Troubleshooting

Transmission

Troubleshooting The Transmission System

WARNING

Personal injury or death can result from sudden machine movement.

Sudden movement of the machine or release of oil pressure can cause injury to persons on or near the machine.

To help prevent possible injury or death, refer to the information in Testing and Adjusting, "Machine Preparation for Troubleshooting".

The problem can be caused because of an active interlock. Check for active interlocks. See SYSTEMS OPERATION, "ELECTRICAL FUNCTION REQUIREMENTS" for information concerning machine interlocks for your machine.

Another area for a possible problem may be the machine configuration. See Testing and Adjusting, "Electronic Control Module (ECM) - Configure" for information concerning the machine configuration.

Problem List

- The machine will not move when FORWARD or REVERSE speeds are selected.
- One or more speeds cannot be selected.
• The transmission will not stay in the selected gear.

• It is difficult to select the transmission speed.

• The transmission is noisy in FORWARD gears.

• The transmission is noisy in REVERSE gears.

• The transmission system overheats.

**Probable Causes**

**The Machine Will Not Move When FORWARD Or REVERSE Speeds Are Selected**

• The problem can be caused because of an active interlock. Check for active interlocks. See Systems Operation, "ELECTRICAL FUNCTION REQUIREMENTS" for information concerning machine interlocks for your machine.

• There is a failure in the wiring harness.

• The boom has exceeded the critical angle and the machine is in the rear axle locked mode. (Earlier Machines)

• There is an active diagnostic code for the transmission.

• The critical angle sensor has failed.

• The parking brake is either ON or the parking brake is ON due to a failure.

• The lever for the FORWARD or REVERSE has failed.

• Power train oil level is not within the specification.

• A transmission solenoid has failed.

• There are damaged torque converter components.

• The differential drive is damaged.

• The neutralizer switch has failed.

• The transmission is not calibrated.

• System voltage is above 16 DCV.

• System voltage is below 10 DCV.

• A transmission solenoid has failed.

• An air leak on the inlet side of the transmission pump.
• The transmission pressure relief control valve is not set correctly.

• FORWARD and REVERSE clutch packs are worn or damaged.

• FORWARD and REVERSE clutch piston seals are leaking.

• The transmission pump is worn or damaged.

**One Or More Speeds Cannot Be Selected**

• The machine ECM may not be configured properly. See Testing and Adjusting, "ELECTRONIC CONTROL MODULE (ECM) - CONFIGURE" for information concerning the machine configuration.

• The speed selection shifter fork is damaged.

• Assemblies for the shift rod are damaged.

• A synchronizer is damaged.

• There are damaged gears in the transmission.

• A transmission solenoid has failed.

• The engine speed sensor has failed.

• The intermediate speed sensor has failed.

• The output speed sensor for the torque converter has failed.

**The Transmission Will Not Stay In The Selected Gear.**

• A transmission solenoid has failed.

• The engine speed sensor has failed.

• The intermediate speed sensor has failed.

• The output speed sensor for the torque converter has failed.

• The detent spring for the transmission selector lever is damaged.

• The shift fork is damaged.

• The spring loaded split pin for the synchronizer is damaged.

• The parking brake has an intermediate failure.

**It Is Difficult To Select The Transmission Speed**

• The speed selection shifter fork is damaged.
• Assemblies for the shift rod are damaged.
• A synchronizer is damaged.
• The FORWARD or REVERSE clutch is staying engaged.

**The Transmission Is Noisy In FORWARD Gears**

• Transmission oil level is too low.
• The relief pressure for the transmission pump is too low.
• The transmission gears are worn or damaged.
• The transmission shaft bearings are worn or damaged.
• The transmission needs to be calibrated.

**The Transmission Is Noisy In REVERSE Gears**

• Transmission oil level is too low.
• The lube pressure for the transmission is too low.
• The transmission gears for the REVERSE shaft are worn or damaged.
• The bearings for the REVERSE shaft are worn or damaged.
• The transmission needs to be calibrated.

**The Transmission System Overheats**

• The application for the machine is not correct.
• The machine is not being operated correctly.
• The scavenge pump for the transmission is not operating correctly.
• There are leaks in the suction side of the transmission oil pump.
• The transmission oil pressure is too low.
• A direction clutch is slipping.
• There may be an obstruction in the oil cooler.
• The transmission oil cooler lines may be plugged or damaged.
• The transmission oil pump is worn or damaged.
• The torque converter inlet relief valve is stuck open.
• The oil viscosity is not the correct viscosity.

• The transmission oil temperature gauge has failed. The problem could be between the sensor, the ECM, and the display.

• The ECM will display an error.