is controlled automatically by setted temperature.

(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.

## 5) TEMPERATURE CONTROL SWITCH




(1) Setting temperature indication
① Type A : 17~32˚C, scale : 1˚C
② Type B : Lo, 18~31˚C, Hi, scale : 1˚C

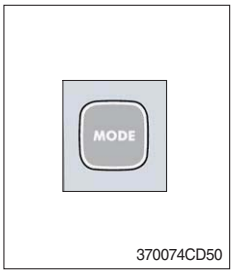
(2) Max cool and max warm beeps 5 times.

(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 |

(4) Temperature unit can be changed between celsius (˚C) and fahrenheit (˚F)
① Default status (˚C)
② Push Up/Down temperature control switch simultaneously more than 5 second displayed temperature unit change (˚C → ˚F)

## 6) MODE SWITCH

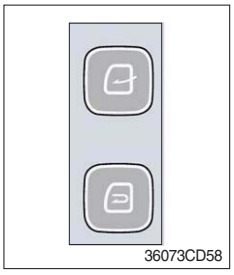



(1) Operating this switch, it beeps and displays symbol of each mode in order. (Vent → Vent/Foot → Def/Foot → Def/Vent → Def/Vent/Foot)

| Mode switch | | Vent | Vent/Foot | Def/Foot | Def/Vent | Def/Vent/Foot |
|---|---|---|---|---|---|---|
| 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.

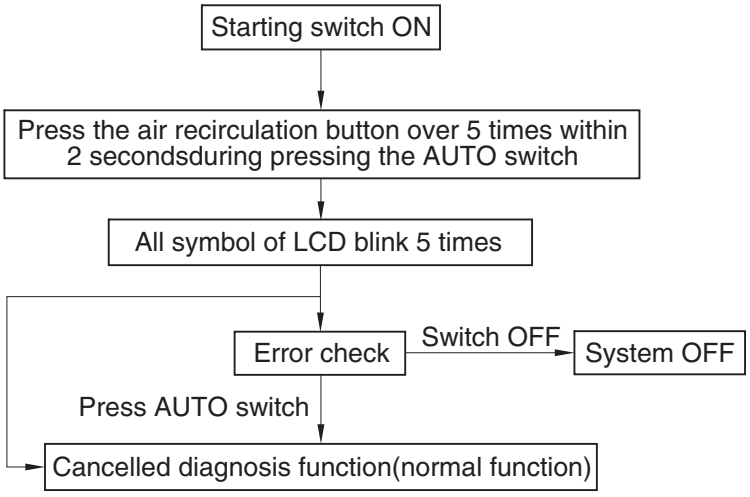
## 7) FRESH AIR/AIR RECIRCULATION SWITCH




(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




3607A3CD69

### (2) Error check

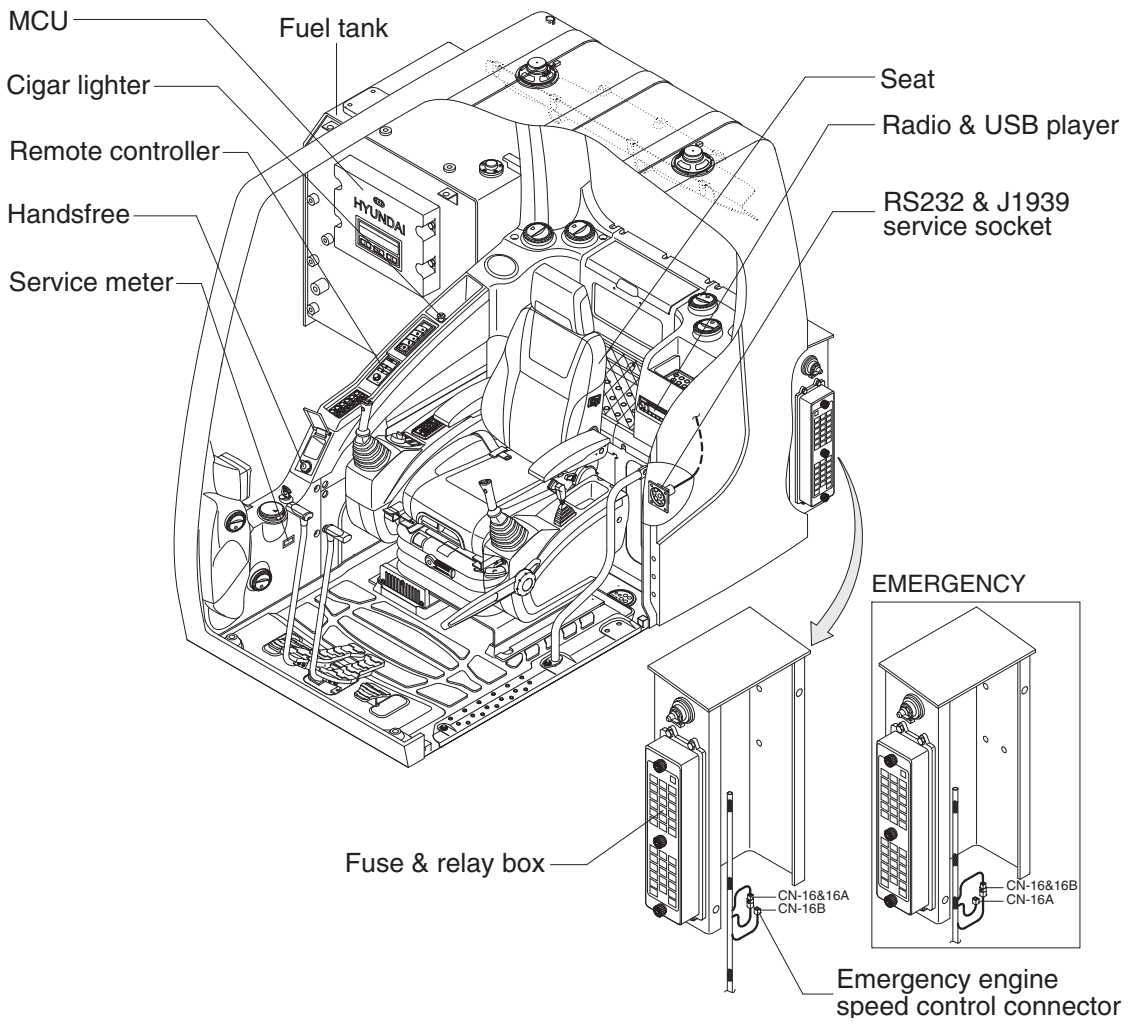
- The corresponding error code flickers on the setup temperature display panel, the other symbol will turn OFF.
- Error code flickers every 0.5 second.
- If error code is more than two, each code flickers 2 times in sequence.
- Error code

| Error code | Description | Error code | Description |
|---|---|---|---|
| 11 | Cabin inside sensor | 16 | Mode actuator 1 |
| 12 | Ambient sensor | 17 | Mode actuator 2 |
| 14 | Duct (evaporator) sensor | 18 | Intake actuator |
| 15 | Temp actuator | - | - |

### (3) Fail safe function

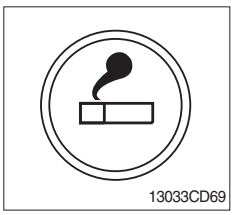
| Error description | Fail safe function |
|---|---|
| Cabin inside sensor (11) | 25˚C alternate value control |
| Ambient sensor (12) | 20˚C alternate value control |
| Duct (evaporator) sensor (14) | 1˚C alternate value control |
| Temp actuator (15) | If opening amount is 0 %, the alternate value is 0 % |
| | If not, the alternate value is 100 % |
| Mode actuator 1, 2 (16, 17) | The alternate value is vent |

# 6. OTHERS




1609A3CD07

## 1) CIGAR LIGHTER




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

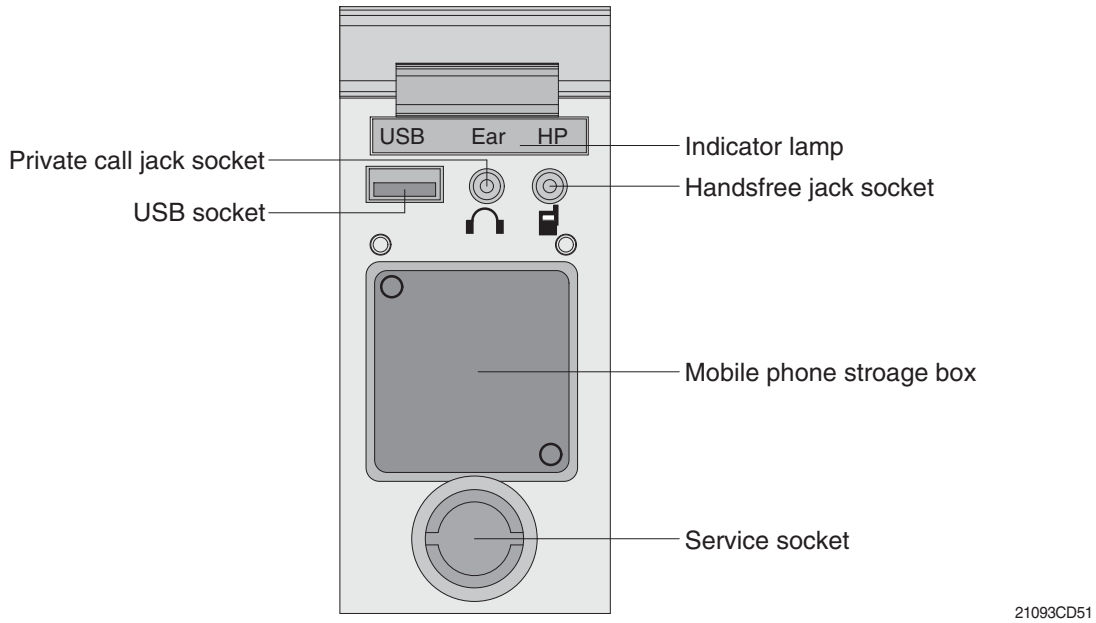
(2) The lighter can be used when it springs out in a short while after being pressed down.

※ **Service socket**

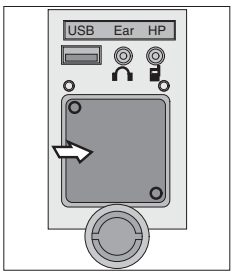
**Use cigar lighter socket when you need emergency power.**
**Do not use the lighter exceeding 24 V, 100 W.**

## 2) HANDSFREE

Allow you to dial a call or to have a conversation without holding your handset. Use the remote controller when making and answering a calls or ring off.

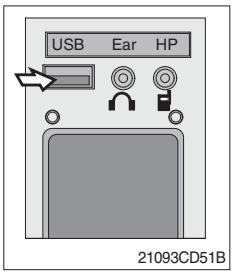



### (1) Mobile phone storage box



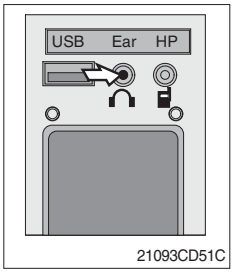

① Mobile phone can be stored when call by handsfree.

### (2) USB socket




① This socket is used to charging the mobile phone.

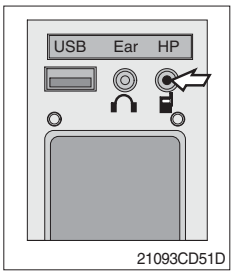
### (3) Private call jack socket




① This can be used protect you privacy calling by using ear phone.

② The mobile phone must be connected handsfree jack socket.

### (4) Handsfree jack socket

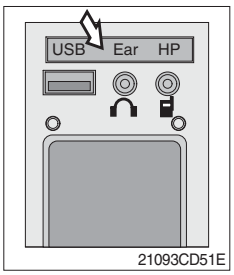



① Connect the jack cable when call by handsfree.

② Use the special adapter when jack cable is not interchangeable.

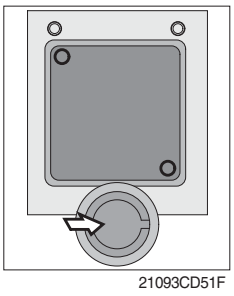
③ Check the jack type of mobile phone before use.

### (5) Indicator lamp




① This lamp is turned ON when the handsfree mode selected.

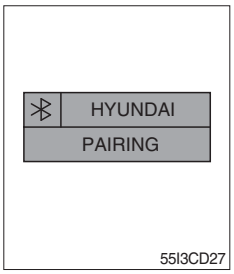
### (6) Service socket



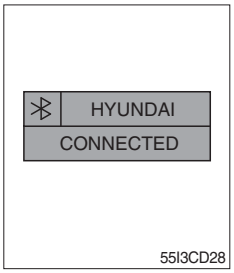

① Utilize the power of 12 V as your need and do not exceed power of 12 V, 30 W.

## (7) Wireless handsfree


① Select the handsfree mode by pressing bluetooth button on the mobile phone.
Press the CALL button for more than 6 seconds for pairing (connection process of the mobile phone and handsfree), you can hear beep sounds three times.




② The mobile phone finds bluetooth named " HYUNDAI".
Select "HYUNDAI" and set "connect with Bluetooth on the mobile phone".
· Default password : 0000

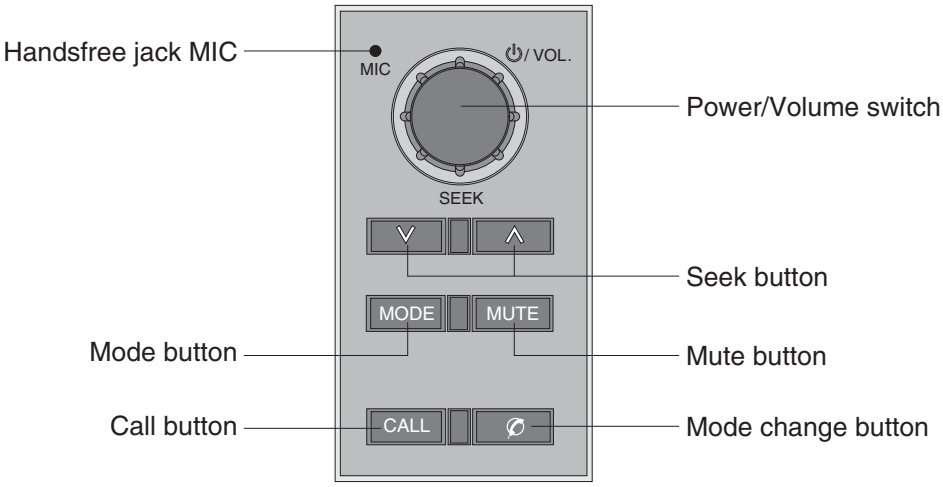



③ The Bluetooth pairing is made, the LCD screen shows "CONNECTED".

④ Once the Bluetooth pairing is made, they will be automatically connected after 20 seconds when start key ON.

⑤ When you want to deactivate the pairing, press and hold the CALL button for more than 3 seconds then you can hear beep sounds twice and the function will be deactivated.

## 3) REMOTE CONTROLLER




21093CD52

### (1) Power and volume switch


21093CD52A

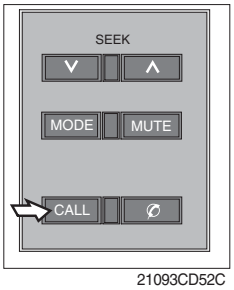
① This switch is used to turn the audio or handsfree ON or OFF.
② This switch is turned to right, the handsfree volume is increased over 7 steps.
③ If it is turned to left, volume will be decreased.
※ **This switch adjust the audio volume when selected audio mode.**

### (2) Mode change button


21093CD52B

① This button is to select the handsfree mode or audio mode.
- Lamp ON : Handsfree mode ("TEL MUTE" displayed ON audio LCD)
- Lamp OFF : Audio mode

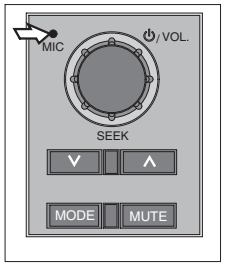
### (3) Call button




21093CD52C

① This button is used answer a call, last number radial, ring off.
② For calling, press the button over 0.5 sec within 3 seconds until the beep sounds.
※ **This can be used when the starting switch is ON.**

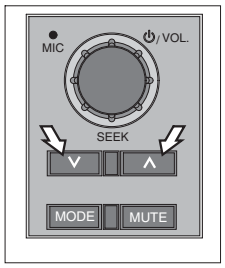
### (4) Handsfree MIC



21093CD52D

① This MIC transfers user voice to receiver of the call when making a call by handsfree.

### (5) Seek button

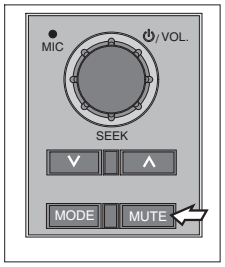


21093CD52E

① If this button pressed, the radio automatically stops at the next frequency of broadcasting for your listening.

② Press ^ to turn a station of a higher frequency or v to a lower frequency.

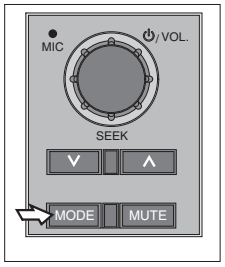
### (6) Mute button



21093CD52G

① Short press this button to mute or cancel the mute (silence) while broadcasting.

### (7) Mode button



21093CD52F

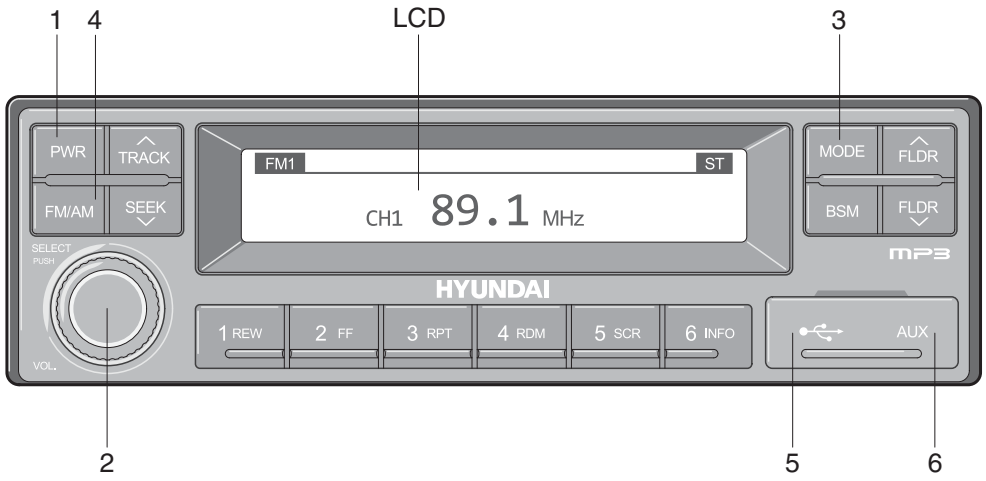
① Press the mode button to select the desired mode.

② FM1 → FM2 → AM → CD → MP3 → FM1

※ **The LCD displayed each mode.**

## 4) RADIO AND USB PLAYER

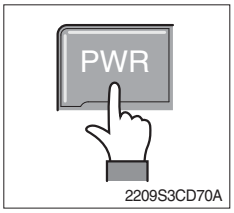
### ■ BASIC FUNCTIONS




2209S3CD70

| | | | |
|---|---|---|---|
| 1 | Power (PWR) button | 4 | Radio (FM/AM) selection button |
| 2 | Volume/Sound setting button | 5 | USB slot |
| 3 | Mode selection button | 6 | AUX terminal |

#### (1) Power (PWR) button

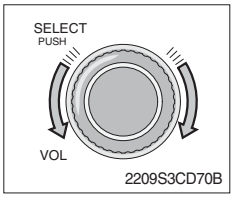



2209S3CD70A

① Press the PWR button to turn on the audio. While the audio is operating, press the button to turn the power off.

#### (2) Volume/Sound setting button

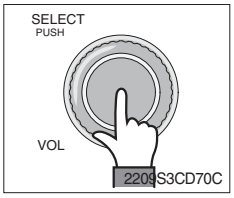
· Volume (VOL) button




2209S3CD70B

① Turn the VOL button clockwise to increase the volume and counter-clockwise to decrease the volume.

· Sound setting




① Press the SELECT button to conduct sound setting.
Each press of the button will change the sound setting in the following order.
BASS → MIDDLE → TREBLE → BALANCE → EQ → BEEP

② After selecting the desired setting, turn the SELECT button clockwise/counter-clockwise to adjust the sound setting value.

③ **BASS adjustment**
Turn the SELECT button clockwise to increase the bass and counter-clockwise to decrease the bass. BASS can be adjusted from max +10/min -10. If there are no adjustments for 3 seconds, the changes will be saved and the previous mode will be restored.

④ **MIDDLE adjustment**
Turn the SELECT button clockwise to increase the middle and counter-clockwise to decrease the middle. MIDDLE can be adjusted from max +10/min -10. If there are no adjustments for 3 seconds, the changes will be saved and the previous mode will be restored.

⑤ **TREBLE adjustment**
Turn the SELECT button clockwise to increase the treble and counter-clockwise to decrease the treble. TREBLE can be adjusted from max +10/min -10. If there are no adjustments for 3 seconds, the changes will be saved and the previous mode will be restored.

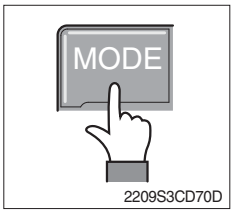
⑥ **Left/Right BALANCE adjustment**
Turn the SELECT button clockwise to increase the right-side speaker volume and counter-clockwise to increase the left-side speaker volume. BALANCE can be adjusted from 10L/10R. If there are no adjustments for 3 seconds, the changes will be saved and the previous mode will be restored.

⑦ **EQ (EQUALIZER) adjustment**
Turn the SELECT button clockwise/counter-clockwise to select the desired EQ. EQ settings are as shown below.
Cls (classic) → Pop → Rock → Jazz → off
If there are no adjustments for 3 seconds, the changes will be saved and the previous mode will be restored.

**※ Upon selecting EQ, the BASS, MIDDLE and TREBLE values will be turned off.**
**The BASS, MIDDLE, TREBLE values can be set only when EQ Off is selected.**

⑧ **BEEP sound adjustment**
Turn the SELECT button clockwise/counter-clockwise to the beep sound ON/OFF. If there are no adjustments for 3 seconds, the changes will be saved and the previous mode will be restored.

### (3) MODE selection button




① Pres the MODE button to change to RADIO/USB/AUX/iPod modes. However, the mode can be selected only when the respective media is connected.

② If iPod is connected to the audio, the mode will change in the following order.
RADIO → iPod → USB (handfree)

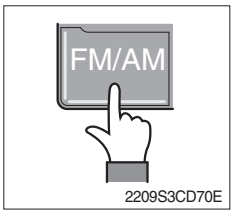
③ If USB, AUX is connected to the audio, the mode will change in the following order.
RADIO → USB(front) → USB(handfree) → AUX

**※ USB and AUX mode will operate only when corresponding devices are connected.**

**※ When connecting iPod, AUX and front USB cannot be connected.**

**※ The iPod is connected to the USB in the machine handfree.**

### (4) Radio (FM/AM) selection button




① Each press of the FM/AM button will change the radio mode in the following order.
FM1 → FM2 → FM3 → AM

② Preset memory of up to FM : 18 stations, AM : 6 stations

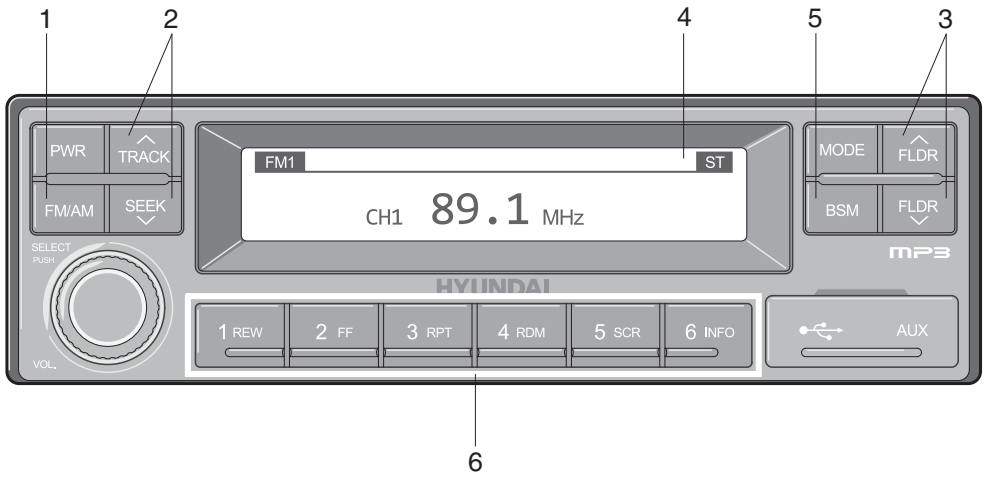
### (5) USB slot

Connects USB to play USB music files.

### (6) AUX terminal

Connects AUX cable to play AUX music files.

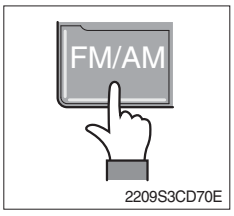
## ■ RADIO




2209S3CD71

1 Radio (FM/AM) selection button
2 TRACK/SEEK button
3 Broadcast manual search (FLDR) button
4 LCD display
5 BSM (Best Station Memory) button
6 Saving broadcast frequencies to PRESET numbers

### (1) Radio (FM/AM) selection button




2209S3CD70E

① Each press of the FM/AM button will change the radio mode in the following order.
FM1 → FM2 → FM3 → AM

② In addition, pressing the FM/AM button when the starting switch is in ON state will turn the power on and activate the radio.

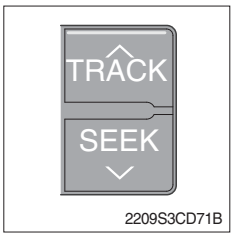
③ **Setting regional Radio Frequency**

▶ North America Frequency
Press the FM/AM and Preset 1 button simultaneously to set frequency in accordance to the North America Frequency settings. “nA” will become displayed on the LCD for one second.
FM : 87.7 ~ 107.9 MHz (200 KHz)
AM : 530 ~ 1710 KHz (10 KHz)

▶ Local/Middle East/Asia Frequency
Press the FM/AM and Preset 2 button simultaneously to set frequency in accordance to the Local/Middle East/Asia Frequency settings. “lnT” will become displayed on the LCD for one second.
FM: 87.5 ~ 108 MHz (100 KHz)
AM: 531 ~ 1602 KHz (9 KHz)

▶ Europe Frequency
Press the FM/AM and Preset 3 button simultaneously to set frequency in accordance to the North America Frequency settings. “Eu” will become displayed on the LCD for one second.
FM: 87.5 ~ 108 MHz (50 KHz)
MW: 531 ~ 1602 KHz (9 KHz)
LW: 153 ~ 279 KHz (1 KHz)

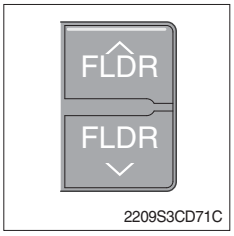
### (2) TRACK/SEEK button




① As buttons used to automatically search broadcasts, pressing the button will automatically search and stop at a frequency with superior reception.
TRACK ∧ : Searches frequencies higher than current frequency
SEEK ∨: Searches frequencies lower than current frequency

**※ When frequencies cannot be properly found due to weak broadcast reception, try using manual FLDR button. (Refer to manual FLDR button explanation below)**

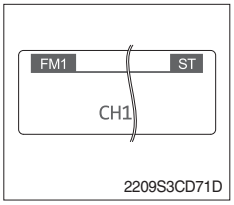
### (3) Broadcast manual search (FLDR) button




① As button used to search frequencies manually, a press of the SEEK step (refer to note below) will change the frequency.
Pressing and holding the button will continue changing the frequency. Releasing the button will stop the search at the current frequency.
FLDR ∧: Searches frequencies higher than current frequency
FLDR ∨: Searches frequencies lower than current frequency

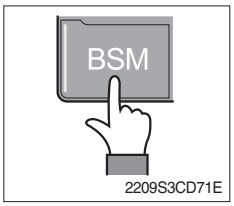
**※ SEEK STEP : FM-100KHz, AM-9KHz**

### (4) LCD display




① The currently received broadcast frequency info and status are displayed.

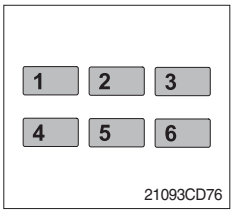
### (5) BSM (Best Station Memory) button




① Press and hold the BSM button to listen to the presets saved in FM BAND FM1, FM2, and FM3 or AM BAND AM for 5 seconds each. When you find a station you wish to listen to, press the BSM button again to receive the selected broadcast.

② Shortly press the BSM button to automatically save frequencies with superior reception in presets (1REW~6INFO). The BSM feature will save AM frequencies in AM mode and FM frequencies in FM mode.

### (6) Saving broadcast frequencies to PRESET numbers




Up to 18 FM broadcasts and 6 AM broadcasts can be saved.

① Use the auto/manual search buttons to find the desired frequency.

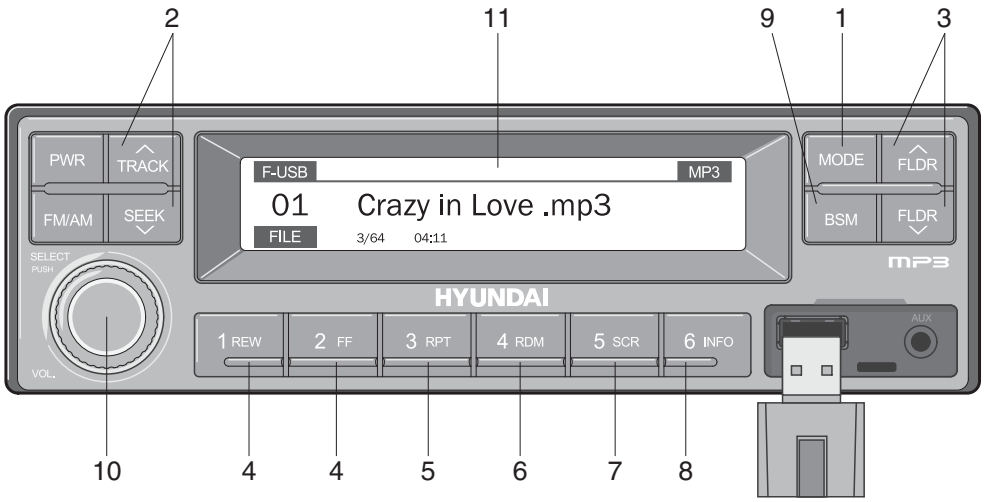
② Select the preset button (1REW~ 6INFO) to which you wish to save the selected frequency. Press and hold the preset button.

③ The frequency will be saved to the preset button to a sound of a beep. The saved frequency number will be displayed on the LCD DISPLAY. (However, the beep will not sound if the beep function has been turned off in sound setting. )

④ After saving is complete, pressing the preset button will play the corresponding broadcast frequency.

**※ No beep sound signifies that the preset has not been saved. In this case, try again from the first step. (However, the beep will not sound if the beep function has been turned off in sound setting.)**

## ■ USB CONNECTION

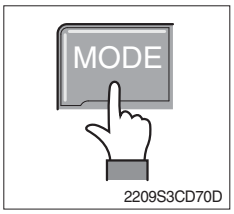



2209S3CD72

1 USB selection button
2 TRACK UP/SEEK DOWN button
3 FLDR UP/DOWN button
4 FF/REW button
5 RPT/FOLDER RPT button
6 RDM/FOLDER RDM button
7 Scroll (SCR) button
8 View music info (INFO) button
9 Scan button (BSM)
10 Finding and playing file (SELECT) button
11 LCD display

- Operates only when a USB is connected. Connecting a USB to the audio will automatically convert to USB mode.
- Connecting the USB when the starting switch is in ON state will turn the power on and automatically play the songs within the USB.

### (1) USB selection button

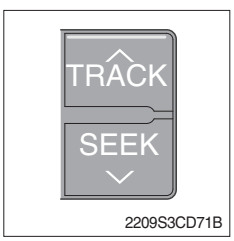



2209S3CD70D

① While playing a different mode, press the MODE button to convert to USB mode. Connecting a USB to the audio will automatically convert to USB mode even if another mode is playing and automatically play the songs within the USB.

② If the USB is connected to both the front USB and handfree, then MODE is converted in the following order.
RADIO → USB(front) → USB(handfree)

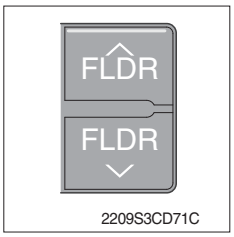
### (2) TRACK UP/SEEK DOWN button




2209S3CD71B

① While playing USB, press the TRACK∧ button to play the beginning of the next song.
Press the SEEK∨ button to return to the beginning of the current song. Press the button again to play the beginning of the previous song.

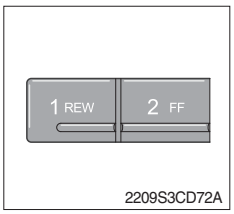
### (3) FLDR UP/DOWN button




① If there are more than 2 folders in the USB, pressing the FLDR UP/DOWN button will move to the previous or next folder.

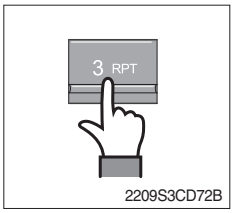
② If there are no folders in the USB, then pressing the button will move up/down within the folder in 10 file increments.

### (4) FF/REW button




① While a USB is operating, press and hold the FF button to fast-forward the song. When fast-forward is complete, the next song will properly play from the beginning even if you continue holding the button. Press and hold the REW button to rewind the song. When rewind is complete, the current song will properly play from the beginning even if you continue holding the button. Shortly pressing the buttons will not operate the FF/REW.

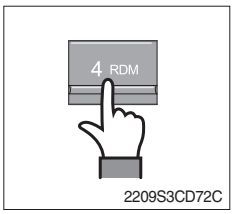
### (5) RPT/FOLDER RPT button




① While music is playing, shortly press the RPT button to repeat the currently playing song.

② (RPT function) Press and hold the RTP button to sequentially repeat all songs within the current folder. (FOLDER RPT, however, music files in the USB must be saved in folder format.)

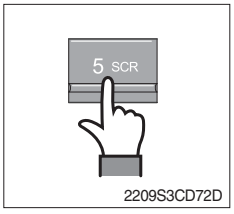
### (6) RDM/FOLDER RDM button




① While music is playing, shortly press the RDM button to randomly play the songs in the current folder. (RDM)

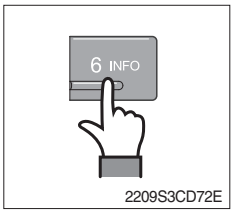
② While music is playing, press and hold the RDM button to randomly play the songs in the current folder. (FOLDER RDM, however, music files in the USB must be saved in folder format.)

### (7) Scroll (SCR) button



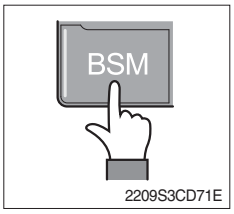

① Press the SCR button to turn ON/OFF the scroll function which scrolls the file name of the currently playing song on the LCD from right to left.

### (8) View music info (INFO) button




① Each time the INFO button is pressed, the info on the currently playing song will be displayed in the following order.
FILE NAME → TITLE → ARTIST → ALBUM → DIR

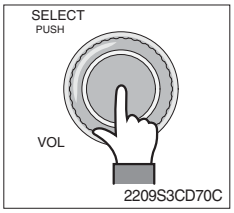
### (9) Scan button (BSM)




① While music is playing, shortly press the BSM button to scan each song within the USB for 10 seconds in sequential order. (SCN)

② Press and hold the BSM button to scan each song within the current folder for 10 seconds in sequential order. (FOLDER SCN, however, music files in the USB must be saved in folder format.)

### (10) Finding and playing file (SELECT) button

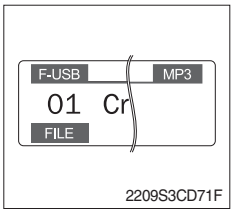



① While USB is playing, press and hold the SELECT button for over 3 seconds to enter FILE BROWER mode and search for desired files.

② After entering FILE BROWSER mode, turn the SELECT button left/right to find the desired folder. After finding the folder, press the SELECT button to select the folder. Turn the SELECT button left/right to find the desired song and press the SELECT button to play.

③ If there are no adjustments for 3 seconds after pressing the SELECT button, the function will be turned off and the USB play screen will be displayed.

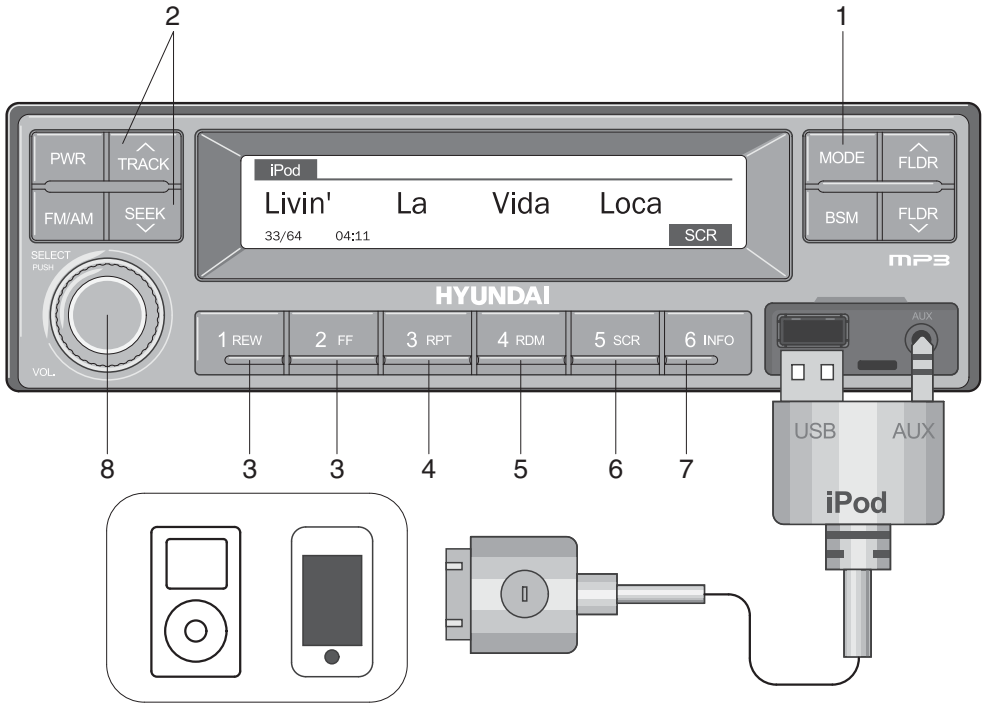
### (11) LCD display




① Displays the info of the currently playing song.

- F-USB : Displays USB is connected to the Audio Front
- R-USB : Displays USB is connected to the handfree
- RPT : Displays that repeat function is turned on
- RPT : Displays that folder repeat function is turned on
- RDM : Displays that random play is turned on
- RDM : Displays that folder random play is turned on
- SCR : Displays that SCROLL is turned on

## ■ iPOD CONNECTION

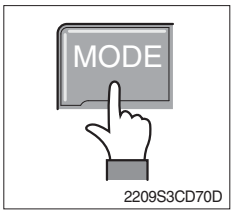



2209S3CD73

1 iPod selection button
2 TRACK UP/SEEK DOWN button
3 FF/REW button
4 Repeat (RPT) button
5 Random play (RDM) button
6 Scroll (SCR) button
7 View music info (INFO) button
8 Finding and playing file (SELECT) button

- Operates only when an iPod is connected. Connecting an iPod to the audio will automatically convert to iPod mode. Connecting the USB when the starting switch is in ON state will turn the power on and automatically play the songs within the iPod.
- The iPod cable is supplied separately.

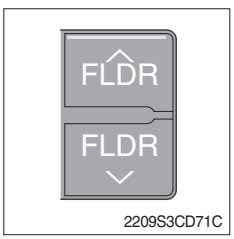
### (1) iPod selection button




2209S3CD70D

① While playing a different mode, press the MODE button to convert to iPod mode. Connecting an iPod to the audio will automatically convert to iPod mode even if another mode is playing and automatically play the songs within the iPod.

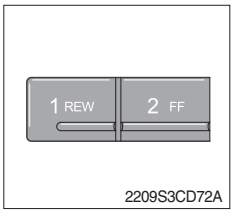
### (2) TRACK UP/SEEK DOWN button




2209S3CD71C

① While playing music, press the TRACK∧ button to play the beginning of the next song.
Press the SEEK∨ button to return to the beginning of the current song. Press the button again to play the beginning of the previous song.

### (3) FF/REW button



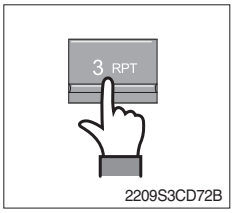

① While an iPod is operating, press and hold the FF button to fast- forward the song.

② When fast-forward is complete, the next song will properly play from the beginning even if you continue holding the button. Press and hold the REW button to rewind the song.

③ When rewind is complete, the current song will properly play from the beginning even if you continue holding the button.

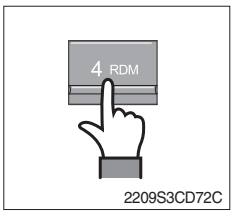
④ Shortly pressing the buttons will not operate the FF/REW.

### (4) Repeat (RPT) button



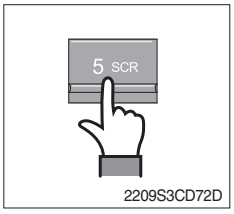

① While music is playing, press the RPT button to repeat the currently playing song.

### (5) Random play (RDM) button



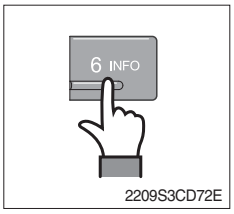

① While music is playing, press the RDM button to randomly play the songs.

### (6) Scroll (SCR) button



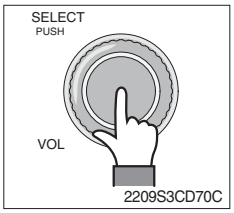

① Displays the file name of the currently playing song on the LCD. Here, the SCR button turns the file name SCROLL ON/OFF.

### (7) View music info (INFO) button




① Each time the INFO button is pressed, the info on the currently playing song will be displayed in order of ARTIST → ALBUM → TITLE.

### (8) Finding and playing file (SELECT) button




① While iPod is playing, press and hold the SELECT button for over 3 seconds to enter CATEGORY mode and search for desired files.

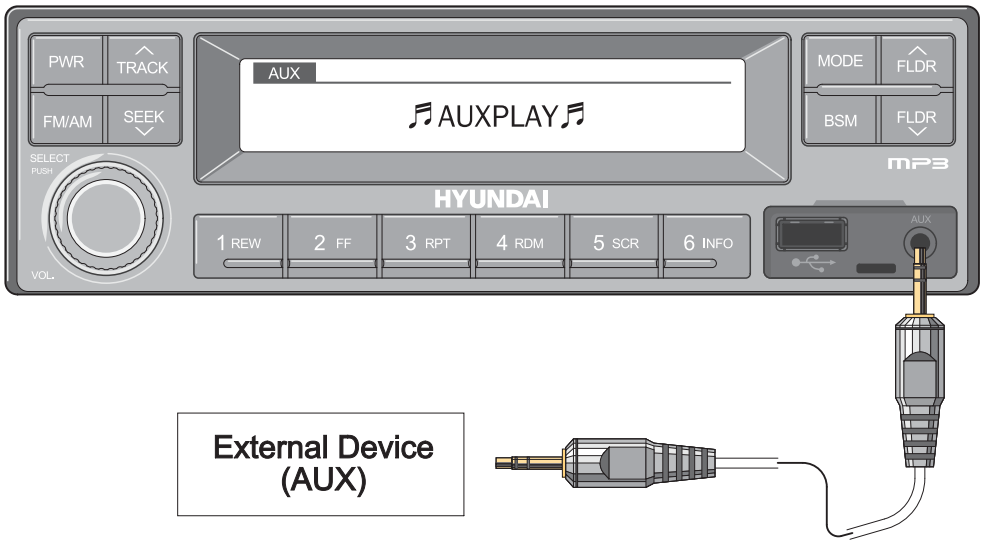
② After entering CATEGORY mode, turn the SELECT button left/right to find the desired category.

③ Category will be displayed in the following order.
PLAYLISTS → ARTISTS → ALBUMS → GENRES → SONGS → COMPOSERS → AUDIOBOOKS → PODCACSTS

④ After finding the category, press the SELECT button to select the category. Turn the SELECT button left/right to find the desired song and press the SELECT button to play.

⑤ If there are no adjustments for 3 seconds after pressing the SELECT button, the function will be turned off and the iPod play screen will be displayed.

■ AUX connection




2209S3CD74

- Operates only when an external device is connected to AUX. Connecting an AUX device to the audio using the AUX cable will automatically convert to AUX mode.
- When an external device is connected, only the PWR, FM/AM, MODE, and VOL buttons can be operated.
- Settings can be made only through the external device connected to AUX.
- The AUX cable is supplied separately.

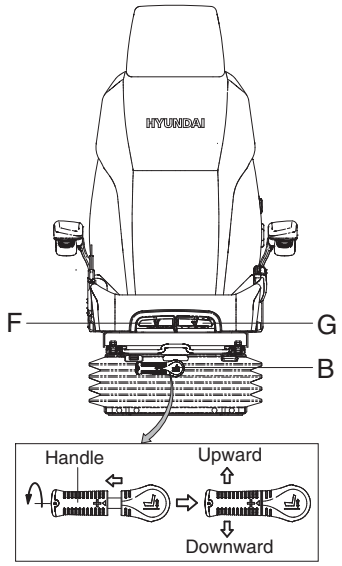
(1) Connecting an external device using the AUX cable

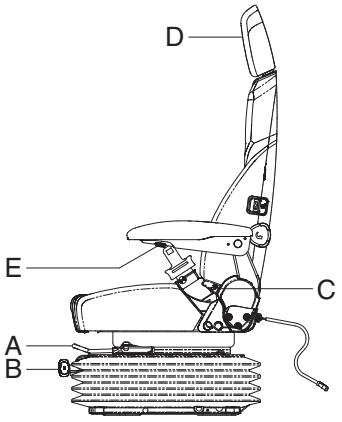
① While playing a different mode, press the MODE button to convert to AUX mode.

② If an external device is connected to the Audio through the AUX terminal, AUX mode will automatically be converted and play music from AUX. Connecting the AUX when the starting switch is in ON state will turn the power on and automatically play the songs within the AUX.

## 5) 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.




21093CD55

**(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 140 mm (5.5") in 13 steps.

**(2) Height/weight adjustment** (B)

① Turn the handle to adjust seat upward or downward

· Turn to clockwise, the seat is moved to upward and the weight is increased.
If it is turned to counterclockwise, the seat is moved to downward and the weight is decreased.

② **Method of changing direction** (up/down)

· First, pull the handle to outside.

· Second, rotate 180˚ and release the handle.

**(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 over 60 mm (2.4").

**(6) Seat cushion tilt adjustment** (F)

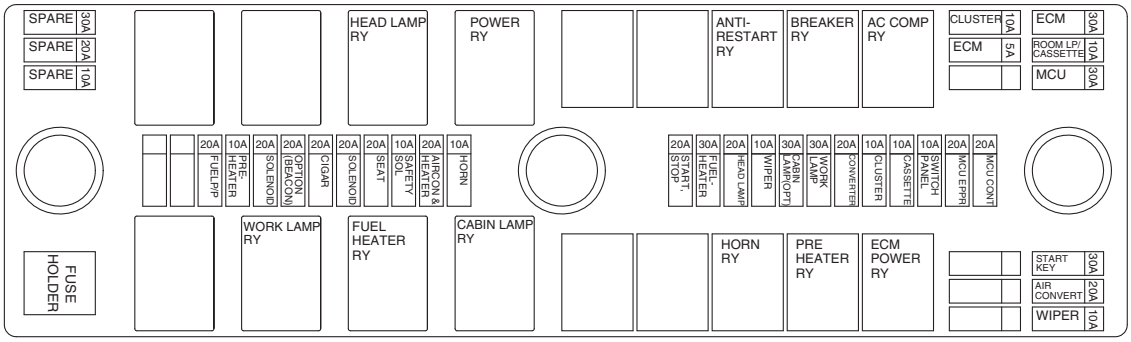
Pull lever F to adjust seat cushion tilting angle.

**(7) Seat cushion length adjustment** (G)

**⚠ Pull lever G to adjust seat cushion forward or backward.**

**⚠ 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.**

## 6) FUSE & RELAY BOX




21093CD56

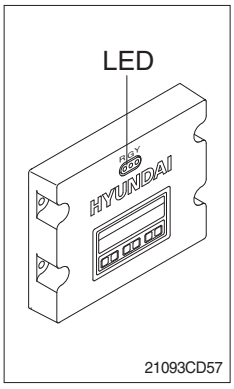
(1) The fuses protect the electrical parts and wiring from burning out.

(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.**

## 7) MCU




21093CD57

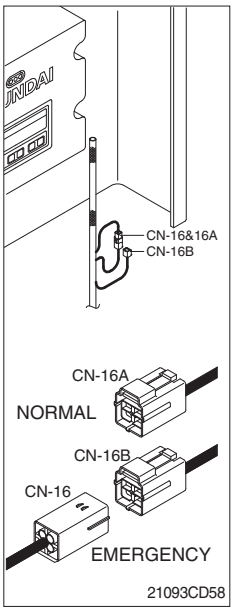
(1) To match the pump absorption torque with the engine torque, MCU varies EPPR valve output pressure, which control pump discharge amount whenever feedbacked engine speed drops under the reference rpm of each mode set.

(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 | · Change the MCU |
| 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 MCU power | · Check if the input power wire (24 V, GND) of controller is disconnected<br>· Check the fuse |

G : green, R : red, Y : yellow

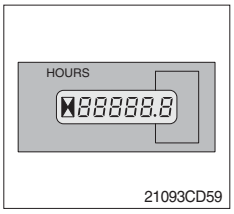
### 8) EMERGENCY ENGINE SPEED CONTROL CONNECTOR




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

※ **Never connect connector CN-16 with CN-16B when MCU is in normal operation.**

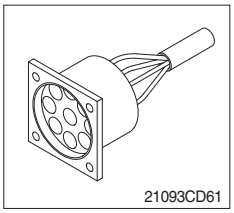
### 9) SERVICE METER




(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.

### 10) RS232 & J1939 SERVICE SOCKET




(1) MCU communicates the machine data with Laptop computer through RS232 service socket.

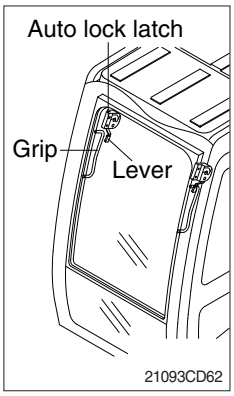
(2) ECM communicates the engine data with Perkins electric tool adapter through J1939 service socket.

① ECM fault code check

② ECM program change

③ Engine data monitoring & test

## 11) UPPER WINDSHIELD

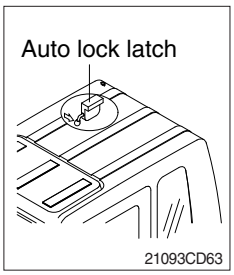



(1) Perform the following procedure in order to open the upper windshield.

① Pull both levers with hold both grips that are located at the top of the windshield frame and push the windshield upward.

② Hold both grips and back into the lock position until auto lock latch is engaged, then release the lever locked position.

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




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

① Pull the lever of the auto lock latch in order to release the auto lock latch.

② Reverse above step ① and ② in order to close the upper windshield.