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AUTOMATIC GEARBOX - JATCO

Duty Solenoid Valves

The duty solenoid valves are:

- 1 Lock-up duty solenoid valve
- 1 Line pressure duty solenoid valve
- 1 2-4 duty brake solenoid valve.

The lock-up duty solenoid valve is used by the EAT ECU to control the lock-up of the [torque converter](#) depending upon the vehicle speed and throttle position.

The EAT ECU will actuate the lock-up solenoid valve, which operates the lock-up control valve to [direct](#) fluid to either lock or unlock the torque converter.

The line pressure duty solenoid valve and 2-4 duty brake solenoid valve are used by the EAT ECU to control fluid line pressure in the gearbox.

The EAT ECU calculates the line pressure by using the engine speed, vehicle speed and throttle angle. The EAT ECU then actuates the solenoid valves accordingly to achieve the required line pressure.

The solenoid valves can fail in the following ways:

- 1 Open circuit
- 1 [Short](#) circuit to 12 or 5 volts
- 1 Short circuit to earth.

In the event of a solenoid valve failure any of the following symptoms may be observed:

- 1 Gearbox selects fourth gear only (shift solenoid valve failure)
- 1 Gearbox will not upshift to fourth gear (timing solenoid valve failure)
- 1 Increased [fuel](#) consumption and emissions (lock-up solenoid valve failure)
- 1 Gear shifts will have no torque reduction therefore gear changes will be very harsh (line pressure duty solenoid valve failure)
- 1 No pressure control will occur therefore gear changes from fifth gear will be very harsh (2-4 brake duty solenoid valve failure).

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