

GROUP 2 MONITORING SYSTEM

1. OUTLINE

Monitoring system consists of the monitor part and switch part.

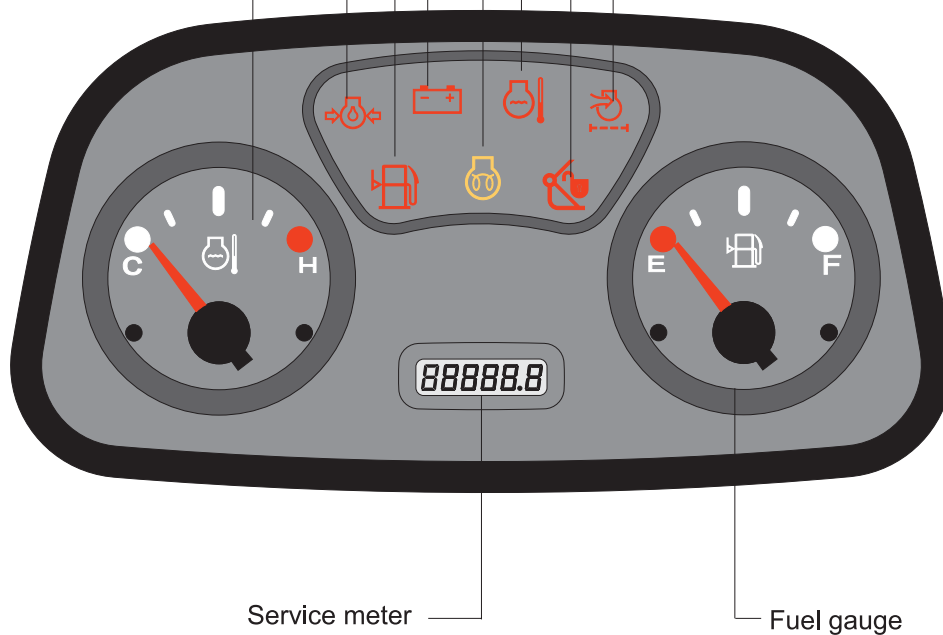
The monitor part gives warnings when any abnormality occurs in the machine and informs the condition of the machine.

Various select switches are built into the monitor panel, which act as the control portion of the machine control system.

2. CLUSTER

1) MONITOR PANEL

Battery charging warning lamp
Fuel low level warning lamp
Engine oil pressure warning lamp
Engine coolant temp gauge
Preheat pilot lamp
Engine coolant temp warning lamp
Quick clamp lock warning lamp
Air cleaner warning lamp



R35Z73CD01

2) CLUSTER CHECK PROCEDURE

(1) Start key : ON

- ① Check monitor initial 6 seconds
 - a. All lamps light up.
- ② Check monitor after 2 seconds : Indicate machine condition
 - a. Tachometer : 0 rpm
 - b. Fuel gauge : Pointed at appropriate level
 - c. Engine coolant temperature gauge : Pointed at appropriate level
 - d. Warning lamp

※ **During start key ON the engine oil pressure lamp and battery charging lamp go on, but it is not abnormal.**

(2) Start of engine

- ① Check machine condition
 - a. Tachometer pointed at present rpm
 - b. Gauge and warning lamp : Indicate at present condition.

※ When normal condition : All warning lamp OFF
- ② When abnormal condition
 - a. The lamp lights up.
 - b. The lamp light up until normal condition.

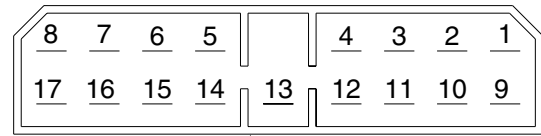
3. CLUSTER CONNECTOR

1) CONNECTOR

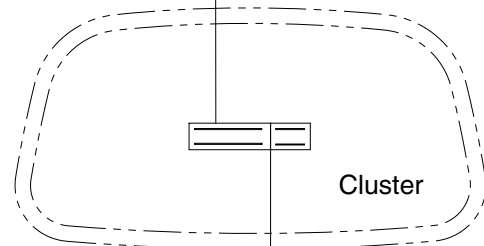
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POWER IG 12V	1	○
LAMP, ENG OIL PRESSURE	2	○
LAMP, CHARGE	3	○
LAMP, WATER TEMP	4	○
LAMP, AIR-CLEANER	5	○
LAMP, FUEL EMPTY	6	○
LAMP, AIR-HEATER	7	○
LAMP, QUICK CLAMP	8	○
LAMP, ILLUMINATION	9	○
GAUGE, WATER TEMP	10	○
GAUGE, FUEL LEVEL	11	○
RETURN, AIR-HEATER	12	○
BUZZER(+)	13	○
NC	14	○
EARTH	15	○
NC	16	○
NC	17	○
HOURMETER(B +)	1	○
HOURMETER(SIG +)	2	○
HOURMETER(-)	3	○

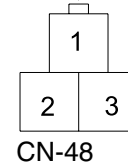
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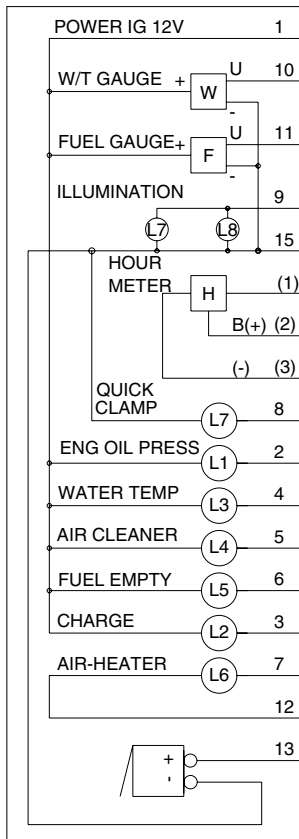


Cluster



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2) CLUSTER DETAIL



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4. CLUSTER FUNCTION

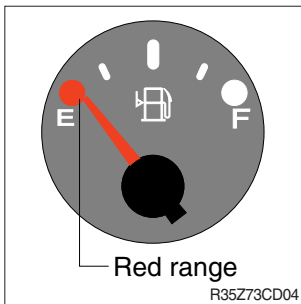
1) GAUGES AND DISPLAYS



(1) Service meter



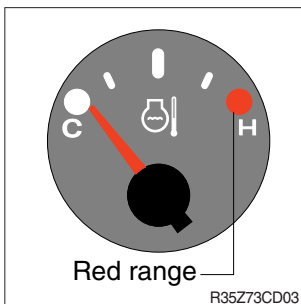
- ① This meter shows the total operation hours of the machine.
- ② Always ensure the operating condition of the meter during the machine operation.
Inspect and service the machine based on hours as indicated in chapter 6, maintenance.


(2) Fuel gauge



- ① This gauge indicates the amount of fuel in the fuel tank.
- ② Fill the fuel when the red range or warning lamp  ON.
* If the gauge illuminates the red range or warning lamp  ON 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 indicates the temperature of coolant.
· Red range : Above 105°C (221°F)
- ② When the red range pointed or warning lamp  ON, engine do not abruptly stop but run it at medium speed to allow it to cool gradually, then stop it.
Check the radiator and engine.
* If the engine is stopped without cooled down running, the temperature of engine parts will rise suddenly, this could cause severe engine trouble.

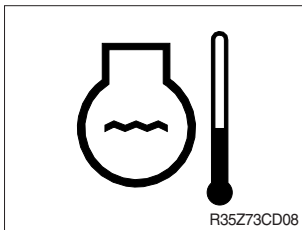
2) WARNING AND PILOT LAMPS

(1) Fuel low level warning lamp



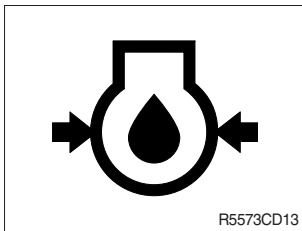
- ① This lamp blinks when the level of fuel is below 2.0 l (0.5 U.S. gal).
- ② Fill the fuel immediately when the lamp blinks.

(2) Engine coolant temperature warning lamp



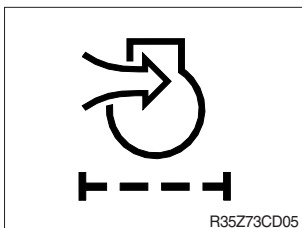
- ① This lamp blinks when the temperature of coolant is over the normal temperature 110°C (230°F).
- ② Check the cooling system when the lamp blinks.

(3) Engine oil pressure warning lamp



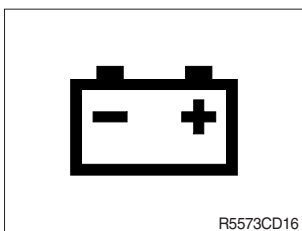
- ① This lamp blinks after starting the engine because of the low oil pressure.
- ② If the lamp blinks during engine operation, shut OFF engine immediately. Check oil level.

(4) Air cleaner warning lamp



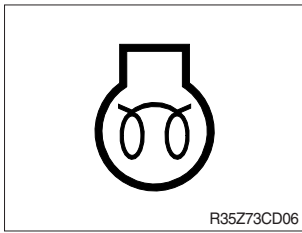
- ① This lamp blinks when the filter of air cleaner is clogged.
- ② Check the filter and clean or replace it.

(5) Battery charging warning lamp



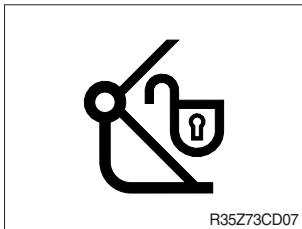
- ① This lamp blinks when the starting switch is ON, it is turned OFF after starting the engine.
- ② Check the battery charging circuit when this lamp blinks during engine operation.

(6) Preheat pilot lamp



- ① When the start switch turn to HEAT position, pilot lamp comes ON.
- ② Refer to "4-2) STARTING ENGINE" of operator's manual for details.

(7) Quick clamp warning lamp



- ① When the quick clamp switch turned ON, this lamp turn ON and the buzzer sounds.
- ② This lamp turned OFF and the buzzer stop when the quick clamp switch turned OFF.