

N - REMOVE/INSTALL/OVERHAUL

1990 Nissan 240SX

1990 ENGINE PERFORMANCE
Removal, Overhaul & Installation

Nissan; 240SX, Axxess, 300ZX, Maxima, Pathfinder,
Pickup, Pulsar NX, Sentra, Stanza

INTRODUCTION

Removal, overhaul and installation procedures (when given by manufacturer) are covered in this article. If component removal and installation is primarily an unbolt and bolt-on procedure, only a torque specification may be furnished.

DISTRIBUTOR IGNITION SYSTEM

REMOVAL

NOTE: The 300ZX is equipped with Distributorless Ignition System (DIS).

Align timing mark(s) to No. 1 piston at TDC on compression stroke. Mark rotor position in relation to distributor housing. Disconnect spark plug wires and wiring harness connectors from distributor. Remove distributor hold-down bolt(s). Remove distributor.

INSTALLATION

1) To install, reverse removal procedure. Ensure mark(s) or indentations on distributor shaft and housing are aligned. Check rubber "O" ring seal and replace as necessary. After installing distributor, ensure distributor rotor is lined up with mark made during removal or set at No. 1 cylinder spark plug position. Check and adjust timing. See D - ADJUSTMENTS article. Tighten distributor hold-down bolt to specification. See TORQUE SPECIFICATIONS TABLE at end of this article.

CRANK ANGLE SENSOR

NOTE: On 300ZX models the crank angle sensor is mounted on front of left side exhaust camshaft. On all other models, the crank angle sensor is located inside the distributor.

FUEL SYSTEM PRESSURE RELEASE

WARNING: High fuel pressure may be present in fuel lines and component parts. Always relieve fuel pressure before attempting to open system for component replacement. DO NOT allow fuel to flow onto engine or electrical parts. DO NOT allow open flame in area while testing fuel system components.

1) To relieve fuel system pressure on 300ZX models, remove fuel pump relay. Relay is located underdash on driver's side below hood release lever. On all other models, remove fuel pump fuse.

2) On all models, start engine and allow to run until fuel is exhausted and engine stalls. Crank engine an additional 2 or 3 times to verify all pressure has dissipated. Turn ignition off. Install fuel

pump fuse or relay.

FUEL PUMP R & I

NOTE: On all models, fuel pump is located in the fuel tank. If vehicle is not equipped with a maintenance access cover for fuel pump service, the fuel tank must be removed.

Release fuel pressure. See FUEL SYSTEM PRESSURE RELEASE. Remove maintenance access cover (if equipped). On models without a maintenance access cover, remove fuel tank. On all models, disconnect fuel lines and wire harness connector. Remove fuel pump mounting bolts. Remove fuel pump from fuel tank. To install, reverse removal procedure.

FUEL RAILS & INJECTORS (PFI)

REMOVAL (AXXESS)

Release fuel pressure. See FUEL SYSTEM PRESSURE RELEASE under FUEL SYSTEM. Disconnect air duct hose, fuel pressure regulator, fuel injector wire harness connectors and fuel hoses. Remove accelerator cable bracket. Remove fuel rail retaining bolts. Remove fuel rail and injectors as an assembly. Remove fuel injectors from fuel rail.

INSTALLATION

Install fuel injectors using new "O" rings and insulators. Install fuel rail and tighten retaining bolts to 12-15 ft. lbs. (16-20 N.m.). To complete installation, reverse removal procedure. Check all fuel connections for leaks.

REMOVAL (MAXIMA)

- 1) Release fuel pressure. See FUEL SYSTEM PRESSURE RELEASE under FUEL SYSTEM. Disconnect accelerator and cruise control cables.
- 2) Disconnect wiring harness connectors from Auxiliary Air Control (AAC) valve, throttle sensor and idle switch. Release cooling system pressure. Drain cooling system. Remove coolant hose to air-cut valve. Remove upper intake manifold collector. See Fig. 1.
- 3) Disconnect PCV hose. Disconnect vacuum hoses from vacuum gallery. Disconnect power valve actuator, power brake booster and EGR control valve. Remove EGR flare tube. Disconnect negative battery cable. Remove lower intake manifold collector from engine.
- 4) Disconnect fuel pressure regulator vacuum hose, fuel inlet and return hoses. Disconnect injector wire harness connectors. Remove injector holders. Remove fuel rail from intake manifold. Remove injectors from fuel rail.

INSTALLATION

- 1) Install new "O" rings on injectors and install injectors. Tighten injector holders to 22-29 INCH lbs. (2.5-3.3 N.m). Install fuel rail. Install lower and upper intake manifold collectors and tighten bolts in sequence to 13-16 ft. lbs. (18-22 N.m). See Fig. 2.
- 2) To complete installation, reverse removal procedure. Erase trouble codes from ECU memory. See G - TESTS W/CODES article in the ENGINE PERFORMANCE Section. Start engine and check for leaks.

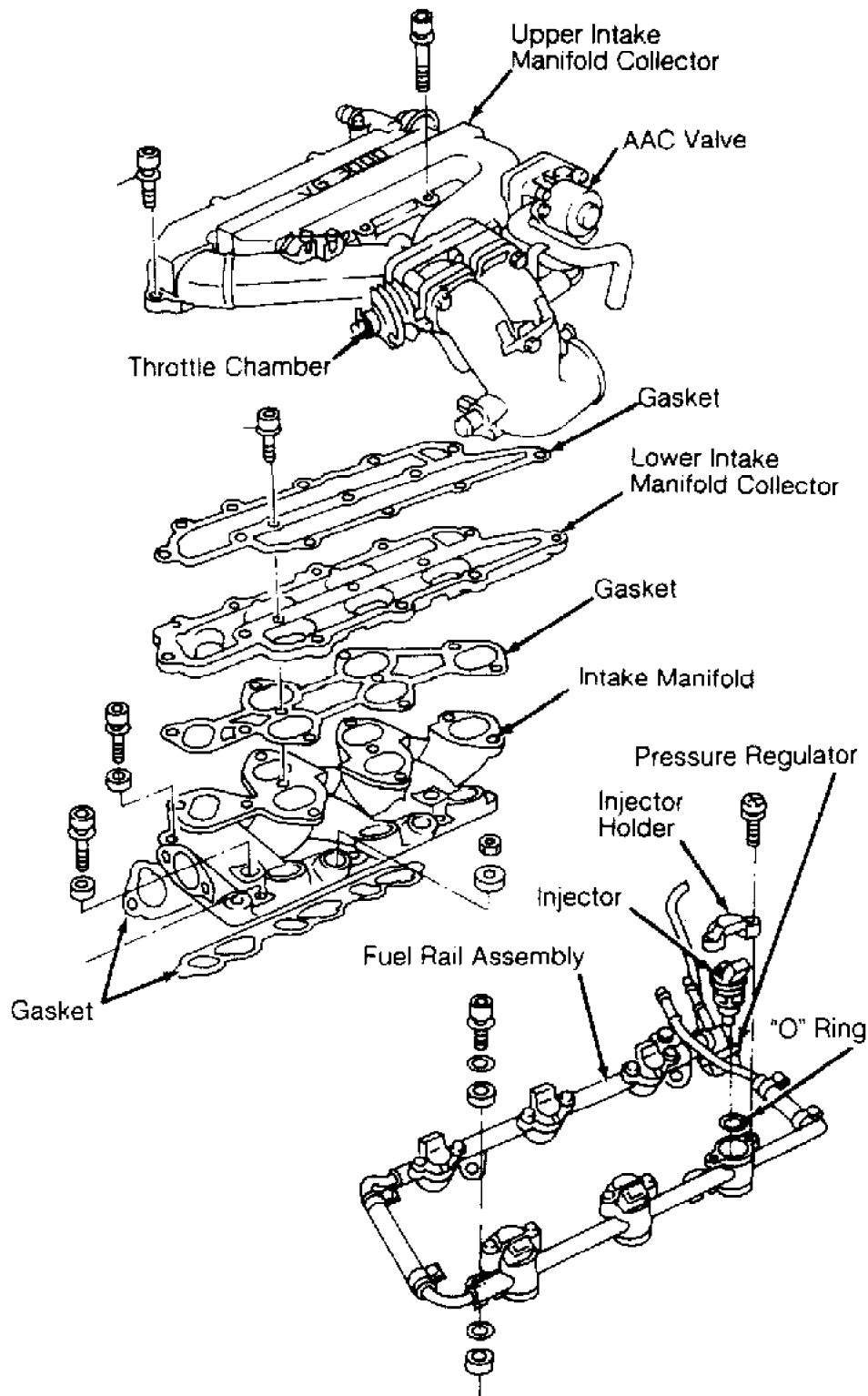
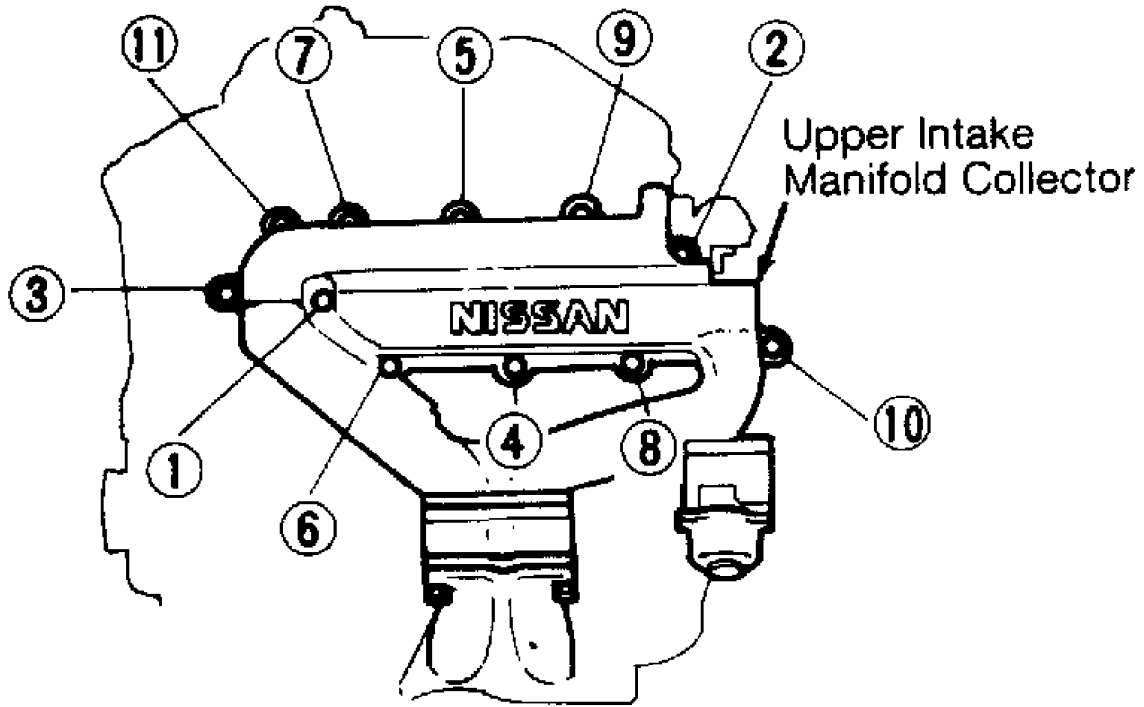
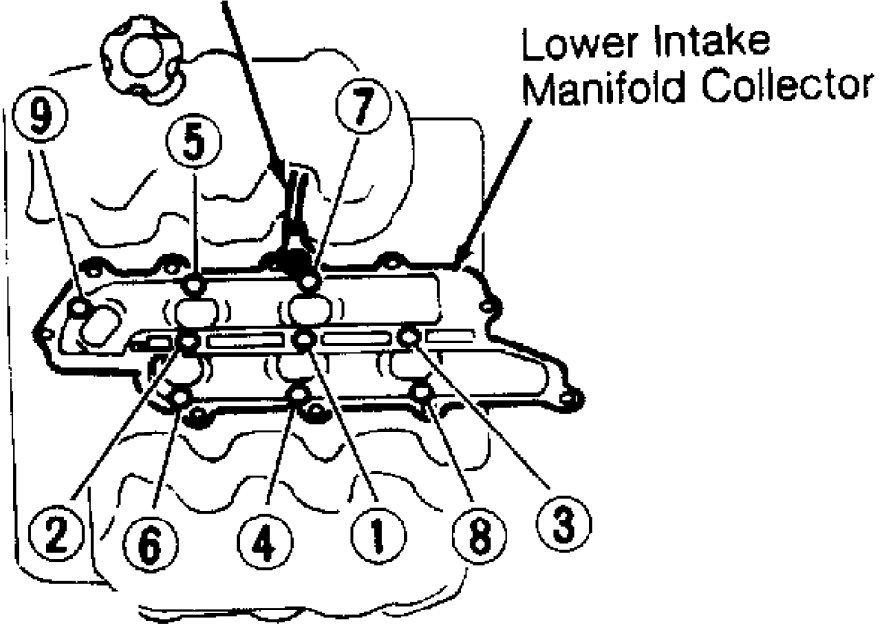


Fig. 1: Removing & Installing Fuel Rail & Injector (Maxima)
 Courtesy of Nissan Motor Co., U.S.A.

NOTE: The following figure is Courtesy of Nissan Motor Co.,
 U.S.A.



Engine Ground
Harness



↓ FRONT

Fig. 2: Upper & Lower Intake Manifold Collector Tightening Sequence (Maxima)

REMOVAL (PICKUP 4-CYLINDER & 240SX)

Release fuel pressure. See FUEL SYSTEM PRESSURE RELEASE under FUEL SYSTEM. Remove EGR backpressure transducer valve. Remove fuel rail retaining bolts. Remove fuel rail and injectors as an assembly. Remove injectors from fuel rail.

INSTALLATION

Clean injector exterior. Install new "O" rings on injectors. Install injectors and fuel rail. Install EGR backpressure transducer valve. Pressurize fuel system and check for leaks.

REMOVAL (PATHFINDER & PICKUP V6)

1) Release fuel pressure. See FUEL SYSTEM PRESSURE RELEASE under FUEL SYSTEM. Drain cooling system. Remove coolant hoses, cruise control and accelerator cables from intake manifold collector.

2) Mark and disconnect wire harness connectors as necessary. Remove PCV hose from right side valve cover. Mark and disconnect vacuum hoses as necessary. Disconnect engine ground harness and air duct hose. Remove fuel inlet and return hoses from fuel rail.

3) Disconnect injector wire harness connectors. Remove fuel rail and injectors as an assembly. Remove injector holders and remove injectors.

INSTALLATION

Install new "O" rings and insulators on injectors. Install injectors and injector holders. Tighten injector holders to 26-35 INCH lbs. (3-4 N.m). Install fuel rail. To complete installation, reverse removal procedure. Pressurize fuel system and check for leaks.

REMOVAL (STANZA)

1) Release fuel pressure. See FUEL SYSTEM PRESSURE RELEASE under FUEL SYSTEM. Remove air duct. Disconnect fuel hoses and injector wire harness connectors.

2) Remove accelerator cable bracket and fuel pressure regulator. Remove fuel rail retaining bolts. Remove fuel rail and injectors as an assembly.

INSTALLATION

Install new "O" rings and insulators on injectors. Install injectors and fuel rail. To complete installation, reverse removal procedure. Pressurize fuel system and check for leaks.

REMOVAL (300ZX)

1) Release fuel pressure. See FUEL SYSTEM PRESSURE RELEASE under FUEL SYSTEM. Drain cooling system. Disconnect air duct, accelerator cable, PCV hose, air regulator hose, EGR tube and fuel hose.

2) Remove intake manifold collector. Unplug injector wiring harness. Remove fuel pressure regulator, fuel rail and injectors as an assembly. Remove fuel injectors from fuel rail.

INSTALLATION

Clean injector exterior. Install new "O" rings on injectors and install injectors. Tighten injector holders to 22-29 INCH lbs. (2.5-3.3 N.m). Install fuel rail and pressure regulator. Install intake manifold collector and tighten bolts to 12-15 ft. lbs. (16-20 N.m). To

complete installation, reverse removal procedure. Check for fuel leaks.

INJECTORS (TBI)

PULSAR NX & SENTRA R & I

1) Release fuel pressure. See FUEL SYSTEM PRESSURE RELEASE under FUEL SYSTEM. Disconnect injector wire harness connector. Remove injector cover and pull injector straight up. DO NOT break or bend injector terminals.

2) To install, apply engine oil to new lower and upper "O" rings. Install lower "O" rings into TBI unit housing cavity. Push fuel injector in using a 13mm socket. Align direction of injector terminals.

3) Install upper "O" ring into TBI unit housing and push in using a 19 mm socket. Install upper plate and injector cover with rubber plug removed. Check for proper connection between injector terminal and injector cover terminal. Install rubber plug. Start and warm up engine. Check for leaks and idle quality.

REMOVAL (VAN)

Remove upper and lower air horn and seal. Remove injector cover. Disconnect injector wire harness connector. Remove rubber seal cap from injector. Note injector position for installation purposes. Using needle-nosed pliers, grasp injector and pull straight up to remove.

INSTALLATION

Apply engine oil to new lower and upper injector "O" rings. Install injector, with wire terminals in original position. To complete installation, reverse removal procedure. Pressurized fuel system and check for leaks between injector cover and injection body.

OXYGEN (O2) SENSOR R & I

1) The O2 sensor is mounted in the exhaust pipe, below the exhaust header. O2 sensor is equipped with a permanent pigtail which must be protected from damage when removing sensor.

2) Ensure sensor is free of contaminants; avoid using cleaning solvents of any type. Sensor may be difficult to remove when engine temperature is less than 120°F (49°C). Always use anti-seize compound on threads before installing. Tighten sensor to 30 ft. lbs. (41 N.m).

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Distributor Hold-Down Bolt	
Maxima Pathfinder & Pickup V6	10-12 (14-17)
Fuel Rail Bolt (Axxess)	12-15 (16-20)
Intake Manifold Collector Bolt	
Maxima	13-16 (18-22)
Stanza	12-15 (16-20)
Throttle Body Bolt	

Pulsar & Sentra 15-20 (21-26)
Van 9-13 (12-18)

INCH Lbs. (N.m)

Distributor Hold-Down Bolt

Axxess, Pickup 4-Cylinder, Pulsar NX,
Sentra, Stanza & 240SX 84-108 (10-13)
Van (1)

Fuel Injector Holder Screw

Maxima & 300ZX 22-29 (2.5-3.3)
Pathfinder & Pickup V6 26-35 (3-4)

(1) - Information is not available.
