

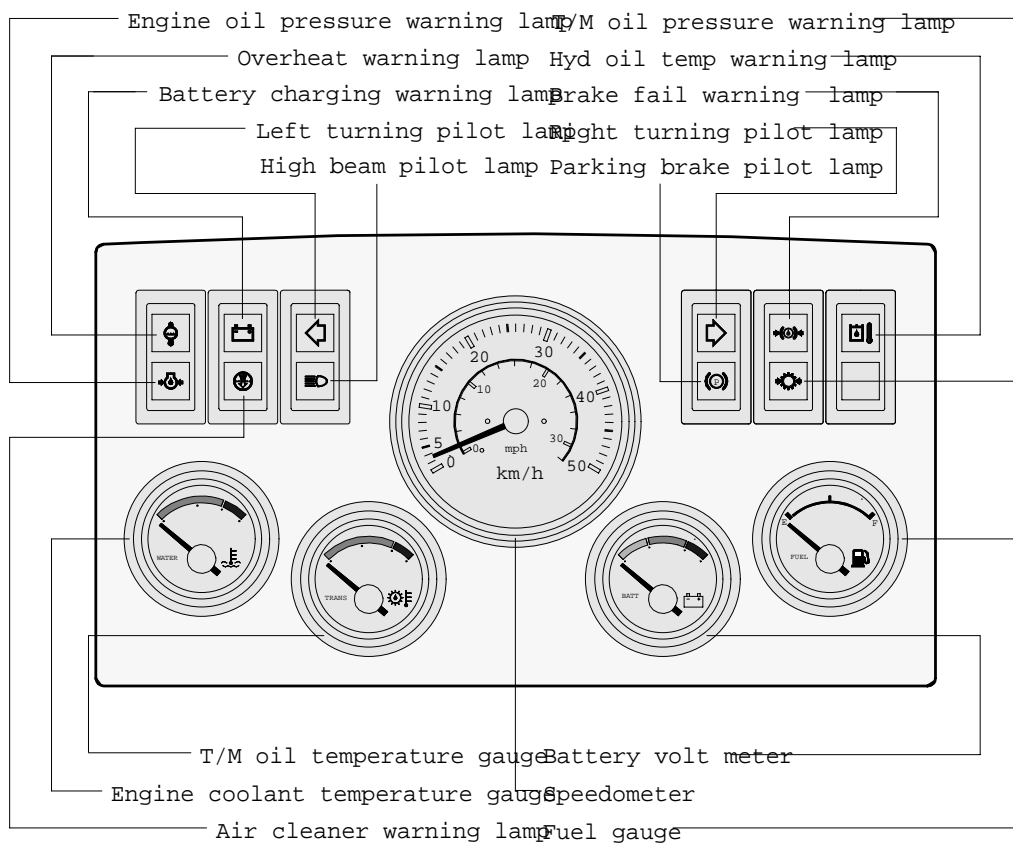
3. MONITORING SYSTEM

1. CLUSTER

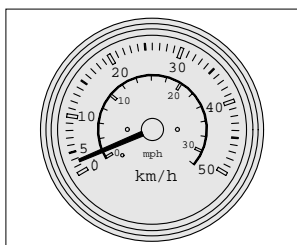
The gauges panel consists of gauges and monitors as shown below, to warn the operator of abnormal machine operation or conditions for the appropriate operation and inspection.

- Gauges : Indicate operating status of the machine.
 - Warning lamp : Indicate abnormality of the machine.
 - Pilot lamp : Indicate operating status of the machine.
- ※ The monitor installed on this machine does not entirely guarantee the condition of the machine.

Daily inspection should be performed according to chapter 6, MAINTENANCE.



1) SPEEDOMETER



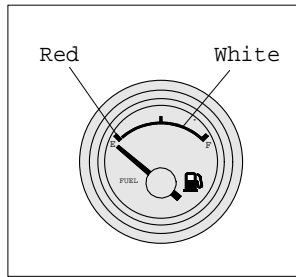
(1) Specification

Input Hz	Input pulse
1km = 26 Hz	

(2) Indicated standard

Standard	0	20	40
km/h	0	+4.8	+4.8
km/h	0	0	0

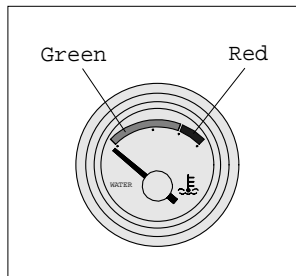
2) FUEL GAUGE



- (1) This gauge indicates the amount of fuel in the fuel tank.
 - (2) Fill the fuel when the red range illuminates.
 - (3) The gauge indicates continuously the current fuel amount even after turn OFF the starting switch. This does not mean that the gauge is out of order.
- ※ If the gauge illuminates the red range even though the machine is on the normal condition, check the electrical device as that can be caused by the poor connection of electricity or sensor.

Fuel quantity	Tolerance	Resistance(Ω)	Zone
E	+0.7, -0.7	240	Red
F	+2.0, -2.0	33.5	White

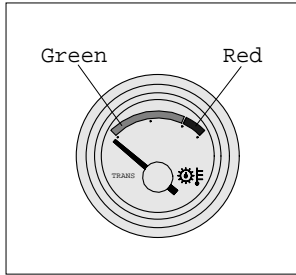
3) ENGINE COOLANT TEMPERATURE GAUGE



- (1) This indicates the temperature of coolant.
 - Green range : 37°C (99-105°F)
 - Red range : 105°C (221°F) above
- (2) The green range illuminates when operating.
- (3) Keep idling engine at low speed until the green range illuminates, before operation of machine.
- (4) When the red range illuminates, turn OFF the engine, check the radiator and engine.

Temperature (°C)	Tolerance	Resistance(Ω)	Zone
37	+11.7, -13.9	533.2	Green
105	+1.7, -1.8	73.3	Red

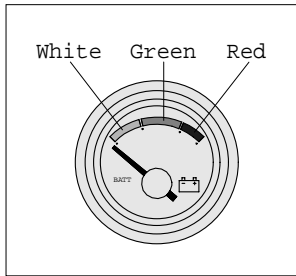
4) TRANSMISSION OIL TEMPERATURE GAUGE



- (1) This range indicates the temperature of transmission oil
 - Green range : 37°C (99-248°F)
 - Red range : 120°C (248°F) Above
- (2) The green range indicates when operating.
- (3) Keep idling engine at low speed until the green range indicates, before operation of machine.
- (4) If the indicator is in the red range, it means the transmission is overheated. Be careful that the indicator does not enter the red range.

Temperature (°C)	Tolerance	Resistance (Ω)	Zone
37	+13.9, -16.7	767.7	Green
120	+2.8, -2.8	65.4	Red

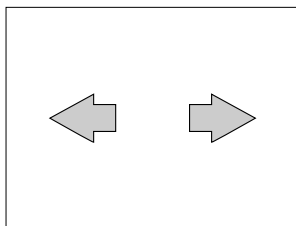
5) BATTERY VOLT METER



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

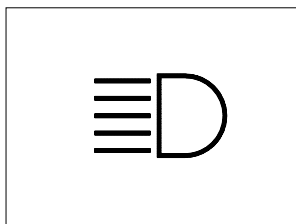
Temperature (°C)	Tolerance	Input voltage (V)	Zone
24	+0.50, -0.50	24	Green
30	+0.25, -0.25	30	Red

6) DIRECTION PILOT LAMP



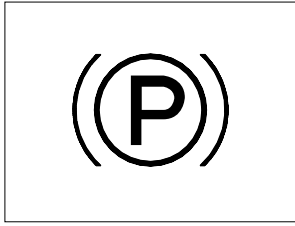
- (1) This lamp flashes when the signal indicator lever is moved.
- (2) When the lamp lights up, the balance is lost.

7) HIGH BEAM PILOT LAMP



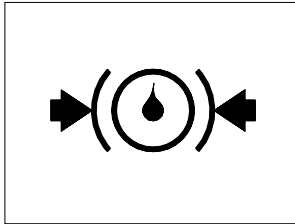
- (1) This lamp works when the illuminating direction is upward.
- (2) This lamp comes ON when the dimmer switch is operated, e.g., when passing another vehicle.

8) PARKING BRAKE PILOT LAMP



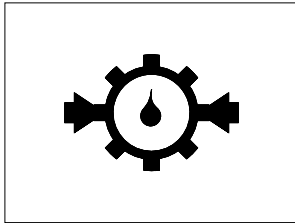
- (1)When the parking brake is actuated, the lamp lights ON.
- * Check the lamp is OFF before driving.

9) BRAKE FAIL WARNING LAMP



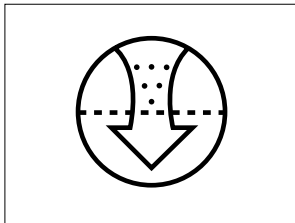
- (1)The lamp lights ON when the oil pressure of service brake drops below the normal range.
- (2)When the lamp is ON, stop the engine and check the cause.
- * Do not operate until any problems are corrected.

10) TRANSMISSION OIL PRESSURE WARNING LAMP



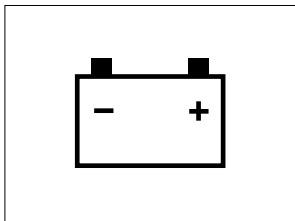
- (1)The lamp lights ON when the oil pressure of transmission drops.
- (2)When the lamp is ON, stop the engine and check the transmission system.

11) AIR CLEANER WARNING LAMP



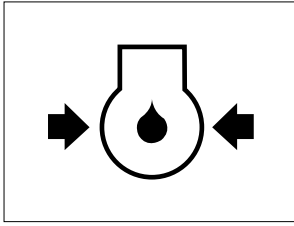
- (1)This lamp operates by the vacuum caused inside when the filter of air cleaner is clogged.
- Check the filter and clean or replace it when the lamp operates.

12) BATTERY CHARGING WARNING LAMP



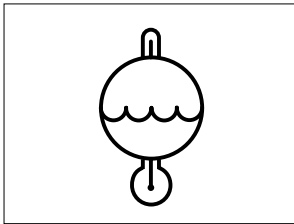
- (1)This lamp is ON when key ON, it is turned OFF after starting the engine. Check the battery charging circuit when the lamp comes ON, during engine operation.

13)ENGINE OIL PRESSURE WARNING LAMP



(1)If lamp comes ON during engine operation, shut engine immediately. Check oil level.

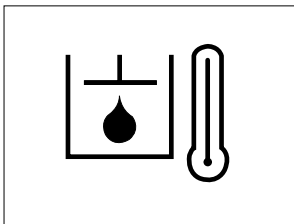
14)OVERHEAT WARNING LAMP



(1)This lamp is turned ON when the temperature of cooling water is over the normal temperature of 110°C (230°F).

(2)Check the cooling system when the lamp is ON.

15)HYDRAULIC OIL TEMP WARNING LAMP

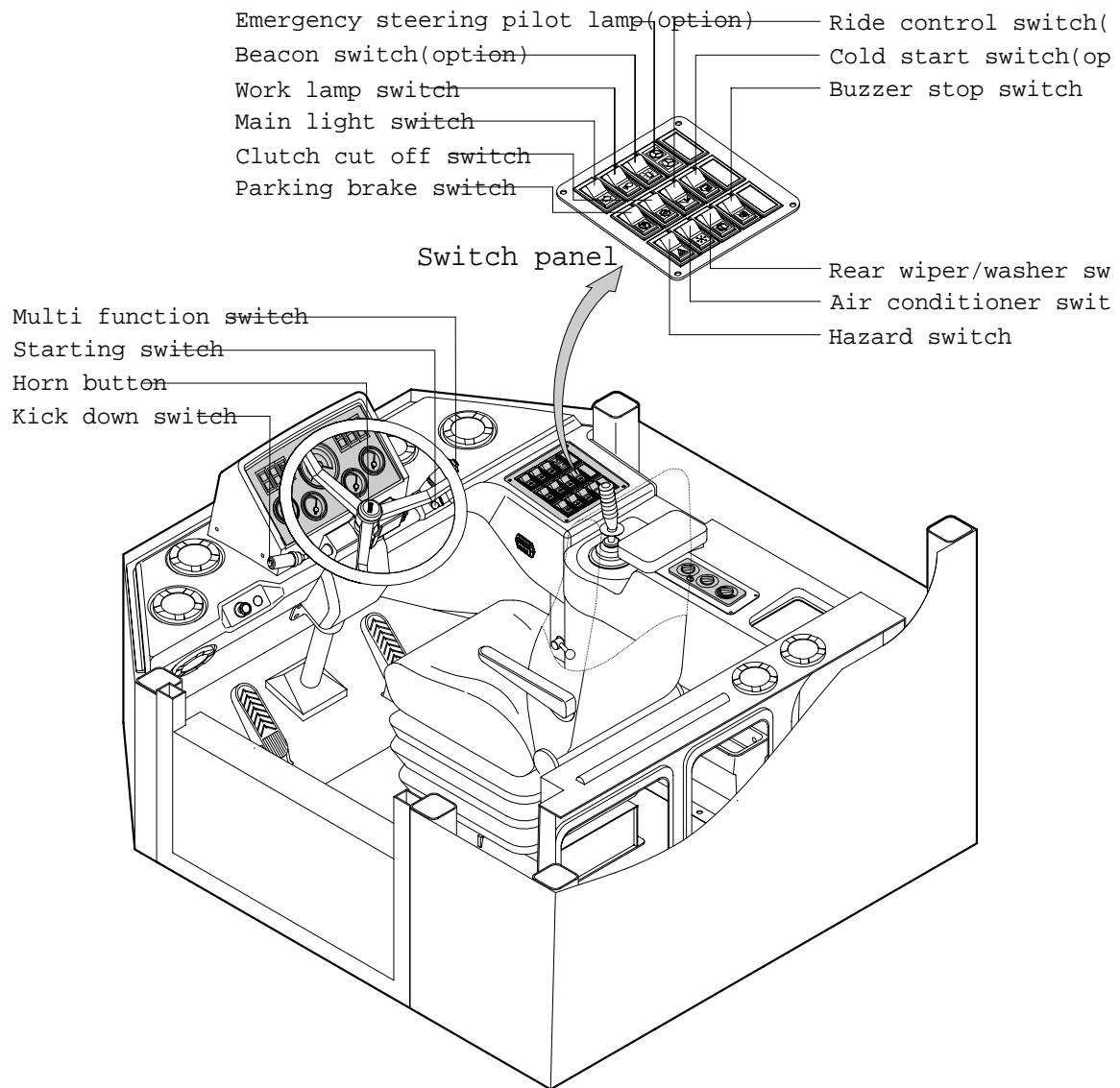


(1)This warning lamp operates and the buzzer sounds when the temperature of hydraulic oil is over 105°C (221°F).

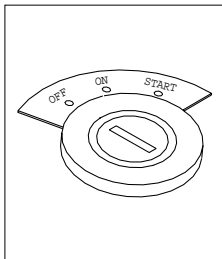
(2)Check the hydraulic oil level when the lamp is turned ON

(3)Check for debris between oil cooler and radiator.

2. SWITCHES

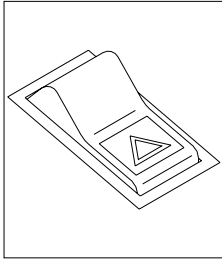


1) STARTING SWITCH



- (1) There are three positions, OFF, ON and START.
- (2) OFF : None of electrical circuits activate.
- (3) ON : All the systems of machine operate.
- (4) START : Use when operating the engine.
Release key immediately after starting.

2) HAZARD SWITCH

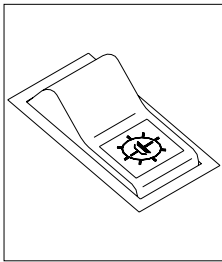


(1) Use for parking, or roading machine.

* If the switch is left ON for a long time, the battery m discharged.

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

3) CLUTCH CUT OFF SWITCH

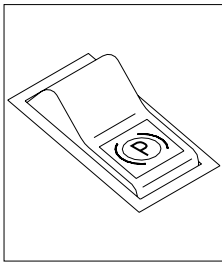


(1) This switch is pressed ~~cut off the~~ clutch when brake operates.

* Be careful not to use this switch when driving on a slope.

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

4) PARKING BRAKE SWITCH

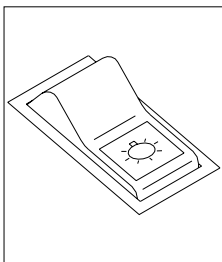


(1) This switch is pressed, the parking brake will start to oper gauge panel warning lamp will comes ON.

* When operating the gear selector lever, be sure to release parking brake. If the machine is operated with the parl brake engaged, the brake will overheat and may cause the brake system to go out of order.

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

5) MAIN LIGHT SWITCH

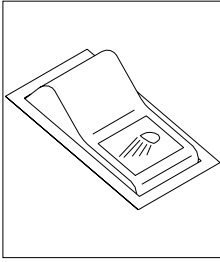


(1) This switch use to operates the clearance lamp and head light by

· First step : Clearance lamp and cluster illumination ON. Also, the below indicator lamp comes ON.

· Second step : Head light comes ON.

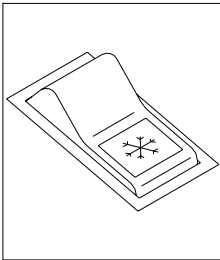
6) WORK LAMP SWITCH



(1) This switch turns ON the working lamps located on the radiator door.

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

7) AIRCON SWITCH

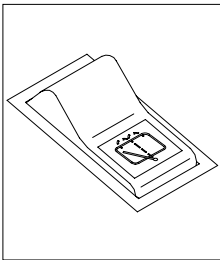


(1) This switch is used to operate the air conditioner.

(2) Refer to the air conditioner and heater for detail operation.

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

8) REAR WIPER AND WASHER SWITCH

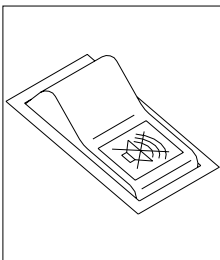


(1) The switch is used to operate the rear wiper and washer by two steps.

• First step : The rear wiper operates.

• Second step : The washer liquid is sprayed and the rear wiper operates only while pressing. If release the switch, the wiper returns to the first step position.

9) BUZZER STOP SWITCH



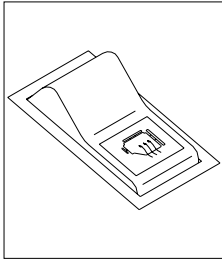
(1) The red lamp on the cluster lights ON and the buzzer sounds when the machine has a problem.

In this case, if the switch is pressed, the buzzer will be stopped. Be sure to check the machine for problems.

(2) Wait until the lamp is turned OFF, if the red lamp lights ON and the buzzer stopped.

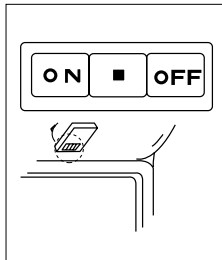
If not, stop the engine and check the system which the lamp is ON.

10)COLD START SWITCH (Option)



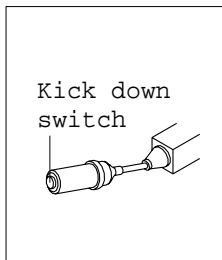
- (1)This switch is used for starting the engine in cold weather. If pressed, starting aid fluid is injected for easier engine
- (2)The below indicator lamp is turned ON when operating this swi

11)CAB LAMP SWITCH



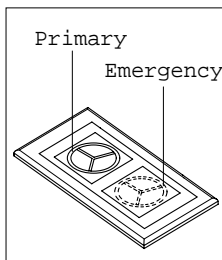
- (1)This switch turns ON the cab room lamp.

12)KICK DOWN SWITCH



- (1)The kick-down button is pushed, gear selection will instantly from R_2 to R_1 .
- (2)If the button is pushed or machine speed/hr reaches up the gear selection will automatically change to F

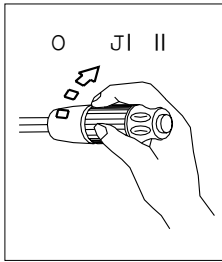
13)EMERGENCY STEERING PILOT LAMP (Option)



- (1)Primary
 - If the oil pressure in the steering pump drops, the lamp will this lamp flashes during operation, the action alarm should s
 - * If the lamp lights up, immediately pull the machine to a place and stop the machine.
- (2)Emergency
 - This lamp will flash if the oil pressure in the emergency pump drops. The lamp notifies the operator that if the system also failed at this time, there is no emergency s
 - * Immediately pull the machine to a convenient stop and stop t engine.
 - * This machine is equipped with ground driven emergency steering pump. It is normal for the lamp to flash af seconds when the machine is stopped.

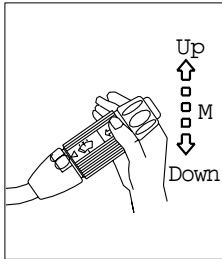
14)MULTIFUNCTION SWITCH

(1)Front wiper and washer switch



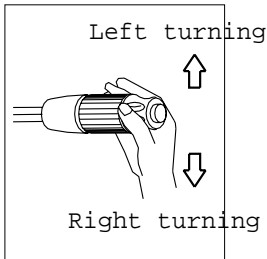
- ① When the switch is in position I, the wiper moves intermittent
 - ② When placed in position II, the wiper moves continuously.
 - ③ If you press a button at the end of the lever, washer liquid is sprayed and the wiper will be activated 2-3 times.
- * Check the quantity of washer liquid in the tank. If 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



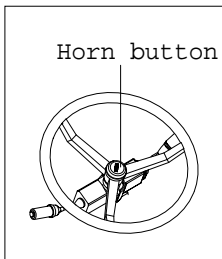
- ① This switch is used to turn the head lights direction.
- ② Switch positions
 - Up : To flash for passing
 - Middle : Head lights low beam ON
 - Down : Head lights high beam ON
- ③ If you release the switch when it's in up position, the switch returns to middle.

(3)Turning switch



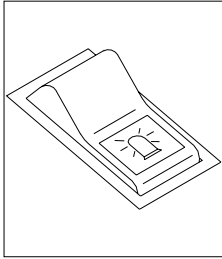
- ① This switch is used to warn or signal the turning direction of the machine to other vehicles or equipment.
- ② Push the lever up for turning left, pull the lever down for turning right.

15)HORN BUTTON



- (1)If you press the middle of the steering wheel, the horn will sound.

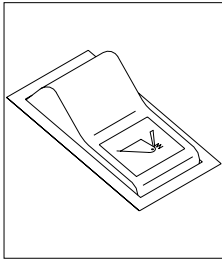
16) BEACON SWITCH (Option)



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

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

17) RIDE CONTROL SWITCH (Option)



(1) This switch is pressed, the ride control system will start to operate. The ride control system significantly reduces pitching and rolling without slowing down the travel speed.

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