

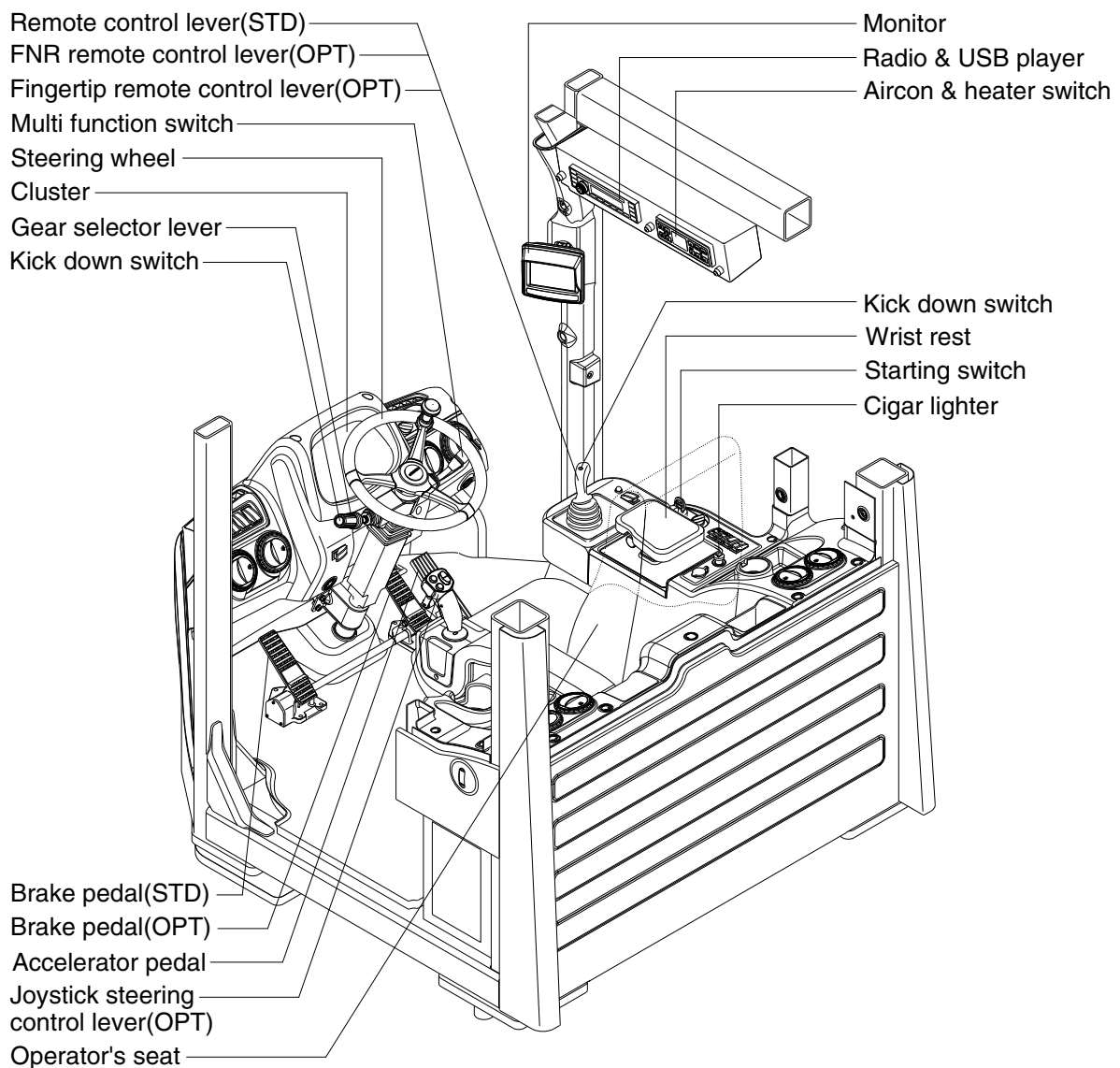
## 3. CONTROL DEVICES

### 1. CAB DEVICES

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

#### 2) ELECTRONIC MONITOR SYSTEM

- (1) The centralized electronic monitor system allows the status and conditions of the machine to be monitored at a glance.
- (2) It is equipped with a safety warning system for early detection of machine malfunction.



7609A3CD01

## 2. CLUSTER

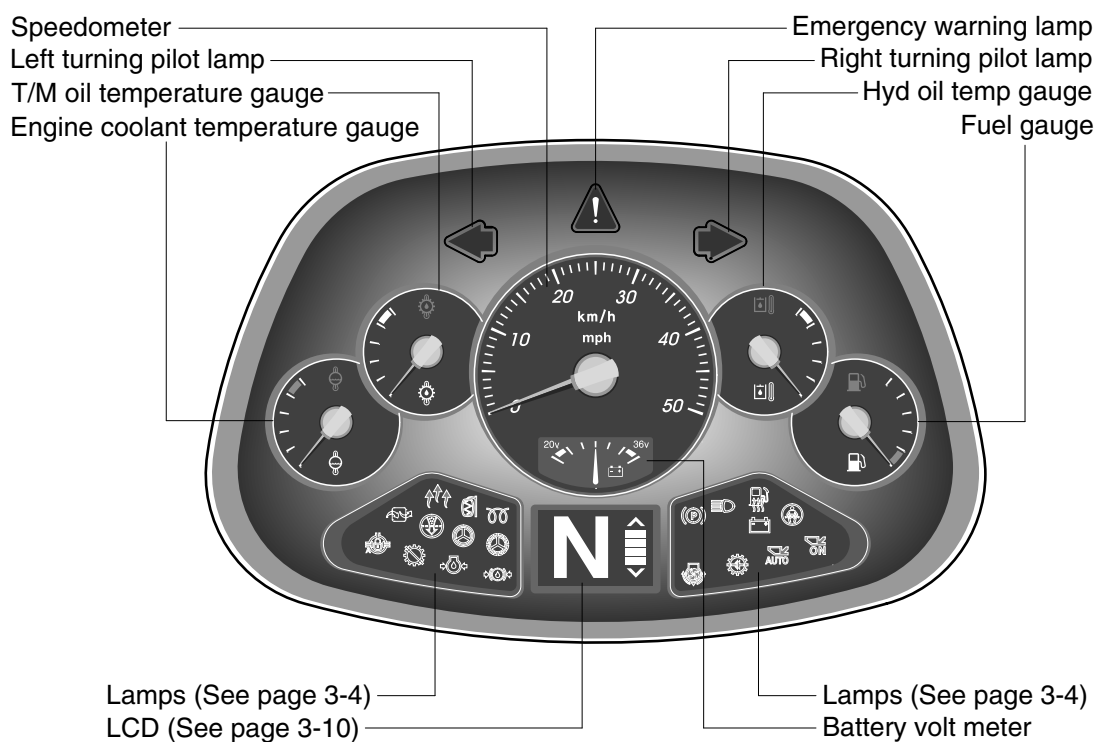
### 1) STRUCTURE

The cluster consists of gauges, lamps and LCD 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 lamps : Indicate abnormality of the machine.
- Pilot lamps : Indicate operating status of the machine.
- LCD : Indicates selected the driving speed and direction.

※ 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.

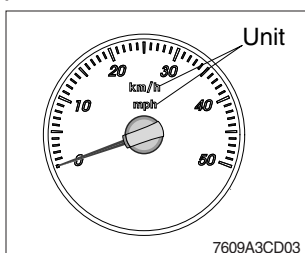
※ When the cluster provides a warning immediately check the problem, and perform the required action.



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### 2) GAUGE

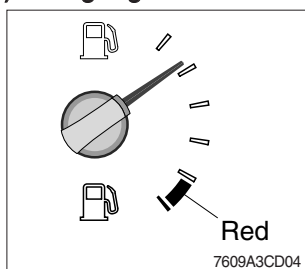
#### (1) Speedometer




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

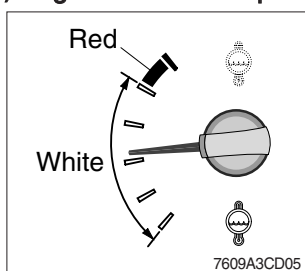
※ The unit (km/h or mph) can be set by the display set up menu of the monitor and selected unit is displayed.  
Refer to page 3-23.


## (2) Fuel gauge



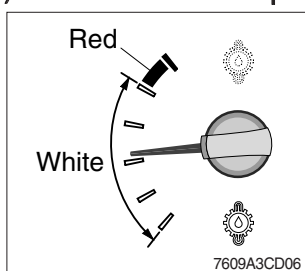
- ① This gauge indicates the amount of fuel in the fuel tank.
  - ② Fill the fuel when the indicator moves red range or  lamp blinks in red, refuel as soon as possible to avoid running out of fuel.
- ※ If the gauge indicates below red range even though the machine is on the normal condition, check the electric device as that can be caused by the poor connection of electricity or sensor.


## (3) Engine coolant temperature gauge



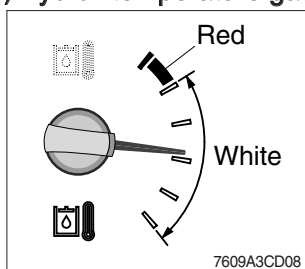
- ① This gauge indicates the temperature of coolant.
  - White range : 40~104°C (104~219°F)
  - Red range : Above 104°C (219°F)
- ② If the indicator is in the red range or  lamp blinks in red, turn OFF the engine and check the radiator and engine.


## (4) Transmission oil temperature gauge



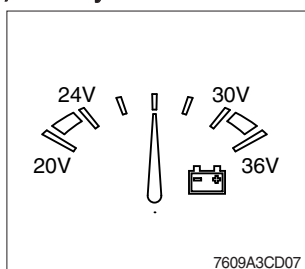
- ① This gauge indicates the temperature of transmission oil.
  - White range : 40~107°C (104~225°F)
  - Red range : Above 107°C (225°F)
- ② If the indicator is in the red range or  lamp blinks in red, it means the transmission is overheated. Be careful that the indicator does not move into the red range.

## (5) Hyd oil temperature gauge



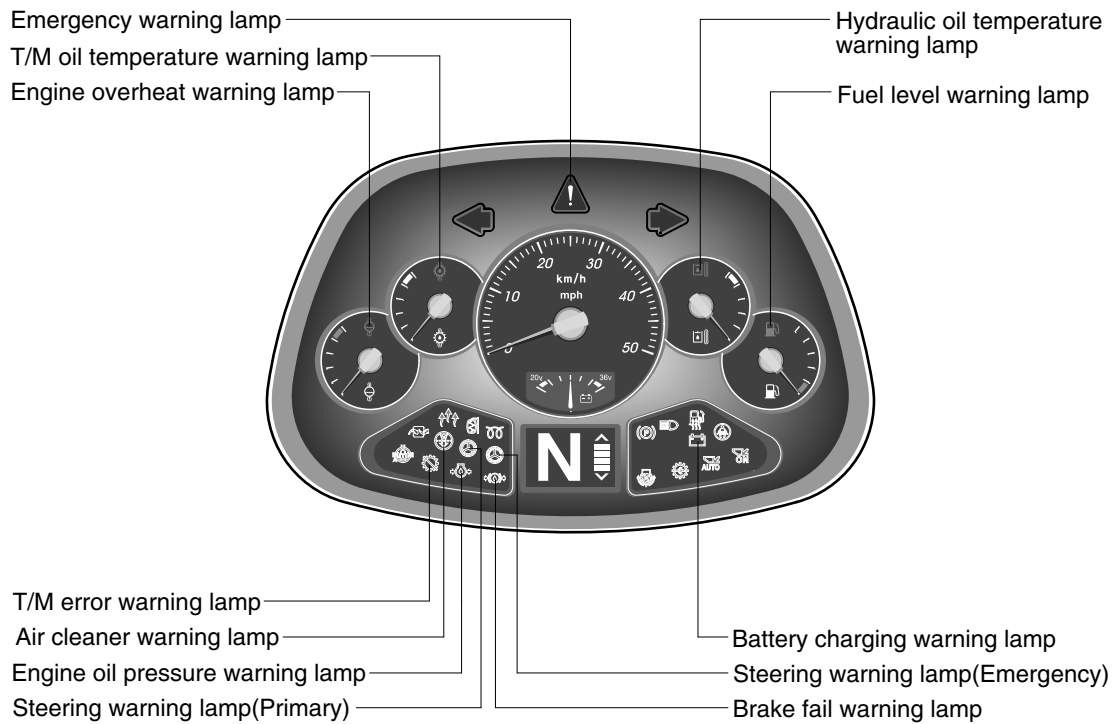
- ① This gauge indicates the temperature of hydraulic oil.
  - White range : 40~105°C (104~221°F)
  - Red range : Above 105°C (221°F)
- ② If the indicator is in the red range or  lamp blinks in red, reduce the load on the system.
- ③ If the gauge stays in the red range, stop the machine and check the cause of the problem.

## (6) Battery volt meter



- ① This gauge indicates the voltage in the charging system when the engine is running.
- ② If the indicator is below 24V, it means that the electricity is being discharged. If the indicator is above 30V, an unusually high voltage may damage the alternator. Check the charging system in both cases.

### 3) WARNING LAMPS



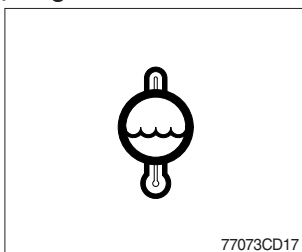
7809S3CD09A

#### (1) Emergency warning lamp



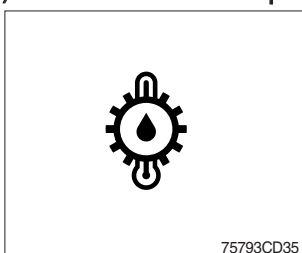
- ① This warning lamp blinks and the buzzer sounds when communication error occur between monitor and MCU.
- ② When this warning lamp blinks, machine must be checked and service immediately.

#### (2) Engine overheat warning lamp



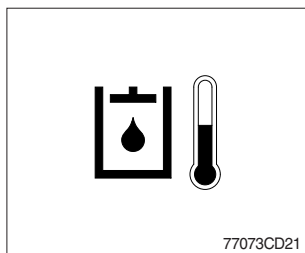
- ① This lamp is turned ON when the temperature of coolant is over the normal temperature (106°C, 223°F).
- ② Check the cooling system when the lamp is ON.

#### (3) Transmission oil temperature warning lamp



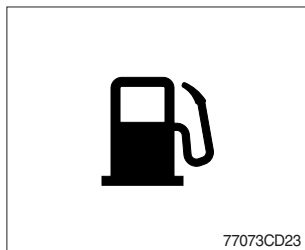
- ① This lamp informs the operator that transmission oil is above the specified temperature.
- ② When this lamp lights up during operation, stop the engine and check the machine.

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



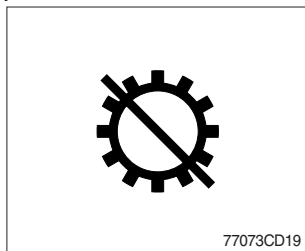
- ① This warning lamp operates and the buzzer sounds when the temperature of hydraulic oil is over 105°C (221°F).
- ② Check the hydraulic oil level when the lamp is turned ON.
- ③ Check for debris between oil cooler and radiator.

#### (5) Fuel level warning lamp



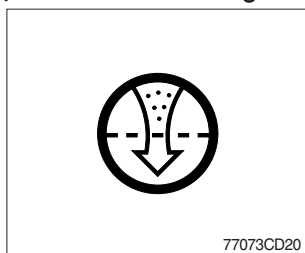
- ① This warning lamp lights ON when the fuel level is low. Refuel the machine as soon as possible.

#### (6) Transmission error warning lamp



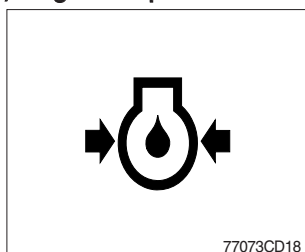
- ① This lamp lights ON and the LCD display show the error codes when an error occurs in the transmission.
  - ② Immediately pull the machine to a convenient stop. Stop the engine. Investigate the cause.
- ※ **Consult a HYUNDAI dealer to investigate the cause.**
- ※ **Do not operate until the cause has been corrected.**

#### (7) Air cleaner warning lamp



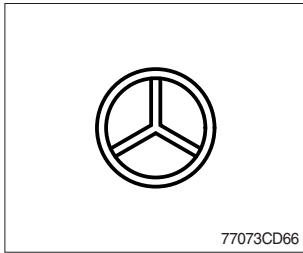
- ① This lamp lights ON when the filter of air cleaner is clogged.
- ② Check the filter and clean or replace it when the lamp is ON.

#### (8) Engine oil pressure warning lamp



- ① This lamp is comes ON after starting the engine because of the low engine oil pressure.
- ② If the lamp comes ON during engine operation, shut OFF engine immediately. Check engine oil level.

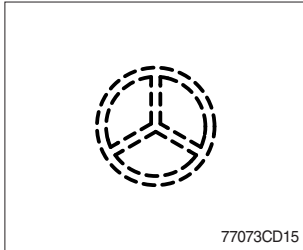
### (9) Steering warning lamp



#### ① Primary

This lamp indicates that the primary steering has failed. When the indicator comes on and the action alarm sounds, steer the machine immediately to a convenient location and stop the machine. Stop the engine and investigate the cause.

※ **Do not operate the machine until the cause has been corrected.**



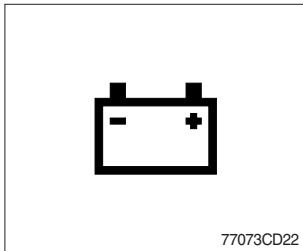
#### ② Emergency

This lamp indicates the emergency steering system is active.

※ **Immediately pull the machine to a convenient stop and stop the engine.**

※ **The emergency steering system can be manually tested. Refer to page 3-28.**

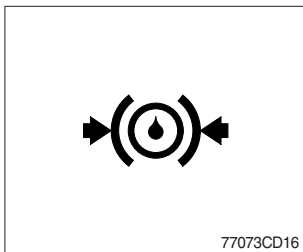
### (10) Battery charging warning lamp



① This lamp is ON when key ON, it is turned OFF after starting the engine.

② Check the battery charging circuit when this lamp comes ON, during engine operation.

### (11) Brake fail warning lamp

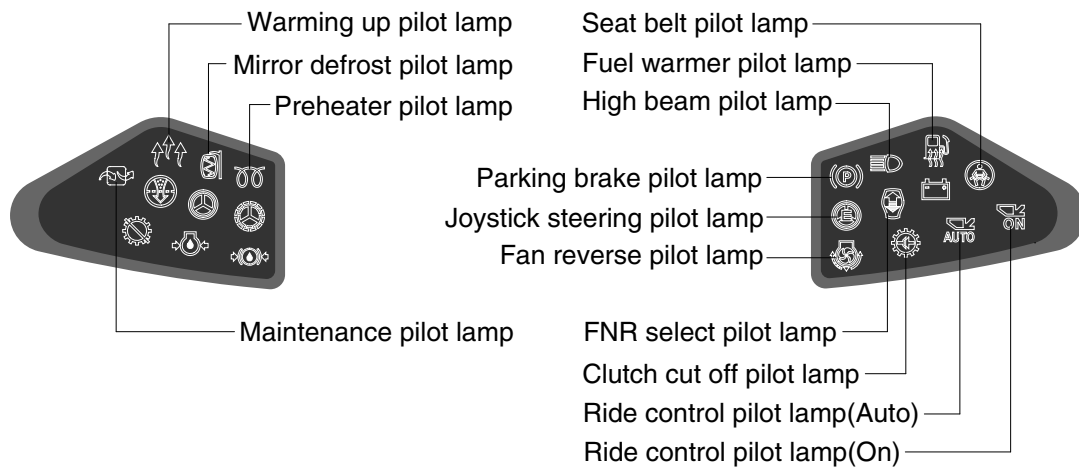


① The lamp lights ON when the oil pressure of service brake drops below the normal range.

② When the lamp is ON, stop the engine and check for its cause.

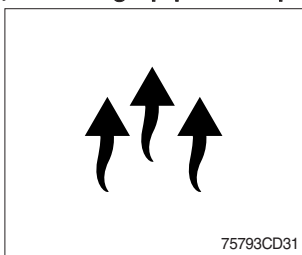
※ **Do not operate until any problems are corrected.**

#### 4) PILOT LAMPS



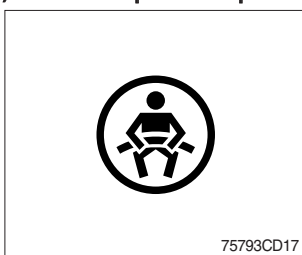
75793CD10

##### (1) Warming up pilot lamp



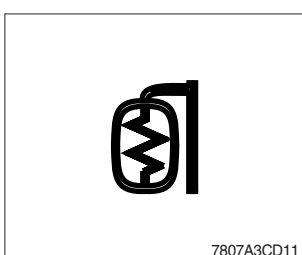
- ① This lamp is turned ON when the coolant temperature is below 30°C (86°F).
- ② The automatic warming up is cancelled when the engine coolant temperature is above 30°C, or when 10 minutes have passed since starting the engine.

##### (2) Seat belt pilot lamp



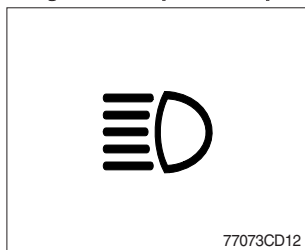
- ① This lamp lights ON for the first five seconds after starting the engine.

##### (3) Mirror defrost pilot lamp



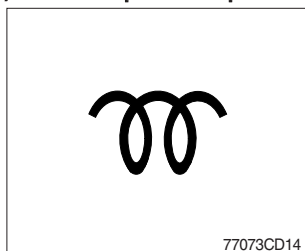
- ① This lamp comes ON when mirror defrost switch is pressed.

#### (4) High beam pilot lamp



- ① This lamp works when the illuminating direction is upward.
- ② This lamp comes ON when the dimmer switch is operated, e.g., when passing another vehicle.

#### (5) Preheat pilot lamp



- ① This lamp lights ON when start switch is turned clockwise to the ON position. Light will turn off after approximately 5~45 seconds, depending on engine temperature, indicating that preheating is completed.
- ② When the lamp goes out the operator should start cranking the engine.

※ Refer to page 4-5.

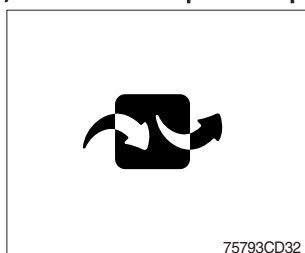
#### (6) Parking brake pilot lamp



- ① When the parking brake is actuated, the lamp lights ON.

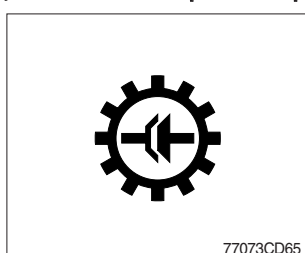
※ Check the lamp is OFF before driving.

#### (7) Maintenance pilot lamp



- 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 the monitor menu. Also, this lamp lights ON for 3 minutes when the start switch is ON position.

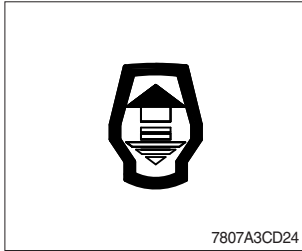
#### (8) Clutch cut off pilot lamp



- ① This lamp lights ON when the clutch cut off mode switch is positioned L, M, H.

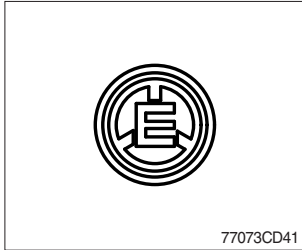
※ Refer to page 3-29.

(9) FNR select pilot lamp (option)



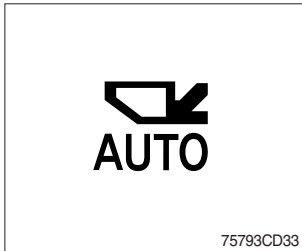
- ① The lamp comes ON when FNR select button on the optional FNR remote control lever is pressed.
- ※ Refer to page 3-33.

(10) Joystick steering pilot lamp (option)

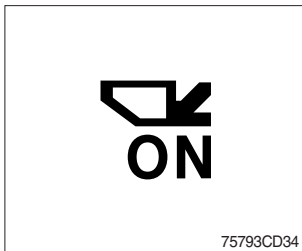


- ① This lamp lights ON when joystick steering is activated. It is then possible to steer the machine and select gears from the armrest to the left of the operator's seat.
- ※ Refer to page 3-35.

(11) Ride control pilot lamp (option)



- ① **Auto ride control**  
This lamp lights ON when push in the bottom of the ride control switch (auto position).
- ※ Refer to page 3-28.



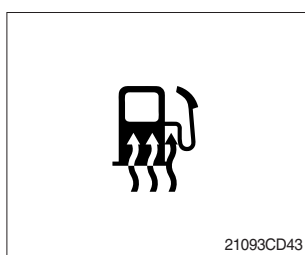
- ② **Manual ride control**  
This lamp lights ON when push in the top of the ride control switch (manual position)
- ※ Refer to page 3-28.

(12) Fan reverse pilot lamp



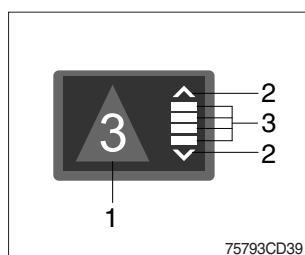
- ① This lamp lights ON when the fan control switch is pressed.
- ※ Refer to page 3-27.

### (13) Fuel warmer pilot lamp



- 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 and the hydraulic oil temperature is above 45°C since the start switch was ON position.

### 5) LCD



- (1) The LCD can be used with the gear selector.  
It indicates speed and driving direction.

No	Symbol	Meaning	Remark
1	△, ▽, □	Actual gear display	Forward, reverse, neutral
	1, 2, 3, 4		Actual gear
	P		Parking brake mode active
2	▲, ▼	Forward, reverse	Automatic mode
3	■	Gear range display	Automatic mode

### 3. MONITOR

- The monitor is adjustable.
- Vertical : 14°
- Horizontal : 30°



75793CD23

#### 1) BUTTONS

##### (1) Menu button



- ① Main display to main menu, main menu to main display.
- ② AEB cancel button in AEB setting.

##### (2) Left move button



- ① Move in menu (left, up).

##### (3) Camera / ESC button



- ① Enter rear camera mode in main display.
- ② Cancel button except in main display (move previous menu).

##### (4) Right move / Buzzer stop button



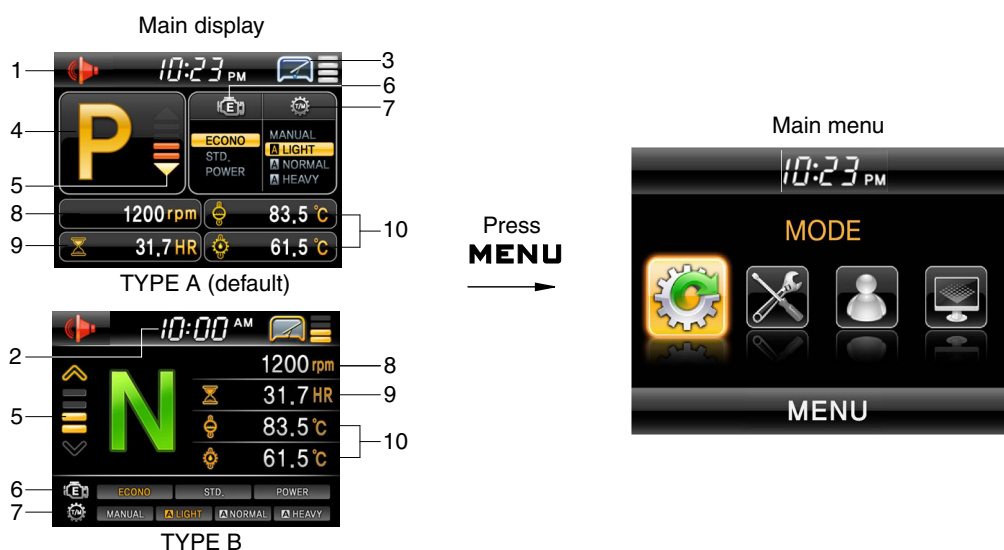
- ① Move in menu (right, down).
- ② Buzzer stop.

##### (5) Enter button



- ① Select menu (enter).
- ② AEB cancel button in AEB setting.

## 2) MAIN MENU







75793CD11

- |               |                     |                        |
|---------------|---------------------|------------------------|
| 1 Buzzer      | 5 Select gear       | 9 Hour meter, odometer |
| 2 Clock       | 6 Engine mode       | 10 Monitoring          |
| 3 Wiper speed | 7 Transmission mode |                        |
| 4 Actual gear | 8 Engine rpm        |                        |

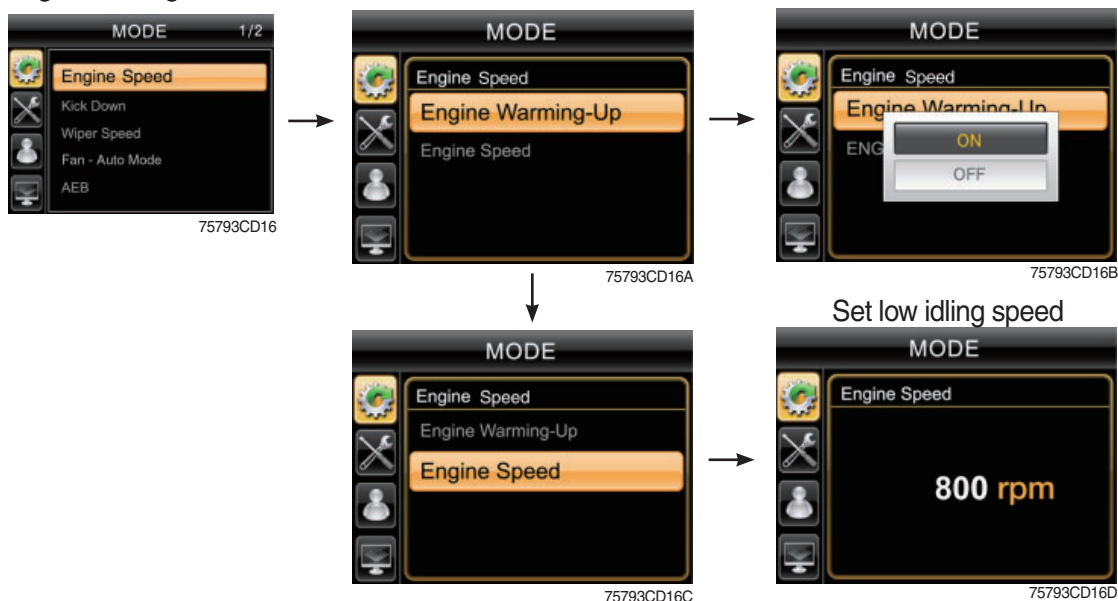
※ Display type can be changed by operator. See page 3-23.

### (1) Structure

No	Main menu	Sub menu	Description
1	 MODE 75793CD12	Engine setting Kick down setting Wiper speed setting Fan-auto mode AEB setting Speed meter setting Sensor calibration	Engine warming up, Engine speed Mode 1 (down/up), Mode 2 (down only) 4 steps Interval and time setting AEB setting Pulse setting Boom/bucket angle, Boom pressure, Brake pedal sensor
2	 MONITORING 75793CD13	Fault code Machine monitoring Record monitoring	Machine, TCU, ECU, SCU Hyd temp, Battery, Coolant temp T/M oil temp, Weighing system Hour meter, ODO meter
3	 MANAGEMENT 75793CD14	Machine security Maintenance Machine information Service contact Service	ESL system setting, Change password Replacement, Change interval (oils and filters) Version, Status Service contact S/W download, Speed limit setting
4	 DISPLAY SET UP 75793CD13	Clock Display setting Unit setting Rear camera setting Language setting	Clock Brightness setting (Manual/Automatic) Type display (A or B type) Temp (°F/°C), Distance (km/mile), Pressure (bar, Mpa, kgf/m², psi) Reverse mode, Active camera, Display order 12 languages

## (2) Mode

### ① Engine setting



### ② Kick down setting



- Mode 1 (down/up) : Press kick down button once, shift down and press button again, shift up.
- Mode 2 (down only) : Press kick down button every time, shift to lower gear respectively.

※ Refer to page 3-31.

### ③ Wiper speed setting



- Setting wipe speed 1 to 4.

### ④ Fan-auto mode

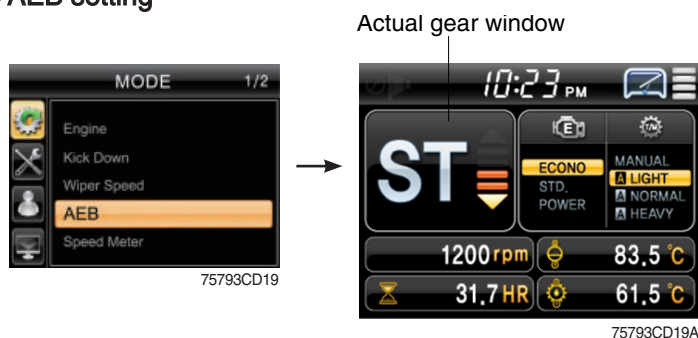


- Select reverse interval or reverse time.
- Set reverse interval (30~300 min) or reverse time (30~300 sec).

※ Default : Interval (60 min), time (120 sec)

※ Refer to page 3-27, fan control switch.

## ⑤ AEB setting



- AEB mode controls the disk clearance of the transmission, automatically.
- To start AEB setting, press and hold for 3 seconds.
- To cancel AEB setting, press **MENU**, /**ESC** or .
- If "OK" in actual gear window, press **MENU**, /**ESC** or to complete AEB setting.
- **Display during AEB mode**

Symbol	Meaning
ST	Start AEB
K1~K4, KV, KR	Calibrating clutch K1~K4, KV or KR respectively
OK*	Calibration for all clutches finished
Spanner and Kx*	Kx couldn't be calibrated, AEB finished
△E	Engine speed too low - Raise engine speed
▽E	Engine speed too high - Lower engine speed
△T	Transmission oil temperature too low - Heat up transmission
▽T	Transmission oil temperature too high - Cool down transmission
FO*	Output speed not zero
FN*	Shift lever not in neutral position
FP*	Parking brake not applied

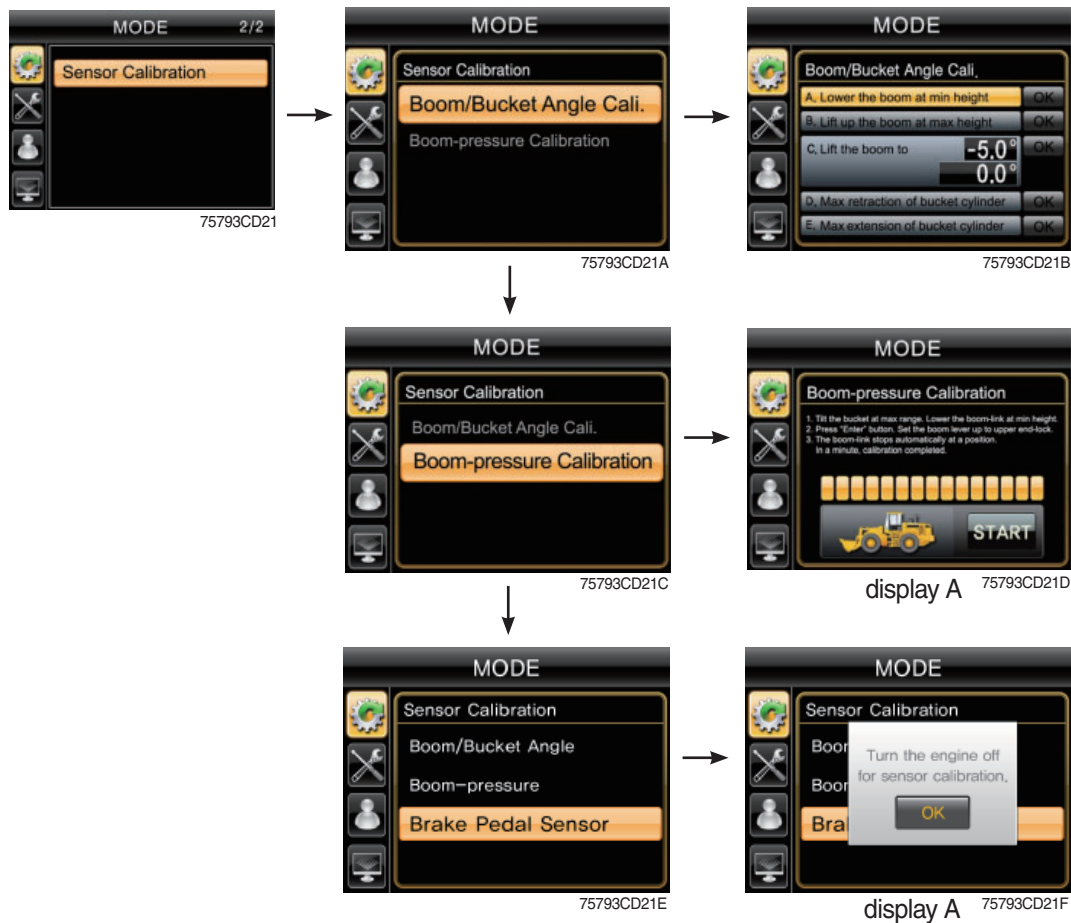
\* : Transmission stays in neutral, you have to restart the TCU (ignition off/on).

## ⑥ Speed meter setting



- Press and hold for 3 seconds.
- To change the pulse value, press ◀ or ▶/※.
- To change the position, press .
- ※ Only for the serviceperson.

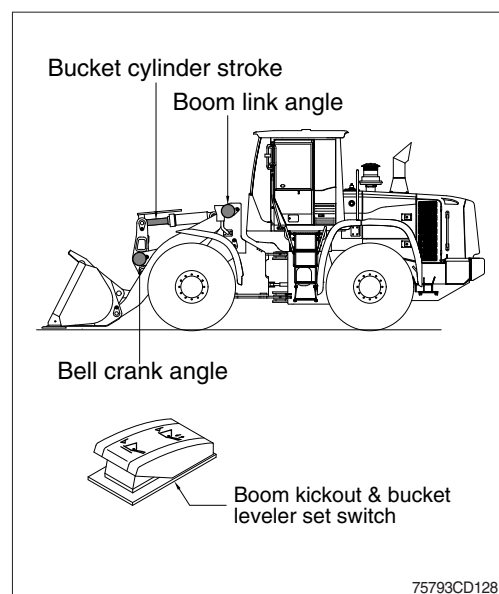
## ⑦ Sensor calibration









### · Boom / Bucket angle calibration

- CPU get sensing signal from boom link angle and bell crank angle and calculate bucket cylinder stroke and boom link position angle from ground real time basis.
- Boom link angle position and bucket cylinder stroke is set by boom kickout & bucket leveler set switch in cab.
- Individual setting position is done by lever solenoid (detent, release operation).
- Angle sensor calibration is basically carried out before delivery of the machine.

When angle sensor is replaced or actual value is different compared to setting value, this function can be done.



The calibration must be carried out as follows :



- ① Lower the boom at maximum low position and select  (bucket must be max tilting position).
- ② Raise boom at maximum high position and select .
- ③ Position boom at -5° and select .
- ④ Retract bucket cylinder length (to minimum position) at -5° boom position and select .
- ⑤ Extend bucket cylinder length (to maximum position) at -5° boom position and select .
- ⑥ In case above steps are carried normally, "complete" message is shown. Then angle sensor calibration is finished after selecting .

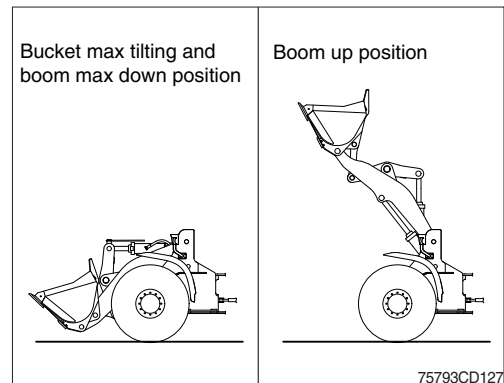
**Boom down / boom up / bucket position setting : Refer to page 4-22.**

#### · Boom pressure calibration

– It is used when bucket weight is changed or measured weight is inaccurate.



– The calibration must be carried out as follows :

- ① Increase hydraulic temperature (about 30 ~ 60°C).
- ② Select "Boom-pressure calibration".
- ③ Place the boom at low position with bucket completely rolled in (max tilting position).
- ④ Press .
- ⑤ Raise boom to maximum position. Boom up must be finished before stepping advance in "display A".
- ⑥ If it show "Succeed" message in a moment, press .



- ※ Raise hydraulic temperature enough when checking work load / boom pressure sensor calibration (recommendation : about 30 ~ 60°C).
- ※ Check if pressure sensor or angle sensor is in normal condition for accurate work load algorism or pressure sensor calibration (pressure sensors at boom cylinder head area and rod area, boom link angle sensor (CD-80), bell crank angle sensor (CD-81).
- ※ Sensor error message during pressure sensor calibration : sensor need to be checked.

#### · Brake pedal sensor calibration

- Turn the engine OFF and turn the starting switch ON position.
- Press OK button, then calibration will be started.
- When display "IP  " on main display, press slowly the brake pedal completely.
- Release the brake pedal when display "IP  " on main display.
- For cancel, press MENU/HOME switch.
- ※ When the brake pedal or sensor is replaced, **brake pedal sensor calibration must be performed.**

### (3) Monitoring

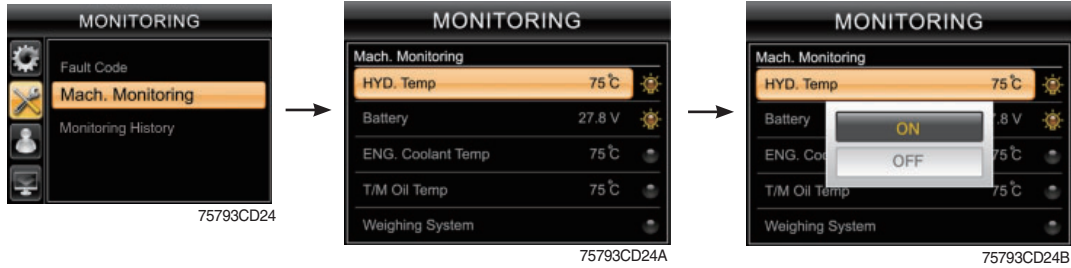
#### ① Fault code



· Monitor the fault code of the Machine/ECU/TCU.

※ Not define will be indicated in case of that there's no fault.

## ② Machine monitoring



- Monitor the status of the machine.
- To check the item in main display, choose it and press .
- The right icon shows ON/OFF status.

### ※ Priority in the main display



The example of the weighing system

- The priority of the weighing system is the highest.
- If selected the weighing system, the other items are not available.
- To check the other items, the weighing system should not be selected.

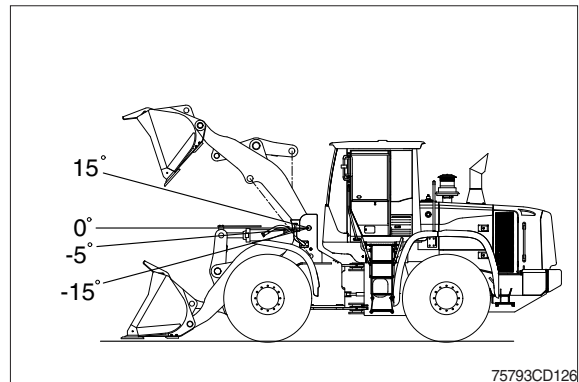
### ※ Weighing system

#### 1. PRINCIPLE

- 1) The weight indication in bucket is calculated by measuring boom position and boom pressure.
  - (1) The weight is '0.0 ton' when the boom is placed at below -15°.
  - (2) The weight is indicated when the boom is placed at the range (-5°→15°).
  - (3) The weight is calculated when the boom is placed at above -5° and boom is lowered below -15° after dumping operation.

In order to re check weight, go to the (2) after changing boom position (below -15°).

(The other way is to select of monitor and go to (2) in case boom is placed at above -5°).
- 2) Dump operation : It is checked by bucket cylinder's stroke change (below 250 mm).



75793CD126

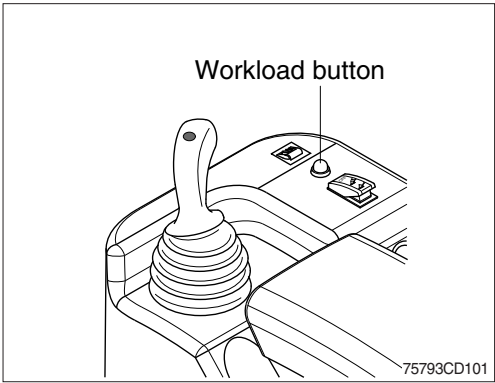
2. MONITOR DISPLAY

- 1) When pressing work load button for over 2 seconds, the weight is shown sequence basis.  
(main display 1 → 2 → 3 → 4 → 1)

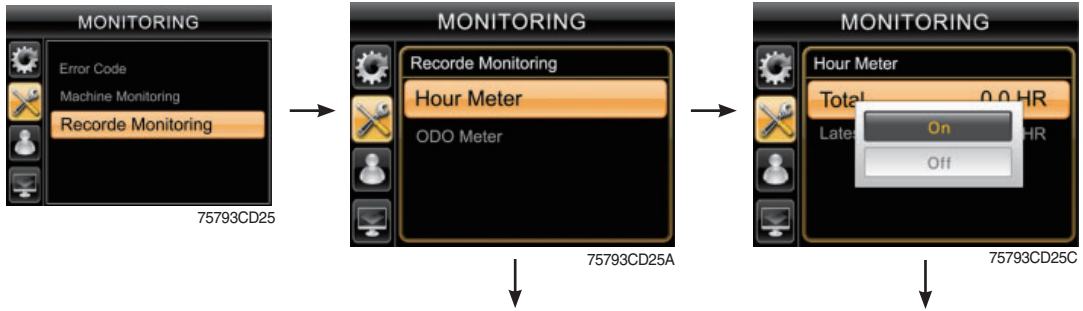


	Work weight (today)
	Work weight (previous day)
	Total weight accumulated in memory A, B, C individually regardless of date
	Current weight

- 2) Default accumulated value at memory A, B, C when pressing work load button for over 2 seconds (default : 0.0 ton).



### ③ Record monitoring



#### · Hour meter

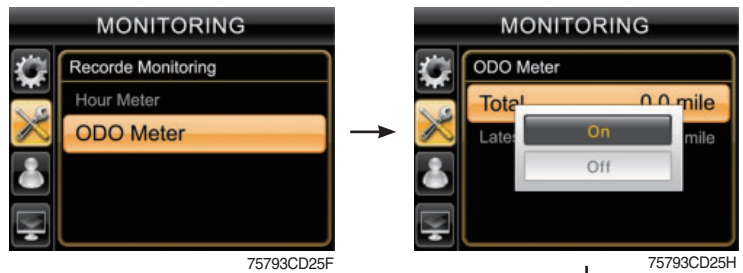
- **Total** : total hour meter

To show the item in the main display, select "ON" and press (this item could not reset).

- **Latest** : the latest hour meter after reset.

To show the item in the main display, select "ON" and press .

To reset the latest hour meter, select "initializing" and press .



#### · ODO meter

- **Total** : total ODO meter

To show the item in the main display, select "ON" and press (this item could not reset).

- **Latest** : the latest ODO meter after reset.

To show the item in the main display, select "ON" and press .

To reset the latest odometer, select "initializing" and press .



#### (4) Management

##### ① Machine security



##### · ESL system setting

- ESL : Engine Starting Limit
- ESL mode is designed 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.

- Disable : Not used ESL function

Enable : The password is required whenever the operator start engine.

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

The interval time can be set maximum 2 days.

※ Default password : 00000 \*

##### · Interval setting

- If set interval setting to 5 minutes, ESL system is activated after 5 minutes.

Therefore, the password does not need to restart engine within 5 minutes.



- **Change password**
  - Input 5 to 10 digits and press \*.



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75793CD26H

Enter the current password.



75793CD26L

Enter the new password.



75793CD26N

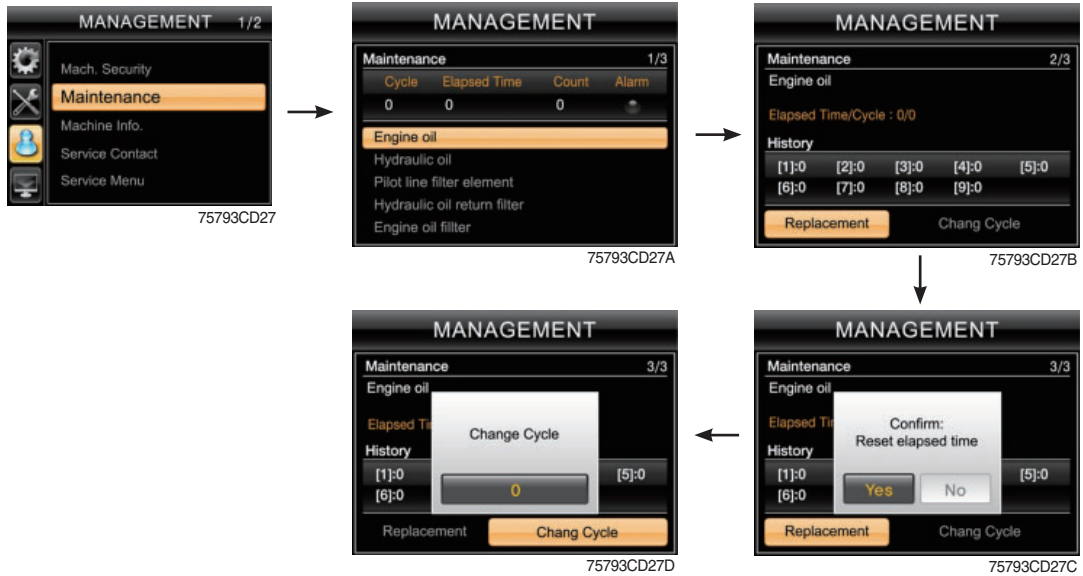
The new password is stored in the MCU.



75793CD26M

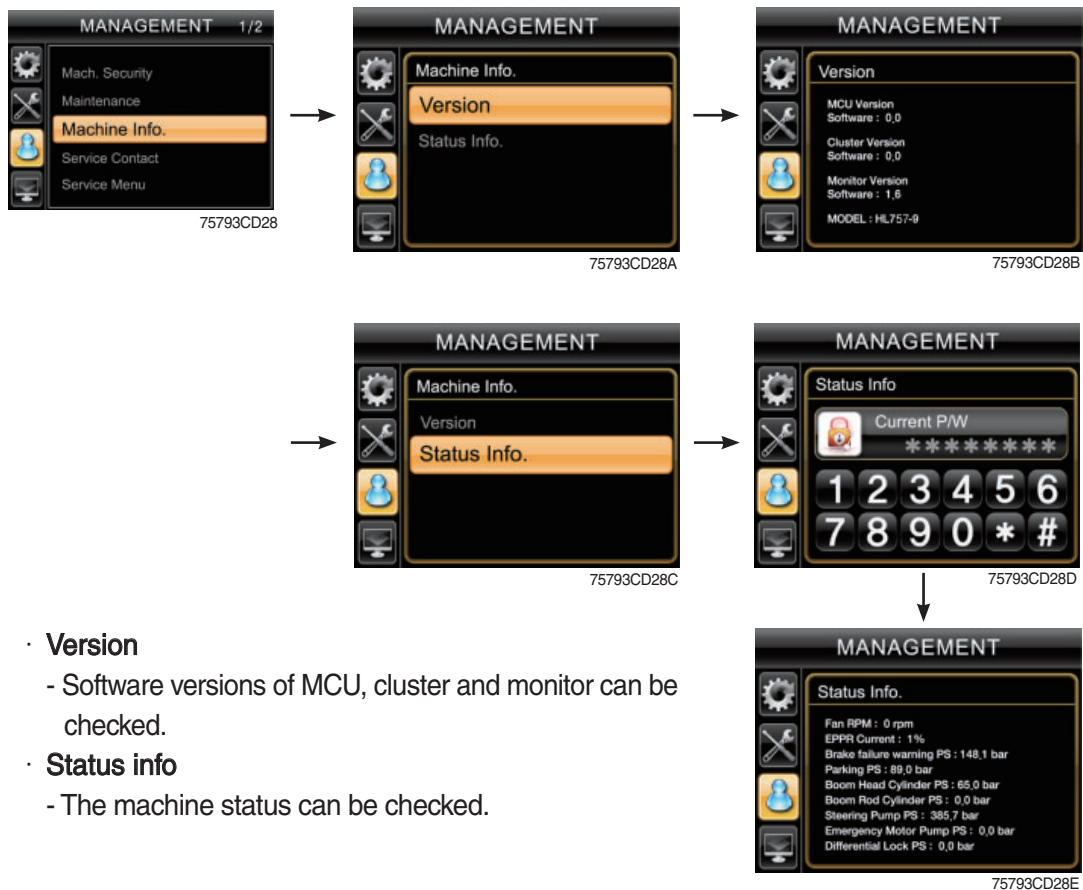
Enter the new password again.

## ② Maintenance



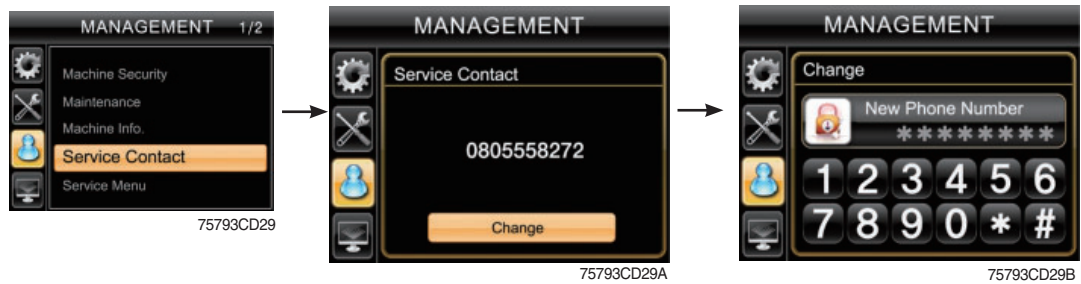
- Alarm (⚠) : Warning  
Replacement : The elapsed time will be reset to zero.  
Change cycle : The change or replace cycle can be changed in the unit of 50 hours.
- To change cycle, press ◀ or ▶/⏏.
- Change or replace interval : Refer to the page 6-10.

## ③ Machine information



- Version**  
- Software versions of MCU, cluster and monitor can be checked.
- Status info**  
- The machine status can be checked.

#### ④ Service contact

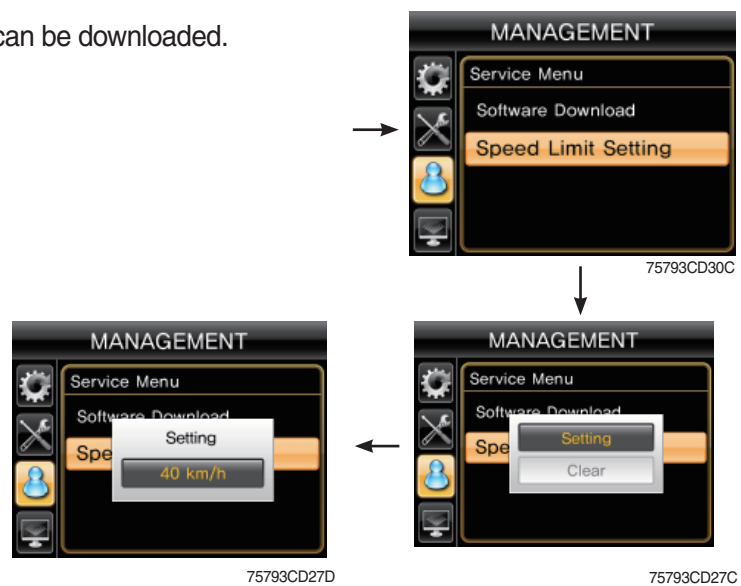


- The phone number of the service man can be checked and changed.

#### ⑤ Service menu



- The software of monitor can be downloaded.



- **Speed limit setting** : 20~40 km/h (5 km/h intervals)

## (5) DISPLAY SET UP

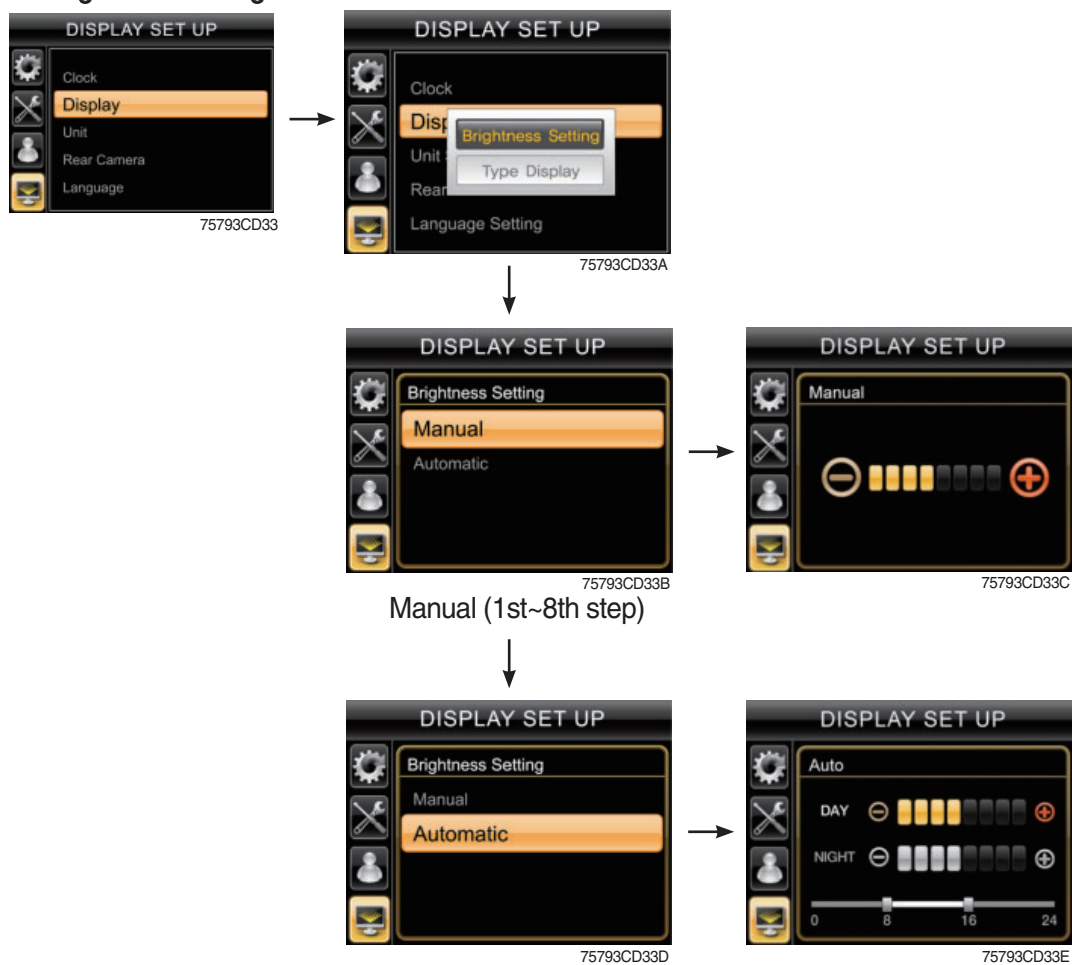
### ① Clock



- To set time, press ◀ or ▶/⌂.
- To move position, press ⌂.

### ② Display setting

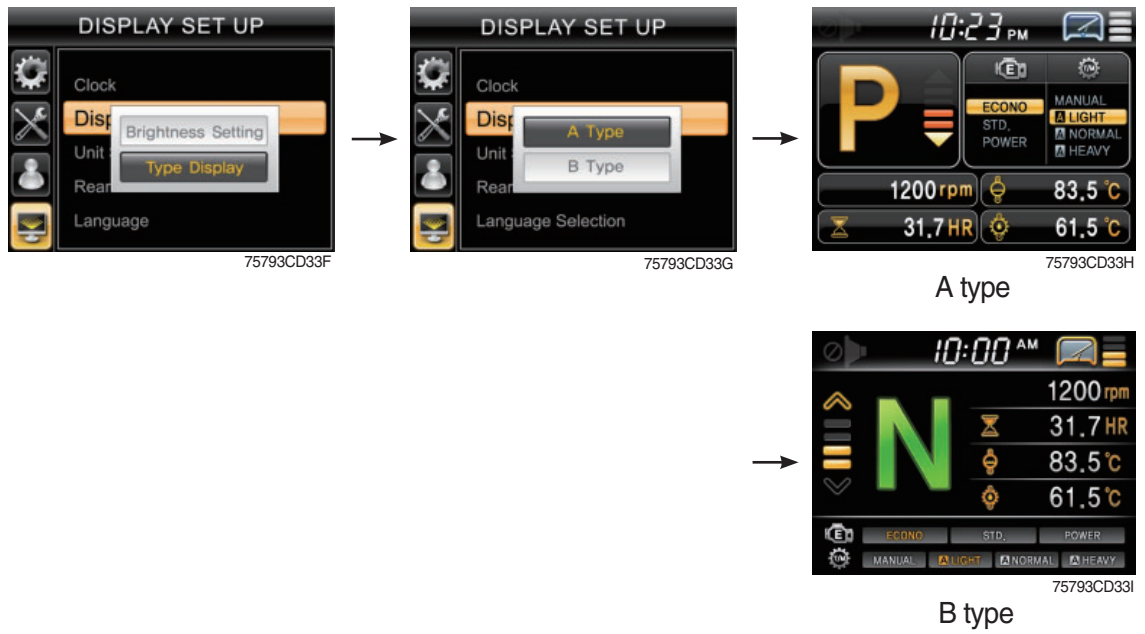
#### · Brightness setting



Auto (day/night)

- ※ If "Automatic" 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, gray area represents night time while white shows day time)

## · Display type setting



## ③ Unit setting



- Temperature : °C ↔ °F
- Distance : km ↔ mile
- Pressure : bar ↔ Mpa ↔ kgf/m<sup>2</sup> ↔ psi

#### ④ Rear camera setting



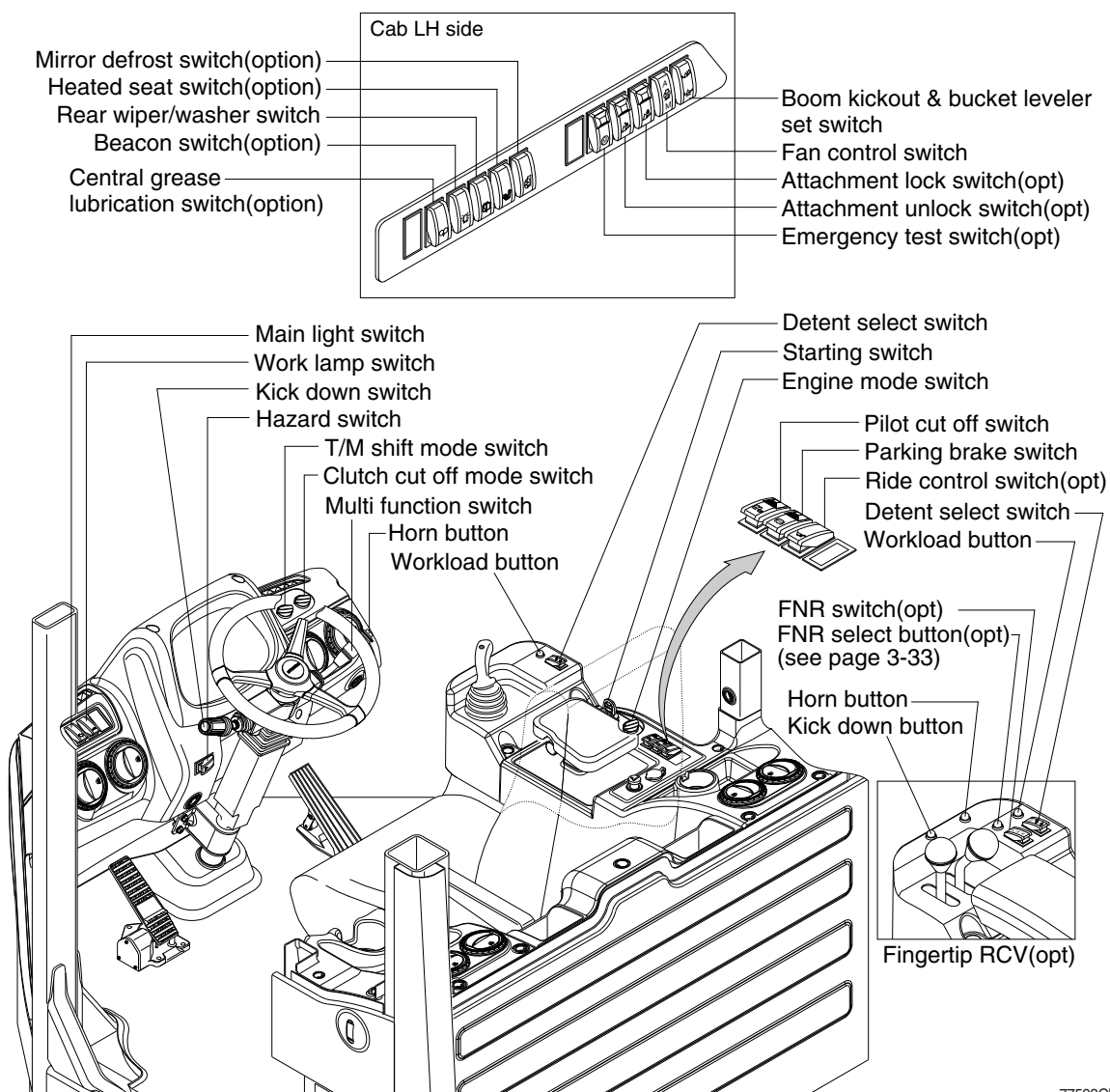
- **Reverse mode**
  - If transmission engages the reverse gear (R1~R3), the camera mode is displayed automatically in main display.
- **Active camera**
  - Three cameras can be installed on the machine.
  - The display order can be set by this menu.
  - If the camera was not equipped, this menu is not useful.
  - In main display, if the **ESC** button is pushed, the first ordered display camera will be viewed.

#### ⑤ Language setting



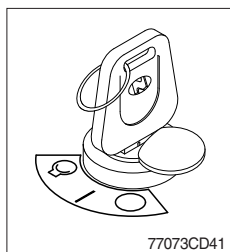
- User can select preferable language and all display are changed the selected language.

## 4. SWITCHES



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### 1) STARTING SWITCH



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

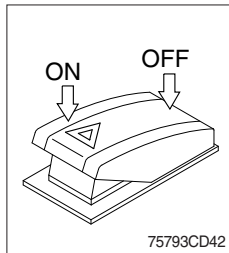
- ○ (OFF) : None of electrical circuits activate.
- | (ON) : All the systems of machine operate.
- ⊙ (START) : Use when starting the engine.

Release key immediately after starting.

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

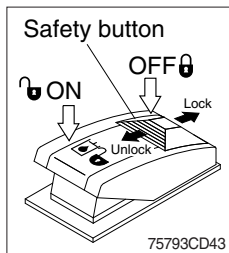
※ Key must be in the ON position with engine running maintain electrical and hydraulic function and prevent serious machine damage.

## 2) HAZARD SWITCH



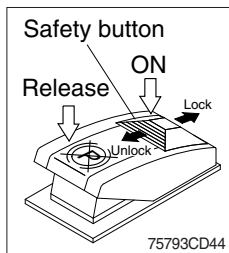
- (1) Use for parking, or roading the machine.
  - (2) Both turn signal lights will flash simultaneously.
- ※ If the switch is left ON for a long time, the battery may be discharged.

## 3) PILOT CUT OFF SWITCH



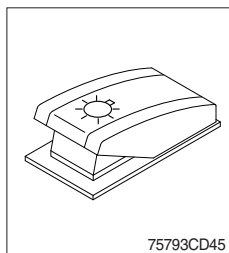
- (1) When the switch is pressed to OFF position, the hydraulic pilot line will be cut off, so the work equipment will not operate.
  - (2) Press the ON position in order to unlock the hydraulic pilot line.
- ※ This switch can be set to ON or OFF position only when the safety button is pulled to the unlock position.

## 4) PARKING BRAKE SWITCH



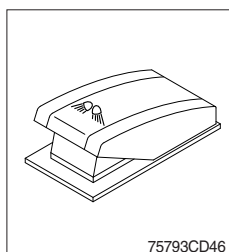
- (1) When the switch is pressed to ON position, the parking brake will start to operate and the cluster warning lamp will come ON.
  - (2) Press the release position in order to disengage the parking brake.
- ※ When operating the gear selector lever, be sure to release the parking brake. If the machine is operated with the parking brake engaged, the brake will overheat and may cause the brake system to go out of order.
- ※ This switch can be set to ON or Release position only when the safety button is pulled to the unlock position.

## 5) MAIN LIGHT SWITCH



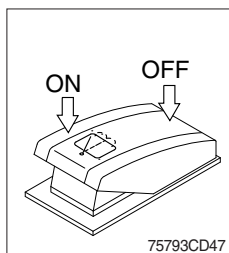
- (1) This switch is used to operate the clearance lamp and head light by two steps.
  - **First step** : Clearance lamp and cluster illumination lamp come ON. Also, all indicator lamp of switches come ON.
  - **Second step** : Head light comes ON.

## 6) WORK LAMP SWITCH



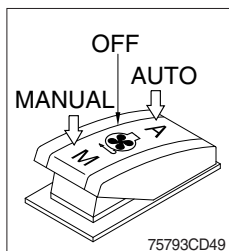
- (1) This switch is used to operate the front and rear work lamps by two steps.
  - **First step** : Front work lamp located on the cab comes ON.
  - **Second step** : Rear work lamp located on the cowl comes ON.

## 7) REAR WIPER AND WASHER SWITCH



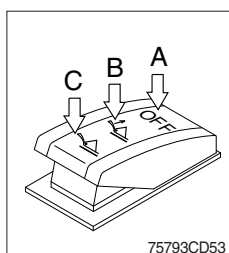
- (1) The switch use to operates the rear wiper and washer by two step.
  - **First step** : The rear wiper operates.
  - **Second step** : The washer liquid is sprayed and the rear wiper is operated only while pressing. If release the switch, return to the first step position.

## 8) FAN CONTROL SWITCH



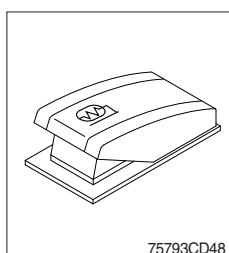
- (1) This switch use to control the cooling fan.
- (2) This switch has three positions.
  - **AUTO** : The fan automatically work in reverse according to set up interval and time.
    - ※ Refer to page 3-14.
  - **OFF** : Only forward rotation is possible.
  - **MANUAL** : The fan rotates reverse only while pressing this position. If release the switch, return to the OFF position.
- (3) On pressing the switch, the indicator lamp is turned ON.

## 9) DETENT SELECT SWITCH



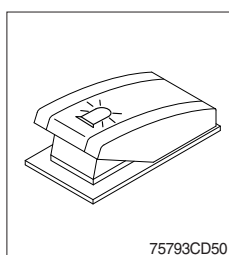
- (1) This switch is used to select the detent functions.
- (2) This switch has three positions.
  - **A** : Detent functions are not operated.
  - **B** : Only boom detent function is operated.
  - **C** : Boom and bucket detent functions are operated.

## 10) MIRROR DEFROST SWITCH (option)



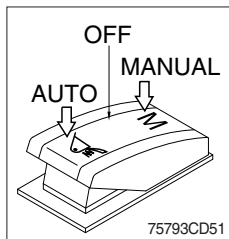
- (1) If the mirror defrost switch is pressed in condition of key ON, it operates for 15 minutes. After 15 minutes, the defrost function stops automatically.
- (2) One more pressing the switch in operation also stops defrost function.
- (3) On pressing the switch, the indicator lamp is turned ON.

## 11) BEACON SWITCH (option)



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

## 12) RIDE CONTROL SWITCH (option)



### (1) AUTO

Press in the bottom of the ride control switch in order to turn on the automatic ride control. The automatic ride control automatically turns on when the travel speed exceeds a preset speed of approximately 7 km/h. The automatic ride control automatically shuts off during low speed travel (below 7 km/h).

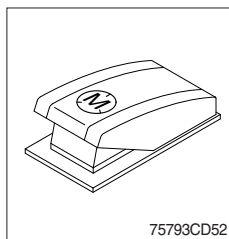
### (2) MANUAL

Press in the top of the ride control switch in order to turn on the system for ride control regardless speed. The ride control will smooth the ride of the machine during travel.

### (3) OFF

Press the ride control switch to the middle position in order to turn off the system for the ride control.

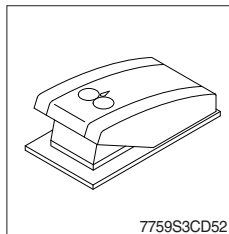
## 13) EMERGENCY TEST SWITCH (option)



(1) The emergency steering system can be manually tested. Push the switch in order to determine if the emergency steering and the emergency steering lamp are functional.

(2) When the switch is pressed, the emergency steering pump motor will run. The emergency steering lamp will light. If the emergency steering lamp does not light, do not operate the machine.

## 14) CENTRAL GREASE LUBRICATION SWITCH (option)

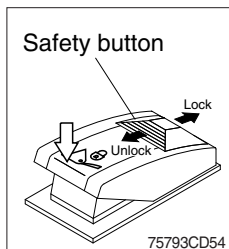


(1) This switch is used to operate the central grease lubrication system.

(2) When this switch turned ON, the central grease lubrication system is operated for 16 minutes only once.

※ Refer to the page 8-1 for details.

## 15) ATTACHMENT LOCK SWITCH (option)



(1) Press this switch in order to engage the quick coupler pins.

(2) If this switch is pressed for 5 seconds, the quick coupler pins move in the engaged position.

If the switch is released, the quick coupler pins will remain in the engaged position.

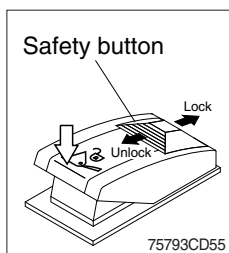
※ **This switch can be pressed only when the safety button is pulled to the unlock position.**

※ **Check for engagement as followings.**

① Put down pressure on the attachment.

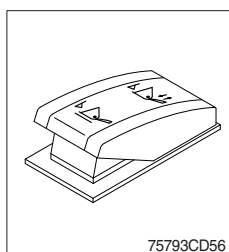
② Back up the machine and make sure that there is no movement between the quick coupler and attachment.

## 16) ATTACHMENT UNLOCK SWITCH (option)



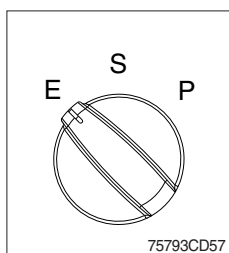
- (1) Press this switch in order to disengage the quick coupler pins.
  - (2) If this switch is pressed for 5 seconds, the quick coupler pins move in the disengaged position.  
If the switch is released, the quick coupler pins will remain in the disengaged position. (Machine serial No. : ~#0683)  
If the switch is released, the quick coupler pins will slowly extend to the engaged/locked position. (Machine serial No. : #0684~)
- ※ This switch can be pressed only when the safety button is pulled to the unlock position.

## 17) BOOM KICK OUT AND BUCKET LEVELER SET SWITCH



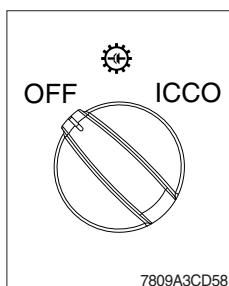
- (1) Press this switch in order to set the boom kickout and bucket leverer.
- ※ Refer to page 4-22.

## 18) ENGINE MODE SWITCH



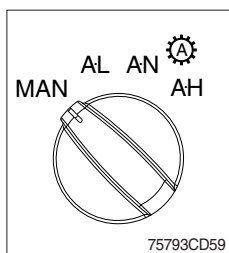
- (1) The operator can adjust the machine's performance with this dial switch.
  - P (Power) : Maximum power output for hard digging operation or hill climb.
  - S (Standard) : General digging and loading operation.
  - E (Econo) : Maximum fuel efficiency for general loading.

## 19) CLUTCH CUT OFF MODE SWITCH



- OFF position : The clutch cut off function is disable.
- ICCO position : It will cut off the clutch when brake operation.

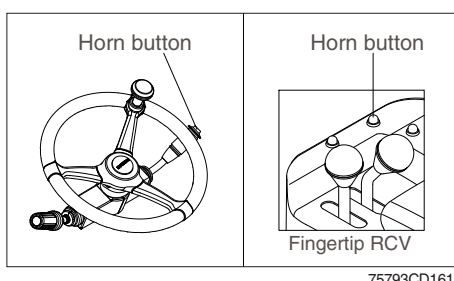
## 20) TRANSMISSION SHIFT MODE SWITCH



(1) Four modes are available for operator's preference and job condition.

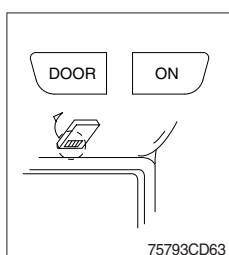
- MAN (Manual) : Machine is operated by selected gear on lever.
- AL (Auto Light) : Automatic shifting point is fast for long-distance transportation and fuel efficiency.
- AN (Auto Normal) : Automatic shifting point is normal without automatic kick-down to 1st gear for general digging and loading operation.
- AH (Auto Heavy) : Automatic shifting point is normal with automatic kick-down to 1st gear for more powerful operation.

## 21) HORN BUTTON



(1) If you press the button on the top of the multi-function switch, the horn will sound.

## 22) CAB LAMP SWITCH



(1) This switch turns ON the cab room lamp.

### ① DOOR

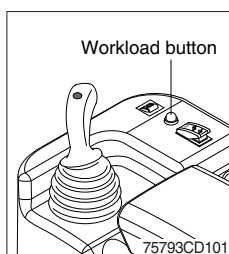
The lamp comes ON when the door is opened.

When the door is closed the lamp is OFF.

### ② ON

This switch is used to turn the lamp ON or OFF.

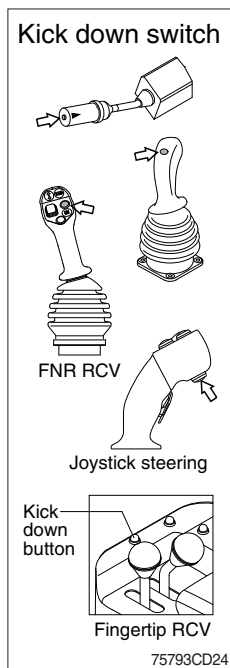
## 23) WORKLOAD BUTTON



(1) Press the button in order to set "Total" display at zero.

※ See page 3-16, weighing system.

## 23) KICK DOWN SWITCH



### (1) Manual mode

It is effective 2nd speed to 1st speed only and recover to 2nd speed quickly when push the switch one more time.

### (2) Automatic mode

#### ① Mode 1 (down/up)

It shifts down quickly from current gear to one step lower speed by pushing the switch and recover to current speed quickly when push the switch one more time.

#### ② Mode 2 (down)

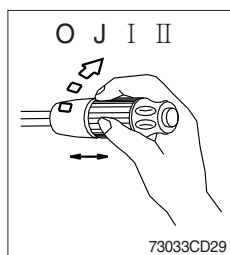
It shifts down from current gear to one step lower speed when push the switch every time.

The kick down function is released in only 1st speed.

※ Refer to page 3-13 for the kick down setting.

※ The normal autoshift function continues after the kick down switch is released.

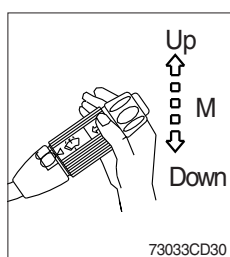
## 24) MULTI FUNCTION SWITCH



### (1) Front wiper and washer switch

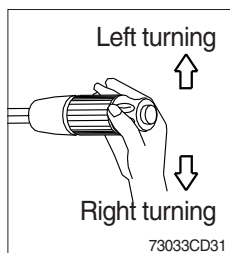
- ① When the switch is in J position, the wiper moves intermittently.
- ② When placed in I or II position, the wiper moves continuously.
- ③ If you push the grip of the lever, washer liquid will be sprayed and the wiper will be activated 2-3 times.

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



### (2) Dimmer switch

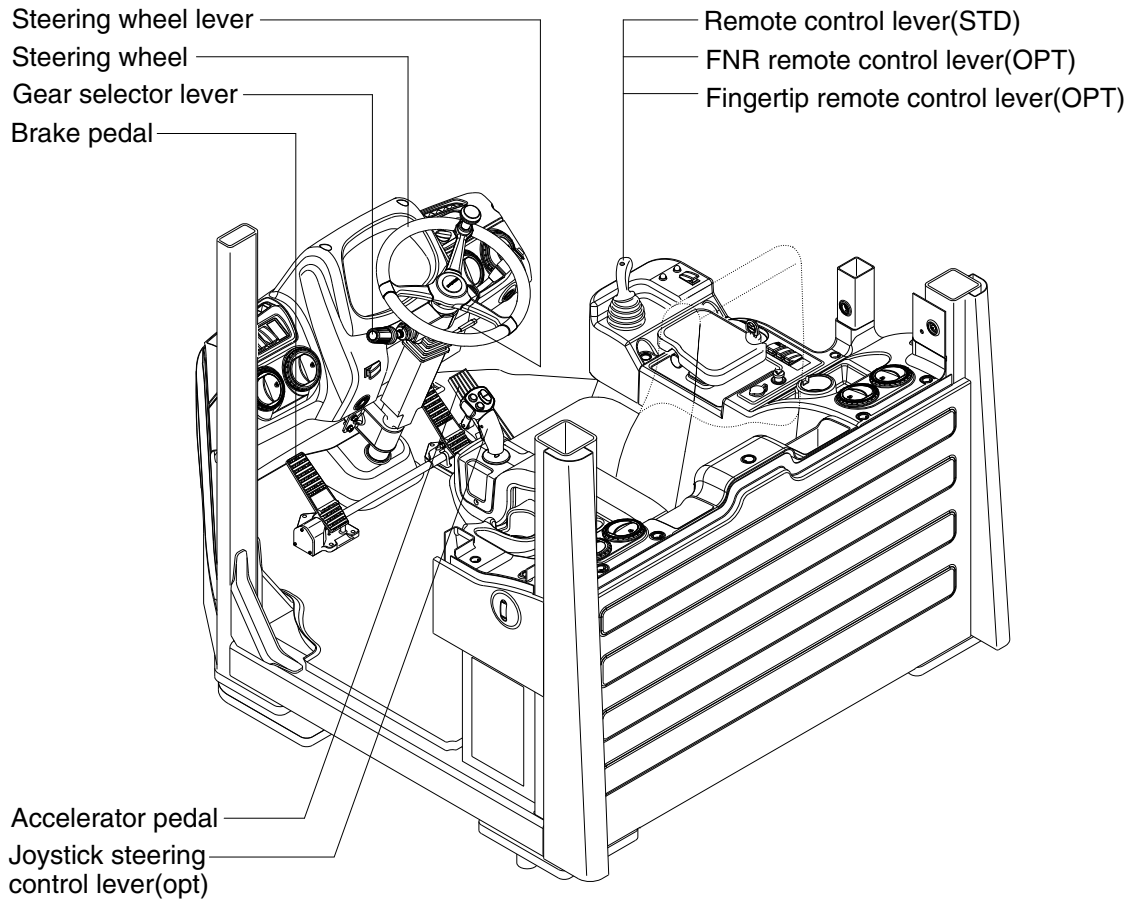
- ① This switch is used to turn the head lights direction.
- ② Switch positions
  - Up : To flash for passing
  - Middle : Head lights low beam ON
  - Down : Head lights high beam ON
- ③ If you release the switch when it's in up position, the switch will return to middle.



### (3) Turning switch

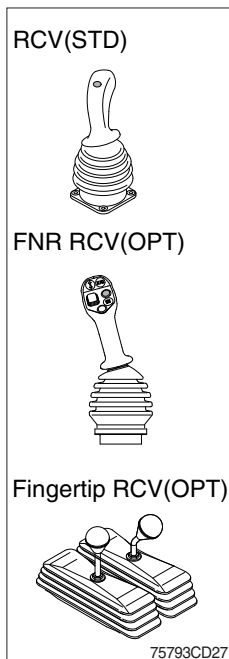
- ① This switch is used to warn or signal the turning direction of the machine to other vehicles or equipment.
- ② Push the lever up for turning left, pull the lever down for turning right.

## 5. CONTROL DEVICE



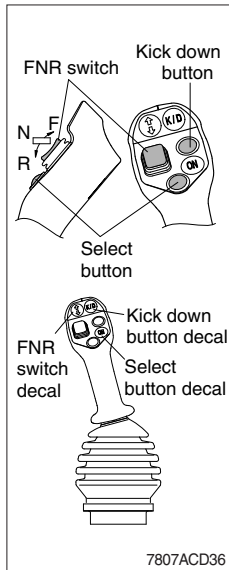
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### 1) REMOTE CONTROL LEVER



- (1) These joystick are used to control the boom and the bucket.
- (2) Refer to operation of working device in chapter 4 at page 4-9.

## 2) FNR REMOTE CONTROL LEVER (option)



(1) This switch is used for forward and backward drive.

※ **Gear range can be selected by gear selector lever.**

### (2) Select button

① If the select button is pressed, the indication lamp on the cluster will be ON and this FNR switch will start to operate.

※ **When the engine is running, the machine is on standstill(0 speed), parking brake is released, gear selector lever is in the neutral position, you can use this function after pressing the select button.**

### (3) FNR switch

- F : Forward drive
- N : Neutral
- R : Reverse drive

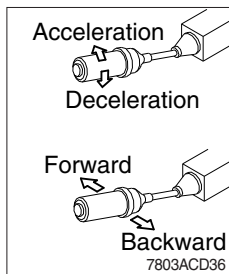
① If the upper side of this switch is pushed, the machine moves forward.

② If the down side of this switch is pushed, the machine moves backward.

③ This function is automatically released when the engine is stopped, parking brake is ON or gear selector lever is out of neutral.

(4) Kick down button : Refer to page 3-31.

## 3) GEAR SELECTOR LEVER

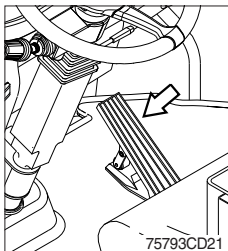


(1) This lever is used for gear selection, forward 4 stages and reverse 3 stages.

(2) If you push the gear selector lever, the machine moves forward, but if you pull the gear selector lever, the machine moves backward.

(3) If you turn the gear selector lever forward, the machine increases the speed, but if you turn the gear selector lever backward, the machine reduces the speed.

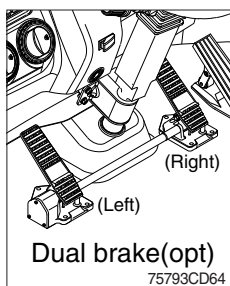
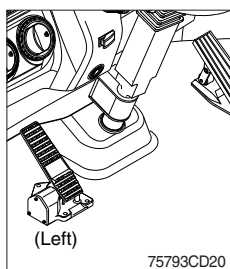
## 4) ACCELERATOR PEDAL



(1) This pedal controls the engine speed. The engine speed will increase in proportion to the degree of force applied to this pedal.

(2) Unless this pedal is pressed, the machine will run at low idling.

## 5) BRAKE PEDAL



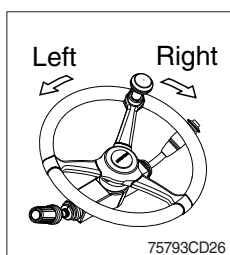
### (1) Left brake pedal (service brake + clutch cut off function)

- ① If the pedal is pushed down, this will generate braking force and bring the machine to a stop.
- ② If the power train operation is to be cut off, set the clutch cut off mode switch to ON (L, M, H) and press the pedal.
- ⚠ **Even if the brake is applied while clutch cut off mode switch is OFF, power train will not cut off.**
- ※ **Do not operate the machine with foot the brake pedal unnecessarily, or bring premature wear of brake disc.**
- ③ Clutch cut off function : Refer to page 3-29.

### (2) Right brake pedal (service brake function only)

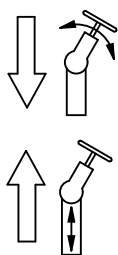
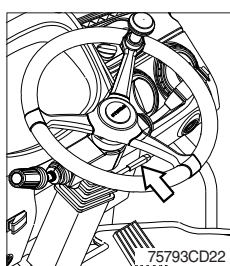
This pedal functions as service brake only.

## 6) STEERING WHEEL



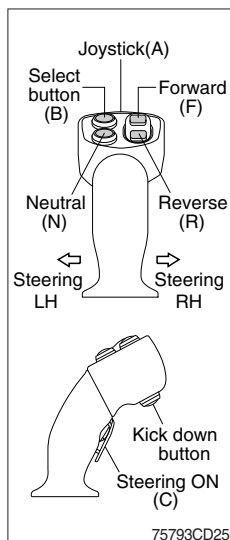
- (1) Two multi-motion cylinders in the center of the machine will operate the steering function.
- (2) If the steering wheel is turned to left, the machine will move to the left and turn it to the right, the machine will move to the right.

## 7) STEERING WHEEL LEVER



- (1) By pulling down the lever, the wheel is adjustable to tilt.
  - Tilting : 40°
- (2) By pulling up the lever, the wheel is adjustable to telescope.
  - Telescoping : 80 mm

## 8) JOYSTICK STEERING CONTROL LEVER (option)



(1) The system has the following functions concentrated to a collapsible arm rest : steering, forward / reverse selection and kickdown function.

(2) This means that during normal loading work, the operator does not need to touch the steering wheel.

(3) The joystick steering pilot lamp on the cluster will be ON when the lever steering is activated.

**▲ As a safety precaution, the joystick steering is functioned while pressing the steering ON button (C).**

**▲ When operating on a public road, the steering wheel should always be used and the joystick steering be disconnected. Also when operating at high speeds (above 20 km/h) on a work site, always use the steering wheel.**

### (4) Joystick (A)

① Activate the lever-controlled steering by pushing in the steering ON button (C).

The steering wheel works as usual, even if the joystick steering is activated.

② The joystick steering pilot lamp  on the cluster will be ON when the steering ON button (C) is pushed.

### (5) Forward/reverse selection button

F : Forward drive

N : Neutral


R : Reverse drive

① To be able to operate the forward/reverse selection and kick-down button the system must first be activated using select button (B).

**※ The ordinary gear selector control should be in neutral.**

② When this function is engaged, it is possible to operate the forward-reverse selection. If the ordinary gear selector control is activated at the same time as the joystick steering is activated, the ordinary gear selector control overrides any selection made by the joystick steering.

To reactivate the joystick steering, the ordinary gear selector control must first be moved to neutral and the system again be activated.

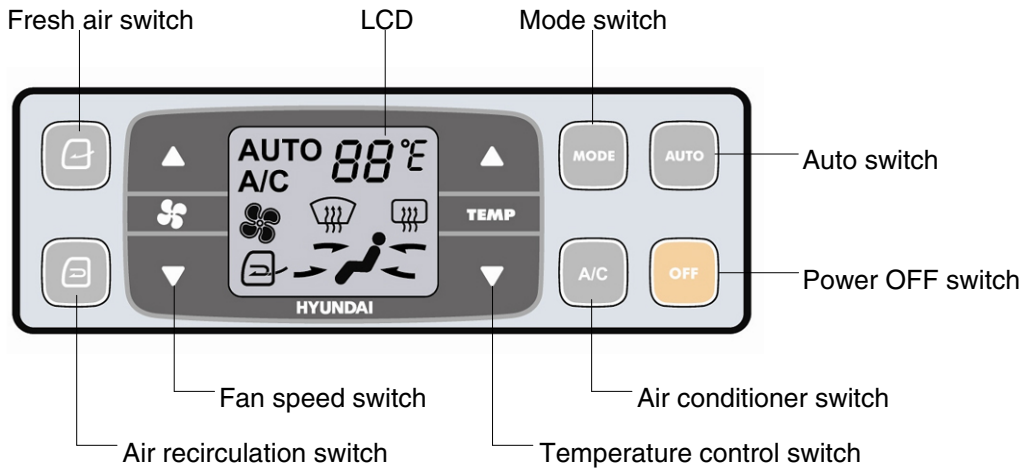
③ The FNR select pilot lamp  on the cluster will be ON when the forward / reverse selection is activated.

(6) Kick-down button : Refer to page 3-31.

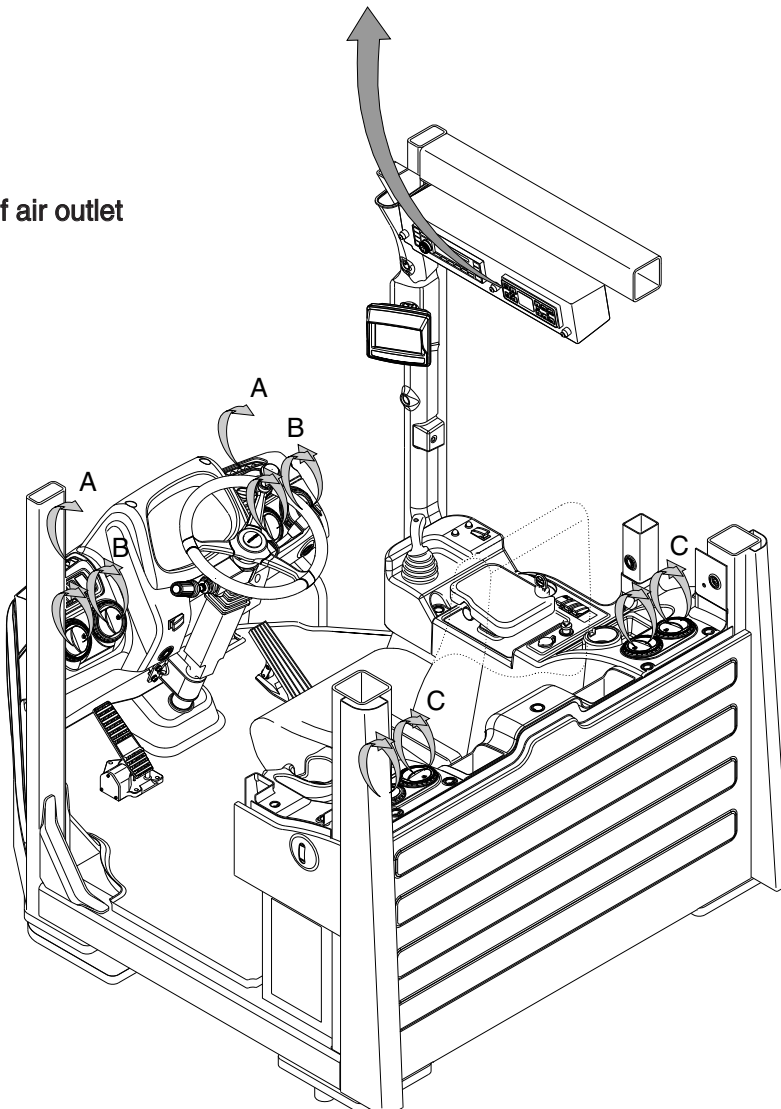
## 6. AIR CONDITIONER AND HEATER

### ■ FULL AUTO AIR CONDITIONER AND HEATER

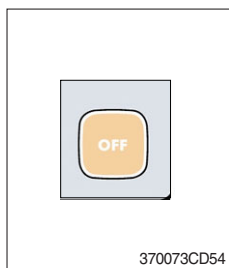
Full auto air conditioner and heater system automatically keeps the optimum condition in accordance with operator's temperature configuration sensing ambient and cabin inside temperature.



· Location of air outlet



## 1) POWER OFF SWITCH

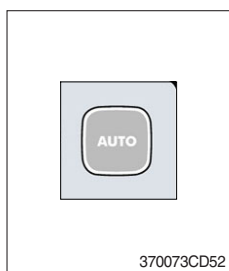


- (1) This switch makes the system and the LCD OFF.  
Just before the power OFF, set values are stored.

### (2) Default setting values

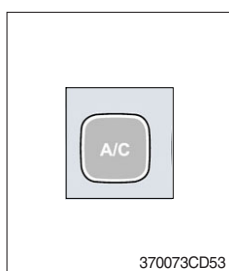
Function	Air conditioner	In/outlet	LCD	Temperature	Mode
Value	OFF	Inlet	OFF	Previous sw OFF	Previous sw OFF

## 2) AUTO SWITCH



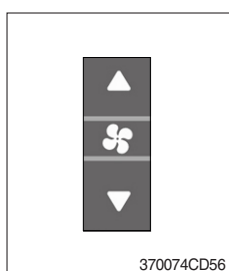
- (1) Turn the starting switch to ON position, LCD lights ON.  
Auto air conditioner and heater system automatically keeps the optimum condition in accordance with operator's temperature configuration sensing ambient and cabin inside temperature.
- (2) This switch can restart system after system OFF.

## 3) AIR CONDITIONER SWITCH (compressor switch)



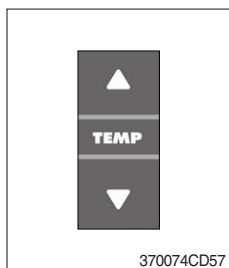
- (1) This switch turns the compressor and the LCD ON.
- (2) In accordance with the temperature sensed by duct (evaporator) sensor, compressor turns ON or OFF automatically.
- ※ **Air conditioner operates to remove vapor and drains water through a drain hose. Water can be sprayed into the cab in case 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 set 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.

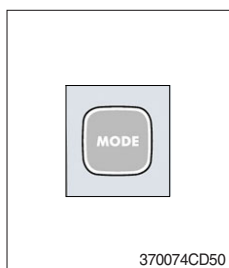
(3) The max cool or the max warm position operates as following table.

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



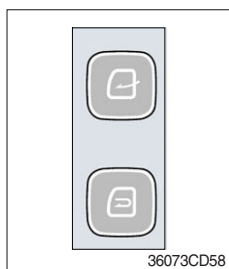
(1) Operating this switch, it beeps and displays symbol of each mode in order. (Human → Human/Rear → Human/Def → Def/Rear)

Mode switch		Human	Human/Rear	Human/Def	Def/Rear
Outlet	A			●	●
	B	●	●	●	
	C		●		●

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

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

## 7) FRESH AIR/AIR RECIRCULATION SWITCH



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

① **Fresh air** ( )

Inhaling air from the outside.

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

② **Air recirculation** ( )

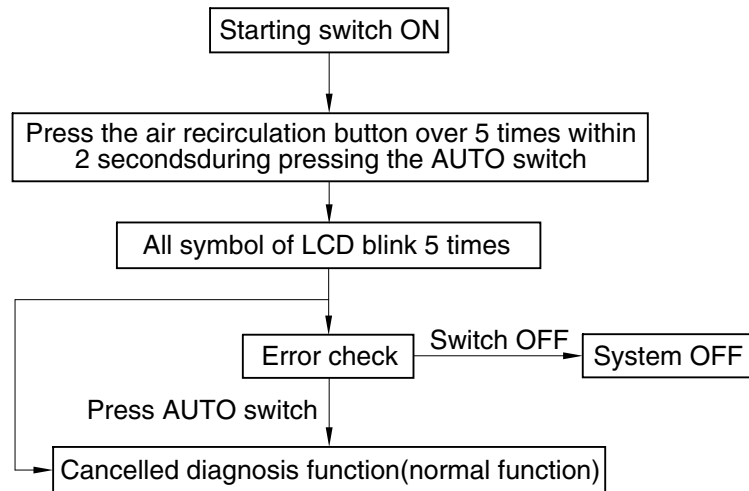
It recycles the heated or cooled air to increase the energy efficiency.

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

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

## 8) SELF DIAGNOSIS FUNCTION

### (1) Procedure



3607A3CD69

### (2) Error check

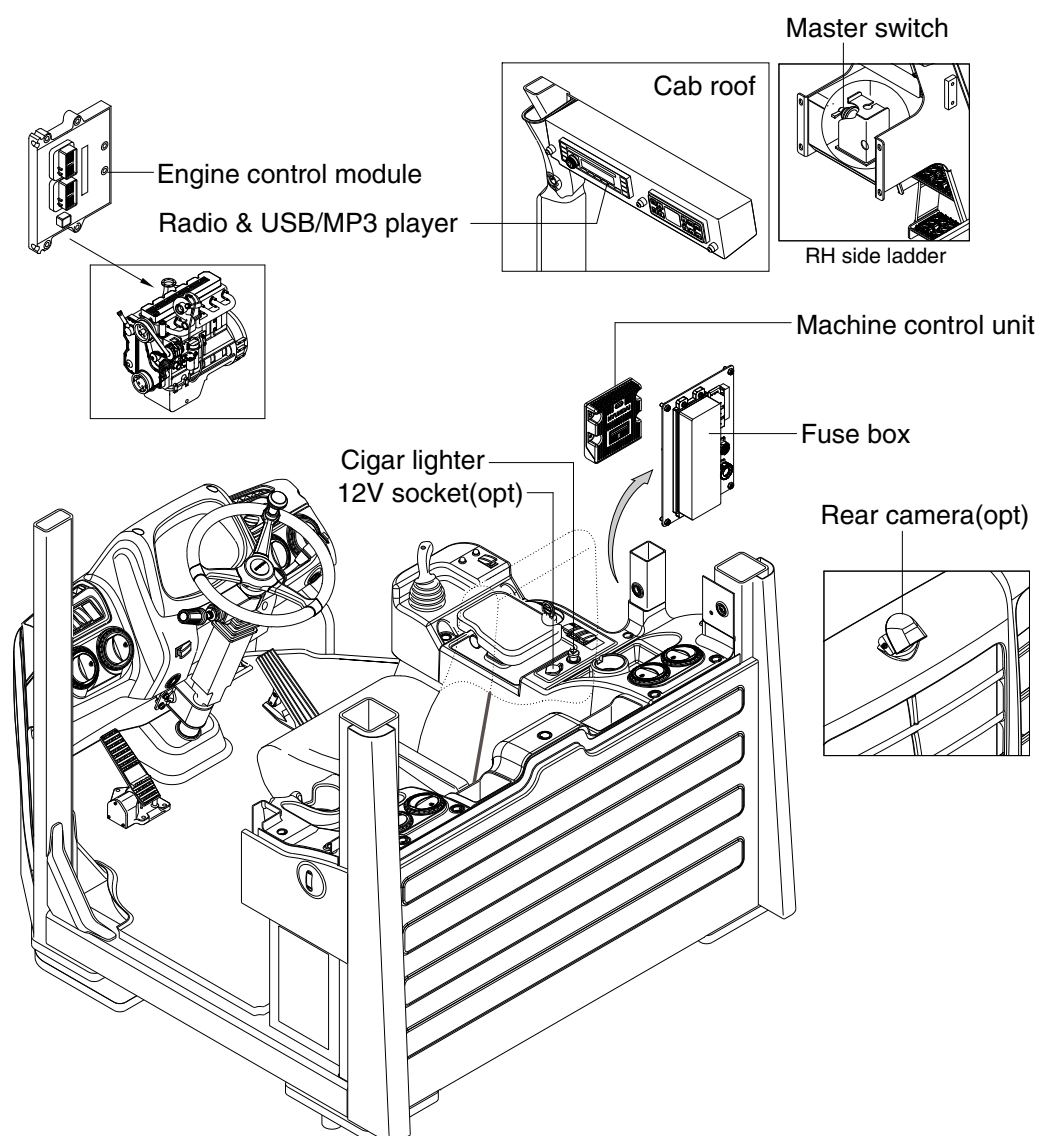
- The corresponding error code flickers on the setup temperature display panel, the other symbol will turn OFF.
- Error code flickers every 0.5 second.
- If error code is more than two, each code flickers 2 times in sequence.
- Error code

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

### (3) Fail safe function

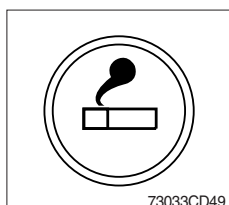
Error description	Fail safe function
Cabin inside sensor (11)	25°C alternate value control
Ambient sensor (12)	20°C alternate value control
Coolant temp sensor (13)	More than 10 minutes after engine start up, the alternate value is ON
Duct (evaporator) sensor (14)	1°C alternate value control
Temp actuator (15)	If opening amount is 0 %, the alternate value is 0 %
	If not, the alternate value is 100 %
Mode actuator 1, 2 (16, 17)	The alternate value is Vent

## 7. OTHERS



77593CD38

### 1) CIGAR LIGHTER



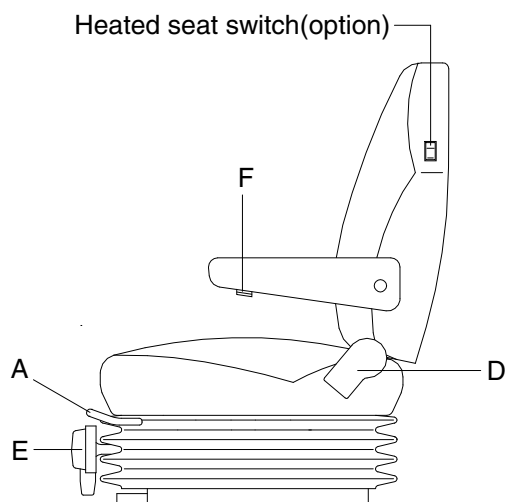
- (1) This can be used when the engine starting switch is ON.
- (2) The lighter can be used when it springs out in a short while after being pressed down.

#### ※ Service socket

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

## 2) 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.



75793CD102

### (1) Forward/Backward adjustment

- ① Pull lever A to adjust seat forward or backward.
- ② The seat can be moved forward and backward over 210 mm (8 in) in 21 steps.

### (2) Reclining adjustment

Pull lever D to adjust seat back rest.

### (3) Arm rest adjustment

This can be adjusted by turning the handle F to right and left.

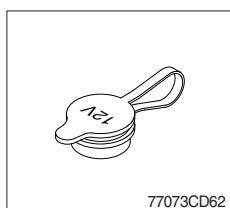
### (4) Weight adjustment (E)

Adjusting handle to the operator's weight.

### (5) Heated seat switch (option)

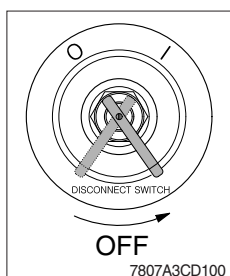
Press this switch in order to heat the seat.

## 3) 12V SOCKET (option)



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

## 4) MASTER SWITCH

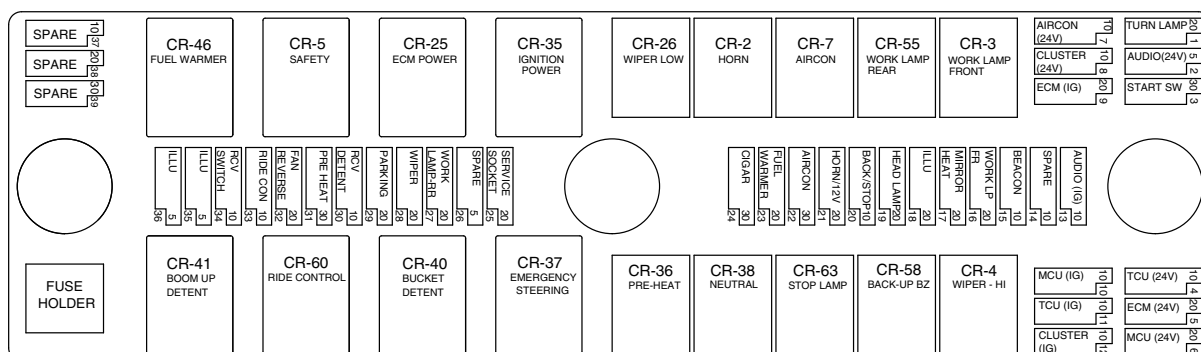


- (1) This switch is used to shut off the entire electrical system.

- (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.**

## 5) FUSE BOX



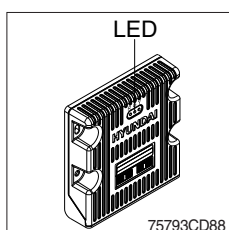
77593CD107

- (1) The fuses protect the electrical parts and wiring from burning out.
- (2) The fuse box cover indicates the capacity of each fuse and circuit it protects.

※ Replace a fuse with another of the same capacity.

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

## 6) MACHINE CONTROL UNIT (MCU)



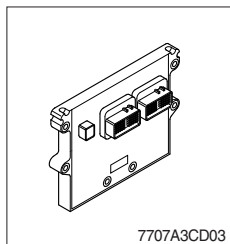
- (1) It consists of electronic parts and controls all lamps and buzzers on cluster in accordance with signals transmitted from the switches, the ECM, TCU, the engine and the hydraulic pressure sensors.

- (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 (24V, GND) of controller is disconnected · Check the fuse

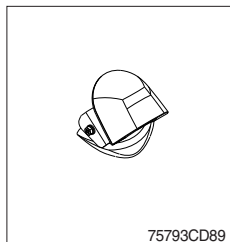
G : green, R : red, Y : yellow

## 7) ENGINE CONTROL UNIT (ECU)



- (1) The engine control unit (ECU) is the control center of the engine system.

## 8) REAR CAMERA (option)



- (1) The rear camera is available as a option.


















※ Refer to page 3-24.

## 9) RADIO AND USB PLAYER (WITH BLUETOOTH)



9403CD100

### FRONT PANEL PRESENTATION

















- |   |  |
|---|--|
| <p>1  ..... Power ON/OFF,<br/>Volume UP/DOWN button</p> <p>2  ..... Manual UP/DOWN Tuning,<br/>File search, SEL button</p> <p>3  ..... Mode button,<br/>Audio mute button</p> <p>4  ..... Call &amp; Pair button</p> <p>5  ..... Call end button</p> <p>6  ..... Station preset 1<br/>DIS ..... Display button</p> <p>7  ..... Station preset 2</p> <p>8  ..... Station preset 3<br/>RPT ..... Repeat play button</p> <p>9  ..... Station preset 4<br/>RDM ..... Random play button</p> | <p>10  ..... Station preset 5<br/>DIR- ..... Directory down button</p> <p>11  ..... Station preset 6<br/>DIR+ ..... Directory up button</p> <p>12  ..... Scan play button (SCAN)<br/>Best station memory (BSM) button</p> <p>13  ..... Auto tune up, Seek up button</p> <p>14  ..... Auto tune down, Track down button</p> <p>15  ..... USB connector</p> <p>16  ..... AUX IN Jack</p> <p>17  ..... MIC hole</p> |
|---|--|

## RADIO AND USB PLAYER (WITHOUT BLUETOOTH)



9403CD101

### FRONT PANEL PRESENTATION

- |  |   |
|--|---|
| <p>1  ..... Power ON/OFF,<br/>Volume UP/DOWN button</p> <p>2  ..... Manual UP/DOWN Tuning,<br/>File search, SEL button</p> <p>3  ..... Mode button,<br/>Audio mute button</p> <p>4  ..... Radio seek up button</p> <p>5  ..... Radio seek down button</p> <p>6  ..... Station preset 1<br/>DIS ..... Display button</p> <p>7  ..... Station preset 2</p> <p>8  ..... Station preset 3<br/>RPT ..... Repeat play button</p> <p>9  ..... Station preset 4<br/>RDM ..... Random play button</p> | <p>10  ..... Station preset 5<br/>DIR- ..... Directory down button</p> <p>11  ..... Station preset 6<br/>DIR+ ..... Directory up button</p> <p>12  ..... Scan play button (SCAN)<br/>Best station memory (BSM) button</p> <p>13  ..... Track up button</p> <p>14  ..... Track down button</p> <p>15  ..... USB connector</p> <p>16  ..... AUX IN Jack</p> |
|--|---|

## ■ GENERAL

### (1) Power and volume button



#### ① Power ON / OFF button

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

#### ② Volume UP/DOWN control knob

Turn VOL knob (1) right to increase the volume level.

Turn VOL knob (1) left to decrease the volume.

After 5 seconds the display will return to the previous display mode.

#### ③ Initial volume level set up

I-VOL is the volume level the unit will play at when next turned on.

To adjust the I-VOL level, press and hold VOL button (1) for longer than 2 seconds. The current volume level displays on the display panel.

Then turn button (1) right or left to set the volume level as the I-VOL level.

#### ④ Clock ON/OFF control

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

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

#### ⑤ Clock adjustment

With CLOCK ON selected, press VOL knob again after CLOCK ON display, the hour will blink, turn VOL knob right or left to adjust hour.

Simply press VOL again, the minute will blink, turn VOL knob to adjust minute. Then press VOL again to confirm the clock once finished.

## (2) Menu Selection



- ① This button can adjust the sound effect and other things.

Each time you press this button (2), LCD displays as follows :

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

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

### ② Bass control

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

### ③ Treble control

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

### ④ Balance control

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

### ⑤ Fader control

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

### ⑥ EQ control

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

EQ OFF → CLASSIC → POP → ROCK → JAZZ

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

#### ⑦ Loud control

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

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

#### ⑧ Beep control

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

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

#### (3) Mute control

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

#### (4) Mode selection

- ① Repeat press MODE button (3) to switch between FM1, FM2, AM, USB, AUX, BT MUSIC.
- ※ If there is no USB, AUX, Bluetooth Phone connected, it would not display USB, AUX, BT when you press button (3).

## ■ RADIO

### (1) Mode button



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

### (2) Manual tuning button



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

### (3) Auto tuning button



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

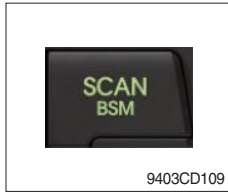


### (4) Station preset button



- ① In radio mode, pressing buttons (6) to (11) will recall the radio stations that are memorized. To store desired stations into any of the 6 preset memories, in either the AM or FM bands, use the following procedure :
  - a. Select the desired station.
  - b. Press and hold one of the preset buttons for more than 2 seconds to store the current station into preset memory. Six stations can be memorized on each of FM1, FM2, and AM.

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



① Press BSM button (12) momentarily to scan the 6 preset stations stored in the selected band. When you hear your desired station, press it again to listen to it.

Press BSM button (12) for longer than 2 seconds to activate the Best Station Memory feature which will automatically scan and enter each station into memory.

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

## ■USB PLAYER

### (1) USB playback



- ① The unit was equipped with a front USB jack and also a rear USB Jack.

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

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

### (2) Track Up / Down button



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



### (3) MP3 directory / File searching



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

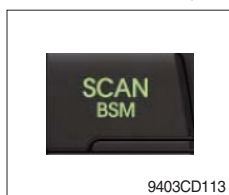
### (4) Directory Up / Down button



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

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

#### (5) Track Scan Play (SCAN) button



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

#### (6) Track Repeat Play (RPT) button



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

#### (7) Track Random Play (RDM) button



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

#### (8) ID3 v2 (DISP)



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

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

\* USB Information and Notice

- Playback FILE SYSTEM and condition allowance.
  - FAT, FAT12, FAT16 and FAT32 in the file system.
  - V1.1, V2.2 and V2.3 in the TAG (ID3) version.
- Display up to 32 characters in the LCD display.
- No support any of MULTI-CAED Reader.
- No high speed playback but only playing with normal full speed.

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

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

## ■AUX OPERATION

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

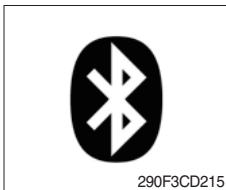
To get the best results when connecting the portable media to the audio system, follow these steps :

- Use a 3.5 mm stereo plug cable to connect the media player headphone socket at each end as follows.
  - Adjust the portable media player to approximately 3/4 volume and start playback.
  - Press the MODE button (3) on the audio unit to change into AUX mode.
  - The volume and tone can now be adjusted on the audio unit to the desired level.
- ※ The audio quality of your media player and the audio tracks on it may not be of the same sound quality as the audio system is CD Player.
  - ※ If the sound of the media player is too low compared with the radio or CD, increase the volume of the player.
  - ※ If the sound of the media player is too loud and/or distorted, decrease the volume of the player.
  - ※ When in AUX mode, only the Volume, Bass, Treble, EQ and Mode functions of the audio unit can be used.

## ■BLUETOOTH (if equipped)

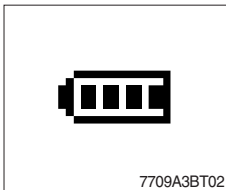
### 1) Using a bluetooth wireless connection

- (1) Your audio unit supports bluetooth wireless technology. You can set up a wireless link with bluetooth cellular phone.
  - (2) Keep PAIRING the cellular phone with audio unit in a few minutes as the phone are being switched on well enough.
- ※ Since this audio unit is on standby to connect with your cellular phone via bluetooth wireless technology, using this audio unit without running the engine can result battery drainage.
  - ※ This audio unit phone call reception is on standby when ignition switch is set to ACC OFF or ON.
  - ※ The line-of-sight distance between this audio unit and your cellular phone must be 10 meters or less for sending and receiving voice and data via bluetooth wireless technology. However the transmission distance may become shorter than the estimated distance depending on the environment in use.
  - ※ Digital Noise & Echo suppression system provides the best sound clarity with little or no distortion (Echo & side tone will happen depending on cellular phone or service network).
  - ※ To ensure the quality of calling, you should select a proper bluetooth VR level. This audio unit has already set with the best bluetooth VR level.



#### ① Bluetooth icon

It will blink while establishing the bluetooth pairing.  
It will light after a bluetooth device connected.



#### ② Battery icon

It indicates the battery status of the connected bluetooth device.



#### ③ Single strength icon

It indicates the signal strength of the connected bluetooth device.

## 2) Pairing in hands free modes



- (1) Press and hold CALL button (4) for 2 seconds until you hear beep sound, then appears PAIR STR on the display.
- (2) For the next procedure, go to cellular phone pairing mode.
- (3) If it is in pairing status with audio unit and cellular phone, PAIRING will show on the display.
- (4) If you want to exit pairing mode, press CALL END button (5) briefly while pairing, then it will show PAIR CLR on the display.
- (5) Bluetooth Icon and PAIR OK appear on the display when pairing is successful.

## 3) Cellular phone pairing mode

- (1) Browse your cellular phone menu and find the connectivity or bluetooth connection section.
  - (2) Select search for a new handsfree device function and allow the phone to find the mobile.
  - (3) HYUNDAI should appear on your cellular phone screen.
  - (4) Press connect menu among the handsfree option on your cellular phone.
  - (5) The cellular phone should prompt for a pin code. Insert the pin code 1234.
  - (6) The cellular phone should confirm that it has established a new paired connection.
  - (7) Close the menu. The pairing is now completed. It appears PAIR FAIL on the display for 3 seconds.
- ※ Each cellular phone type has distinct phone menu so you may need to refer to your manufactures instruction for the correct procedure on how to connect a new bluetooth device.
  - ※ Please retry to the pairing instruction if HYUNDAI does not appear on the cellular phone screen.
  - ※ Please select authorized, if there is authorized menu in the menu of bluetooth connection in your cellular phone.
  - ※ Once the bluetooth pairing is completed between your cellular pone and this audio unit, the both units will be automatically recognized on its paring and when you turn on the key in your car even though this audio unit is turned off.
  - ※ This audio unit can store up to 6 phones pairings. If the memory is full, the first stored paired phone will be deleted.
  - ※ The connecting priority will be given to the last connected cellular phone.
  - ※ If you want to change the connecting priority, try to connect this audio unit from the cellular phone.

#### 4) Bluetooth connection and disconnection

- (1) When established bluetooth connection between this audio unit and the cellular phone, bluetooth icon on the display appears and then the display shows HF/AV CONN when handsfree & AV profile connected.



- (2) To disconnect bluetooth link  
Press and hold CALL END button (4) for 2 seconds, it shows DIS CON and disappears bluetooth icon on the display.



- (3) To disconnect bluetooth link  
Press CALL button (3) briefly, it blinks bluetooth icon on the display while bluetooth is being connected. If the connection is completed, it appears bluetooth icon on the display.

- ※ When your cellular phone battery is at low charge, the bluetooth connection may occasionally be lost. To maintain good connectivity ensure that your phone battery is adequately charged.
- ※ In case of failure of bluetooth pairing :
  - Delete item in paired list on your phone.
  - Reset both phone by power off/on and the audio unit by ACC off/on.
- ※ Connecting priority of handsfree profile is higher than headset profile.
- ※ The headset mode does not support caller ID, reject call and call Transfer.

#### 5) Using the audio unit as a handsfree device

- (1) When the audio unit is ringing, it shows CALL and follows with the phone number \*\*\*\*\* on the display.



- (2) To accept call  
Press CALL button (4), it appears ANSWER CALL and follows TALKING on the display.
- (3) To end call  
To end call, press CALL END button (5), it appears REJECT on the display.
- ※ If reject call is activated in your phone, then your cellular phone does not support reject call function.

## 6) Audio transfer between the audio unit and phone

The audio transfer function is for switching the call from the audio unit to the cellular phone for private conversation.



- (1) Press CALL button (4) briefly during conversation, it appears CALL TRANS on the display. To switch back to the audio unit, press button (4) briefly during private conversation, then it appears CALL TRANS on the display again.

- ※ This function will be a cause of disconnection of bluetooth link in some nokia phones, but you do not worry just press button (4) during private conversation, then switch back to the audio unit automatically.
- ※ The quality of calling between cellular phone and audio unit is better than calling between one audio unit and another one.

## 7) Last call number dialing



- (1) Press CALL button (4) briefly, it appears CALL TO, then simply press CALL button once again, it would make the last call with phone number display on LCD.

If Reject call is activated in your phone, then your cellular phone does not support Reject Call function.

- ※ If you are using SAMSUNG phone, then you may need to press once more send button. First press button shows phone contact list in your phone, then second press make the last call.

## 8) To make a call by cellular phone

The audio transfer function is for switching the call from the audio unit to the cellular phone for private conversation.

- (1) The audio unit activated automatically when you make a call by cellular phone.
- (2) When you make a call processing by cellular phone, it shows CALLING on the display.
- (3) When you receive a call, the phone number \*\*\*\*\* appears on the display.

### 9) Using the audio unit as bluetooth music

The audio unit supports A2DP (Audio Advanced Distribution Profile) and AVRCP (Audio Video Remote Control Profile), and both profiles are available to listen music at the audio unit via cellular phone which is supporting the two profiles above.

(1) To play music, search the menu on your cellular phone as below :

i.e : Menu → File manager → Music → Option → Play via bluetooth.

It appears BT MP3 on the display.

(2) During BT MP3 playing, you could select the previous or next track by pressing SEEK up or TRACK down button on audio unit or operate via your cellular phone.

(3) To stop music, press button (5) briefly and it will automatically switch into the previous mode.

(4) To resume music playing, press the play button on your cellular phone.

※ This function maybe different depends on cellular phone. Please follow the cellular phone menu. Some kinds of phone need to pair once more for bluetooth MP3 connection.

※ This function will be caused to disconnect A2DP, AVRCP depends on cellular phone.

※ Information about songs (e.g.: the elapsed playing time, song title, song index, etc.) cannot be displayed on this audio unit.

## ■ RESET AND PRECAUTIONS

### 1) Reset function

Interfere noise or abnormal compressed files in the MP3 disc or USB instrument may cause extraordinary operation (or unit frozen/locking up). It's strongly recommended to use appropriate USB storage not cause any malfunction to the audio unit. In the unlikely event that the player fails to operate correctly, try out to reset unit by any of following two methods.

- (1) press and hold   simultaneously for about 5 seconds. (without Bluetooth)

Press and hold   simultaneously for about 5 seconds. (with Bluetooth)

- (2) Take out the fuse for the audio system in the vehicle once and then plug again.

※ It will be necessary to re-enter the radio preset memories as these will have been erased when the microprocessor was reset.

After resetting the player, ensure all functions are operation correctly.

### 2) Precautions

When the inside of the car is very cold and the player is used soon after switching on the heater, moisture may form on the disc or the optical parts of the player and proper playback may not be possible.

If moisture forms on the optical parts of the player, do not use the player for about one hour. The condensation will disappear naturally allowing normal operation.

- (1) Operation voltage : 9~32 volts DC, negative  
(2) Output power : 40 watts maximum (20 watts x 2 channels)  
(3) Tuning range

Area	Band	Frequency range	Step
USA	FM	87.5~107.9 MHZ	200K
	AM	530~1710 KHZ	10K
EUROPE	FM	87.5~108.0 MHZ	50K
	AM	522~1620 KHZ	9K
ASIA	FM	87.5~108.0 MHZ	100K
	AM	531~1602 KHZ	9K
LATIN	FM	87.5~107.9 MHZ	100K
	AM	530~1710 KHZ	10K

#### ● AREA Selection :

- To select an area, press and hold related buttons at FM1 band for about 3 seconds.
- USA Area: Press and hold mode + 1DIS buttons for 3 seconds
- EUROPE Area: Press and hold mode + 2 buttons for 3 seconds
- ASIA Area: Press and hold mode + 3RPT buttons for 3 seconds
- LATIN Area: Press and hold mode + 4RDM buttons for 3 seconds.

- (4) USB version : USB 1.1

- (5) Bluetooth version : V2.1

- (6) Bluetooth supported profile :

- A2DP : Advanced Audio Distribution Profile
- AVRCP : Audio/Video Remote Control Profile
- HFP : Hands-Free Profile