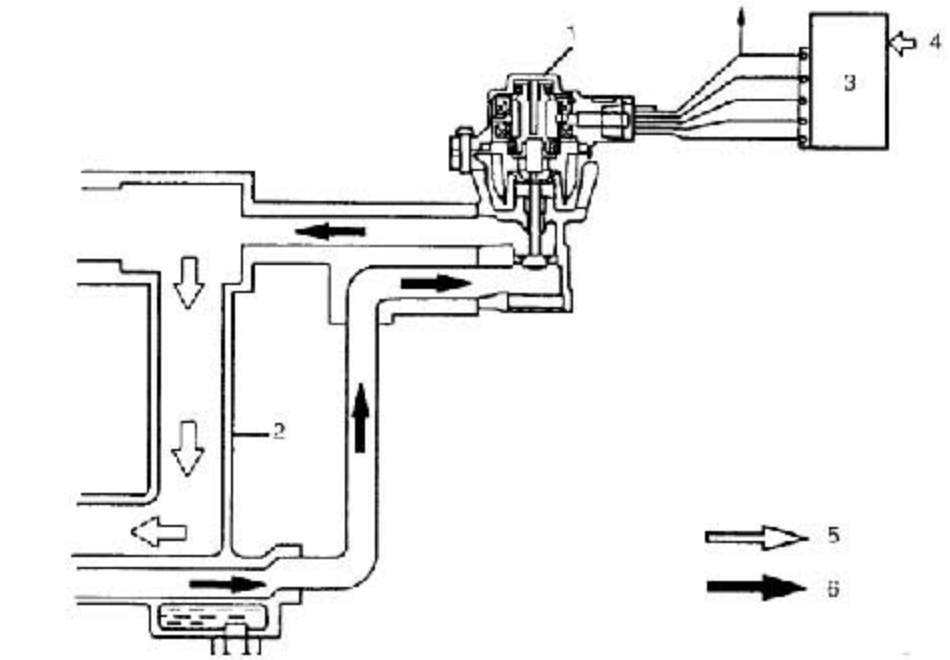
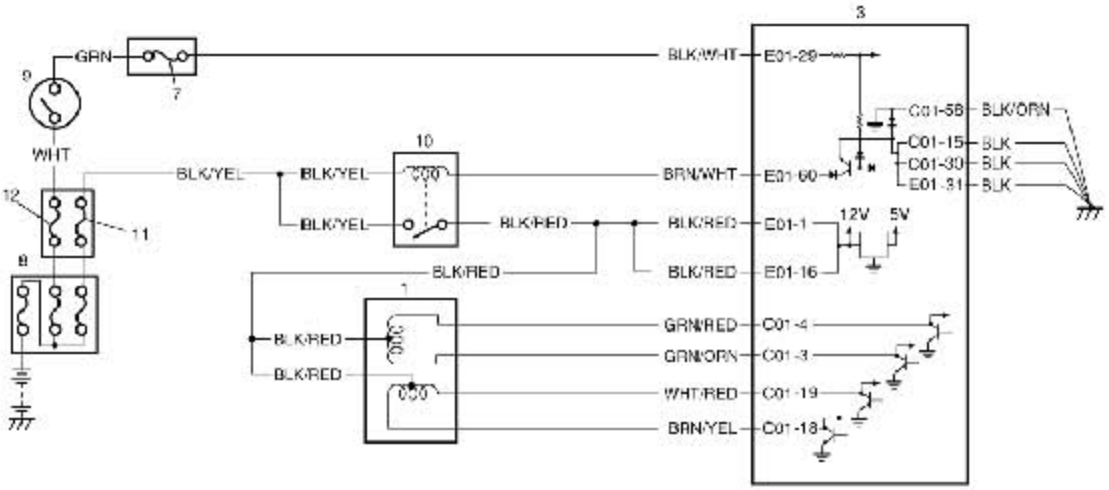
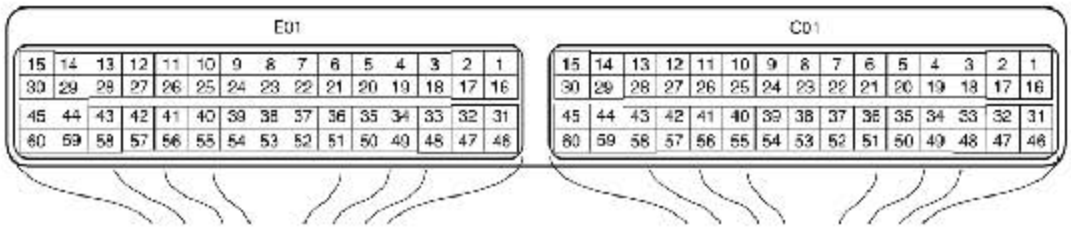
P0401 / P0402: Exhaust Gas Recirculation Flow Insufficient Detected / Excessive Detected

Wiring Diagram







1. EGR valve	4. Sensed information	7. "IG COIL" fuse	10. Main relay
2. Intake manifold	5. Fresh air	8. Main fuse box	11. "FI" fuse
3. ECM	6. Exhaust gas	9. Ignition switch	12. "IGN" fuse

DTC Detecting Condition and Trouble Area

DTC detecting condition	Trouble area
DTC P0401: Difference in intake manifold absolute pressure between opened EGR valve and closed EGR valve is smaller than specified value. (2 driving cycle detection logic, monitoring once / 1 driving) DTC P0402: Difference in intake manifold absolute pressure between opened EGR valve and closed EGR valve is larger than specified value. (2 driving cycle detection logic, monitoring once / 1 driving)	• EGR valve • EGR passage • MAP sensor •ECM

DTC Confirmation Procedure

1) With ignition switch turned OFF, connect scan tool.
2) Turn ON ignition switch and clear DTC using scan tool.
3) Start engine and warm up to normal operating temperature.
4) Run engine at idle for 10 min.
5) Drive vehicle and increase engine speed 3000 rpm in 3rd gear or "3" range.
6) Release accelerator pedal and with engine brake applied, keep vehicle coasting for 5 sec. or more. (Keep fuel cutcondition for 5 sec. or more) If fuel cut condition is not kept for 5 sec. or more, coast down a slope in engine speed1000 – 3000 rpm for 5 sec. or more.
7) Stop vehicle and run engine at idle.
8) For european market model, check whether EGR system readiness/monitoring test has completed or not by usingscan tool.If evaporative system readiness/monitoring test has not completed, check vehicle conditions (environmental) andrepeat Steps 3) through 7).
9) Check DTC and pending DTC.

DTC Troubleshooting

Step	Action	Yes	No
1	Was "Engine and Emission Control System Check" performed?	Go to Step 2.	Go to "Engine and Emission Control System Check".
2	Do you have SUZUKI scan tool?	Go to Step 3.	Go to Step 5.
3	EGR valve operation check 1) With ignition switch turned OFF, install SUZUKI scan tool to DTC. 2) Check EGR system referring to "EGR System Inspection (If Equipped) in Section 1B". Is it in good condition?	Go to Step 4.	Go to Step 5.
4	MAP sensor check 1) Check MAP sensor for performance referring to "Manifold Absolute Pressure (MAP) Sensor Inspection (If Equipped) in Section 1C". Is check result satisfactory?	Intermittent trouble or faulty ECM. Check for intermittent referring to "Intermittent and Poor Connection Inspection in Section 00".	Replace MAP sensor.
5	EGR valve control circuit check 1) Check that EGR valve control circuits are in good condition referring to Step 2 to 5 of "DTC P0403: Exhaust Gas Recirculation Control Circuit" Are circuits in good condition?	Go to Step 6.	Repair or replace EGR valve control circuit(s).

Step	Action	Yes	No
6	EGR valve check 1) Check EGR valve referring to "EGR Valve Inspection (If Equipped) in Section 1B". Is check result satisfactory?	Go to Step 7.	Faulty EGR valve.
7	MAP sensor check 1) Check MAP sensor for performance referring to "Manifold Absolute Pressure (MAP) Sensor Inspection (If Equipped) in Section 1C". Is check result satisfactory?	EGR passage clogged. If OK, substitute a known-good ECM and recheck.	Replace MAP sensor.