

# 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
Engine oil pressure lamp fails to go off immediately after the engine is started.	<ul style="list-style-type: none"> <li>· Add the oil to the specified level.</li> <li>· Replace the oil filter.</li> <li>· Check oil leakage from the tube or the joint.</li> </ul>	
Steam is emitted from the top part of the radiator (The pressure valve). Engine coolant temperature gauge indicates red range.	<ul style="list-style-type: none"> <li>· Supply the cooling water 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>· Check the engine coolant temperature gauge.</li> <li>· Tighten the radiator cap firmly or replace the gasket of it.</li> </ul>	
Engine does not start when the starting motor is turned over.	<ul style="list-style-type: none"> <li>· Add fuel</li> <li>· Repair where air is inhaled into fuel system.</li> <li>· Check the injection pump or the nozzle.</li> <li>· In cold weather, check if fuel warmer system is working normal.</li> <li>· Check the valve clearance.</li> </ul>	Refer to the pages 4-5.
Exhaust gas is white or blue.	<ul style="list-style-type: none"> <li>· Adjust to specified oil quantity.</li> <li>· Replace with specified fuel.</li> </ul>	
Exhaust gas occasionally turns black.	<ul style="list-style-type: none"> <li>· Clean or replace the air cleaner element.</li> <li>· Check the nozzle.</li> <li>· Check engine compression pressure.</li> <li>· Check or replace the turbocharger.</li> </ul>	
Combustion noise occasionally changes to breathing sound.	<ul style="list-style-type: none"> <li>· Check the nozzle.</li> <li>· Check the injection pump.</li> </ul>	
Unusual combustion noise or mechanical noise.	<ul style="list-style-type: none"> <li>· Check with specified fuel.</li> <li>· Check overheating.</li> <li>· Check the muffler.</li> <li>· Adjust valve clearance.</li> </ul>	

## 2. ELECTRICAL SYSTEM

Trouble	Service	Remark
Voltmeter fluctuates largely even with the engine running at a constant speed. Lamp does not glow brightly even when engine runs at high speed. Lamp flickers while engine runs.	<ul style="list-style-type: none"> <li>· Check for loose terminals open-circuit wiring.</li> <li>· Adjust belt tension.</li> </ul>	
Voltmeter does not fluctuate even with an increase in the engine speed.	<ul style="list-style-type: none"> <li>· Check the alternator.</li> <li>· Inspect and repair wiring.</li> </ul>	
Starting motor does not turn when starting switch is turned on.	<ul style="list-style-type: none"> <li>· Inspect and repair the wiring.</li> <li>· Charge the battery.</li> <li>· Check starting switch.</li> <li>· Check battery relay switch.</li> <li>· Place the gear selector lever in the neutral.</li> </ul>	
Starting motor turns the engine sluggishly.	<ul style="list-style-type: none"> <li>· Charge the battery.</li> <li>· Check the starting motor.</li> </ul>	
Starting motor disengages before the engine starts up.	<ul style="list-style-type: none"> <li>· Check and repair the wiring.</li> <li>· Charge the battery.</li> </ul>	
Engine oil pressure lamp does not light up when engine is stationary (When the starting switch is in ON position).	<ul style="list-style-type: none"> <li>· Check the lamp.</li> <li>· Check the oil pressure switch.</li> </ul>	
Charge lamp does not light up when the engine is stationary. (When the starting switch is in ON position.)	<ul style="list-style-type: none"> <li>· Check the lamp.</li> <li>· Check and repair the wiring.</li> </ul>	

### 3. POWER TRAIN SYSTEM

Trouble	Service	Remark
Engine is running but machine will not move.	<ul style="list-style-type: none"> <li>· Release parking brake.</li> <li>· Put gear selector lever in position properly.</li> <li>· Add oil to transmission case to the specified level.</li> </ul>	
Even at full throttle, machine moves slowly and lacks power.	<ul style="list-style-type: none"> <li>· Add oil to transmission case to the specified level.</li> <li>· Disassemble transmission strainer and clean.</li> </ul>	
Transmission oil overheats.	<ul style="list-style-type: none"> <li>· Add oil to transmission case to the specified level or drain oil.</li> <li>· Use a suitable gear speed.</li> <li>· Reduce time using torque converter at stall speed. Check engine.</li> </ul>	
Abnormal noise is produced.	<ul style="list-style-type: none"> <li>· Add oil to transmission case to the specified level.</li> <li>· Add oil to axle case to the specified level.</li> </ul>	
Brake does not work when pedal is depressed.	<ul style="list-style-type: none"> <li>· Raise hydraulic oil pressure to specified level.</li> <li>· Add brake oil.</li> <li>· Bleed hydraulic oil from brake system.</li> </ul>	
Brake drags or stay when applied.	<ul style="list-style-type: none"> <li>· Clean breather and bleed air from brake system.</li> </ul>	
Brake slips.	<ul style="list-style-type: none"> <li>· Raise hydraulic oil pressure to the specified level.</li> </ul>	
Brake does not work properly.	<ul style="list-style-type: none"> <li>· Adjust linkage.</li> <li>· Clean brake pad.</li> <li>· Replace spring in hydraulic oil cylinder.</li> <li>· Adjust or replace brake pad.</li> </ul>	
Steering wheel is heavy.	<ul style="list-style-type: none"> <li>· Repair or replace the pump.</li> <li>· Repair, clean and reset the relief valve.</li> <li>· Coat a grease to connections and bearings of steering gear.</li> <li>· Check the mounting of the steering column.</li> </ul>	
Steering wheel turning by itself.	<ul style="list-style-type: none"> <li>· Replace leaf springs.</li> </ul>	
Slow steering.	<ul style="list-style-type: none"> <li>· Clean spool and sleeve.</li> <li>· Replace leaf springs.</li> </ul>	
Impossible to turn the steering wheel into neutral position.	<ul style="list-style-type: none"> <li>· Check the monitor.</li> <li>· Check and repair the wiring.</li> </ul>	

#### 4. HYDRAULIC SYSTEM

Trouble	Service	Remark
Bucket lacks lifting power. Bucket lifting speed is slow.	<ul style="list-style-type: none"><li>· Check the hydraulic oil level and add if necessary.</li><li>· Replace filter in hydraulic tank.</li></ul>	
Bubbles in oil.	<ul style="list-style-type: none"><li>· Replace with specified oil.</li><li>· Add oil if needed.</li></ul>	
Oil pressure is too low.	<ul style="list-style-type: none"><li>· Bleed air from oil line.</li><li>· Add oil and bleed air.</li></ul>	
Cylinder vibrates when operating.	<ul style="list-style-type: none"><li>· Add oil.</li></ul>	