

I - SYSTEM/COMPONENT TESTS

1994 Mitsubishi 3000GT

1994 ENGINE PERFORMANCE

Chrysler Corp./Mitsubishi System & Component Testing

Dodge; Stealth
Mitsubishi; 3000GT

INTRODUCTION

NOTE: Testing individual components does not isolate shorts or opens. Perform all voltage tests using a Digital Volt-Ohmmeter (DVOM) with minimum 10-megohm input impedance, unless stated otherwise in test procedure. Use ohmmeter to isolate wiring harness shorts or opens.

Before testing separate components or systems, perform procedures in F - BASIC TESTING article in the ENGINE PERFORMANCE Section. Since many computer-controlled and monitored components set a trouble code if they malfunction, also perform procedures in G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

AIR INDUCTION SYSTEMS

TURBOCHARGED

Turbocharger Pressure Check

1) Disconnect turbocharger pressure control Black hose at wastegate solenoid valve, and plug valve nipple. Attach pressure gauge to hose. Drive vehicle and accelerate engine, in 2nd gear, to 3500 RPM or greater. Measure turbocharger pressure when pressure gauge stabilizes. See TURBOCHARGER PRESSURE SPECIFICATIONS table.

2) If pressure gauge reading is more than specified, check wastegate actuator. See WASTEGATE ACTUATOR TEST. Replace wastegate actuator as required. If pressure gauge reading is less than specified, check for malfunctioning wastegate valve, turbocharger pressure leaks and faulty turbocharger.

TURBOCHARGER PRESSURE SPECIFICATIONS TABLE

Application	Pressure psi (kg/cm ²)
Stealth & 3000GT	2.9-8.7 (20-60)

Air By-Pass Valve

Remove air by-pass valve. Valve is mounted to intake air duct between air-to-air intercooler and intake plenum. Apply vacuum to diaphragm of vacuum valve. Valve should begin opening at approximately 16 in. Hg. Observe operation of valve through by-pass opening.

Wastegate Actuator Test

Actuator is mounted on turbocharger. Apply vacuum to wastegate actuator to ensure actuator rod moves. Ensure diaphragm holds vacuum. DO NOT apply excessive vacuum to wastegate actuator or attempt to adjust wastegate valve.

Wastegate Control Solenoid Valve Test

1) On Stealth and 3000GT, valve is mounted to firewall beside EGR solenoid. Disconnect White vacuum hose at valve, and connect

vacuum pump. Apply vacuum to valve to check leakage. Disconnect harness connector at valve. Connect 12 volts across valve terminals. Valve should open and release vacuum.

2) Disconnect harness connector at valve. Using external ohmmeter, check resistance between valve terminals. Solenoid valve resistance should be 36-44 ohms.

3) Connect DVOM between Red wire terminal of valve harness connector and ground. Turn ignition on. Battery voltage should be present. If battery voltage is not present, check for open in circuit between MFI relay and solenoid harness connector. Repair as necessary. If circuit is okay, inspect MFI relay. See RELAYS under MOTORS, RELAYS & SOLENOIDS. MFI relay is located near ECM, behind radio, under console.

4) If battery voltage is present, disconnect ECM connector. See ENGINE CONTROL MODULE (ECM) LOCATION table under COMPUTERIZED ENGINE CONTROLS. Connect DVOM between Red/Yellow wire terminal of wastegate control solenoid valve harness connector and ground.

5) Ground ECM harness connector terminal No. 32. See Fig. 1. Check for continuity in circuit between ECM harness connector and wastegate control solenoid valve harness connector. If continuity does not exist, check and repair circuit as necessary. If continuity exists and all preceding tests do not show any system or component malfunction and ECM is suspected, substitute ECM with known good component and retest.

NON-TURBOCHARGED

NOTE: For diagnosis and testing information concerning Variable Induction Control (VIC) motor position sensor, see G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

Variable Induction Control Motor (Stealth & 3000GT)

1) Disconnect VIC motor harness connector. Using DVOM, measure resistance between motor connector terminals. Resistance should be 5-35 ohms. Replace VIC motor if resistance is not as specified.

2) Apply 6 volts between both servo connector terminals. Ensure variable induction control motor shaft turns smoothly. Reverse voltage to motor connector terminals. Motor shaft should turn smoothly in opposite direction. If shaft does not function properly, replace air intake plenum assembly.

3) Check for continuity in circuit between control motor harness connector and ECM. Disconnect VIC motor connector and ECM connector. Connect DVOM to Green/Black wire of VIC connector and vehicle ground. Ground terminal No. 109 (Fed. models) or terminal No. 39 (Calif. models) of ECM. If continuity exists, go to next step. If continuity does not exist, repair as needed.

4) Connect DVOM to Green/White wire of VIC connector and vehicle ground. Ground terminal No. 110 (Fed. models) or terminal No. 40 (Calif. models) of ECM. If continuity does not exist, repair as needed. If continuity exists and all preceding tests do not show any system or component malfunction and ECM is suspected, substitute ECM with known good component and retest.

COMPUTERIZED ENGINE CONTROLS

CONTROL UNIT

NOTE: For Engine Control Module (ECM) location, see ENGINE CONTROL MODULE (ECM) LOCATION table. To identify ECM power and ground circuits, see appropriate wiring diagram in

L - WIRING DIAGRAMS article in the ENGINE PERFORMANCE Section.

Ground Circuits

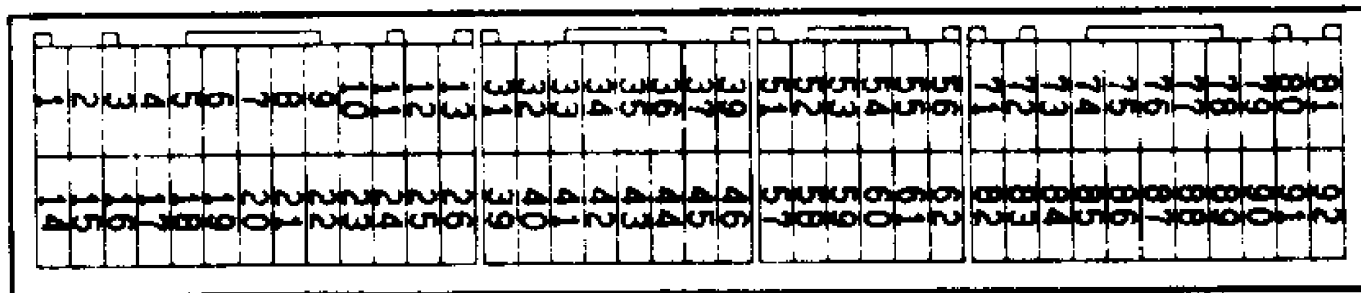
1) Turn ignition off. Using an ohmmeter, check continuity between chassis ground and ECM ground terminals. See GROUND TERMINAL IDENTIFICATION table. Ohmmeter should indicate zero ohms. If reading is not zero ohms, check and repair open circuit between ECM connector and ground.

2) Connect voltmeter negative lead to chassis ground. Connect positive lead to ECM ground terminals. See GROUND TERMINAL IDENTIFICATION table. See Fig. 1. With engine running, voltmeter should indicate less than one volt. If voltmeter reading is greater than one volt, check for open, corrosion or loose connection in ground circuit.

Power Circuits

Turn ignition on. Check for battery voltage on ECM power terminals. See POWER TERMINAL IDENTIFICATION table. If battery voltage is not present, check operation of MFI relay. See RELAYS under MOTORS, RELAYS & SOLENOIDS.

SOHC & DOHC-FED.



DOHC-CALIF.

94F44292

Fig. 1: Identifying ECM Connectors
Courtesy of Mitsubishi Motor Sales of America.

GROUND TERMINAL IDENTIFICATION TABLE

Application	ECM Terminals No.
All Models	13 & 26

POWER TERMINAL IDENTIFICATION TABLE

Application	ECM Terminals No.
All Models	12 & 25

ENGINE CONTROL MODULE (ECM) LOCATION TABLE

Application	Location
Stealth & 3000GT	Behind Center Console

ENGINE SENSORS & SWITCHES

Barometric Pressure Sensor

Sensor is a part of airflow sensor assembly. See

G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

Camshaft Position Sensor

See G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

Closed Throttle Position Switch

See THROTTLE POSITION SENSOR in G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

Coolant Temperature Sensor

See G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

Crankshaft Position Sensor

See G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

EGR Temperature Sensor

See G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

Idle Position Switch

See THROTTLE POSITION SENSOR in G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

NOTE: For circuit identification, see appropriate wiring diagram in L - WIRING DIAGRAMS article.

Park/Neutral Position (PNP) Switch (A/T Models)

1) Switch is mounted to automatic transmission, near shift lever mechanism. Ensure switch is adjusted properly. Switch output can be affected by improper adjustment. Using DVOM, check continuity between selected terminals. Continuity should exist between ignition switch and ECM when shift selector lever is in Park or Neutral position. See PARK/NEUTRAL POSITION (PNP) SWITCH TERMINAL IDENTIFICATION table.

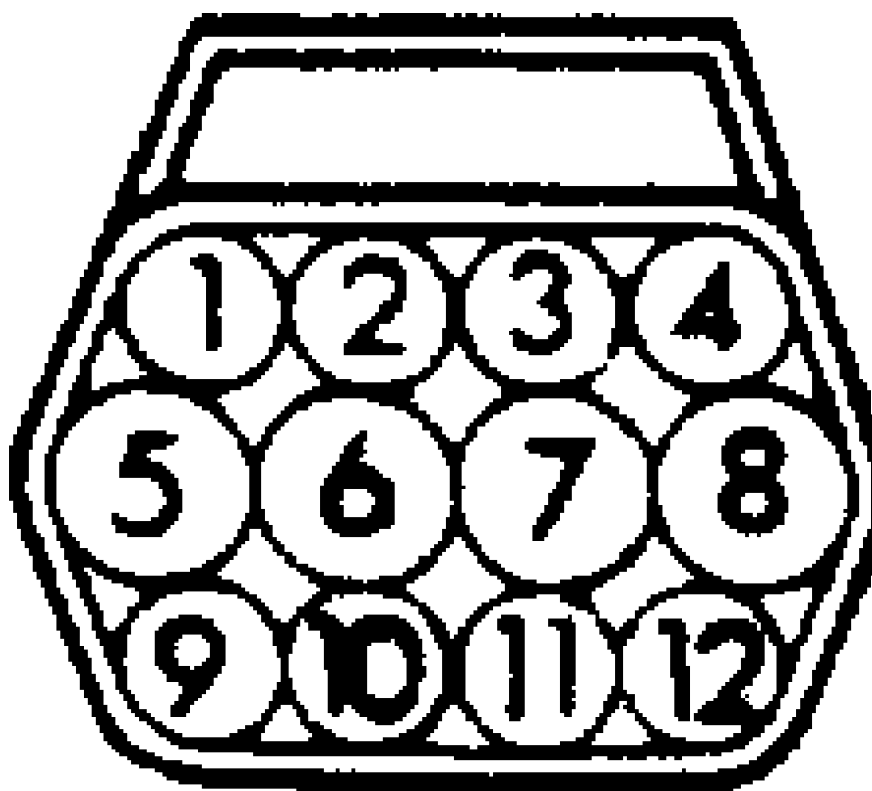
2) Using DVOM, measure supply voltage from ignition switch in start position. Disconnect ECM harness connector. See ENGINE CONTROL MODULE (ECM) LOCATION table under COMPUTERIZED ENGINE CONTROLS. Disconnect park/neutral position switch connector. Turn ignition switch to START position. Measure voltage between switch (start circuit) and vehicle ground. See PARK/NEUTRAL POSITION (PNP) SWITCH TERMINAL IDENTIFICATION table. If battery voltage is present, go to next step. If voltage is less than battery voltage, inspect and repair circuit.

3) Using DVOM, check continuity between PNP switch and ECM. See PARK/NEUTRAL POSITION SWITCH TERMINAL IDENTIFICATION table. If continuity does not exist in either circuit, inspect and repair faulty circuit as needed. If continuity exists and all preceding tests do not show any system or component malfunction and ECM is suspected, substitute ECM with known good component and retest.

PARK/NEUTRAL POSITION (PNP) SWITCH TERMINAL IDENTIFICATION
TABLE (1)

Application	PNP Terminal No. To ECM Terminal No. (Start)	PNP Terminal No. To ECM Terminal No. (Run)
Stealth (Fed.), & 3000GT (Fed.) 8 & 71 7 & 51
Stealth (Calif.) & 3000GT (Calif.) 8 & 91 7 & 71

(1) - For PNP harness connector terminal identification, see Fig. 2.



94I44600

Fig. 2: Identifying PNP Switch Harness Connectors
Courtesy of Mitsubishi Motor Sales of America.

Intake Air Temperature Sensor
See G - TESTS W/CODES article in the ENGINE PERFORMANCE

Section.

Oxygen (O2) Sensor

See G - TESTS W/CODES article in the ENGINE PERFORMANCE

Section.

Power Steering Oil Pressure Switch

1) Disconnect switch connector at pump. Using DVOM, check continuity between switch and vehicle ground. Continuity should not exist with wheels straight ahead and engine idling. Continuity should be present when wheels are turned to lock position or when pump pressure is increased.

2) Check continuity of circuit between switch and ECM. Disconnect power steering oil pressure switch harness connector and ECM harness connector. See ENGINE CONTROL MODULE (ECM) LOCATION table under COMPUTERIZED ENGINE CONTROLS. Connect jumper wire between ECM terminal and vehicle ground. See POWER STEERING PRESSURE SWITCH ECM TERMINAL IDENTIFICATION table. Using DVOM, check for continuity between switch harness connector and vehicle ground. Check and repair circuit if no continuity exists. Go to step 3) if continuity exists.

3) Connect ECM harness connector. Turn ignition on. Using DVOM, measure voltage at switch harness connector. System is okay if battery voltage exists. Substitute ECM with known good unit if voltage does not exist.

POWER STEERING PRESSURE SWITCH ECM TERMINAL IDENTIFICATION TABLE

Application	(1) Terminal No.
Stealth (DOHC-Calif. & Turbo), 3000GT (DOHC-Calif. & Turbo)	37
Stealth (Fed.) & 3000GT (Fed.)	107

(1) - See Fig. 1.

Throttle Position Sensor

See G - TESTS W/CODES article in the ENGINE PERFORMANCE

Section.

Vehicle Speed Sensor

See G - TESTS W/CODES article in the ENGINE PERFORMANCE

Section.

MOTORS, RELAYS & SOLENOIDS

MOTORS

IAC Motor

See IDLE CONTROL SYSTEM.

RELAYS

NOTE: For circuit identification, see appropriate wiring diagram in L - WIRING DIAGRAMS article in the ENGINE PERFORMANCE Section

Cooling Fan Control Relay (Hi & Lo)

1) Remove suspected relay from underhood relay block. Connect 12-volt power supply to relay terminals No. 2 and 4. See Fig. 3.

Continuity should exist between terminals No. 1 and 3. Replace relay if continuity is not present. If continuity is present, go to next step.

2) With ignition on, check voltage between each relay receptacle terminal No. 4 and vehicle ground. If battery voltage is not present, inspect and repair circuit between ignition switch and relay. If battery voltage is present, go to next step.

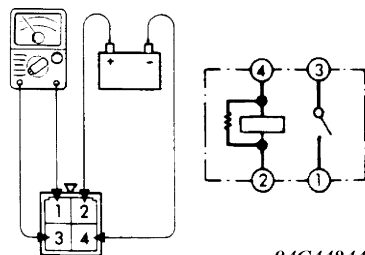
3) Using ohmmeter, check continuity between each relay receptacle terminal No. 3 and vehicle ground. If continuity does not exist, inspect and repair ground circuit as needed. If continuity exists, go to next step.

4) Disconnect ECM harness connector. See ENGINE CONTROL MODULE (ECM) LOCATION table under COMPUTERIZED ENGINE CONTROLS. Using ohmmeter check continuity between relay receptacle terminal No. 2 and appropriate ECM terminal. See FAN CONTROL RELAY ECM CIRCUIT IDENTIFICATION table.

5) If continuity does not exist, inspect and repair faulty circuit(s) as needed. If continuity exists and all preceding tests do not show any system or component malfunction and ECM is suspected, substitute ECM with known good component and retest.

FAN CONTROL RELAY ECM CIRCUIT IDENTIFICATION TABLE

Application	Lo Fan Circuit No.	Hi Fan Circuit No.
Stealth & 3000GT (Federal Models)	6	53
Stealth & 3000GT (Calif. Models)	20	21



94C44844

Fig. 3: Testing Fan Control Relay
Courtesy of Mitsubishi Motor Sales of America.

NOTE: For MFI relay location, see MFI RELAY LOCATION table.

MFI RELAY LOCATION TABLE

Application	Location
All Models	Behind center console.

MFI Relay (Stealth SOHC & DOHC Non Turbo-Fed. & 3000GT Non Turbo-Fed.)

1) This step checks ignition supply voltage to ECM. Disconnect ECM harness connector. Turn ignition on. Using DVOM, measure voltage between ECM harness connector terminal No. 62 and vehicle ground. See Fig. 1. If battery voltage is present, go to step 2). If battery voltage is not present, check and repair circuit between ignition switch and ECM harness connector.

2) This step checks continuity of circuit between MFI relay and ECM. Disconnect ECM harness connector. Using DVOM, check

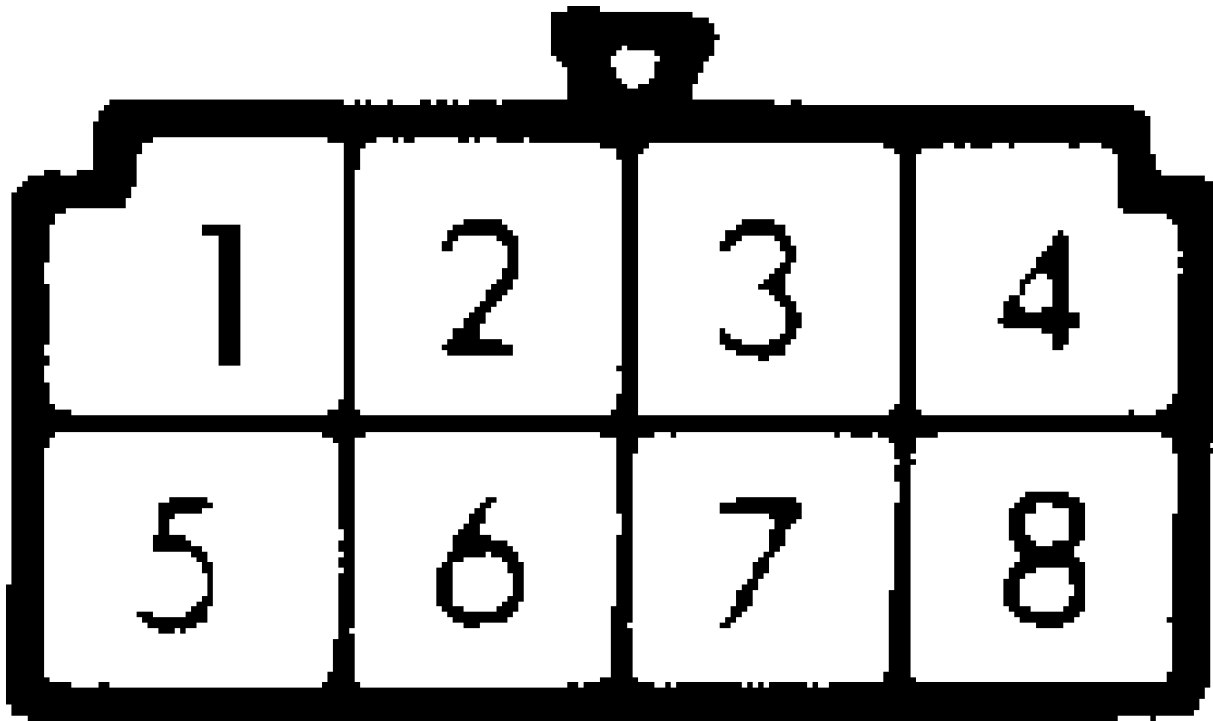
continuity between MFI relay harness connector terminal No. 6 and ECM harness connector terminal No. 108. If continuity exists, go to step 4). If continuity does not exist, check and repair circuits between MFI relay harness connector and ECM.

3) This step checks continuity of circuit between MFI relay and ECM. Check continuity between MFI relay harness connector terminal No. 2 and ECM harness connector terminals No. 12 and 25. If continuity exists, go to step 5). If continuity does not exist, check and repair circuits between MFI relay harness connector and ECM.

4) If MFI relay tests okay in following steps, substitute ECM with known good unit and retest. Measure resistance between MFI relay terminals No. 5 and 7. Resistance should be approximately 90 ohms. Check continuity between terminals No. 6 and 8. Continuity should exist in only one direction. Replace MFI relay if continuity is not as specified.

5) Connect 12-volt power source between relay terminals No. 5 and 7. Connect positive lead to terminal No. 7. With relay energized, battery voltage should exist between terminals No. 1 and 5. With power source removed, voltage should not exist.

6) Move 12-volt power source to relay terminals No. 6 and 8. Connect positive lead to terminal No. 8. With relay energized, continuity should exist between terminals No. 2 and 4 and between terminals No. 3 and 4. With power source removed, continuity should not exist. Replace MFI relay if measurements are not as specified.



94H44559

Fig. 4: Identifying MFI Relay Connectors
Courtesy of Mitsubishi Motor Sales of America.

MFI Relay (Stealth DOHC Calif. & Turbo & 3000GT Calif. & Turbo)

1) This step checks ignition supply voltage to ECM. Disconnect ECM harness connector. Turn ignition on. Using DVOM, measure voltage between ECM harness connector terminal No. 82 and vehicle ground. See Fig. 1. If battery voltage is present, go to step 2). If battery voltage is not present, check and repair circuit between ignition switch and ECM harness connector.

2) This step checks continuity of circuit between MFI relay and ECM. Disconnect ECM harness connector. See ENGINE CONTROL MODULE (ECM) LOCATION table under COMPUTERIZED ENGINE CONTROLS. Using DVOM, check continuity between MFI relay harness connector terminal No. 6 and ECM harness connector terminal No. 38. If continuity exists, go to step 4). If continuity does not exist, check and repair circuits between MFI relay harness connector and ECM.

3) This step checks continuity of circuit between MFI relay and ECM. Check continuity between MFI relay harness connector terminal No. 2 and ECM harness connector terminals No. 12 and 25. If continuity exists, go to step 5). If continuity does not exist, check and repair circuits between MFI relay harness connector and ECM.

4) If MFI relay tests okay in following steps, substitute ECM with known good unit and retest. Measure resistance between relay terminals No. 5 and 7. Resistance should be approximately 90 ohms. Check continuity between terminals No. 6 and 8. Continuity should exist in only one direction. Replace MFI relay if continuity is not as specified.

5) Connect 12-volt power source between relay terminals No. 5 and 7. Connect positive lead to terminal No. 7. With relay energized, battery voltage should exist between terminals No. 1 and 5. With power source removed, voltage should not exist.

6) Move 12-volt power source to relay terminals No. 6 and 8. Connect positive lead to terminal No. 8. With relay energized, continuity should exist between terminals No. 2 and 4 and between terminals No. 3 and 4. With power source removed, continuity should not exist. Replace MFI relay if measurements are not as specified.

SOLENOIDS

EGR Control Solenoid Valve

See EXHAUST GAS RECIRCULATION (EGR) under EMISSION SYSTEMS & SUB-SYSTEMS.

Fuel Pressure Regulator Control Solenoid Valve (Turbo Models)

See FUEL DELIVERY under FUEL SYSTEM.

Purge Control Solenoid Valve

See FUEL EVAPORATION under EMISSION SYSTEMS & SUB-SYSTEMS.

Wastegate Control Solenoid Valve

See TURBOCHARGED under AIR INDUCTION SYSTEMS.

FUEL SYSTEM

FUEL DELIVERY

NOTE: For fuel system pressure testing, see F - BASIC TESTING article in the ENGINE PERFORMANCE Section.

Fuel Pressure Regulator Control Solenoid Valve (Turbo Models)

1) Label and remove vacuum hoses from solenoid valve. Disconnect wiring harness. Connect vacuum pump to nipple where Black vacuum hose was connected. Leave pump connected throughout procedure.

2) Apply vacuum and ensure valve leaks. Plug nipple where Blue-striped hose was connected. Apply vacuum and ensure vacuum holds.

Remove plug from Blue-striped hose nipple. Apply battery voltage across valve terminals. Apply vacuum and ensure vacuum holds.

3) Using an ohmmeter, check resistance across terminals of solenoid. Resistance should be 36-46 ohms at 68°F (20°C). If resistance is not within specification, replace solenoid valve.

4) If resistance is within specification, disconnect solenoid harness connector. Turn ignition on. Using DVOM, measure voltage between harness connector terminal (Red wire) and vehicle ground.

5) If battery voltage is present, go to step 6). If battery voltage is not present, inspect and repair circuit between MFI relay and solenoid. If circuit is okay, inspect MFI relay. See RELAYS under MOTORS, RELAYS & SOLENOIDS. MFI relay is located near ECM, behind radio, under console.

6) Disconnect ECM connector. See ENGINE CONTROL MODULE (ECM) LOCATION table under COMPUTERIZED ENGINE CONTROLS. Connect jumper wire between ECM terminal No. 6 and vehicle ground. See Fig. 1. Using DVOM, measure continuity between solenoid harness connector terminal Blue/Red wire and vehicle ground.

7) If continuity does not exist, check and repair circuit between solenoid and ECM. If continuity exists and all preceding tests do not show any system or component malfunction and ECM is suspected, substitute ECM with known good component and retest.

FUEL CONTROL

Fuel Injectors

See G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

IDLE CONTROL SYSTEM

ELECTRICAL LOAD SWITCH

Stealth DOHC & 3000GT DOHC

1) Disconnect ECM connector. See ENGINE CONTROL MODULE (ECM) LOCATION table under COMPUTERIZED ENGINE CONTROLS. Using DVOM, measure input voltage between terminal No. 24 and vehicle ground. Turn headlights on. Measure voltage. Turn headlights off.

2) Turn defogger on. Measure voltage. Turn defogger off. Depress brake pedal. Measure voltage. Release brake pedal. If any measurement is less than battery voltage, check and repair malfunctioning circuit. See appropriate wiring diagram under L - WIRING DIAGRAMS article in the ENGINE PERFORMANCE Section.

IDLE AIR CONTROL (IAC) MOTOR

CAUTION: DO NOT apply more than 6 volts to IAC motor.

NOTE: For diagnosis and testing information concerning IAC motor position sensor, see G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

Stealth & 3000GT

1) Using a stethoscope, listen for operating sound of IAC motor when ignition switch is placed in ON position. If no operating sound can be heard, proceed with following tests.

2) Disconnect IAC harness connector. Install Test Harness (MD998463-01) if necessary to aid testing. Using DVOM, measure resistance between IAC terminals No. 1 and 2 and between terminals No. 1 and 3. See Fig. 5. Resistance should be 28-33 ohms.

3) Measure resistance between terminals No. 4 and 5 and between terminals No. 5 and 6. Resistance should be 28-33 ohms. If

resistance measurements are not within specification, replace IAC motor. Go to step 4) if IAC motor is within specification.

4) Remove throttle body. See N - REMOVE/INSTALL/OVERHAUL article in the ENGINE PERFORMANCE Section. Remove stepper motor from throttle body. Connect Test Harness (MD998463-01) to IAC motor.

5) Hold IAC motor in hand. Place thumb on top of plunger. Connect positive lead of 6-volt power source to White and Green clips of test harness. Individually connect, then disconnect, negative lead of power source to Red and Black clips, Blue and Black clips, Blue and Yellow clips, and Red and Yellow clips. Finish by connecting negative lead to Red and Black clips again.

6) Connect negative lead to test leads in reverse sequence of step 5). Stepper motor should vibrate with each connection. Replace IAC motor if vibration is not felt with each connection.

7) Ensure MFI relay is functioning properly. See RELAYS under MOTORS, RELAYS & SOLENOIDS. Disconnect IAC motor harness connector. Turn ignition on. Using DVOM, check for battery voltage between terminal No. 2 and vehicle ground and terminal No. 5 and vehicle ground. If voltage is not battery voltage, check and repair circuits between MFI relay and IAC motor. If battery voltage exists, go to step 8).

8) This step checks for continuity between MFI relay and IAC motor. Check for continuity between MFI relay terminals No. 4 and 5 and IAC motor terminals No. 2 and 5. See Figs. 4 and 5. If continuity exists, go to step 9). If continuity does not exist, check and repair circuits.

9) This step checks for continuity between ECM and IAC motor. Disconnect ECM harness connector. Check continuity of specified circuits. See Figs. 1 and 5. See IAC TO ECM CIRCUIT CONTINUITY CHECK table. Check and repair any circuits without continuity.

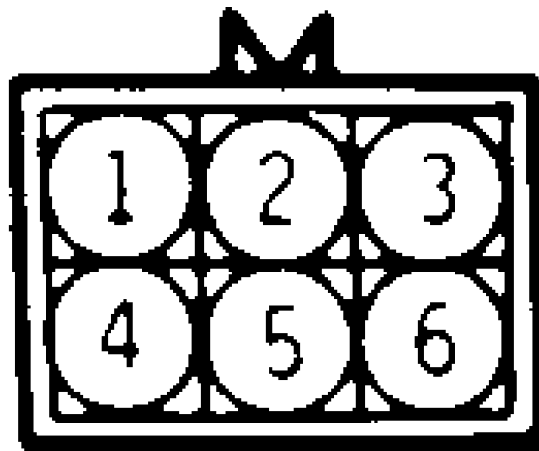
IAC TO ECM CIRCUIT CONTINUITY CHECK TABLE

IAC Terminal No.	ECM Terminal No.
Stealth & 3000GT	
1	4
3	17
4	5
6	18

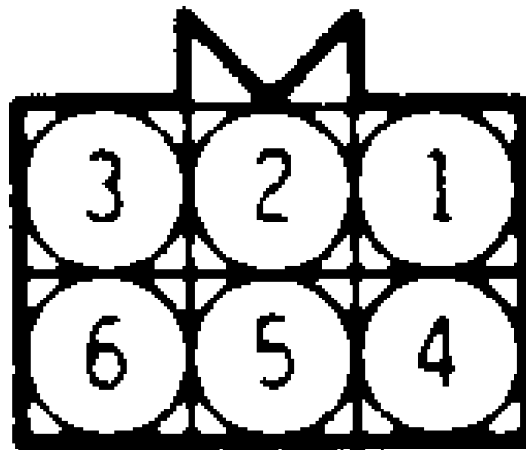
10) Connect ECM harness connector. Install harness connector and Test Harness (MB998463-01). Using engine analyzer with oscilloscope capability, connect special patterns probe to selected leads of test harness. Leads used are Red, Green, Black and Yellow clips.

11) Start engine, and allow it to idle. Connect special patterns probe to one test lead. Turn A/C on. When IAC motor operates to increase engine speed to compensate for A/C system, a waveform should be displayed. Conduct test with each remaining test lead and compare pattern to illustration. See Fig. 2.

12) If waveform is different, replace IAC motor. If all preceding tests do not show any system or component malfunction and ECM is suspected, replace ECM and retest system.



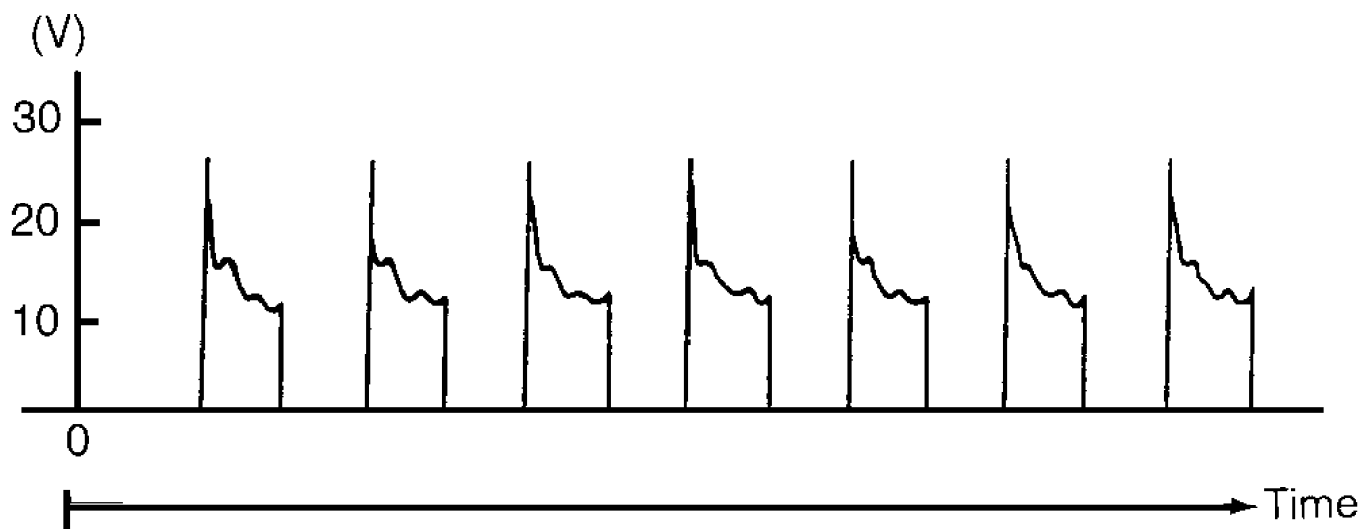
COMPONENT CONNECTOR



HARNESS CONNECTOR

93G78473

Fig. 5: Identifying IAC Motor Connectors (All V6 Models)
Courtesy of Mitsubishi Motor Sales of America.



93H78474

Fig. 6: Identifying Good IAC Motor Waveform
Courtesy of Mitsubishi Motor Sales of America.

IGNITION SYSTEM

NOTE: For basic ignition checks, see F - BASIC TESTING article in the ENGINE PERFORMANCE Section.

TIMING CONTROL SYSTEMS

Camshaft Position Sensor

See G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

Crankshaft Position Sensor

See G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

Knock Sensor

See G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

EMISSION SYSTEMS & SUB-SYSTEMS

EXHAUST GAS RECIRCULATION (EGR)

EGR Temperature Sensor

See G - TESTS W/CODES article in the ENGINE PERFORMANCE Section.

EGR Control Solenoid Valve

1) Label and disconnect both vacuum hoses from solenoid valve. See M - VACUUM DIAGRAMS article in the ENGINE PERFORMANCE Section. Disconnect electrical connector. Connect hand vacuum pump to solenoid valve nipple where Green-striped hose was connected. Apply vacuum to solenoid valve. Vacuum should hold.

2) Apply battery voltage to terminals of solenoid valve. Vacuum should bleed down when voltage is applied to terminals. Using an ohmmeter, check resistance across solenoid valve terminals. Reading should be 36-44 ohms at 68°F (20°C). If reading is not within

specification, replace valve.

3) Disconnect EGR solenoid harness connector. Turn ignition on. Using DVOM, measure voltage at harness connector MFI relay power supply terminal. See EGR CONTROL SOLENOID HARNESS CONNECTOR TERMINAL IDENTIFICATION table.

4) If battery voltage is present, go to step 5). If battery voltage is not present, check and repair circuit between purge solenoid and MFI relay. If circuit is okay, inspect MFI relay. See RELAYS under MOTORS, RELAYS & SOLENOIDS.

5) Disconnect ECM harness connector. See ENGINE CONTROL MODULE (ECM) LOCATION table under COMPUTERIZED ENGINE CONTROLS. Connect jumper wire between ECM terminal No. 6. See Fig. 1.

6) Using DVOM, check for continuity between harness connector ECM control circuit terminal and vehicle ground. See PURGE CONTROL SOLENOID HARNESS CONNECTOR TERMINAL IDENTIFICATION table. If continuity does not exist, check and repair circuit as needed. If continuity exists and preceding tests do not show any system or component malfunction and ECM is suspected, substitute ECM with known good unit and retest system.

EGR CONTROL SOLENOID HARNESS CONNECTOR TERMINAL IDENTIFICATION TABLE

Application	Terminal No.	Wire Color
MFI Relay Circuit		
Stealth & 3000GT	2	Red
ECM Control Circuit		
Stealth & 3000GT	1	Lt. Green/Red

FUEL EVAPORATION

Purge Control Valve

Remove purge control valve. Valve is mounted between canister and purge control solenoid valve. See M - VACUUM DIAGRAMS article in the ENGINE PERFORMANCE Section. Apply vacuum to diaphragm of vacuum valve. Valve should begin opening at approximately 15.7 in. Hg. Observe operation of valve through by-pass opening.

Purge Control Solenoid Valve

1) Label and disconnect both vacuum hoses from solenoid valve. Disconnect electrical connector. Connect hand vacuum pump to solenoid valve nipple where Red-striped hose was connected. Apply vacuum to solenoid valve. Vacuum should hold.

2) Apply battery voltage to terminals of solenoid valve. Vacuum should bleed down when voltage is applied to terminals. Using an ohmmeter, check resistance across solenoid valve terminals. Reading should be 36-44 ohms at 68°F (20°C). If reading is not within specification, replace valve.

3) Disconnect purge solenoid harness connector. Turn ignition on. Using DVOM, measure voltage at harness connector MFI relay power supply terminal. See PURGE CONTROL SOLENOID HARNESS CONNECTOR TERMINAL IDENTIFICATION table.

4) If battery voltage is present, go to step 5). If battery voltage is not present, check and repair circuit between purge solenoid and MFI relay. If circuit is okay, inspect MFI relay. See RELAYS under MOTORS, RELAYS & SOLENOIDS.

5) Disconnect ECM harness connector. See ENGINE CONTROL MODULE (ECM) LOCATION table under COMPUTERIZED ENGINE CONTROLS. Connect jumper wire between ECM terminal No. 9 and vehicle ground. See Fig. 1.

6) Using DVOM, check for continuity between harness connector

ECM control circuit terminal and vehicle ground. See PURGE CONTROL SOLENOID HARNESS CONNECTOR TERMINAL IDENTIFICATION table. If continuity does not exist, check and repair circuit as needed. If continuity exists and preceding tests do not show any system or component malfunction and ECM is suspected, substitute ECM with known good unit and retest system.

PURGE CONTROL SOLENOID HARNESS CONNECTOR TERMINAL IDENTIFICATION TABLE

Application	Terminal No.		Wire Color
MFI Relay Circuit			
Stealth & 3000GT	2 Red
ECM Control Circuit			
Stealth & 3000GT	1 Lt. Green/Blue

POSITIVE CRANKCASE VENTILATION (PCV)

PCV Valve

Remove PCV valve. Shake valve by hand. Valve should rattle if moving freely. Apply air pressure to valve. Air should flow in one direction only. Connect PCV valve to vacuum hose and start engine. Ensure vacuum is flowing through valve.

MISCELLANEOUS CONTROLS

NOTE: Although some of the controlled devices listed here are not technically engine performance components, they can affect driveability if they malfunction.

A/C Switch & Compressor Clutch Relay

Using DVOM, measure power supply voltage of ECM. Disconnect ECM connector. Turn A/C switch and ignition switch to ON positions. Measure voltage between specified ECM terminals and vehicle ground. See A/C POWER ECM TERMINAL LOCATION table. Voltage should be 6 volts or greater. If voltage is not battery voltage, check and repair circuit.

A/C POWER ECM TERMINAL LOCATION TABLE

Application	(1) Terminal No.
Stealth & 3000GT (Calif. & Turbo) 22 & 45
Stealth & 3000GT (Fed. & Non Turbo) 22 & 115

(1) - See Fig. 1.