

i. Inspection after re-assembly

The gears should turn smoothly without hitching.

|                |                                    |
|----------------|------------------------------------|
| Turning torque | 0.3 kgf-m (2.17 ft-lbs)<br>or less |
|----------------|------------------------------------|

**11. TROUBLE SHOOTING**

| Problems  | Causes   | Countermeasures   |
|---|--|---|
| <b>Lift does not rise.</b>  | Insufficient engine speed  | Raise engine speed slightly.  |
|   | Insufficient transmission oil  | Maintain oil level by replenishing with the same kind of oil.   |
|   | Air taken in through suction piping  | Tighten securely or replace broken parts.   |
|   | Clogged suction filter   | Clean.  |
|   | Broken or poor hydraulic pump if necessary. Pay particular attention to shaft seal because a broken seal sometimes intakes air.  | Inspect pump and repair or replace  |
|   | Poor link mechanism if necessary.  | Inspect, adjust, repair, or replace   |
|   | Excessive load on lift   | Decrease load.  |
|   | Broken cylinder  | Replace.  |
|   | Too low viscosity of transmission oil wear, replace with gear oil of SAE 80.   | As it will cause oil leaks or internal.   |
|   | Maladjusted relief valve   | Readjust.   |
|   | Excessive internal leaks damaged seals, and repair. (Check each part systematically.)  | Inspect cylinder and valves. Replace  |
|   | Broken control valve<br>(Even when spool is shifted to up position, lift does not rise.) <ul style="list-style-type: none"> <li>• Stuck compensator plunger stone</li> <li>• Clogged orifices or slanted orifices in pilot passage</li> <li>• Broken or fatigued relief valve spring</li> <li>• Bitten or stuck check valve plunger</li> </ul> | Lap after repairing flaws with oil<br>Clean them with compressed air or a sharp point.<br>Replace spring.<br><br>Lap after repairing flaws with oilstone. |
| Broken flow-control valve <ul style="list-style-type: none"> <li>• Stuck poppet.</li> </ul> | Lap after disassembling, cleaning, and repairing flaws with oilstone.  |   |

| <b>Problems</b>  | <b>Causes</b>  | <b>Countermeasures</b>  |
|--|--|---|
| <b>Too low rising speed of lift</b>  | Above causes can also be possible.   | Repair according to above instructions.   |
|  | Too small a spool stroke in control valve  | Inspect, readjust, or replace link mechanism if necessary.  |
|  | Broken compensator spring in control valve   | Replace spring.   |
| <b>Lift lowers even when adjusting knob is closed fully with adjusting handle. (When engine is stopped.)</b> | Flow-control valve   |   |
|  | <ul style="list-style-type: none"> <li>• Stuck poppet</li> <li>• Poor poppet seat</li> <li>• Poor O-ring</li> </ul>    | Lap after disassembling, cleaning, repairing flaws with oilstone. Replace valve.                        |
|  | <ul style="list-style-type: none"> <li>• Poor O-ring</li> </ul>  | Replace.  |
|  | Safety valve <ul style="list-style-type: none"> <li>• Oil leaks due to poor sealing</li> <li>• Poor seating</li> </ul> | Inspect and re-tighten each joint. Replace valve.   |
| <b>Lift does not lower.</b>  | Flow-control valve knob is turned to the lock position.  | Turn knob to down position.   |
|  | Seized lift shaft  | Apply grease and repair or replace bushings or both bushings and shaft if necessary.                    |
|  | Stuck poppet of slow-return check valve  | Lap after disassembly, cleaning, and repair flaws with oil stone.                                       |
|  | Broken control valve <ul style="list-style-type: none"> <li>• Stuck main spool</li> </ul>                              | Lap lightly after disassembling, cleaning, and repairing flaws with oilstone or replace as an assembly. |
| <b>Too slow lift lowering speed</b>  | Above mentioned causes can also be possible.   | Repair or adjust according to instructions mentioned above.   |
|  | Insufficiently lowered control lever   | Lower lever sufficiently.   |
| <b>When hydraulic control lever is raised, relief valve beeps.</b>   | Excessively closed flow-control valve  | Open valve sufficiently.  |
|  | Maladjusted lever stopper check valve  | Readjust lever stopper gu/de position.  |
|  | Poor link mechanism  | Inspect, readjust, repair, or replace link mechanism if necessary.                                      |
|  |  |   |
| <b>Fluid overheating</b>   | Excessively high working pressure  | Inspect and adjust.   |
|  | Too high or low viscosity of working fluid   | Replace with fluid of adequate viscosity.   |

| <b>Problems</b>                                     | <b>Causes</b>   | <b>Countermeasures</b>   |
|---|---|--|
| <b>Fluid overheating</b>                            | Insufficient fluid  | Maintain specified level by replenishing.  |
|   | Too high internal friction of pump  | Replace.   |
| <b>Pump noise</b>                                   | Partially clogged suction-filter or suction piping.                                 | Clean.   |
|   | Air inhaled through suction piping connections                                      | Inspect and re-tighten.  |
|   | Air inhaled through intake pipe connection for pump                                 | Inspect and re-tighten.  |
|   | Loosened pump cover tightening bolts  | Inspect and re-tighten.  |
|   | Too rich oil viscosity  | Replace with oil of specified viscosity.   |
|   | Trapped foreign matter  | Disassemble and clean.   |
|   | Broken or worn pump parts   | Inspect and replace defective parts.   |
| <b>Excessive wear, deflection or damage of pump</b> | Dirty fluid   | Eliminate foreign matter and inspect filters.  |
|   | Circuit pressure exceeds pump capacity  | Adjust relief valve or replace if necessary.   |
|   | Oil less operation due to insufficient oil quantity                                 | Inspect transmission oil level and maintain specified oil level by replenishing.         |
|   | In either case, clean, and repair pump parts and replace damaged ones if necessary. |  |
| <b>Oil leaks outside pump.</b>                      | Broken or fatigues oil seal or O-ring   | Replace.   |
| <b>Oil leaks from piping or joints</b>              | Poorly connected piping   | Inspect, clean, and eliminate dust. Repair flaws with oilstone if necessary. Re-tighten. |
|   | Poor O-rings  | Replace.   |
|   | Broken piping   | Replace with a new one after washing clean related parts.                                |
|   | Poor oil seal   | Replace oil seal or bushing if necessary.  |