

N - REMOVE/INSTALL/OVERHAUL

1991 Mitsubishi Montero

1991 ENGINE PERFORMANCE
Removal, Overhaul & Installation

Dodge; Colt, Colt 200, Colt Vista, Ram-50, Stealth
Eagle; Summit
Mitsubishi; Eclipse, Galant, Mirage, Montero, Pickup, 3000GT
Plymouth; Colt, Colt 200, Colt Vista

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.

IGNITION SYSTEM

DISTRIBUTOR

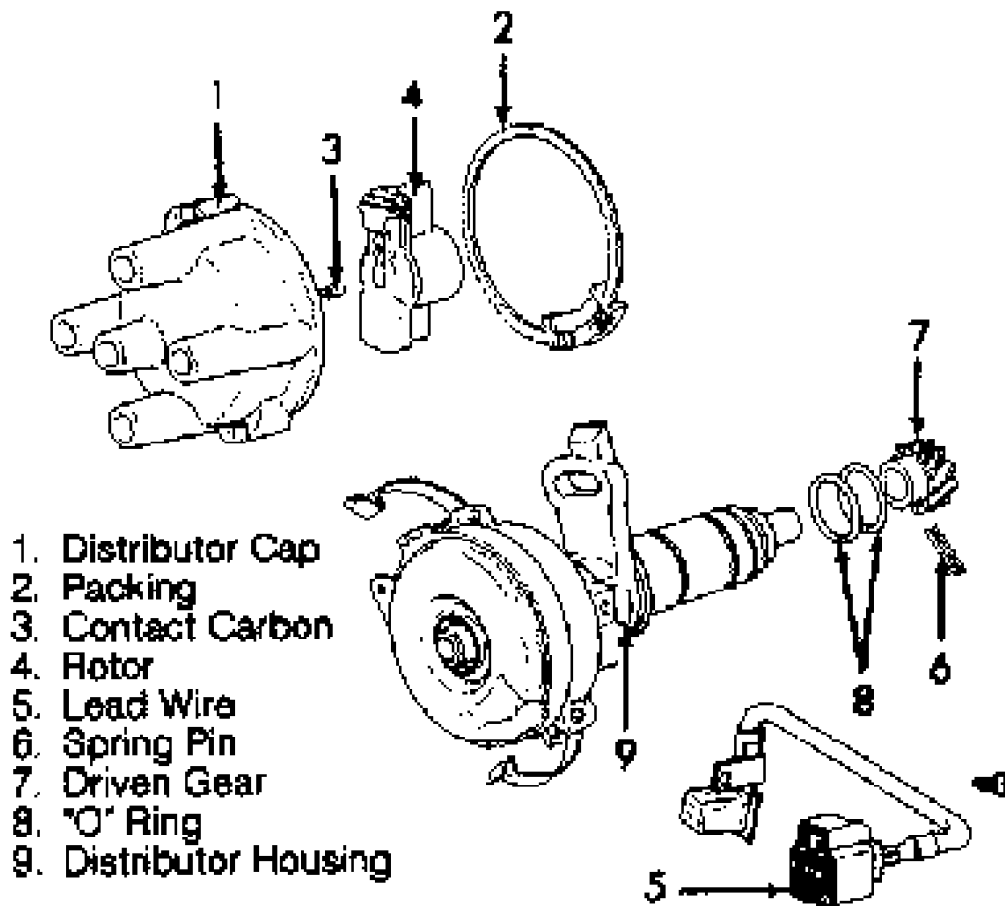


Fig. 1: Exploded View of Distributor (Colt Vista)
Courtesy of Mitsubishi Motor Sales of America.

1. Distributor Cap
2. Rotor
3. Packing
4. Cable Clamp
5. Distributor Housing
6. "O" Ring

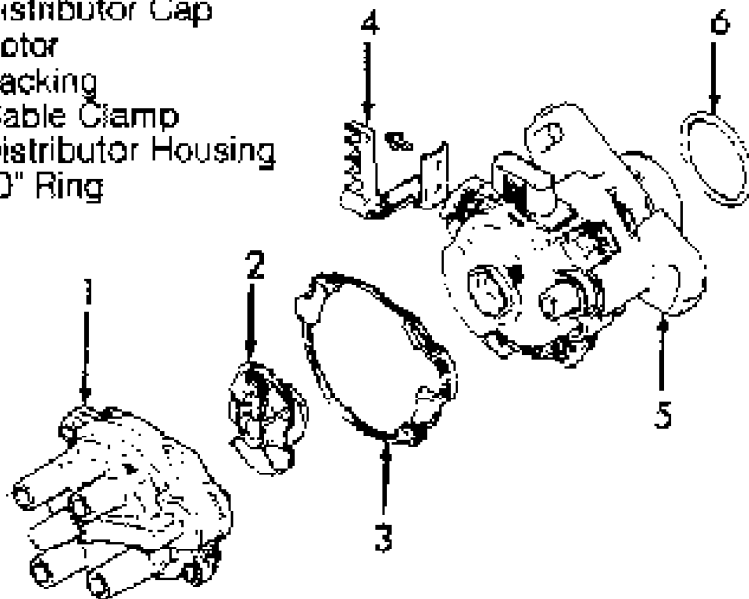


Fig. 2: Exploded View of Distributor (Colt, Colt 200, Mirage & Summit 1.5L)

Courtesy of Mitsubishi Motor Sales of America.

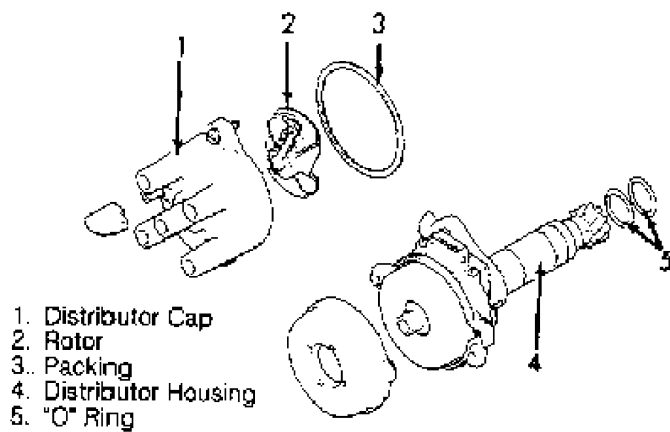


Fig. 3: Exploded View of Distributor (Galant 2.0L SOHC)

Courtesy of Mitsubishi Motor Sales of America.

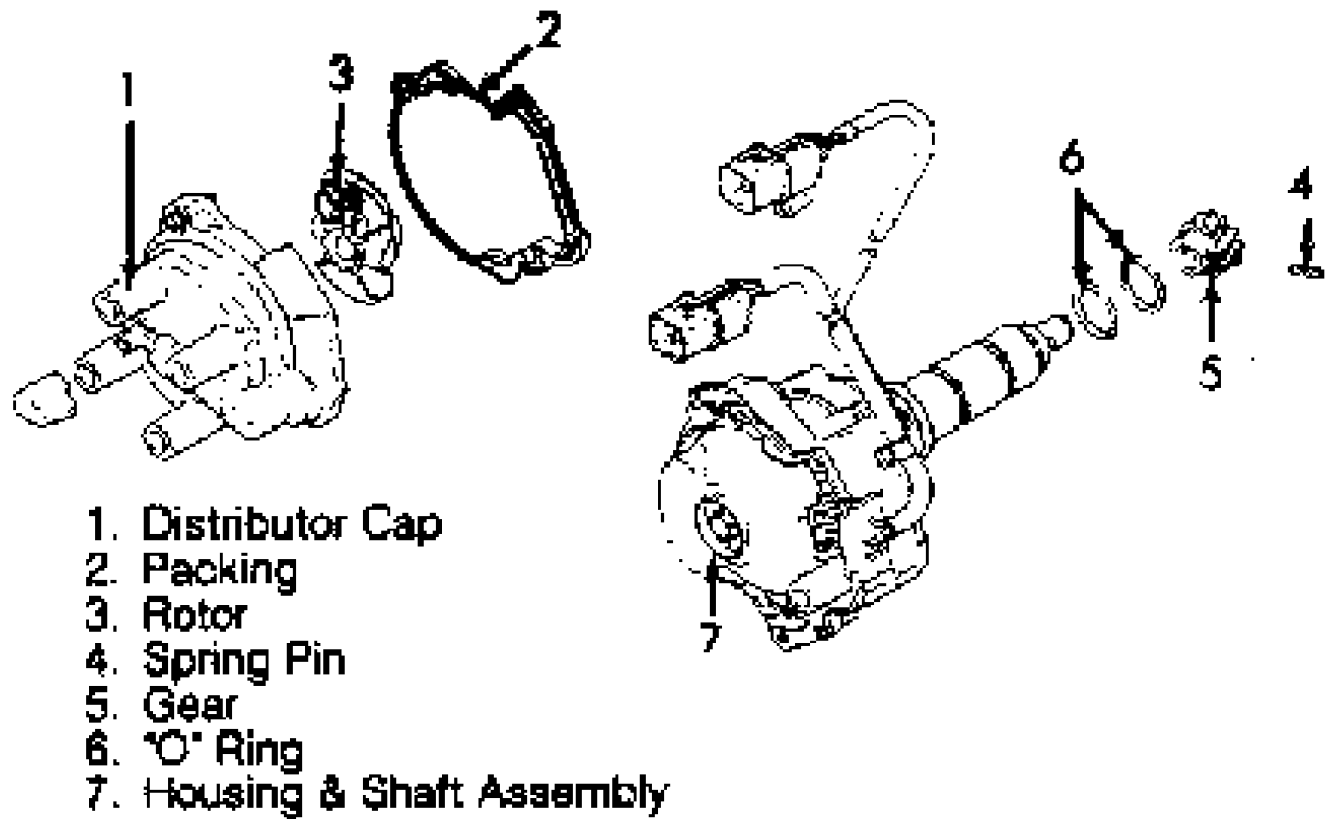


Fig. 4: Exploded View of Distributor (Eclipse 1.8L)
 Courtesy of Mitsubishi Motor Sales of America.

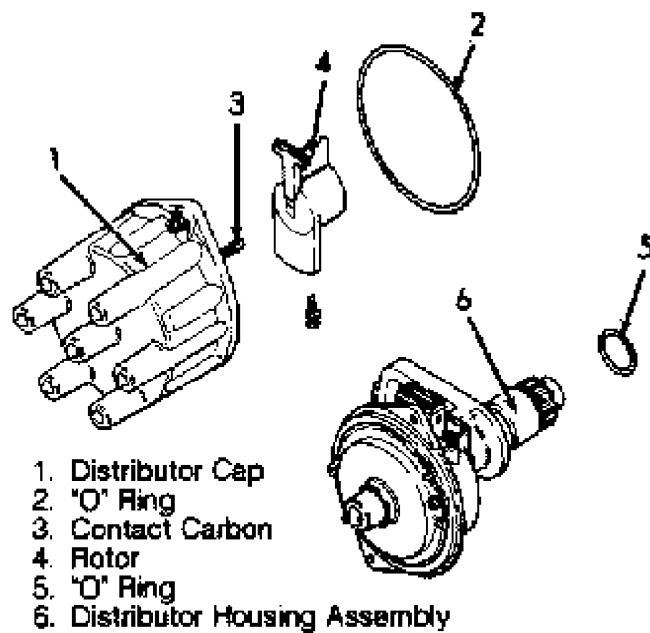


Fig. 5: Exploded View of Distributor (Montero & Ram-50 3.0L)
 Courtesy of Mitsubishi Motor Sales of America.

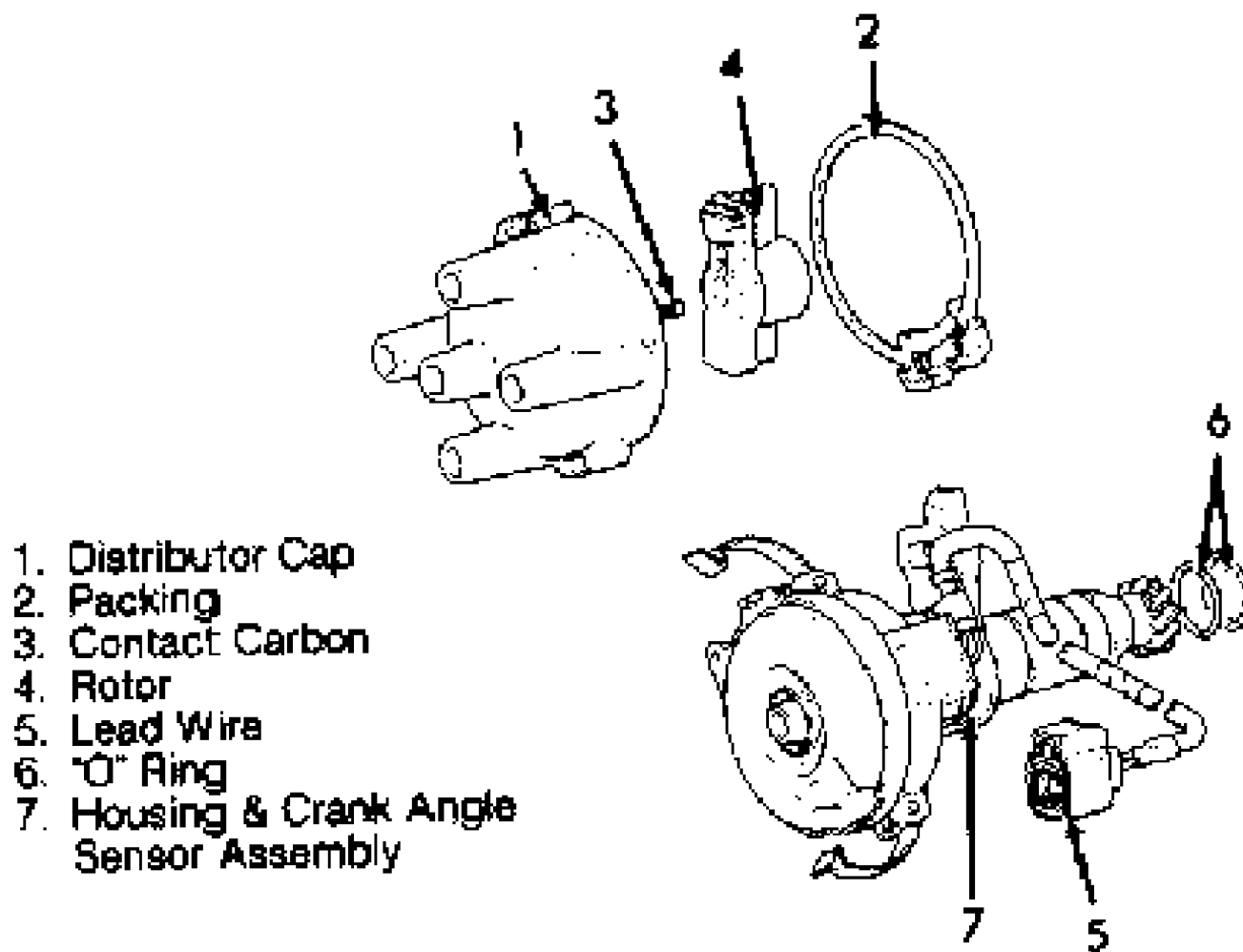


Fig. 6: Exploded View of Distributor (Pickup & Ram-50 2.4L)
Courtesy of Mitsubishi Motor Sales of America.

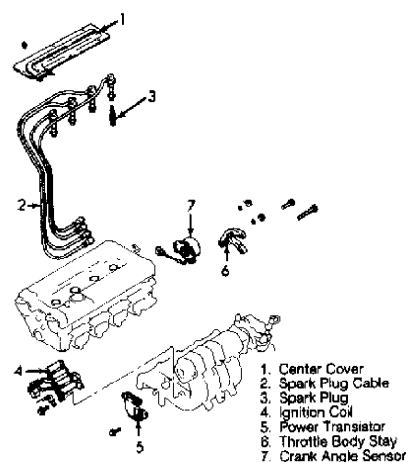


Fig. 7: Exploded View of Distributor (Stealth 3.0L SOHC)
Courtesy of Mitsubishi Motor Sales of America.

FUEL SYSTEM

FUEL SYSTEM PRESSURE RELEASE

WARNING: ALWAYS relieve fuel pressure before disconnecting any fuel injection-related component. DO NOT allow fuel to contact engine or electrical components.

- 1) On Colt and Mirage, remove rear seat cushion. On all models, disconnect fuel pump harness connector at fuel tank.
- 2) Start engine. Let engine run until it stops. Turn ignition off. Disconnect negative battery terminal. Connect fuel pump harness connector.

FUEL PUMP

Removal & Installation

- 1) Fuel pump assembly is located inside fuel tank. Release fuel pressure from system. See FUEL SYSTEM PRESSURE RELEASE. Raise vehicle on hoist. Drain fuel into suitable container. Disconnect electrical connectors and fuel hoses at fuel tank.
- 2) Remove fuel filler hose from fuel tank. Remove nuts securing fuel tank. Remove fuel tank from vehicle and remove fuel pump assembly. To install, reverse removal procedure. Tighten nuts to specification. See TORQUE SPECIFICATION table.

FUEL RAILS & INJECTORS (PFI)

Use a rag to cover fuel hose connection before disconnecting high pressure fuel hose at fuel rail. Some residual fuel pressure may still be in system.

Removal (Except Pickup & Ram-50 2.4L)

- 1) On all models, relieve fuel pressure. See FUEL SYSTEM PRESSURE RELEASE. Disconnect negative battery cable. On Montero, Pickup, Ram-50, Stealth and 3000GT 3.0L, disconnect air intake plenum. On Eclipse, disconnect PCV valve hose.
- 2) On Colt Vista, disconnect coolant temperature sensor connector, idle speed control servo connector and brake booster vacuum hose. On all models, disconnect high pressure fuel hose at fuel rail.
- 3) Disconnect fuel return hose. Disconnect vacuum hoses. On Eclipse, Colt and Colt 200, disconnect throttle cable clamp. Remove center cover. On all models, disconnect injector electrical connectors. Remove fuel rail bolts and lift fuel rail and injectors from engine.

Installation

To install, reverse removal procedure. Tighten bolts to specifications. See TORQUE SPECIFICATIONS table.

Removal (Pickup & Ram-50 2.4L)

- 1) Relieve fuel pressure. See FUEL SYSTEM PRESSURE RELEASE. Disconnect negative battery cable. Drain coolant. On all models, disconnect air intake hose. Disconnect breather hose (if applicable) and vacuum hoses.
- 2) Disconnect coolant lines as necessary for clearance. Disconnect injector electrical connectors. Position all lines, hoses and electrical connectors out of way. Disconnect throttle and/or kickdown cables. Remove throttle body assembly and position it out of the way.
- 3) Disconnect high pressure fuel hose at fuel rail. Disconnect fuel return line and vacuum line connection at fuel rail. Remove fuel rail bolts and lift fuel rail and injectors from engine.

Installation

1) To install, reverse removal procedure. Injectors may be removed after fuel rail is removed from intake manifold. Use new insulators and "O" rings when installing injectors.

2) Use spindle oil or gasoline on "O" ring. Install injectors into fuel rail with a twisting motion. Adjust throttle and kickdown cable (if applicable). Do not drop injectors while removing or installing fuel rail.

OXYGEN (O2) SENSOR

Removal & Installation

1) O2 Sensor is mounted in exhaust pipe below exhaust header. It is equipped with a permanent pigtail which must be protected from damage when sensor is removed. 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 (48° C).

2) Always use anti-seize compound on threads before installation. On non-turbo models, remove sensor using Remover (MD998703). On turbo models, use Remover (MD998748) on Eclipse and Galant, or Remover (MD998770) on Stealth and 3000GT. Tighten oxygen sensor to specification. See TORQUE SPECIFICATIONS table.

THROTTLE BODY

Removal

Disconnect air intake hose. Remove accelerator and automatic speed control cables (if equipped). Disconnect fuel vapor hose, electrical harness connector, vacuum hose and coolant hoses. Remove throttle body retaining bolts.

Disassembly

Remove throttle position sensor. Remove idle speed control motor. Remove throttle bracket and connector bracket (if equipped). Remove idle position switch and adjusting nut.

NOTE: DO NOT remove throttle valve. DO NOT use cleaning solvents on throttle position sensor, idle speed control motor or idle position switch.

Cleaning

Clean all parts except those noted in solvent. Check vacuum port and passage for clogging. Clean vacuum, vapor and fuel passages with compressed air.

Reassembly

To reassemble, reverse disassembly procedure.

Installation

To install, reverse removal procedure.

THROTTLE POSITION SENSOR/SWITCH

Removal & Installation

Throttle position sensor/switch is located on throttle body. Disconnect TPS electrical connector. Remove bolts holding TPS and remove TPS. To install, reverse removal procedure. Tighten throttle position sensor/switch to specification. See TORQUE SPECIFICATIONS table. For adjustment procedure, see ON-VEHICLE ADJUSTMENTS article.

TURBOCHARGERS

NOTE: Removal of turbocharger exhaust housing and water pipes at turbocharger is not necessary when removing turbocharger assembly. Stealth and 3000GT models have 2 (front and rear) turbochargers.

Removal (Eclipse & Galant)

1) Disconnect negative battery cable. Drain engine coolant and oil. On models with A/C, remove condenser fan motor assembly. On all models, remove oxygen sensor. Remove oil dipstick guide and "O" ring. See Figs. 8 and 9.

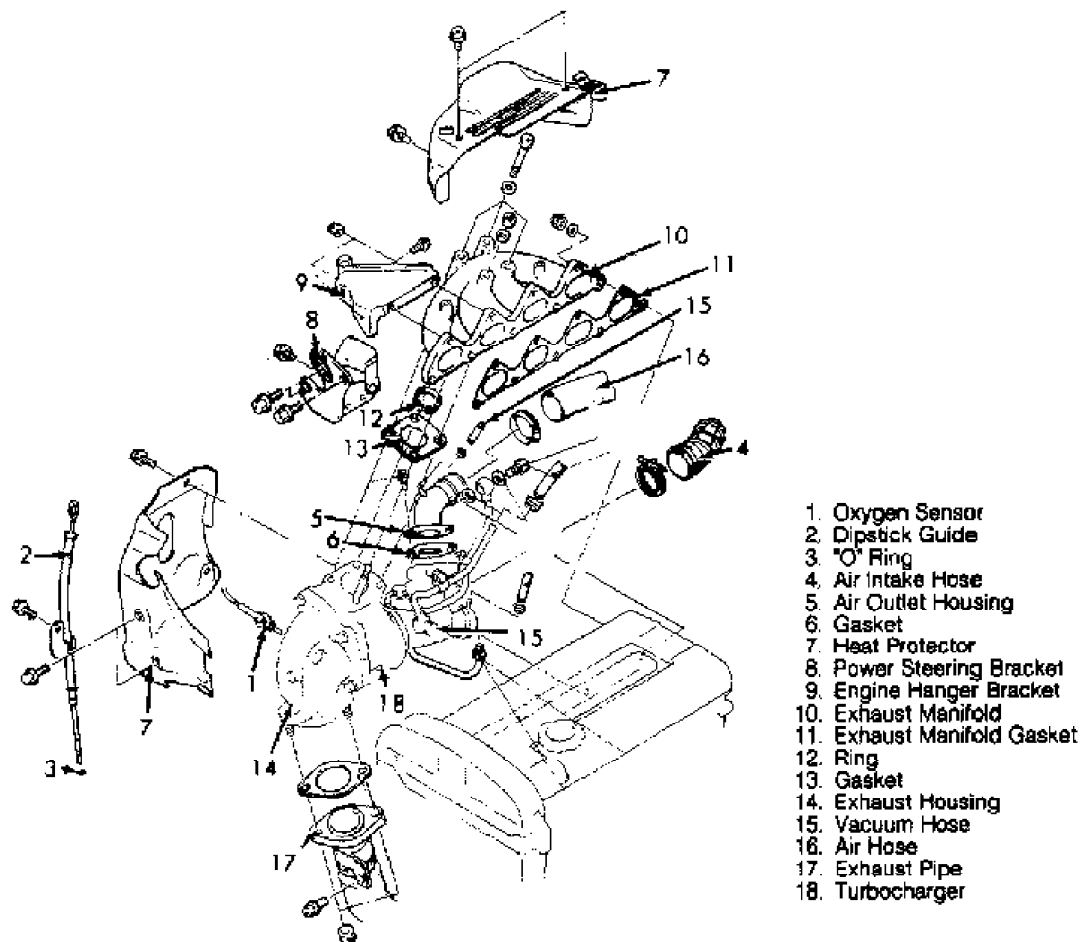


Fig. 8: Removing Turbocharger (Eclipse & Galant 2.0L)
Courtesy of Mitsubishi Motor Sales of America.

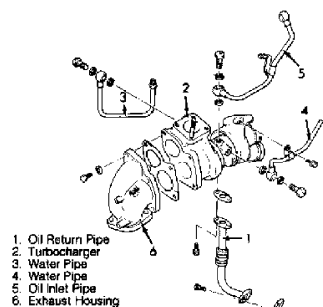


Fig. 9: Exploded View of Turbocharger Assembly (Eclipse & Galant 2.0L Shown; Stealth & 3000GT Similar)

Courtesy of Mitsubishi Motor Sales of America.

2) Disconnect air intake hose and vacuum hoses. Remove air hose and air outlet housing. Remove heat protectors. Disconnect exhaust pipe. Remove power steering oil pump and bracket. Remove engine hanger bracket. Disconnect oil inlet pipe.

3) Disconnect coolant hose and tubes. Remove nuts and bolts securing exhaust manifold. Remove exhaust manifold and gaskets. Disconnect oil return pipe. Remove turbocharger assembly.

Removal (Stealth & 3000GT Front)

1) Disconnect negative battery cable. Drain engine oil and coolant. Remove radiator. Disconnect exhaust pipe. Remove air intake hose, air hoses and air pipe. Remove alternator and belt. Remove oil dipstick guide.

2) Remove heat protector. Disconnect oxygen sensor electrical connector. Remove oil return pipe. Remove turbocharger support bracket and remove turbocharger from exhaust manifold. See Fig. 10.

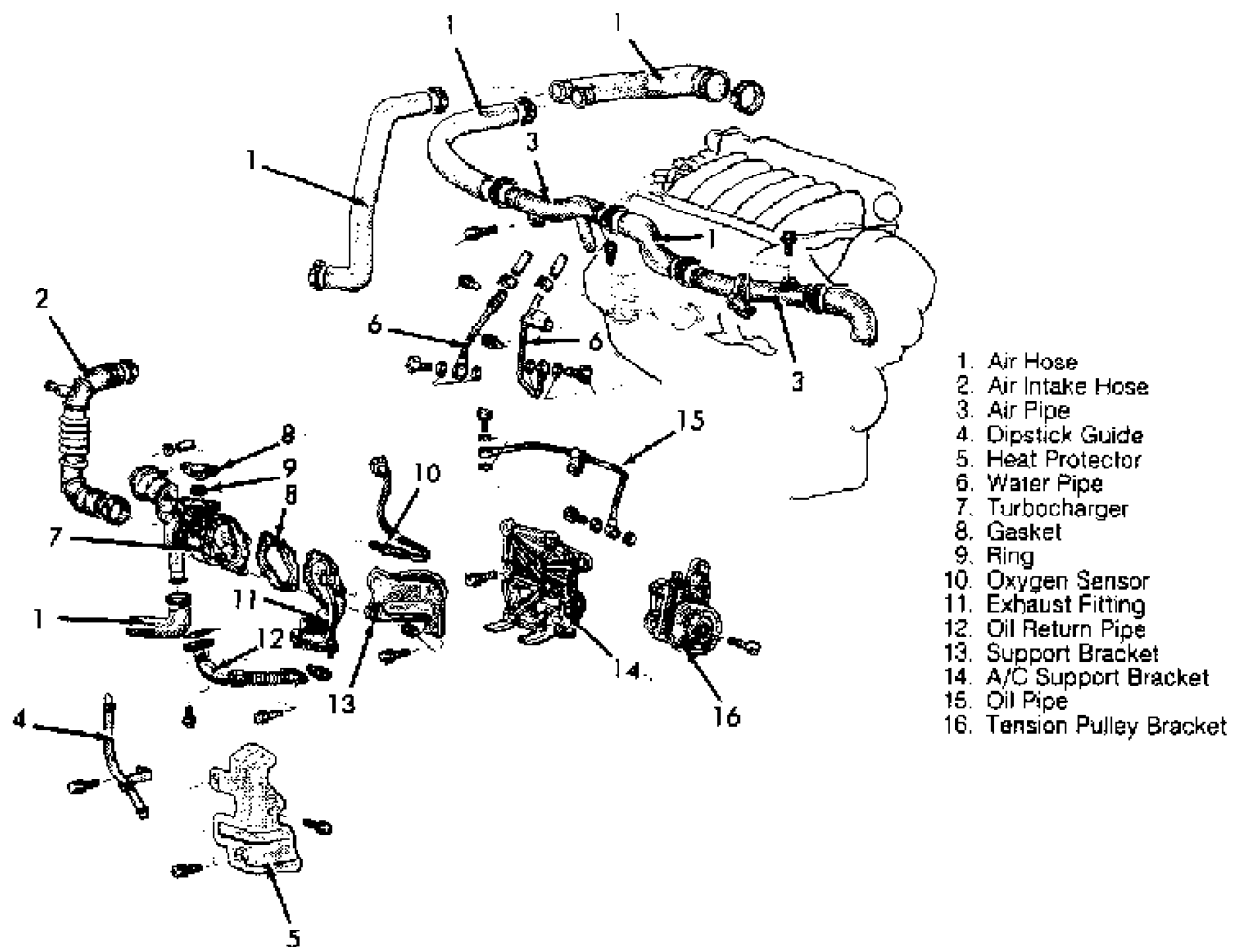


Fig. 10: Removing Front Turbocharger (Stealth & 3000GT)
Courtesy of Mitsubishi Motor Sales of America.

Removal (Stealth & 3000GT Rear)

1) Disconnect battery cables and remove battery. Drain engine oil and coolant. Remove accelerator cable. Remove air hose, air pipe and heat protectors. Disconnect clutch booster vacuum hose. Remove air

intake hoses and EGR pipe. Disconnect oxygen sensor electrical connector.

2) Remove oil pipe and EGR valve. Disconnect exhaust fitting and remove rear heat protector. Remove oil return pipe. Remove turbocharger assembly. See Fig. 11.

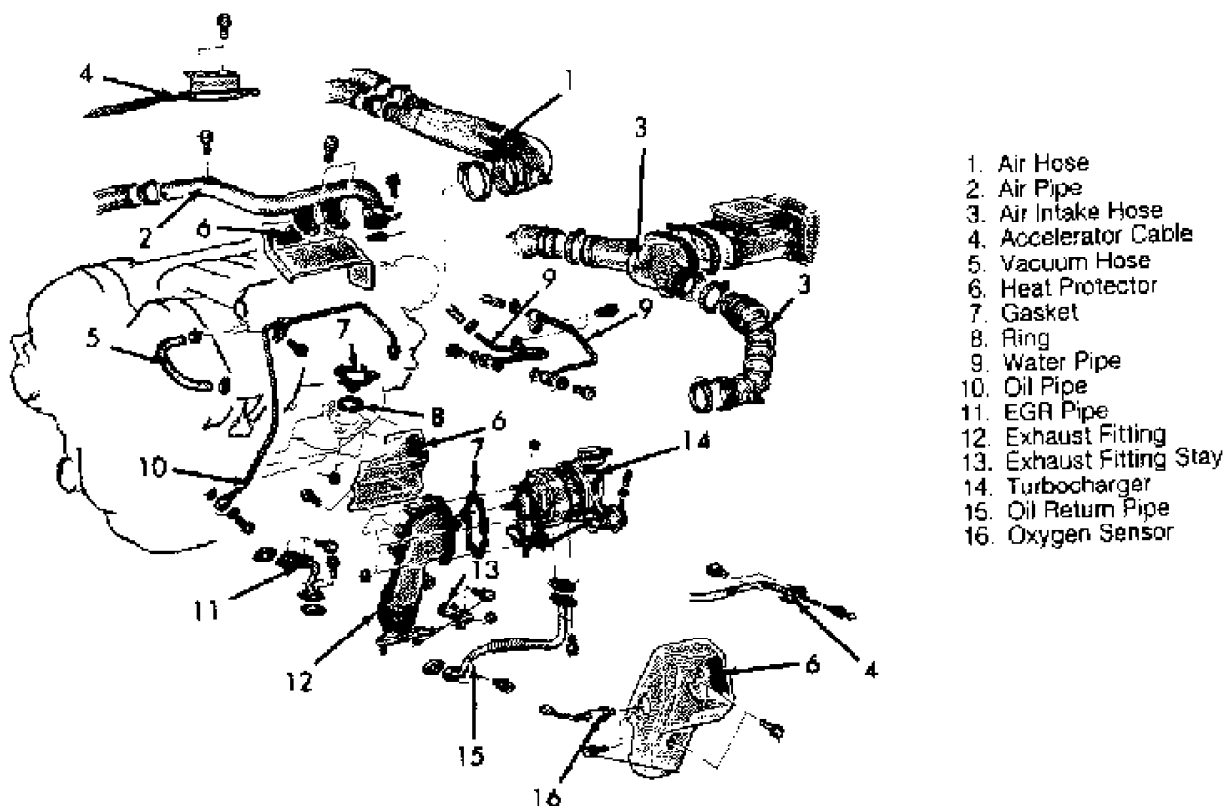


Fig. 11: Removing Rear Turbocharger (Stealth & 3000GT)
Courtesy of Mitsubishi Motor Sales of America.

Inspection

Check turbine and compressor wheels for cracking and other damage. Make sure turbine and compressor wheels turn smoothly. Check for oil leakage from turbocharger assembly. Check for proper wastegate valve operation. See SYSTEM & COMPONENT TESTING article.

Installation

1) To install, reverse removal procedure. Before oil pipe flare nut (above turbocharger) is installed, pour clean engine oil into turbocharger. Ensure oil and air hoses are properly installed and securely clamped.

2) Use new gaskets. Adjust accelerator cable (if necessary). Refill engine oil and coolant. Check for oil and coolant leaks. Tighten all bolts to specification. See TORQUE SPECIFICATIONS table.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Applications	Ft. Lbs. (N.m)
Fuel Tank Nuts	15-22 (20-30)

Fuel Tank Drain Plug	11-18	(15-24)
Exhaust Manifold-To-Engine Nuts	18-22	(24-30)
Exhaust Manifold-To-Turbocharger Bolts	40-47	(54-64)
Exhaust Pipe Bolts	22-29	(30-39)
Oil Pipe-To-Engine	10-14	(14-19)
Oxygen (O2) Sensor	29-36	(39-49)
Plenum-To-Intake Manifold Bolts	11-15	(15-20)
Water Pipe-To-Turbocharger		
Except Stealth & 3000GT	25-36	(34-49)
Stealth & 3000GT	22	(30)

INCH Lbs. (N.m)

Fuel Rail Bolts	84-108	(10-12)
Heat Protector Bolts	108-132	(12-15)
ISC Switch Screws	20-54	(2.5-4.5)
TPS Switch Screws	13-20	(1.5-2.5)
Wastegate Actuator Bolts	84-108	(9-12)
