# TROUBLESHOOTING GUIDE

#### 1. ENGINE

# \* This guide is not intended to cover every conditions, however many of the more common possibilities are listed.

| Trouble  | Service  | Remark                           |
|--|--|----------------------------------|
| The engine oil pressure lamp lights ON when engine speed is raised after completion of warm up.                | <ul> <li>Add the oil to the specified level.</li> <li>Replace the oil filter cartridge.</li> <li>Check oil leakage from the pipe or the joint.</li> <li>Replace the monitor.</li> </ul>  |                                  |
| Steam is emitted from the top part of the radiator (the pressure valve). Coolant level warning lamp lights ON. | <ul> <li>Supply the coolant and check leakage.</li> <li>Adjust fan belt tension.</li> <li>Wash out inside of cooling system.</li> <li>Clean or repair the radiator fin.</li> <li>Check the thermostat.</li> <li>Tighten the radiator cap firmly or replace the packing of it.</li> <li>Replace the monitor.</li> </ul> |                                  |
| The engine does not start when the starting motor is turned over.  | <ul> <li>Add fuel.</li> <li>Repair where air is leaking into fuel system.</li> <li>Check the injection pump or the nozzle.</li> <li>Check the valve clearance.</li> <li>Check engine compression pressure.</li> <li>In cold weather, check if fuel warmer system is working normal.</li> </ul>                         | Refer to the pages 3-23 and 4-4. |
| Exhaust gas is white or blue.  | <ul><li>Adjust to specified oil quantity.</li><li>Replace with specified fuel.</li></ul>   |                                  |
| Exhaust gas occasionally turns black.  | <ul> <li>Clean or replace the air cleaner element.</li> <li>Check the nozzle.</li> <li>Check engine compression pressure.</li> <li>Clean or replace the turbocharger.</li> </ul>   |                                  |
| Combustion noise occasionally changes to breathing sound.  | · Check the nozzle.  |                                  |
| Unusual combustion noise or mechanical noise.  | <ul> <li>Check with specified fuel.</li> <li>Check over-heating</li> <li>Replace the muffler.</li> <li>Adjust valve clearance.</li> </ul>  |                                  |

## 2. ELECTRICAL SYSTEM

| Trouble  | Service   | Remark |
|--|---|--------|
| Lamp does not glow brightly even when engine runs at high speed. Lamp flickers while engine runs.                      | Check for loose terminals and open-circuit wiring.     Adjust belt tension.   |        |
| Battery charging lamp does not go out even when engine runs at high speed.   | Check the alternator.     Check and repair wiring.  |        |
| Unusual noise is emitted from the alternator.  | · Check the alternator.   |        |
| Starting motor does not turn when starting switch is turned ON.  | <ul> <li>Check and repair the wiring.</li> <li>Charge the battery.</li> <li>Check the starting motor.</li> <li>Check the safety relay.</li> </ul> |        |
| The pinion of the starting motor keeps going in and out.   | Charge the battery.     Check the safety relay.   |        |
| Starting motor turns the engine sluggishly.  | Charge the battery.     Check the starting motor.   |        |
| The starting motor disengages before the engine starts up.   | Check and repair the wiring.     Charge the battery.  |        |
| The engine warming up lamp does not go ON.   | <ul><li>Check and repair wiring.</li><li>Check the monitor.</li></ul>   |        |
| The engine oil pressure lamp does not light up when engine is stationary (when the starting switch is in ON position.) | Check the monitor.     Check the caution lamp switch.   |        |
| Battery charging lamp does not light up when the engine is stationary. (when the starting switch is in ON position.)   | Check the monitor.     Check and repair the wiring.   |        |

### 3. OTHERS

| Trouble   | Service  | Remark |
|---|--|--------|
| Track slip out of place.  Excessive wear of the sprocket. | Adjust tension of track.   |        |
| Bucket either rises slowly or not at all.                 | Add oil to specified level.  |        |
| Slow speed of travel, swing, boom, arm and bucket.        | Add oil to specified level.  |        |
| Unusual noise emitted from pump.                          | · Clean the hydraulic tank strainer.   |        |
| Excessive oil temperature rise of hydraulic oil.          | <ul><li>Clean the oil cooler.</li><li>Adjust fan belt tension.</li><li>Add oil to specified level.</li></ul> |        |