

# N - REMOVE/INSTALL/OVERHAUL

## 1998 Mitsubishi Montero

### 1998 ENGINE PERFORMANCE

#### Mitsubishi - Removal, Overhaul & Installation

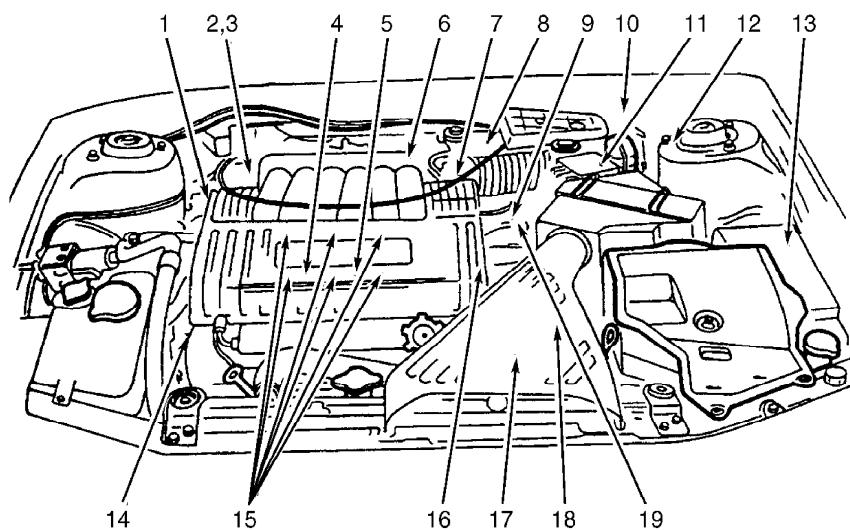
Diamante, Eclipse, Galant, Mirage, Montero, Montero Sport, 3000GT

## INTRODUCTION

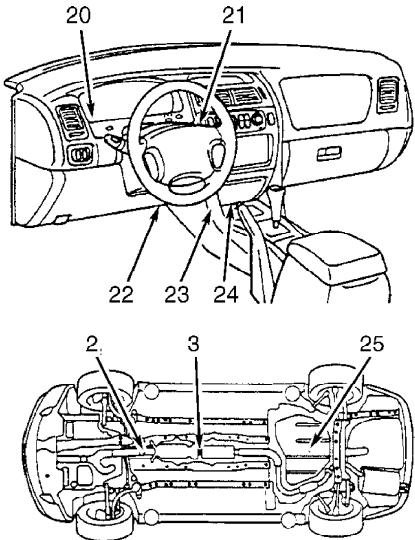
Removal, overhaul and installation procedures are covered in this article. If component removal and installation is primarily an unbolt and bolt-on procedure, only a torque specification may be furnished.

## COMPONENT LOCATION

The following illustrations are provided to assist in locating components for which removal and installation procedures may not be provided. See Figs. 1-12.



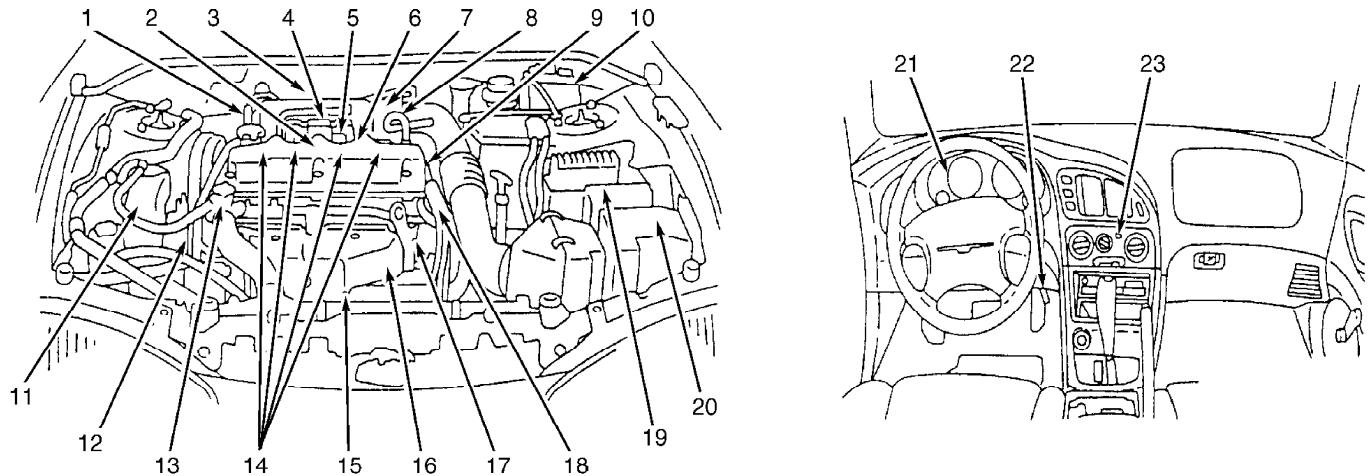
1. Power Steering Pressure (PSP) Switch
2. Front Heated Oxygen Sensor (HO2S)
3. Rear Heated Oxygen Sensor (HO2S)
4. Evaporative Emission (EVAP) Purge Solenoid
5. Exhaust Gas Recirculation (EGR) Solenoid
6. Manifold Differential Pressure (MDP) Sensor
7. Throttle Position (TP) Sensor With Built-In Closed Throttle Position Sensor (CTP)
8. Idle Air Control (IAC) Motor
9. Camshaft Position (CMP) Sensor
10. Fuel Pump Check Terminal
11. Volume Airflow Sensor (VAF) With Built-In Intake Air Temperature (IAT) & Barometric (BARO) Pressure Sensors
12. Evaporative Emission (EVAP) Vent Solenoid
13. A/C Clutch Relay



14. Crankshaft Position (CKP) Sensor
15. Fuel Injector
16. Engine Coolant Temperature (ECT) Sensor
17. Vehicle Speed Sensor (VSS)
18. Park/Neutral Position (PNP) Switch (A/T)
19. Ignition Coil/Power Transistor
20. Malfunction Indicator Light (MIL)
21. A/C Switch
22. Data Link Connector (DLC)
23. MFI & Fuel Pump Relays
24. Powertrain Control Module (PCM)
25. Fuel Tank Pressure Differential Sensor

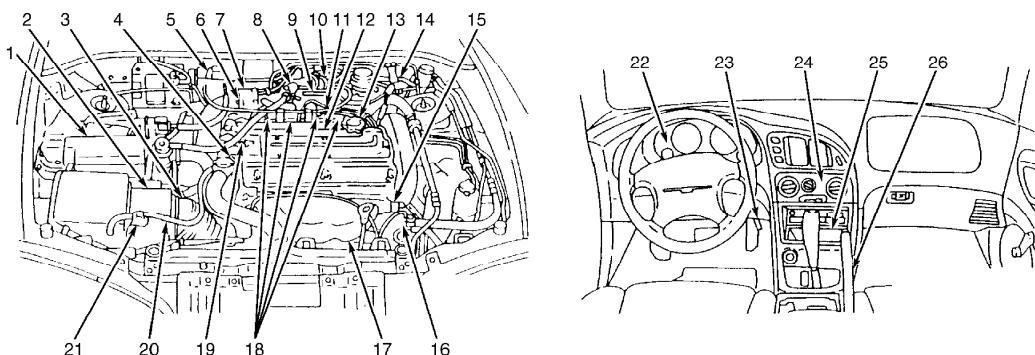
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Fig. 1: Engine Performance-Related Components (Diamante)  
Courtesy of Mitsubishi Motor Sales of America



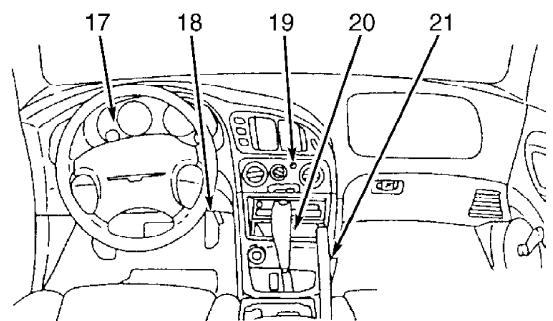
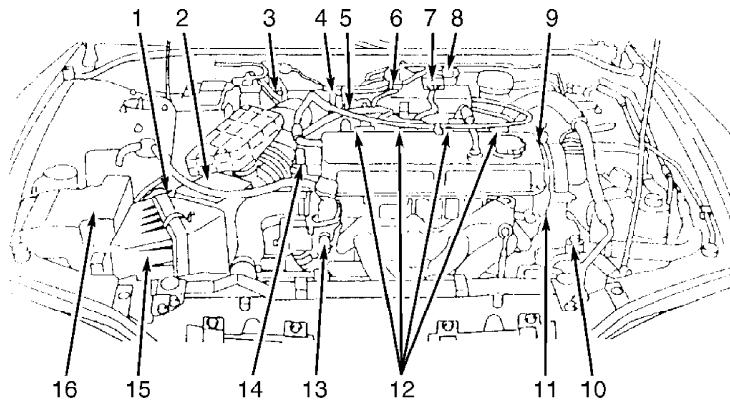
1. Manifold Absolute Pressure (MAP) Sensor  
 2. Crankshaft Position (CKP) Sensor  
 3. Intake Air Temperature (IAT) Sensor  
 4. Ignition Coil  
 5. Rear Heated Oxygen Sensor (HO2S)  
 6. Knock Sensor (KS)  
 7. Idle Air Control (IAC) Motor  
 8. Throttle Position (TP) Sensor  
 9. Camshaft Position (CMP) Sensor  
 10. MFI/ASD Relay  
 11. Evaporative Emission (EVAP) Purge Solenoid  
 12. Power Steering Pressure (PSP) Switch  
 13. Engine Coolant Temperature (ECT) Sensor  
 14. Fuel Injector  
 15. Front Heated Oxygen Sensor (HO2S)  
 16. Vehicle Speed Sensor  
 17. Park/Neutral Position (PNP) Switch (A/T)  
 18. Electric Exhaust Gas Recirculation (EGR) Transducer Solenoid  
 19. Powertrain Control Module (PCM)  
 20. A/C Clutch Relay  
 21. Malfunction Indicator Light (MIL)  
 22. Data Link Connector (DLC)  
 23. A/C Switch

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 Fig. 2: Engine Performance-Related Components (Eclipse 2.0L Non-Turbo)  
 Courtesy of Mitsubishi Motor Sales of America



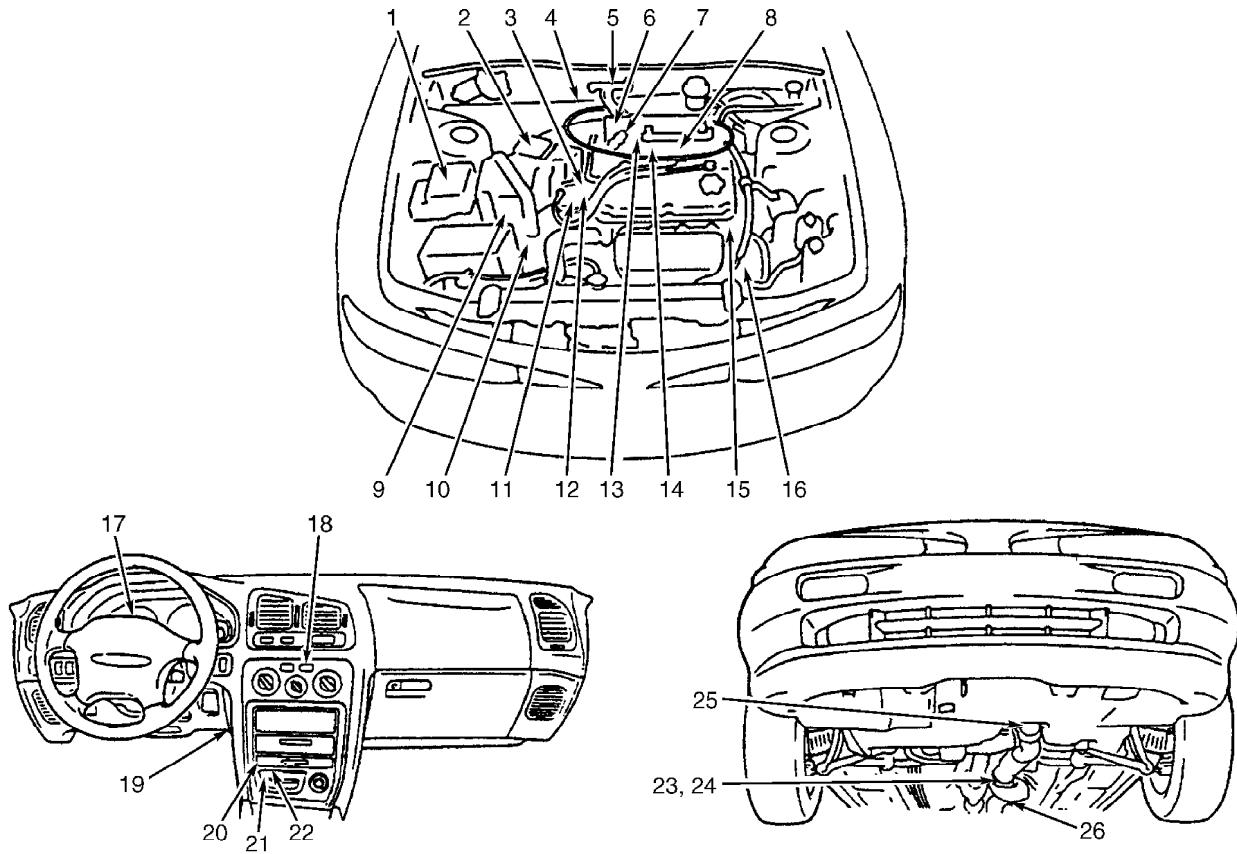
1. A/C Clutch Relay  
 2. Volume Airflow Sensor (VAF) With Built-In Intake Air Temperature (IAT) & Barometric (BARO) Pressure Sensors  
 3. Vehicle Speed Sensor (VSS)  
 4. Engine Coolant Temperature (ECT) Sensor  
 5. Fuel Pump Check Terminal  
 6. Idle Air Control (IAC) Motor  
 7. Throttle Position (TP) Sensor With Built-In Closed Throttle Position (CTP) Sensor  
 8. Manifold Differential Pressure (MDP) Sensor  
 9. Resistor  
 10. Exhaust Gas Recirculation (EGR) Solenoid  
 11. Ignition Coil/Power Transistor  
 12. Knock Sensor (KS)  
 13. Evaporative Emission (EVAP) Purge Solenoid  
 14. Fuel Pressure Solenoid  
 15. Crankshaft Position (CKP) Sensor  
 16. Power Steering Pressure (PSP) Switch  
 17. Front Heated Oxygen Sensor (HO2S)  
 18. Fuel Injector  
 19. Camshaft Position (CMP) Sensor  
 20. Turbocharger Wastegate Solenoid (Turbo)  
 21. MFI Relay  
 22. Malfunction Indicator Light (MIL)  
 23. Data Link Connector (DLC)  
 24. A/C Switch  
 25. Powertrain Control Module (PCM)  
 26. Fuel Pump Relay

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 Fig. 3: Engine Performance-Related Components (Eclipse 2.0L Turbo)  
 Courtesy of Mitsubishi Motor Sales of America



- 1. Vehicle Speed Sensor
- 2. Volume Airflow Sensor (VAF) With Built-In Intake Air Temperature (IAT) & Barometric (BARO) Pressure Sensors
- 3. Fuel Pump Check Terminal
- 4. Idle Air Control Motor
- 5. Throttle Position (TP) Sensor With Built-In Closed Throttle Position (CTP) Sensor
- 6. Manifold Differential Pressure (MDP) Sensor
- 7. Ignition Power Transistor
- 8. Evaporative Emission (EVAP) Purge Solenoid
- 9. Ignition Coil/Power Transistor
- 10. Power Steering Pressure (PSP) Sensor
- 11. Crankshaft Position (CKP) Sensor
- 12. Fuel Injector
- 13. Engine Coolant Temperature (ECT) Sensor
- 14. Camshaft Position (CMP) Sensor
- 15. Park/Neutral Position (PNP) Switch (A/T)
- 16. A/C Clutch Relay
- 17. Malfunction Indicator Light (MIL)
- 18. Data Link Connector (DLC)
- 19. A/C Switch
- 20. Powertrain Control Module (PCM)
- 21. Fuel Pump Relay

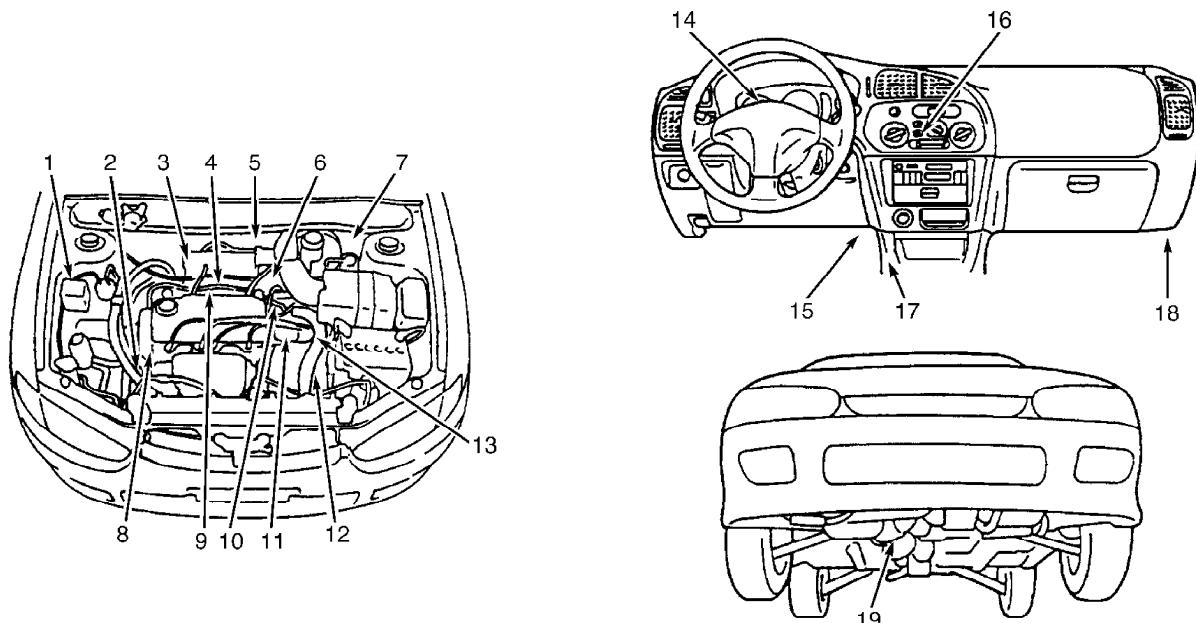
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 Fig. 4: Engine Performance-Related Components (Eclipse 2.4L)  
 Courtesy of Mitsubishi Motor Sales of America



1. A/C Clutch Relay
2. Volume Airflow Sensor (VAF) With Built-In Intake Air Temperature (IAT) & Barometric (BARO) Pressure Sensors
3. Engine Coolant Temperature (ECT) Sensor
4. Fuel Pump Check Terminal
5. Exhaust Gas Recirculation (EGR) Solenoid (Fed.)
6. Idle Air Control (IAC) Motor
7. Throttle Position (TP) Sensor With Built-In Closed Throttle Position Sensor (CTP)
8. Fuel Injector
9. Vehicle Speed Sensor (VSS)
10. Park/Neutral Position (PNP) Switch (A/T)
11. Ignition Coil/Power Transistor
12. Camshaft Position (CMP) Sensor

13. Manifold Differential Pressure (MDP) Sensor (Fed.)
14. Evaporative Emission (EVAP) Purge Solenoid
15. Crankshaft Position (CKP) Sensor
16. Power Steering Pressure (PSP) Switch
17. Malfunction Indicator Light (MIL)
18. A/C Switch
19. Data Link Connector (DLC)
20. MFI & Fuel Pump Relays
21. Powertrain Control Module (PCM)
22. Fuel Pump Relay Module (Ca.)
23. Front Heated Oxygen Sensor (HO2S - Fed.)
24. Rear Heated Oxygen Sensor (HO2S - Ca.)
25. Front Heated Oxygen Sensor (HO2S - Ca.)
26. Rear Heated Oxygen Sensor (HO2S - Fed.)

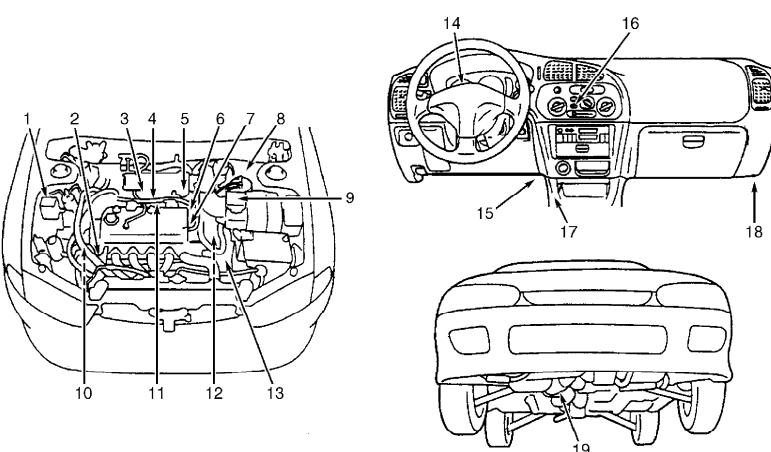
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 Fig. 5: Engine Performance-Related Components (Galant)  
 Courtesy of Mitsubishi Motor Sales of America



1. A/C Clutch Relay
2. Power Steering Pressure (PSP) Switch
3. Intake Air Temperature (IAT) Sensor
4. Exhaust Gas Recirculation (EGR) & Evaporative Emission (EVAP) Purge Solenoids
5. Manifold Absolute Pressure (MAP) Sensor
6. Idle Air Control (IAC) Motor & Throttle Position (TP) Sensor With Built-In Closed Throttle Position Sensor (CTP)
7. Fuel Pump Check Terminal
8. Crankshaft Position (CKP) Sensor
9. Fuel Injector

10. Engine Coolant Temperature (ECT) Sensor
11. Camshaft Position (CMP) Sensor & Ignition Coil/Power Transistor
12. Park/Neutral Position (PNP) Switch (A/T)
13. Vehicle Speed Sensor (VSS)
14. Malfunction Indicator Light (MIL)
15. Data Link Connector (DLC)
16. A/C Switch
17. MFI & Fuel Pump Relays
18. Powertrain Control Module (PCM)
19. Heated Oxygen Sensor (HO2S)

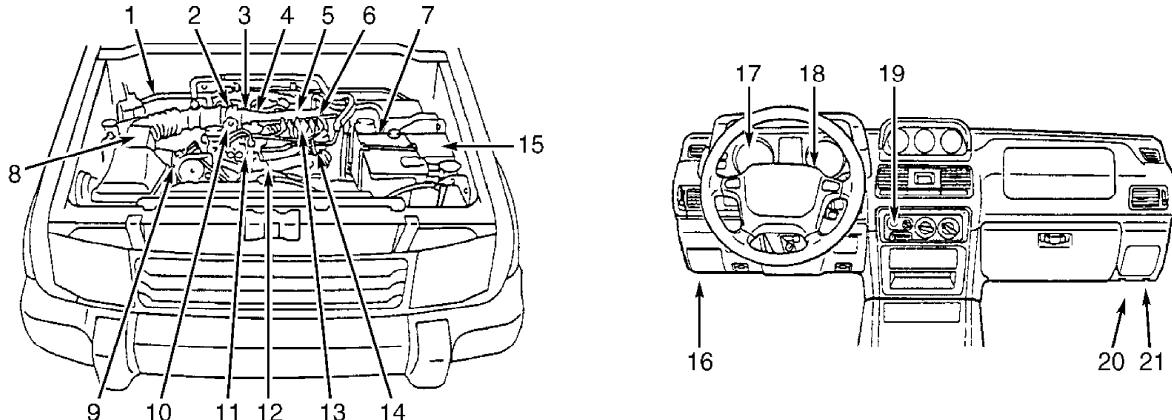
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Fig. 6: Engine Performance-Related Components (Mirage 1.5L)  
Courtesy of Mitsubishi Motor Sales of America



1. A/C Clutch Relay
2. Power Steering Pressure (PSP) Switch
3. Exhaust Gas Recirculation (EGR) & Evaporative Emission (EVAP) Purge Solenoids
4. Manifold Differential Pressure (MDP) Sensor
5. Idle Air Control (IAC) Motor & Throttle Position (TP) Sensor With Built-In Closed Throttle Position Sensor (CTP)
6. Camshaft Position (CMP) Sensor
7. Engine Coolant Temperature (ECT) Sensor
8. Fuel Pump Check Terminal
9. Volume Airflow Sensor (VAF) With Built-In Intake Air Temperature (IAT) & Barometric (BARO) Pressure Sensors

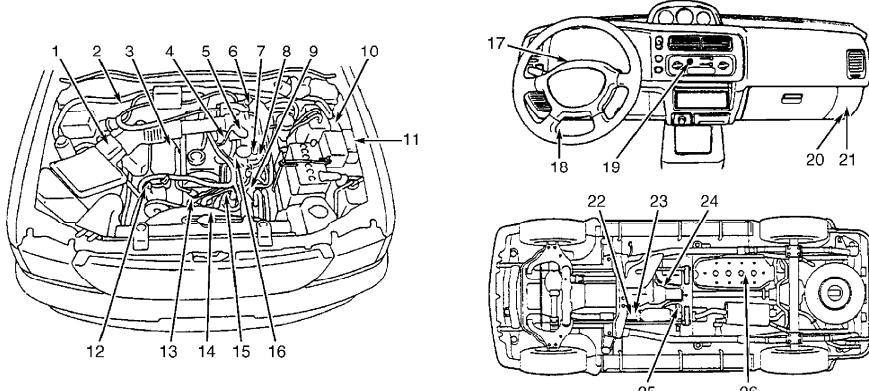
10. Ignition Failure Sensor
11. Injector & Ignition Coil/Power Transistor
12. Vehicle Speed Sensor
13. Park/Neutral Position (PNP) Switch (A/T)
14. Malfunction Indicator Light (MIL)
15. Data Link Connector (DLC)
16. A/C Switch
17. MFI & Fuel Pump Relays
18. Powertrain Control Module (PCM)
19. Heated Oxygen Sensor (HO2S)

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Fig. 7: Engine Performance-Related Components (Mirage 1.8L)  
Courtesy of Mitsubishi Motor Sales of America



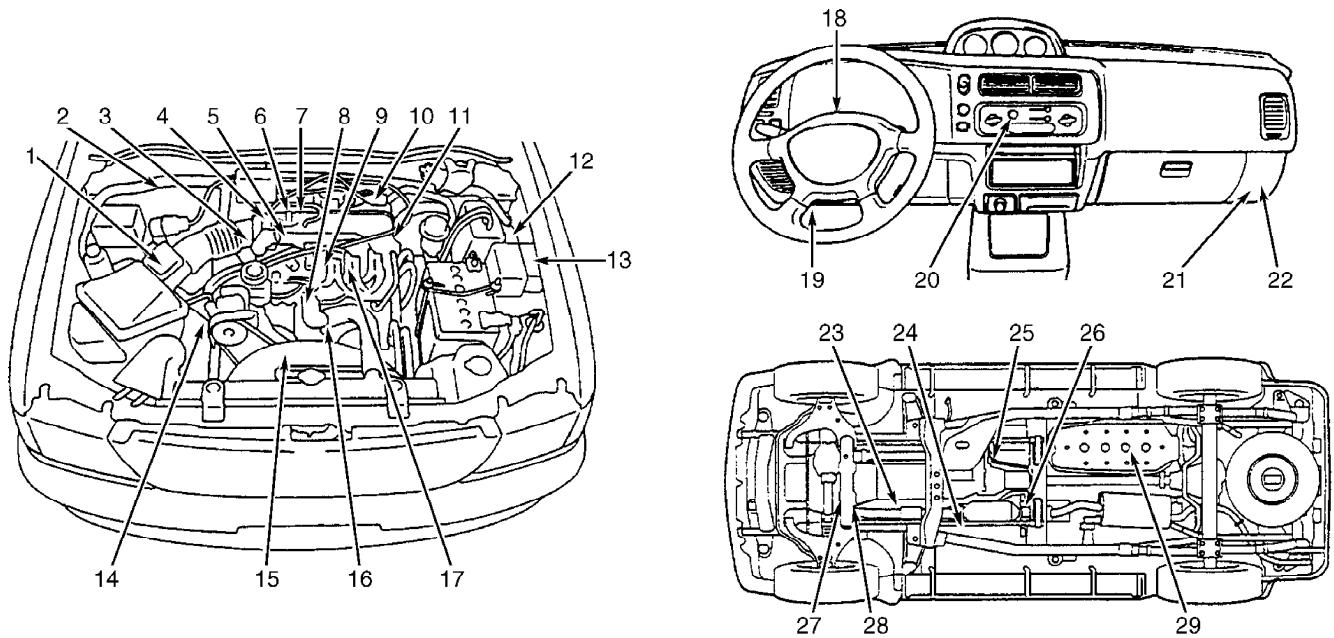
1. Fuel Pump Check Terminal  
 2. Throttle Position (TP) Sensor With Built-In Closed Throttle Position Sensor (CTP)  
 3. Exhaust Gas Recirculation (EGR) Solenoid  
 4. Evaporative Emission (EVAP) Purge Solenoid  
 5. Fuel Injector  
 6. Manifold Differential Pressure (MDP) Sensor  
 7. Evaporative Emission (EVAP) Vent Solenoid  
 8. Volume Airflow Sensor (VAF) With Built-In Intake Air Temperature (IAT) & Barometric (BARO) Pressure Sensors  
 9. Power Steering Pressure (PSP) Switch  
 10. Idle Air Control (IAC) Motor  
 11. Engine Coolant Temperature (ECT) Sensor  
 12. Crankshaft Position (CKP) Sensor  
 13. Ignition Coil/Power Transistor  
 14. Camshaft Position (CMP) Sensor  
 15. A/C Clutch Relay  
 16. Data Link Connector (DLC)  
 17. Vehicle Speed Sensor (VSS)  
 18. Malfunction Indicator Light (MIL)  
 19. A/C Switch  
 20. Powertrain Control Module (PCM)  
 21. MFI & Fuel Pump Relays

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 Fig. 8: Engine Performance-Related Components (Montero)  
 Courtesy of Mitsubishi Motor Sales of America



1. Volume Airflow Sensor (VAF) With Built-In Intake Air Temperature (IAT) & Barometric (BARO) Pressure Sensors  
 2. Fuel Pump Check Terminal  
 3. Front Heated Oxygen Sensor (HO2S - Ca.)  
 4. Idle Air Control (IAC) Motor  
 5. Throttle Position (TP) Sensor With Built-In Closed Throttle Position Sensor (CTP)  
 6. Manifold Differential Pressure (MDP) Sensor (Fed.)  
 7. Evaporative Emission (EVAP) Purge & Exhaust Gas Recirculation (EGR) Solenoids (Fed.)  
 8. Evaporative Emission (EVAP) Purge Solenoid (Ca.)  
 9. Engine Coolant Temperature (ECT) Sensor  
 10. Evaporative (EVAP) Vent Solenoid (Ca.)  
 11. A/C Clutch Relay  
 12. Power Steering Pressure (PSP) Switch  
 13. Camshaft Position (CMP) Sensor  
 14. Crankshaft Position (CKP) Sensor  
 15. Ignition Coil/Power Transistor  
 16. Fuel Injector  
 17. Malfunction Indicator Light (MIL)  
 18. Data Link Connector (DLC)  
 19. A/C Switch  
 20. MFI & Fuel Pump Relays  
 21. Powertrain Control Module (PCM)  
 22. Rear Heated Oxygen Sensor (HO2S - Ca.)  
 23. Front Heated Oxygen Sensor (HO2S - Fed.)  
 24. Vehicle Speed Sensor (VSS)  
 25. Rear Heated Oxygen Sensor (HO2S - Fed.)  
 26. Fuel Tank Differential Pressure Sensor

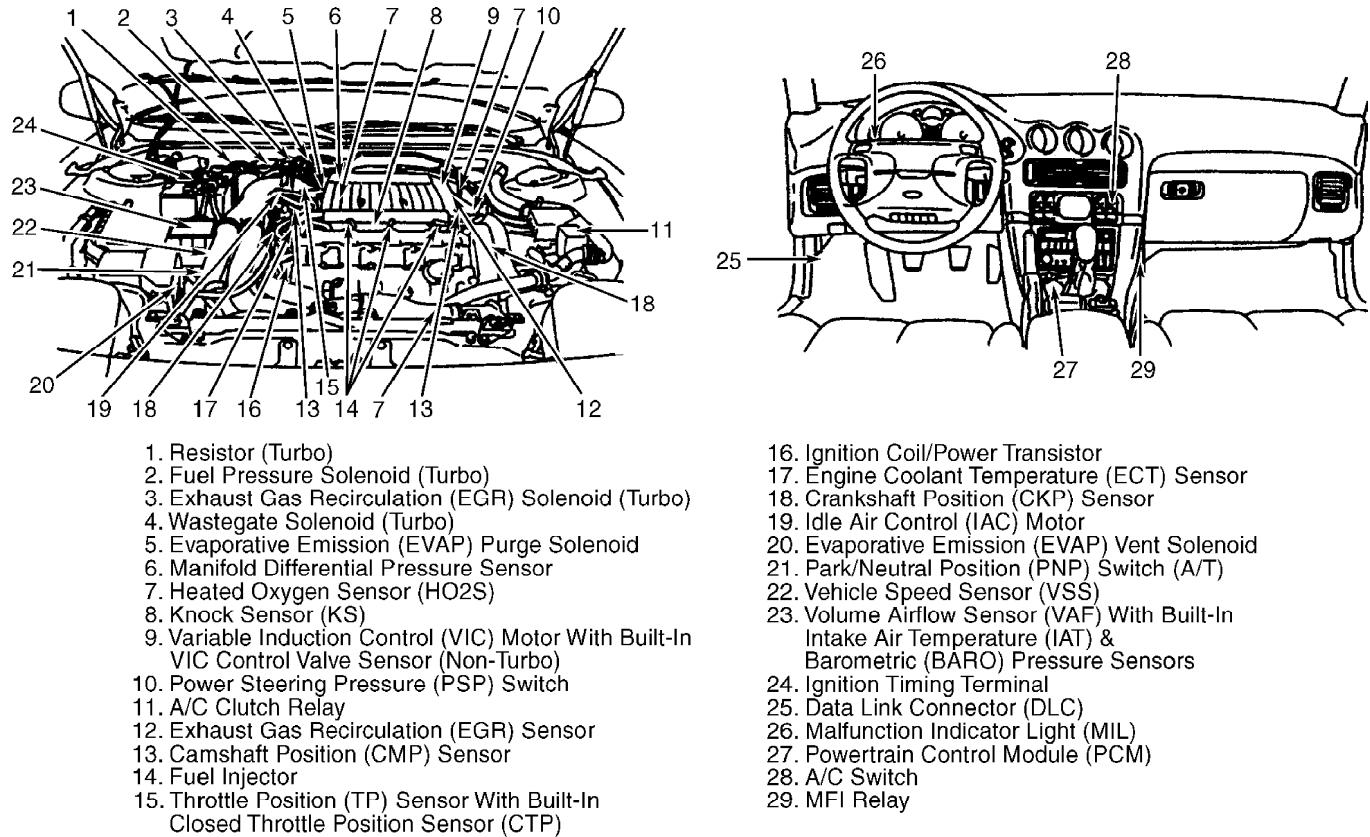
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 Fig. 9: Engine Performance-Related Components (Montero Sport 2.4L)  
 Courtesy of Mitsubishi Motor Sales of America



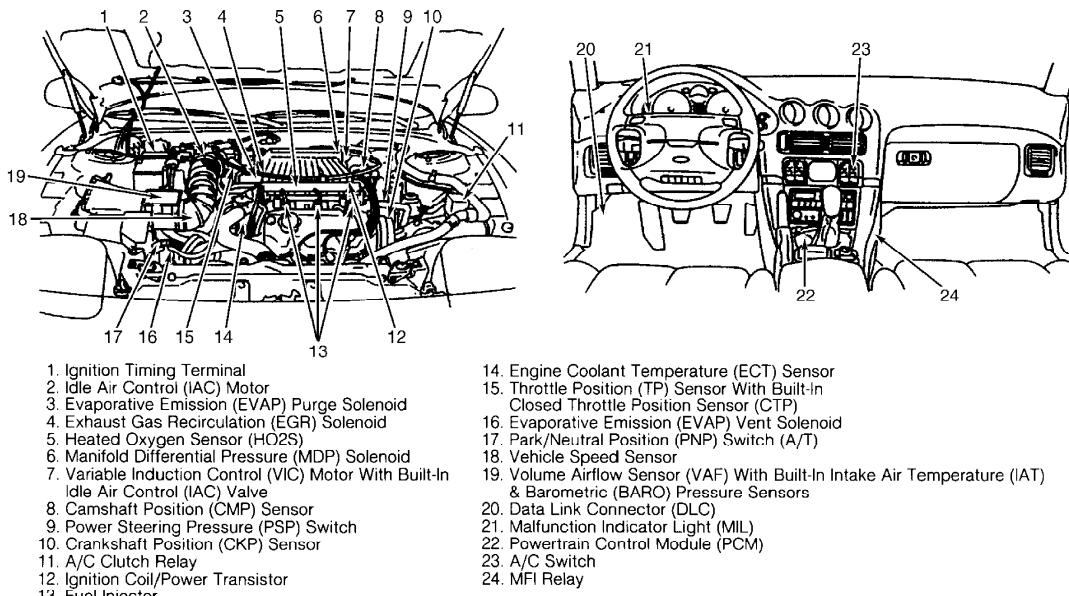
1. Volume Airflow Sensor (VAF) With Built-In Intake Air Temperature (IAT) & Barometric (BARO) Pressure Sensors
2. Fuel Pump Check Terminal
3. Idle Air Control (IAC) Motor
4. Throttle Position (TP) Sensor With Built-In Closed Throttle Position Sensor (CTP)
5. RF Heated Oxygen Sensor (HO2S - Ca.)
6. Exhaust Gas Recirculation (EGR) & Evaporative Emission (EVAP) Purge Solenoids (Fed.)
7. Evaporative Emission (EVAP) Purge Solenoid (Ca.)
8. Engine Coolant Temperature (ECT) Sensor
9. Fuel Injector
10. Manifold Differential Pressure (MDP) Sensor
11. LF Heated Oxygen Sensor (HO2S - Ca.)
12. Evaporative Emission (EVAP) Vent Solenoid
13. A/C Clutch Relay
14. Power Steering Pressure (PSP) Switch
15. Crankshaft Position (CKP) Sensor
16. Camshaft Position (CMP)
17. Ignition Coil/Power Transistor
18. Malfunction Indicator Light (MIL)
19. Data Link Connector (DLC)
20. A/C Switch
21. MFI & Fuel Pump Relays
22. Powertrain Control Module (PCM)
23. Park/Neutral Position (PNP) Switch (A/T)
24. Front Heated Oxygen Sensor (HO2S - Fed.)
25. Vehicle Speed Sensor (VSS)
26. Rear Heated Oxygen Sensor (HO2S - Fed.)
27. RR Heated Oxygen Sensor (HO2S - Ca.)
28. LR Heated Oxygen Sensor (HO2S - Ca.)
29. Fuel Tank Differential Pressure Sensor

Fig. 10: Engine Performance-Related Components (Montero Sport 3.0L)  
Courtesy of Mitsubishi Motor Sales of America

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98J12045  
 Fig. 11: Engine Performance-Related Components (3000GT DOHC)  
 Courtesy of Mitsubishi Motor Sales of America



98J12046  
 Fig. 12: Engine Performance-Related Components (3000GT SOHC)  
 Courtesy of Mitsubishi Motor Sales of America

## IGNITION SYSTEM

## DISTRIBUTOR

NOTE: Eclipse, Mirage 1.8L, Montero, Montero Sport 3.0L and 3000GT DOHC use Distributorless Ignition System (DIS). All other models use distributor type ignition systems with non-serviceable distributors on which only the rotor and distributor cap can be changed.

## FUEL SYSTEM

### \* PLEASE READ THIS FIRST \*

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

## FUEL SYSTEM PRESSURE RELEASE

### Relieving Fuel Pressure

- 1) On Diamante, disconnect fuel pump harness connector at fuel tank from underneath vehicle. On Montero and Montero Sport, remove cargo compartment carpet, remove access plate and disconnect fuel pump harness connector. On all other models, remove rear seat cushion and remove access plate (if required) to disconnect fuel pump harness connector.
- 2) On all models, start engine. Let engine run until it stops. Turn ignition off. Disconnect negative battery cable. Connect fuel pump harness connector. Reinstall rear seat (if necessary.)

## FUEL PUMP

### Removal & Installation (Diamante, Eclipse, Galant & Montero)

- 1) Fuel pump assembly is located inside fuel tank. Release fuel pressure. See FUEL SYSTEM PRESSURE RELEASE. Remove access panel under seat, in trunk or in rear cargo area. Disconnect electrical connectors and fuel hoses at fuel tank.

- 2) Remove fuel filler hose from fuel tank. Remove fuel pump assembly. To install, reverse removal procedure. Tighten nuts to specification. See TORQUE SPECIFICATIONS.

### Removal & Installation (Mirage, Montero Sport & 3000GT)

- 1) Fuel pump assembly is located inside fuel tank. Release fuel pressure. See FUEL SYSTEM PRESSURE RELEASE. Raise vehicle on hoist. Drain fuel into suitable container. Disconnect electrical connectors and breather/fuel hoses at fuel tank.

- 2) Remove fuel filler hose from fuel tank. Support fuel tank with transmission jack. Remove nuts securing fuel tank. Remove fuel tank from vehicle. Remove fuel pump assembly. To install, reverse removal procedure. Tighten nuts to specification. See TORQUE SPECIFICATIONS.

## FUEL RAILS & INJECTORS

WARNING: 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.

CAUTION: DO NOT drop injectors while removing or installing fuel rail.

### Removal (Diamante, Montero Sport 2.4L & 3000GT)

1) Relieve fuel pressure. See FUEL SYSTEM PRESSURE RELEASE. Disconnect negative battery cable. Drain coolant. Remove air intake hose. Remove throttle body and gasket with control cables and vacuum hoses attached.

2) Remove EGR pipe (if equipped). Disconnect power brake hose. Label and disconnect vacuum hoses and wiring harness connectors as necessary. Remove intake plenum brackets and mounting bolts. Remove intake plenum and gasket.

3) Disconnect high pressure fuel hose at fuel rail.

Disconnect fuel return hose. Disconnect vacuum hoses. Disconnect injector electrical connectors. Remove fuel rail bolts, and lift fuel rail and injectors from engine. Injectors may be removed after fuel rail is removed from intake manifold.

#### Installation

To install, reverse removal procedure. Use NEW insulators and "O" rings when installing injectors. Install injectors into fuel rail with a twisting motion. Ensure injectors rotate smoothly when installing. Refill cooling system.

#### Removal (Eclipse, Galant, Mirage & Montero Sport 3.0L)

1) Relieve fuel pressure. See FUEL SYSTEM PRESSURE RELEASE. Disconnect negative battery cable. Disconnect PCV hose and breather hoses. Disconnect high pressure fuel hose at fuel rail. Disconnect fuel return hose and vacuum hoses.

2) Disconnect injector electrical connectors. Remove fuel rail bolts, and lift fuel rail and injectors from engine. Injectors may be removed after fuel rail is removed from intake manifold.

#### Installation

To install, reverse removal procedure. Use NEW insulators and "O" rings when installing injectors. Use lubricant on "O" rings. Install injectors into fuel rail with a twisting motion. Ensure injectors rotate smoothly when installing.

#### Removal (Montero)

1) Relieve fuel pressure. See FUEL SYSTEM PRESSURE RELEASE. Disconnect negative battery cable. Remove air intake hose. Remove accelerator cable adjusting bolts. On A/T models, remove throttle control cable. On all models, remove accelerator cable. Label and disconnect all vacuum hoses from throttle body and upper intake manifold (air intake plenum).

2) Remove EGR pipe and gasket. Remove ignition coil (if necessary). Remove engine oil filler neck bracket. Disconnect PCV hose. Remove throttle body, leaving coolant hoses connected. Remove throttle body gasket. Remove front and rear intake plenum brackets. Remove intake plenum mounting bolts. Remove intake plenum and gasket.

3) Disconnect high pressure fuel hose at fuel rail.

Disconnect fuel return hose. Disconnect vacuum hoses. Disconnect injector electrical connectors. Remove fuel rail bolts, and lift fuel rail and injectors from engine. Injectors may be removed after fuel rail is removed from intake manifold.

#### Installation

To install, reverse removal procedure. Use NEW insulators and "O" rings when installing injectors. Use lubricant on "O" rings. Install injectors into fuel rail using a twisting motion. Ensure injectors rotate smoothly when installing. Adjust throttle control and accelerator cables (if necessary). Refill cooling system.

## HEATED OXYGEN SENSOR (HO2S)

#### Removal & Installation

1) Front HO2S is mounted in exhaust pipe below exhaust header. Rear HO2S is mounted behind catalytic converter. HO2S is equipped with a permanent pigtail which must be protected from damage when HO2S is removed. Ensure HO2S is free of contaminants. Avoid using cleaning solvents of any type.

2) HO2S may be difficult to remove when engine temperature is less than 120°F (48°C). If using original sensor, always use anti-seize compound on threads before installation. New sensor threads are precoated with anti-seize. Tighten HO2S to specification. See TORQUE SPECIFICATIONS.

## THROTTLE BODY

### Removal

1) Relieve fuel pressure. See FUEL SYSTEM PRESSURE RELEASE. Drain enough coolant to ensure coolant level is below throttle body. Disconnect air intake hose.

2) Remove accelerator, cruise control and A/T throttle valve 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 air control motor. Remove throttle bracket and connector bracket (if equipped). Remove idle position switch and adjusting nut (if equipped).

**CAUTION:** DO NOT remove throttle valve. DO NOT use cleaning solvents on throttle position sensor, idle air control motor or idle position switch.

### Cleaning

1) Clean all parts except throttle position sensor, idle air control motor and idle position switch in solvent.

**WARNING:** Safety glasses MUST be worn whenever compressed air is used for parts cleaning.

2) Check vacuum port and passage for clogging. Clean vacuum, vapor and fuel passages using compressed air.

### Reassembly

To reassemble, reverse disassembly procedure.

### Installation

To install, reverse removal procedure.

## THROTTLE POSITION (TP) SENSOR

### Removal & Installation

Throttle Position (TP) sensor is located on throttle body. Disconnect TP sensor electrical connector. Remove TP sensor screws and TP sensor. To install, reverse removal procedure. Tighten TP sensor screws to specification. See TORQUE SPECIFICATIONS. For TP sensor adjustment procedure, see D - ADJUSTMENTS article.

## TURBOCHARGERS

### Removal (Eclipse)

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

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 engine coolant hoses and tubes from turbocharger. Remove exhaust manifold nuts and bolts. Remove exhaust manifold and gaskets. Disconnect oil pressure and return pipes. Remove turbocharger and exhaust manifold assembly. Separate turbocharger from exhaust manifold.

#### Removal (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 generator and belt. Remove oil dipstick guide.

2) Remove heat protector. Disconnect front heated oxygen sensor connector. Remove oil return pipe. Remove turbocharger support bracket, and remove turbocharger from exhaust manifold.

#### Removal (3000GT - Rear)

1) Disconnect battery cables, and remove battery. Drain engine oil and cooling system. Remove accelerator cable. Remove air hose, air pipe and heat protectors. Disconnect clutch booster vacuum hose. Remove air intake hoses and EGR pipe. Disconnect heated oxygen sensor connectors.

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

#### Inspection (All Models)

Check turbine and compressor wheels for cracking and other damage. Ensure turbine and compressor wheels turn smoothly. Check for oil leakage from turbocharger assembly. Check for proper wastegate valve operation. See I - SYSTEM/COMPONENT TESTS article.

**CAUTION:** Apply light coat of oil to inner surface of flared area on water pipe (flare nut fitting) before connecting to engine.

#### Installation (All Models)

1) To install, reverse removal procedure. Before oil pipe flare nut (above turbocharger) is installed, pour clean engine oil into turbocharger oil pipe installation hole. 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.

## **TORQUE SPECIFICATIONS**

### TORQUE SPECIFICATIONS TABLE

Applications	Ft. Lbs. (N.m)
Coolant Pipe-To-Turbocharger Banjo Bolt .....	31 (42)
EGR Valve .....	16 (22)
Engine Coolant Temperature Sensor .....	22 (30)
Exhaust Manifold-To-Engine Nuts .....	18-21 (24-29)
Exhaust Manifold-To-Turbocharger Bolts .....	40-47 (54-64)
Exhaust Pipe Bolts .....	21-36 (29-49)
Fuel Filter Line .....	27 (36)
Fuel Tank Drain Plug .....	11-18 (15-24)
Fuel Tank Nuts .....	15-21 (20-29)

Heated Oxygen Sensor	
Front .....	29-33 (39-44)
Rear .....	15-29 (20-39)
Heat Protector Bolts .....	8.8-11 (12.0-15.0)
Intake Manifold Plenum Bolt/Nut .....	13 (18)
Knock Sensor .....	15-18 (20-24)
Oil Return Pipe-To-Engine .....	10-14 (14-19)
Oil Supply Pipe-To-Engine Nut .....	14 (19)
Oil Supply Pipe-To-Turbocharger Nut .....	14 (19)
Plenum-To-Intake Manifold Bolts .....	11-15 (15-20)
Throttle Body .....	14 (19)
Turbocharger-To-Exhaust Manifold Bolt/Nut	
Step 1 .....	21 (29)
Step 2 .....	Additional 60-70 Degrees
Water Pipe-To-Turbocharger	
Eclipse .....	25-36 (34-49)
3000GT .....	22 (30)

INCH Lbs. (N.m)

Camshaft Position Sensor .....	80 (9)
Crankshaft Position Sensor .....	80 (9)
Distributor Hold-Down Bolt .....	106 (12)
Engine Cover .....	22-40 (2.5-4.5)
Fuel Pressure Regulator .....	80 (9)
Fuel Pump Nuts .....	22 (2.5)
Fuel Rail Bolts .....	80-106 (9.0-12.0)
TP Sensor Screws .....	13-22 (1.5-2.5)
Wastegate Actuator Bolts .....	80-106 (9.0-12.0)