2002 ENGINE PERFORMANCE

Vacuum Diagrams

INTRODUCTION

This article contains underhood views or schematics of vacuum hose routing. Use these vacuum diagrams during the visual inspection in BASIC DIAGNOSTIC PROCEDURES article. This will assist in identifying improperly routed vacuum hoses, which cause driveability and/or computer-indicated malfunctions.

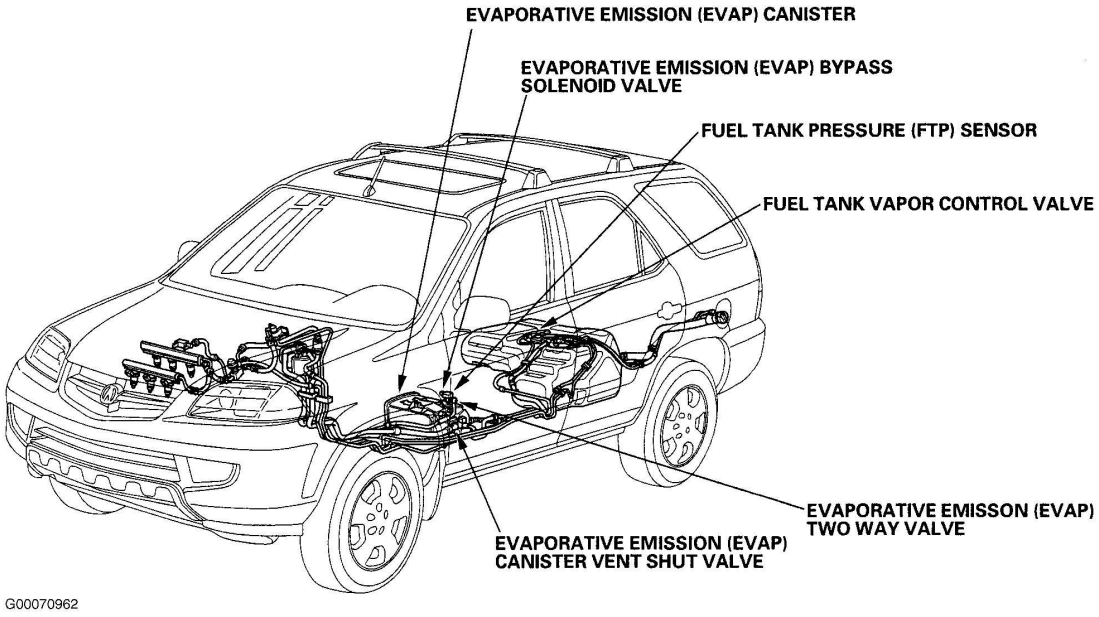
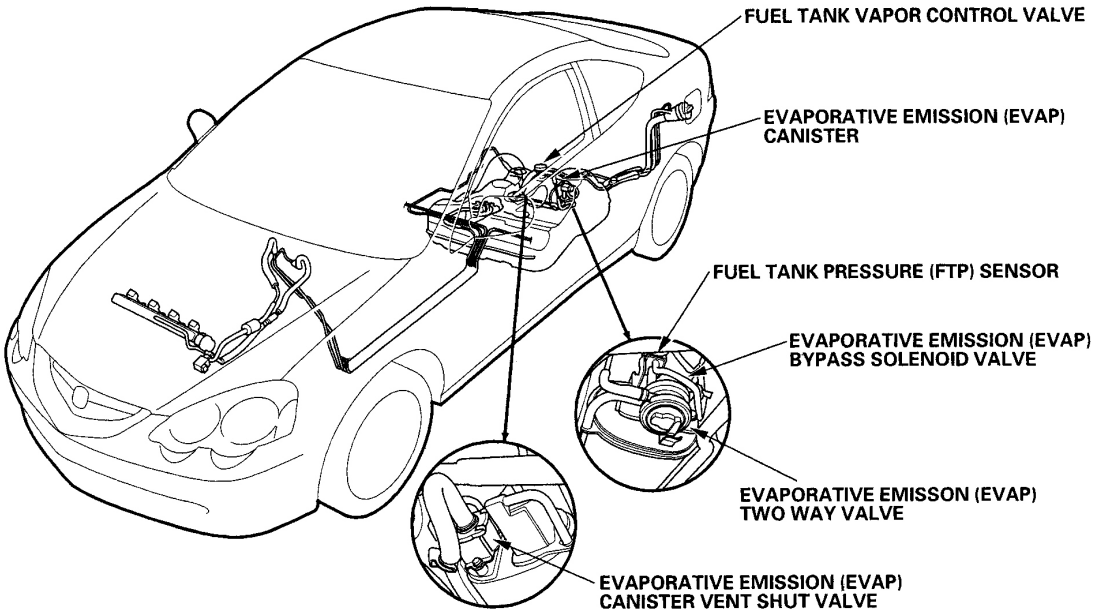


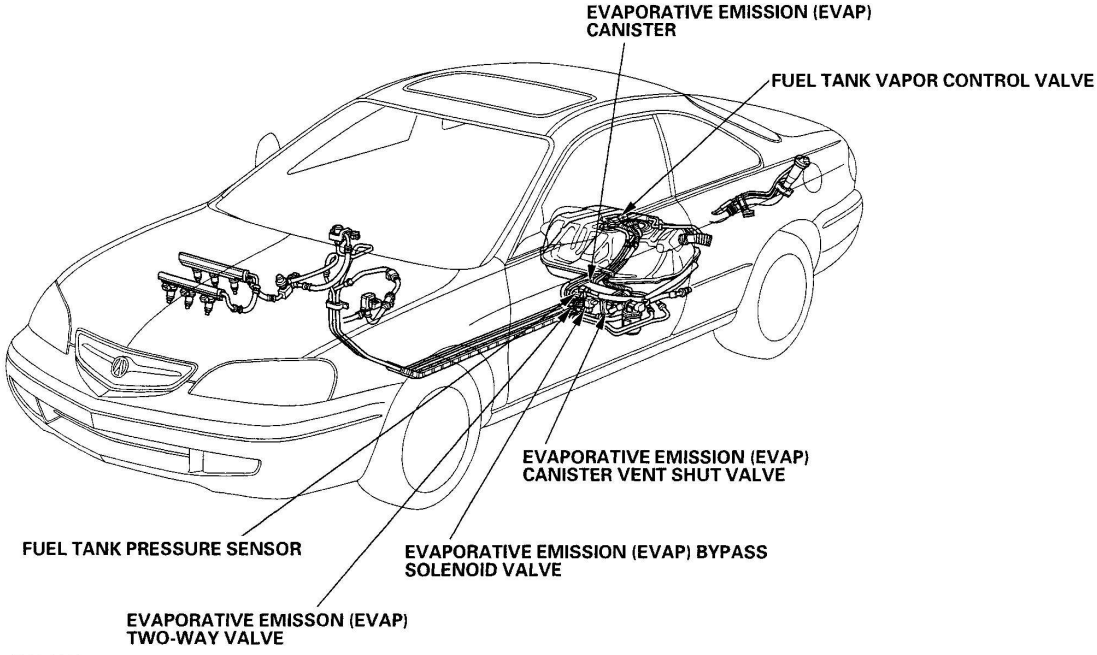
Fig. 1: Evaporative Emission Control System Vacuum Diagram (MDX)
Courtesy of AMERICAN HONDA MOTOR CO., INC.



NOTE: The illustration shows the K20A3 engine; the K20A2 engine is similar.

G00070963

Fig. 2: Evaporative Emission Control System Vacuum Diagram (RSX)
Courtesy of AMERICAN HONDA MOTOR CO., INC.



G00070964

Fig. 3: Evaporative Emission Control System Vacuum Diagram (3.2CL)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

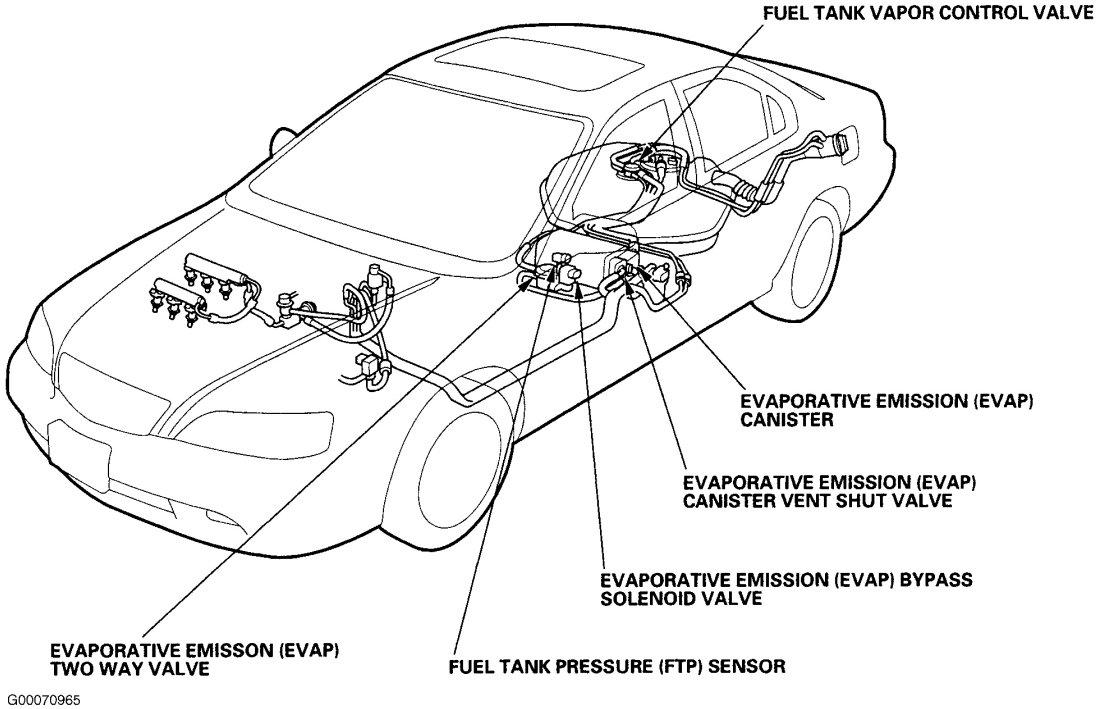


Fig. 4: Evaporative Emission Control System Vacuum Diagram (3.2TL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

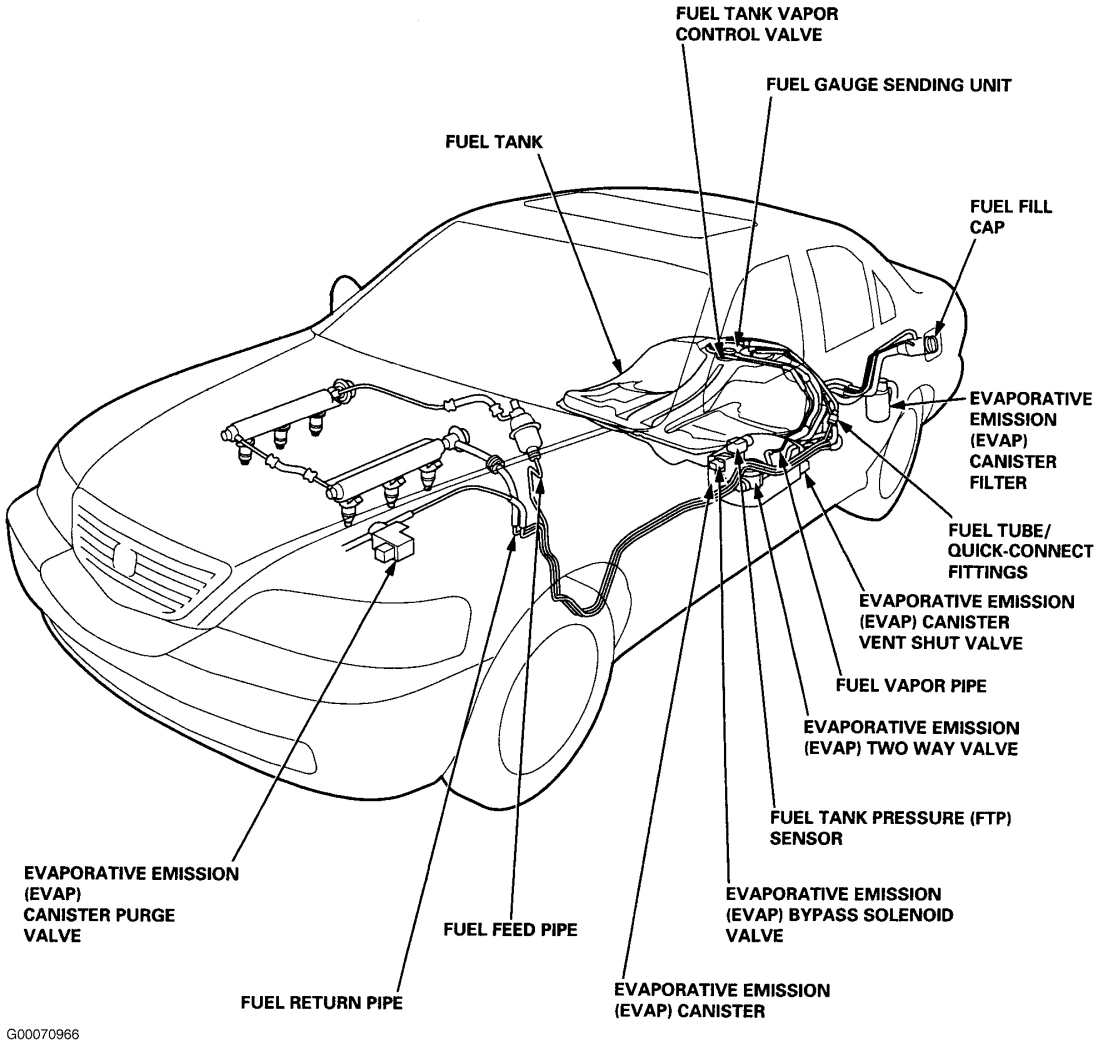


Fig. 5: Evaporative Emission Control System Vacuum Diagram (3.5RL)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

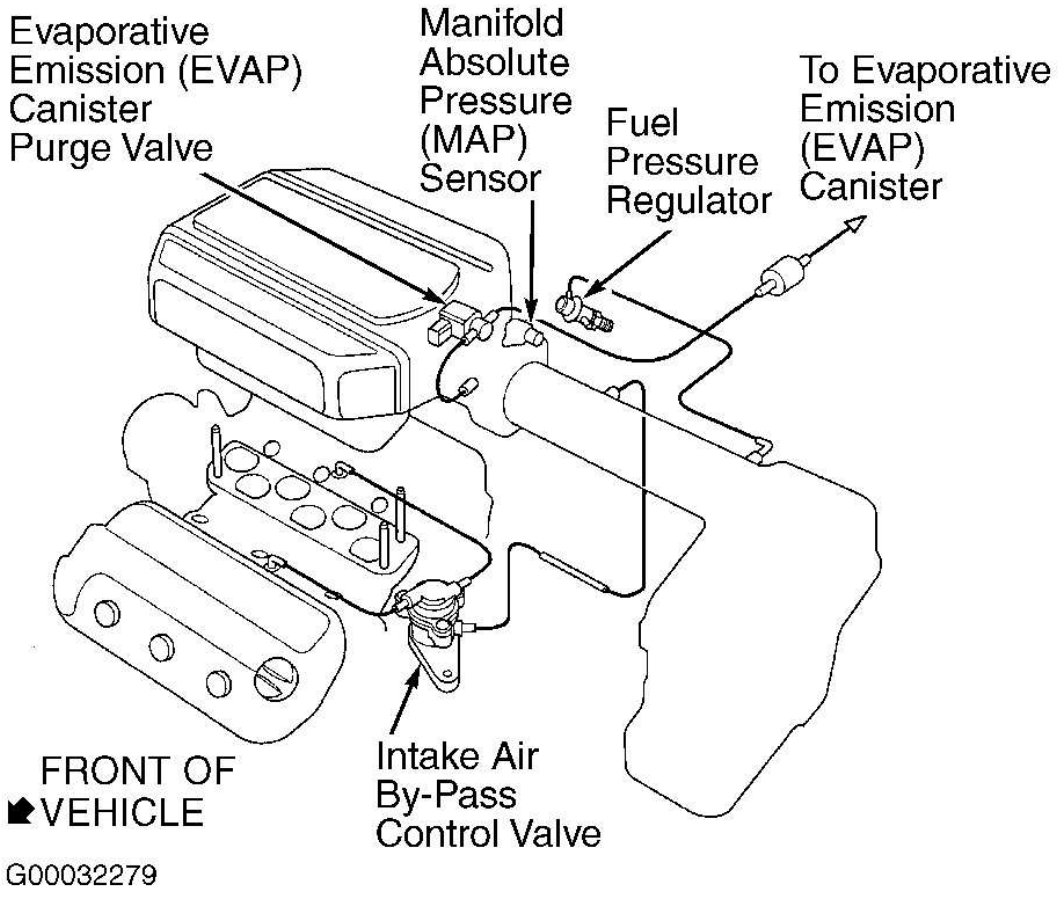
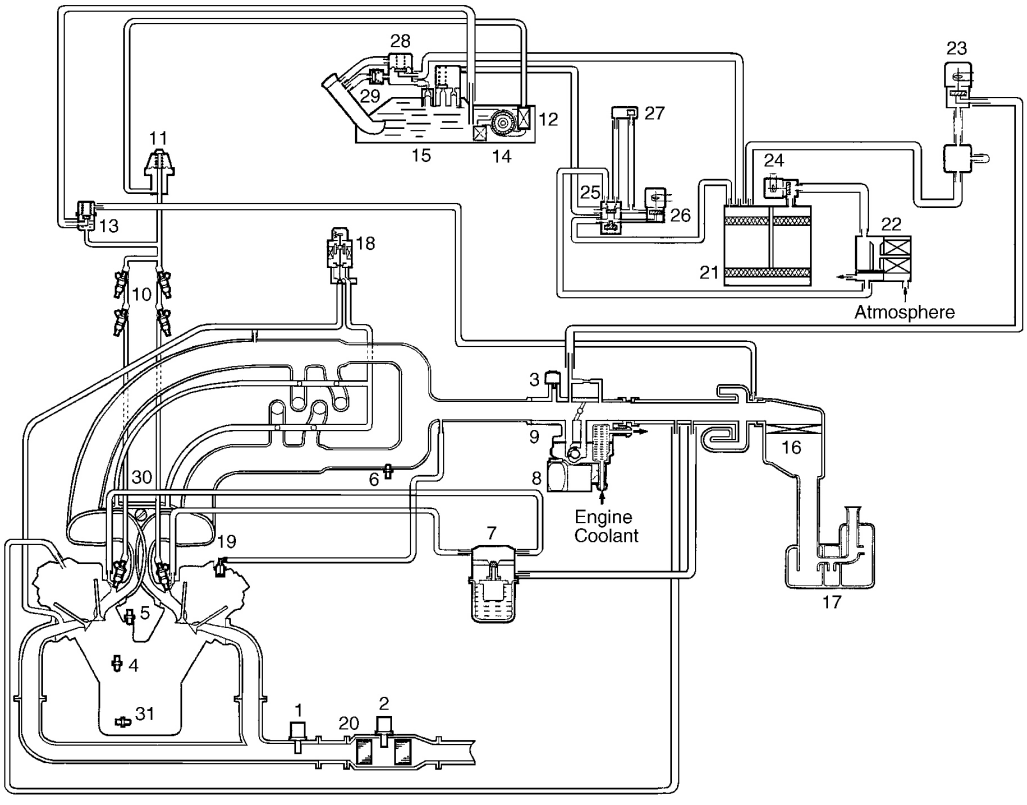


Fig. 6: Vacuum Diagram (MDX - 1 Of 2)
Courtesy of AMERICAN HONDA MOTOR CO., INC.



1. Primary Heated Oxygen Sensor (Primary HO2S) (Sensor 1)
2. Secondary Heated Oxygen Sensor (Secondary HO2S) (Sensor 2)
3. Manifold Absolute Pressure (MAP) Sensor
4. Engine Coolant Temperature (ECT) Sensor
5. Knock Sensor
6. Intake Air Temperature (IAT) Sensor
7. Intake Air By-Pass Control Valve
8. Idle Air Control (IAC) Valve
9. Throttle Body
10. Injector
11. Fuel Pulsation Damper
12. Fuel Filter
13. Fuel Pressure Regulator
14. Fuel Pump
15. Fuel Tank
16. Air Cleaner
17. Resonator
18. Exhaust Gas Recirculation (EGR) Valve & Position Sensor
19. Positive Crankcase Ventilation (PCV) Valve
20. 3-Way Catalytic Converter
21. Evaporative Emission (EVAP) Canister
22. Evaporative Emission (EVAP) Canister Filter
23. Evaporative Emission (EVAP) Canister Purge Valve
24. Evaporative Emission (EVAP) Canister Vent Shut Valve
25. Evaporative Emission (EVAP) 2-Way Valve
26. Evaporative Emission (EVAP) By-Pass Solenoid Valve
27. Fuel Tank Pressure (FTP) Sensor
28. Fuel Tank Vapor Control Valve
29. Fuel Tank Vapor Recirculation Valve
30. Intake Manifold Runner Control (IMRC) Valve
31. ATF Temperature Sensor

G00032280

Fig. 7: Vacuum Diagram (MDX - 2 Of 2)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

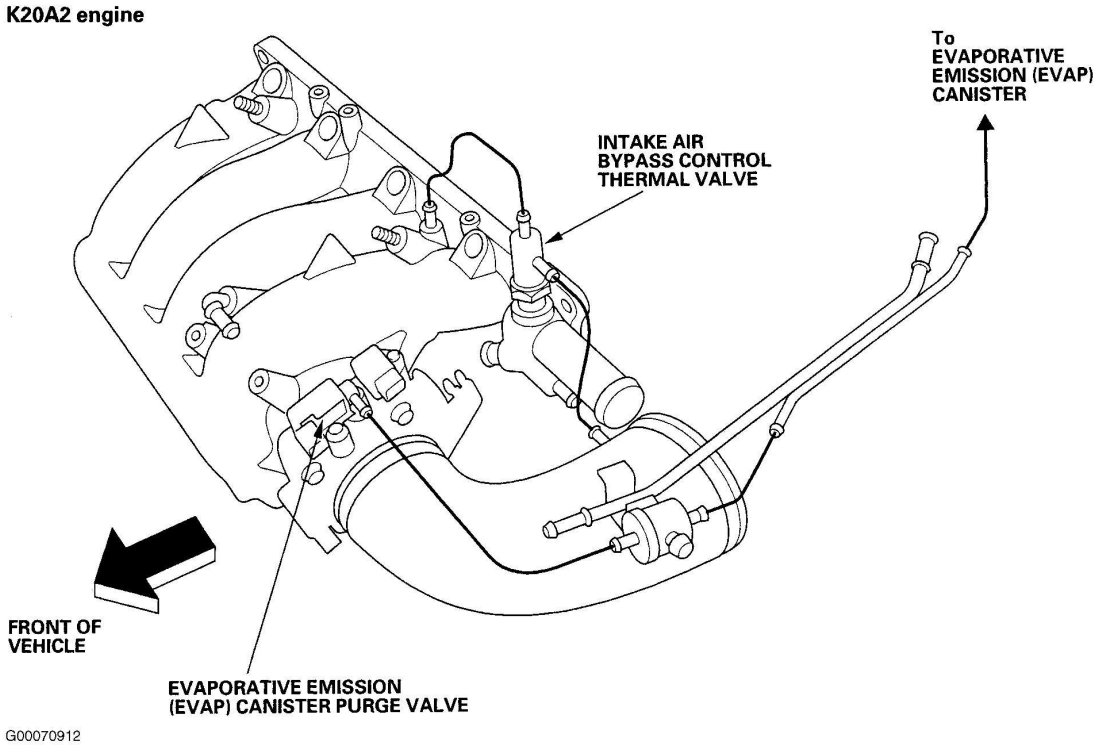


Fig. 8: Vacuum Diagram (RSX - 1 Of 4)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

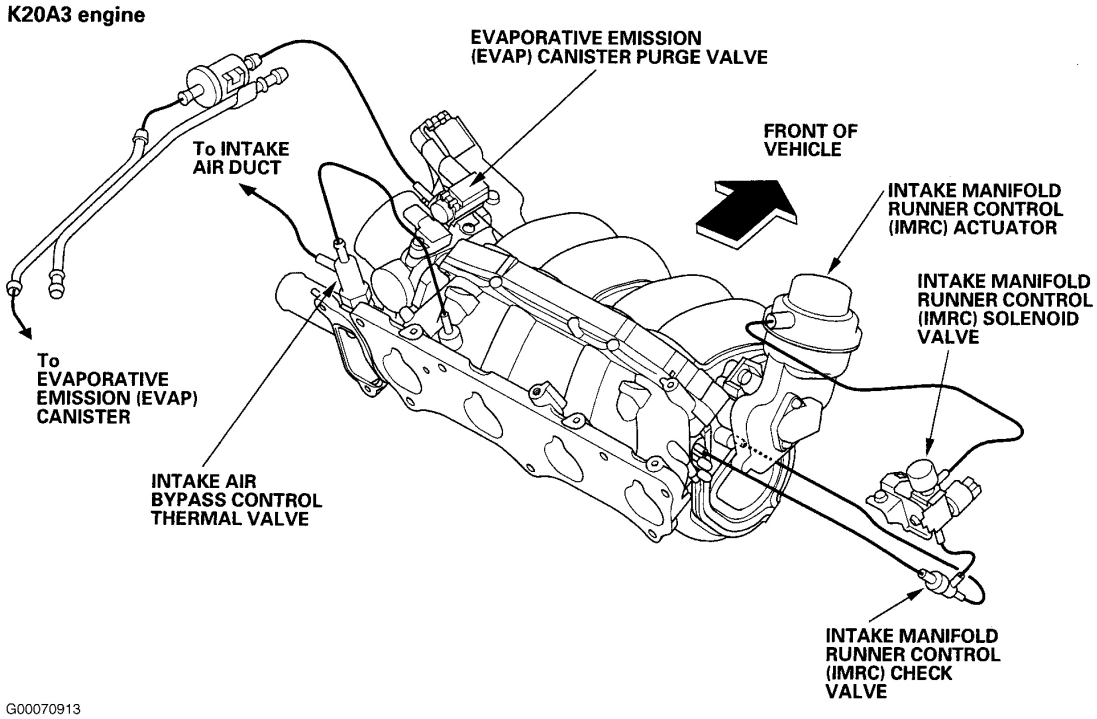
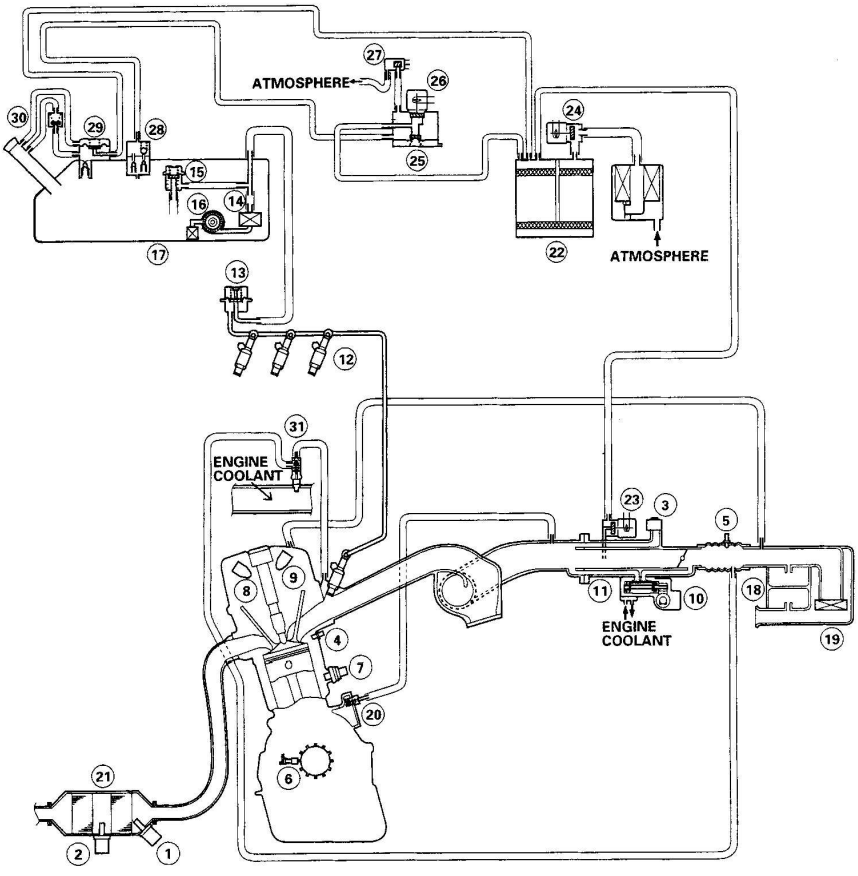


Fig. 9: Vacuum Diagram (RSX - 2 Of 4)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

K20A2 engine

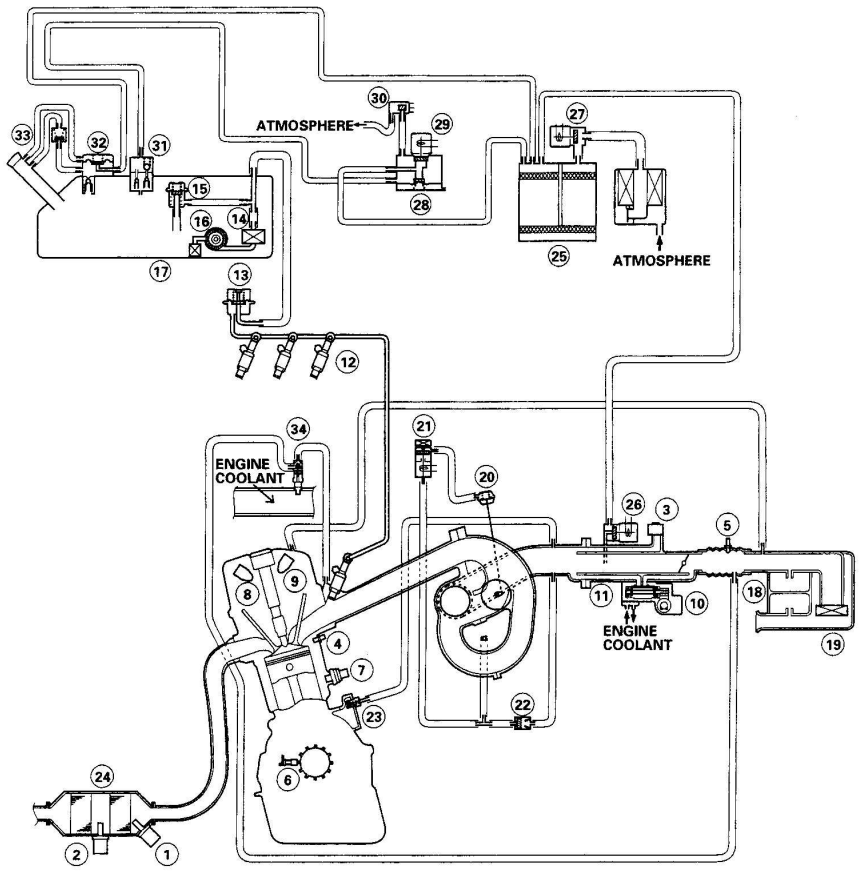


① AIR FUEL RATIO (A/F) SENSOR (SENSOR 1)
② SECONDARY HEATED OXYGEN SENSOR (SECONDARY HO2S) (SENSOR 2)
③ MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR
④ ENGINE COOLANT TEMPERATURE (ECT) SENSOR
⑤ INTAKE AIR TEMPERATURE (IAT) SENSOR
⑥ CRANKSHAFT POSITION (CKP) SENSOR
⑦ KNOCK SENSOR
⑧ CAMSHAFT POSITION (CMP) SENSOR
⑨ TOP DEAD CENTER (TDC) SENSOR
⑩ IDLE AIR CONTROL (IAC) VALVE
⑪ THROTTLE BODY
⑫ INJECTOR
⑬ FUEL PULSATION DAMPER
⑭ FUEL FILTER
⑮ FUEL PRESSURE REGULATOR
⑯ FUEL PUMP
⑰ FUEL TANK
⑱ RESONATOR
⑲ AIR CLEANER
⑳ POSITIVE CRANKCASE VENTILATION (PCV) VALVE
㉑ THREE WAY CATALYTIC CONVERTER
㉒ EVAPORATIVE EMISSION (EVAP) CANISTER
㉓ EVAPORATIVE EMISSION (EVAP) CANISTER PURGE VALVE
㉔ EVAPORATIVE EMISSION (EVAP) CANISTER VENT SHUT VALVE
㉕ EVAPORATIVE EMISSION (EVAP) TWO WAY VALVE
㉖ EVAPORATIVE EMISSION (EVAP) BYPASS SOLENOID VALVE
㉗ FUEL TANK PRESSURE (FTP) SENSOR
㉘ EVAPORATIVE EMISSION (EVAP) VALVE
㉙ FUEL TANK VAPOR CONTROL VALVE
㉚ FUEL TANK VAPOR RECIRCULATION VALVE
㉛ INTAKE AIR BYPASS CONTROL THERMAL VALVE

G00070914

Fig. 10: Vacuum Diagram (RSX - 3 Of 4)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

K20A3 engine



① AIR FUEL RATIO (A/F) SENSOR (SENSOR 1)
② SECONDARY HEATED OXYGEN SENSOR (SECONDARY HO2S) (SENSOR 2)
③ MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR
④ ENGINE COOLANT TEMPERATURE (ECT) SENSOR
⑤ INTAKE AIR TEMPERATURE (IAT) SENSOR
⑥ CRANKSHAFT POSITION (CKP) SENSOR
⑦ KNOCK SENSOR
⑧ CAMSHAFT POSITION (CMP) SENSOR
⑨ TOP DEAD CENTER (TDC) SENSOR
⑩ IDLE AIR CONTROL (IAC) VALVE
⑪ THROTTLE BODY
⑫ INJECTOR
⑬ FUEL PULSATION DAMPER
⑭ FUEL FILTER
⑮ FUEL PRESSURE REGULATOR
⑯ FUEL PUMP
⑰ FUEL TANK
⑱ RESONATOR
⑲ AIR CLEANER
⑳ INTAKE MANIFOLD RUNNER CONTROL (IMRC) ACTUATOR
㉑ INTAKE MANIFOLD RUNNER CONTROL (IMRC) SOLENOID VALVE
㉒ INTAKE MANIFOLD RUNNER CONTROL (IMRC) CHECK VALVE
㉓ POSITIVE CRANKCASE VENTILATION (PCV) VALVE
㉔ THREE WAY CATALYTIC CONVERTER
㉕ EVAPORATIVE EMISSION (EVAP) CANISTER
㉖ EVAPORATIVE EMISSION (EVAP) CANISTER PURGE VALVE
㉗ EVAPORATIVE EMISSION (EVAP) CANISTER VENT SHUT VALVE
㉘ EVAPORATIVE EMISSION (EVAP) TWO WAY VALVE
㉙ EVAPORATIVE EMISSION (EVAP) BYPASS SOLENOID VALVE
㉚ FUEL TANK PRESSURE (FTP) SENSOR
㉛ EVAPORATIVE EMISSION (EVAP) VALVE
㉜ FUEL TANK VAPOR CONTROL VALVE
㉝ FUEL TANK VAPOR RECIRCULATION VALVE
㉞ INTAKE AIR BYPASS CONTROL THERMAL VALVE

G00070915

Fig. 11: Vacuum Diagram (RSX - 4 Of 4)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

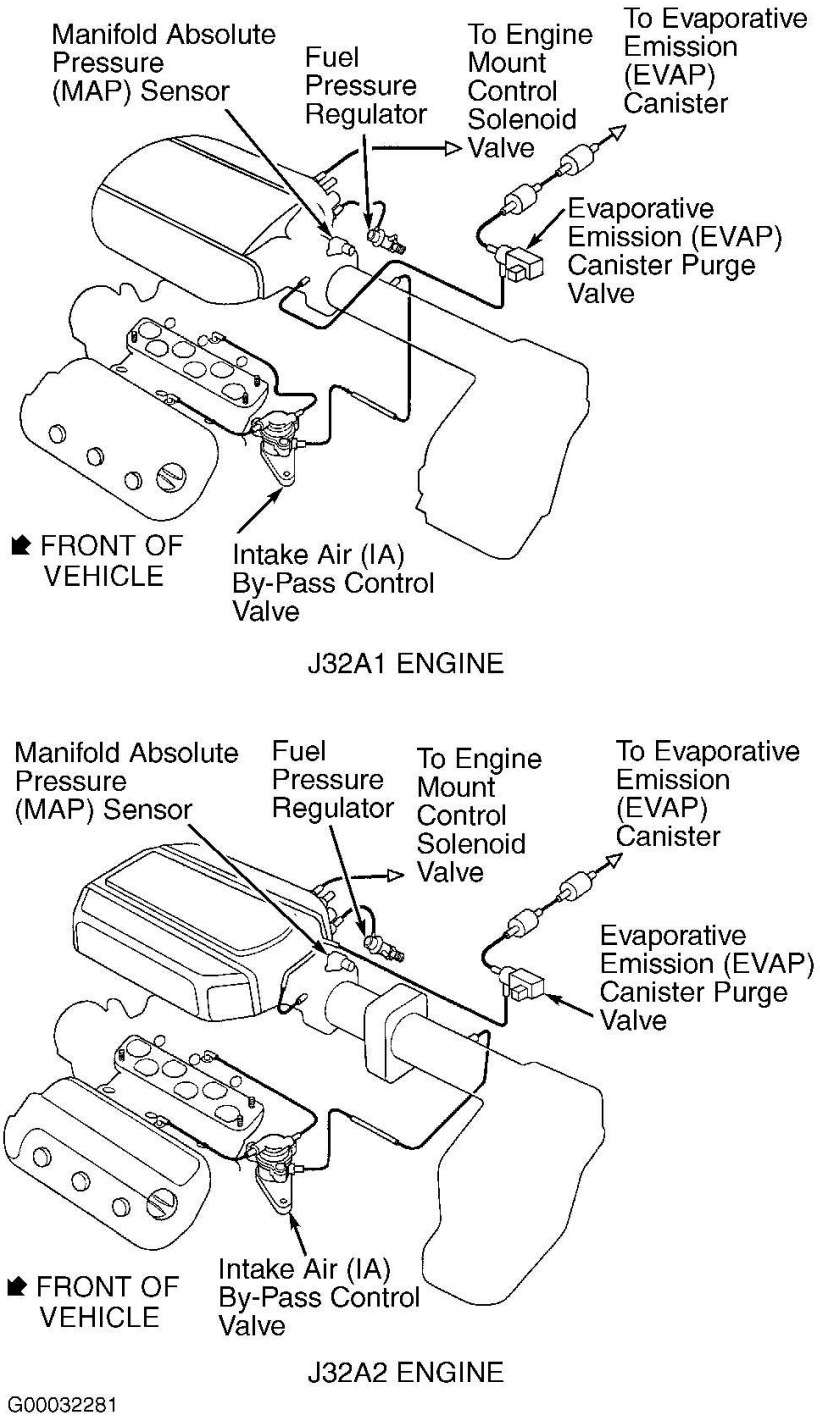
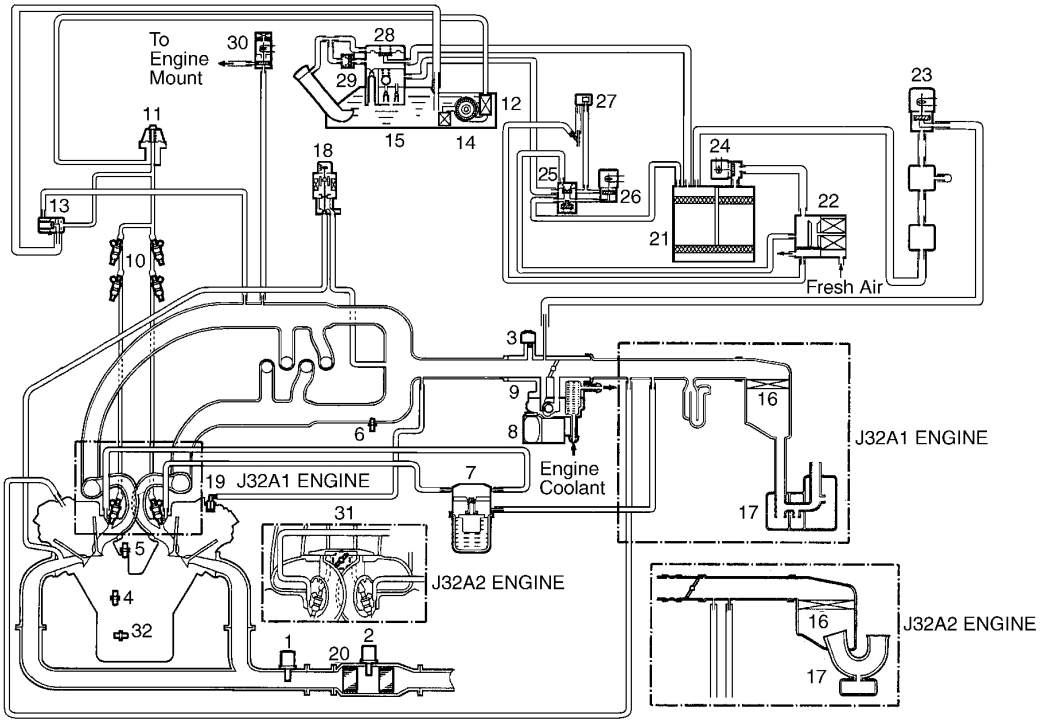


Fig. 12: Vacuum Diagram (3.2CL & 3.2TL - 1 Of 2)
Courtesy of AMERICAN HONDA MOTOR CO., INC.



1. Primary Heated Oxygen Sensor (Primary HO2S) (Sensor 1)
2. Secondary Heated Oxygen Sensor (Secondary HO2S) (Sensor 2)
3. Manifold Absolute Pressure (MAP) Sensor
4. Engine Coolant Temperature (ECT) Sensor
5. Knock Sensor (KS)
6. Intake Air Temperature (IAT) Sensor
7. Intake Air (IA) By-Pass Control Valve
8. Idle Air Control (IAC) Valve
9. Throttle Body (TB)
10. Injector
11. Fuel Pulsation Damper
12. Fuel Filter
13. Fuel Pressure Regulator
14. Fuel Pump (FP)
15. Fuel Tank
16. Air Cleaner
17. Resonator
18. Exhaust Gas Recirculation (EGR) Valve & Position Sensor
19. Positive Crankcase Ventilation (PCV) Valve
20. 3-Way Catalytic Converter
21. Evaporative Emission (EVAP) Canister
22. Evaporative Emission (EVAP) Canister Filter
23. Evaporative Emission (EVAP) Canister Purge Valve
24. Evaporative Emission (EVAP) Canister Vent Shut Valve
25. Evaporative Emission (EVAP) Canister 2-Way Valve
26. Evaporative Emission (EVAP) By-Pass Solenoid Valve
27. Fuel Tank Pressure Sensor
28. Fuel Tank Vapor Control Valve
29. Fuel Tank Vapor Recirculation Valve
30. Engine Mount Control Solenoid Valve
31. Intake Manifold Runner Control (IMRC) Valve
32. ATF Temperature Sensor

G00032282

Fig. 13: Vacuum Diagram (3.2CL & 3.2TL - 2 Of 2)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

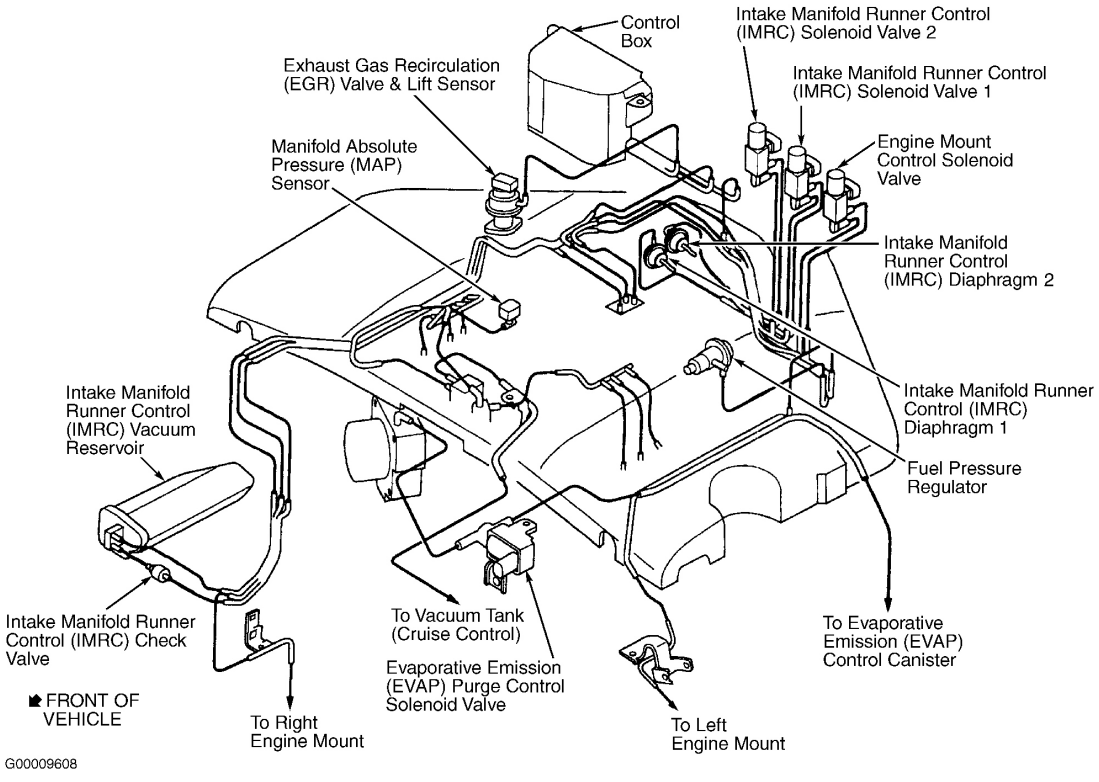
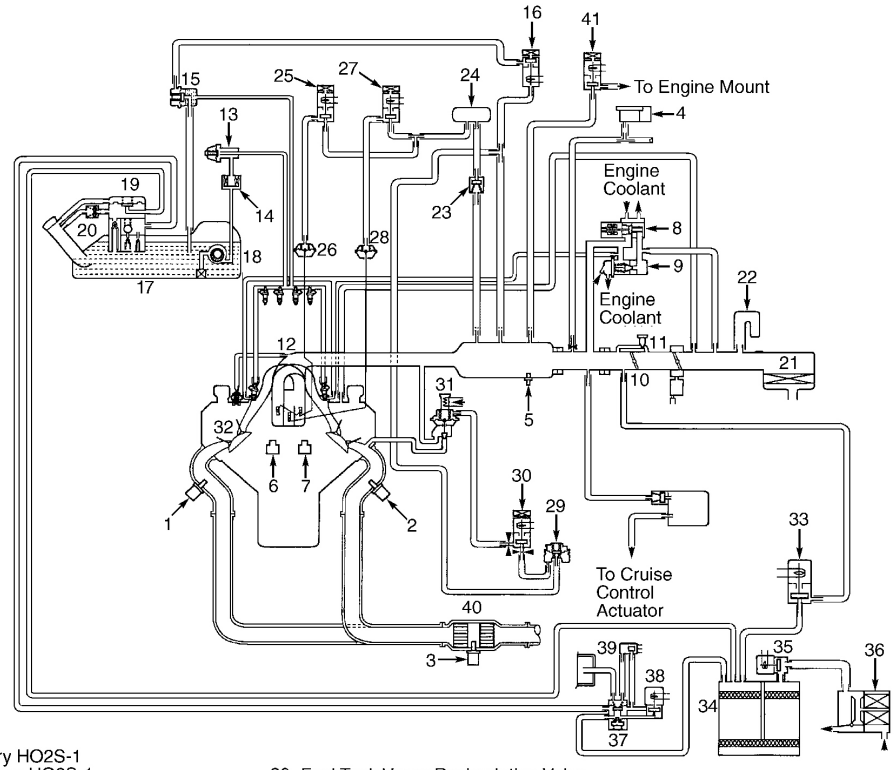


Fig. 14: Vacuum Diagram (3.5RL - 1 Of 2)
Courtesy of AMERICAN HONDA MOTOR CO., INC.



1. Left Primary HO2S-1
2. Right Primary HO2S-1
3. Secondary HO2S-2
4. Manifold Absolute Pressure (MAP) Sensor
5. Intake Air Temperature (IAT) Sensor
6. Left Knock Sensor (KS) - Bank No. 2
7. Right Knock Sensor (KS) - Bank No. 1
8. Idle Air Control (IAC) Valve
9. Idle Air Control (IAC) Thermal Valve
10. Throttle Body
11. Idle Adjusting Screw
12. Fuel Injector
13. Fuel Pulsation Damper
14. Fuel Filter
15. Fuel Pressure Regulator
16. Pressure Regulator Vacuum Control Solenoid Valve
17. Fuel Pump
18. Fuel Tank
19. Fuel Tank Vapor Control Valve
20. Fuel Tank Vapor Recirculation Valve
21. Air Cleaner
22. Resonator
23. Intake Manifold Runner Control (IMRC) Check Valve
24. Intake Manifold Runner Control (IMRC) Vacuum Reservoir
25. Intake Manifold Runner Control (IMRC) Solenoid Valve No. 1
26. Intake Manifold Runner Control (IMRC) Diaphragm No. 1
27. Intake Manifold Runner Control (IMRC) Solenoid Valve No. 2
28. Intake Manifold Runner Control (IMRC) Diaphragm No. 2
29. Exhaust Gas Recirculation (EGR) Valve Vacuum Control Valve
30. Exhaust Gas Recirculation (EGR) Valve Vacuum Control Solenoid Valve
31. Exhaust Gas Recirculation (EGR) Valve & Position Sensor
32. Positive Crankcase Ventilation (PCV) Valve
33. Evaporative Emission (EVAP) Canister Purge Valve
34. Evaporative Emission (EVAP) Canister
35. Evaporataive Emission (EVAP) Canister Vent Shut Valve
36. Evaporative Emission (EVAP) Canister Filter
37. Evaporative Emission (EVAP) 2-Way Valve
38. Evaporative Emission (EVAP) By-Pass Solenoid Valve
39. Fuel Tank Pressure (FTP) Sensor
40. 3-Way Catalytic Converter (TWC)
41. Engine Mount Control Solenoid Valve

G00009609

Fig. 15: Vacuum Diagram (3.5RL - 2 Of 2)
Courtesy of AMERICAN HONDA MOTOR CO., INC.