



# 2003 Protegé Intake Manifold Shutter and Variable Tumble Control Valves Emission Recall [3005C]

TO: All Mazda Dealers

**ATTENTION:** All General Managers, Service Managers, and Parts Managers

SUBJECT: 2003 Protégé

**Intake Manifold Shutter and Variable Tumble Control Valve** 

Recall 3005C

#### Dear **Mazda** Dealer:

**Mazda Motor Corporation** has decided that certain 2003 model year Mazda Protegé vehicles produced from March 3, 2003 through July 31, 2003 may fail to conform to California and federal emission standards.

On certain 2003 Protegé vehicles, the tightening torque of the screws used for mounting the intake manifold shutter valve may have been lower than the specification. Engine vibration, air pulsation and normal action of the valve may cause the mounting screws to loosen or fall out. This may cause rough idling, noise and/or Malfunction Indicator Lamp (MIL) illumination to engine misfiring adversely affecting the exhaust emissions.

# Note: This excludes the Mazda Speed Protégé models.

Mazda has decided to conduct an Emission Recall Campaign to inspect and replace the intake manifold shutter and variable tumble control valves mounting screws and gaskets or, if necessary, the intake manifold assembly.

The National Traffic and Motor Vehicle Safety Act prohibits selling or leasing any subject vehicle without performing the applicable recalls and can result in minimum \$5,000 per vehicle per recall fine and possible other penalties from the Federal Government. Therefore, you must complete this recall for all affected new and previously owned vehicles in your inventory prior to delivery. You can use the most recent version of report number JS30R165-1 "RECALL REMINDER REPORT" to find a listing of new "VEHICLES IN STOCK" for this campaign.

Owners of affected vehicles will be notified by first class mail on December 16, 2005.

This package contains important information about recall campaign 3005C:

	•	
Attachment I	Dealer Service and Parts information	
Attachment II	Inspection and Repair procedures	

Important notice: California Department of Motor Vehicles, Vermont Department of Motor Vehicles, and the Commonwealth of Massachusetts, in conjunction with the California Air Resources Board and the Environmental Protection Agency for the State of Massachusetts and

Vermont, have implemented the Registration Renewal/Recall Tie-In Program, which requires the completion of Emission Recalls prior to registration renewal. **Mazda dealers must provide a Vehicle Emission Recall – Proof of Correction Certificate** upon completion of the recall. **Instruct owners to keep the certificate until needed for registration renewal** 

To help you effectively perform this recall, Mazda has developed the following resources:

- 1. Service and Parts recall instructions follow (Attachment I), were e-mailed to your Service Department, and are also available on eMDCS and the MS3/ESI website.
- 2. Inspection and repair procedures follow (Attachment II), were e-mailed to your Service Department, and are also available on eMDCS and the MS3/ESI website.
- 3. We recommend using the enclosed report of registered owners in the dealer's area and the quarterly "Recall Reminder Report" to encourage customers to come in for the recall (with recall reminder postcards, for example). Dealers may use such owner information for the sole purpose of conducting and performing this recall, and for no other purpose. Using it for marketing activities is strictly prohibited and could subject your dealership to substantial fines and other penalties. The information in this report is protected by state privacy and other applicable laws regarding disclosure of personal and/or confidential, restricted or blocked information. It is the dealer's responsibility to protect the confidentiality of owner records and prevent the release of information to other parties.

In California, privacy laws prevent the release of names and addresses on this report.

- 4. For technical assistance, call the Technical Assistance Hotline at (888) 832-8477.
- 5. For warranty questions, contact the Mazda Corporate Dealer Assistance Group at (877) 727-6626. Select Option 2.

Please make certain that the appropriate personnel in your dealership are aware of these resources and are familiar with the details of this recall before responding to customer inquiries. If you have any questions, please contact your region manager or DCSM.

A rental car may be provided to the customer, **if eligible**, based on the terms and conditions of the Rental Car Reimbursement Program, policy 12.0. Rental car reimbursements are available only on 2001 and newer vehicles within the mileage and time limitations under the New Vehicle Limited Warranty.

We apologize for any inconvenience this program may cause you and your personnel. Your understanding and support in carrying out this campaign is greatly appreciated.

Sincerely,

**MAZDA NORTH AMERICAN OPERATIONS** 

#### **CONDITION OF CONCERN**

On certain 2003 Protegé vehicles, the tightening torque of the screws used for mounting the intake manifold shutter valve may have been lower than the specification. Engine vibration, air pulsation and normal action of the valve may cause the mounting screws to loosen or fall out. This may cause rough idling, noise and/or Malfunction Indicator Lamp (MIL) illumination to engine misfiring adversely affecting the exhaust emissions.

#### SUBJECT VEHICLES

Model	VIN Range	Build Date Range
2003 Protegé	JM1BJ**** 3* 181114 - JM1BJ**** 3* 219674	March 3, 2003 through July 31, 2003

Note: The asterisk symbol " \* " can be any letter or number

<u>Please</u> perform a Warranty Vehicle Inquiry using eMDCS to determine if this vehicle needs the recall performed.

#### **OWNER NOTIFICATION**

Owners of affected vehicles will be notified by mail on December 16, 2005.

#### PARTS INFORMATION

Description	Part Number	Quantity	
GASKET SET	FSY1-13-SRZ	1	GASKET SET
MANIFOLD SET	FSY3-13-SRY	1 if needed	MANIFOLD SET
Campaign Label	9999-95-065A-00	1=sheet of 18 labels	MStore (no charge)
Vehicle Emission Recall – Proof of Correction Certificate*	9999-95-ERPC-99	1=50 certificates	MStore (no charge)

<sup>\*</sup> Important notice: California Department of Motor Vehicles, Vermont Department of Motor Vehicles, and the Commonwealth of Massachusetts, in conjunction with the California Air Resources Board and the Environmental Protection Agency for the State of Massachusetts and Vermont, have implemented the Registration Renewal/Recall Tie-In Program, which requires the completion of Emission Recalls prior to registration renewal. Mazda dealers must provide customers with a Vehicle Emission Recall - Proof of Correction Certificate upon completion of the recall.

#### **PARTS ORDERING**

An initial shipment of Gasket Sets will be shipped to dealers based on the number of vehicles registered in their area. If, after December 16 you require additional Gasket Sets, they can be ordered through the normal eMDCS parts ordering process. If you require a manifold set, it too can be ordered through eMDCS.

Use **MStore** to order additional Campaign labels (1=sheet of 18 labels) and Vehicle Emission Recall – Proof of Correction certificates (1=50 certificates).

#### SPECIAL SERVICE TOOL

Tool Description	M-Store Part Number	Quantity
Torque Driver Set	MT05-A1-001	1
Jig	FS7N-20-150	5
Jig	FS8N-20-150	5

An initial shipment of a Torque Driver Set and Jigs will be shipped to dealers directly from the vendor. Additional Torque Driver Sets and Jigs can be ordered through M-Store. They cannot be ordered on the eMDCS Parts Ordering system. These parts are not inventoried at the PDCs.

# **WARRANTY CLAIM PROCESSING INFORMATION**

	Inspection Only*	Replacement of Screws & Gaskets		Replacement of Intake Manifold	
Warranty Type Code	R	R		R	
Symptom Code	99	99		99	
Damage Code	99	99		99	
Process Number	A0503L	A0503H		A0503H	
Part Number Main Cause	FS7N-13-100E or FS7N-13-100F	FSY1-13-SRZ		FSY3-13-SRY	
Quantity	0	1		1	
Labor Operation Code	XXB216R1	XXB048R1	XXB048R2	XXB048R3	XXB048R4
Labor Hours	0.7 hrs. (includes compression test and attachment of recall label)	1.8 hrs. (without inspection for engine compression or spark plug)	2.4 hrs. (includes inspection for engine compression and spark plug)	1.6 hrs. (without inspection for engine compression or spark plug)	2.2 hrs. (includes inspection for engine compression and spark plug)

NOTE: \* Inspection Only: For the vehicle where the intake manifold has previously been replaced during a prior repair. Refer to Repair Procedure "A".

#### **RENTAL CAR**

A rental car may be provided to the customer, if eligible, based on the terms and conditions of the Rental Car Reimbursement Program, policy 12.0. Rental car reimbursements are available only on **2001** and **newer vehicles** within the mileage and time limitations under the New Vehicle Limited Warranty. If the customer was placed in a rental car while the campaign was being completed, add a sublet to the claim using the information below.

**Rental claims** for vehicles beyond the New Vehicle Limited Warranty require **DSA** or **DCSM Authorization**.

#### Sublet - Rental Car:

	Rental Car		
Warranty Type Code	A		
Symptom Code	99		
Damage Code	99		
Part Number Main Cause	5555-RE-NTAL		
Part Quantity	0		
Labor Operation Code	MM012XRX		
Labor Hours	0.0		
Sublet – Rental Car			
Sublet Invoice Number	Number from Rental Invoice or Dealer Purchase Order		
Sublet Type Code	Enter "L"		
Sublet Amount	Up to \$26.00 per day for the number of days customer had rental car		

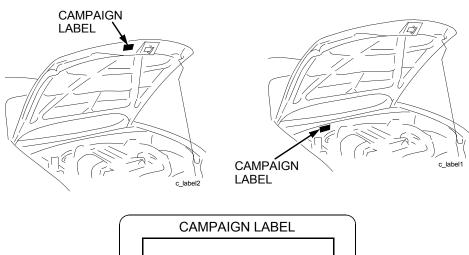
Rental expenses that exceed the two-day limit will require DSA or prior DCSM Authorization, as outlined in the Rental Car Reimbursement Program Policy.

### VEHICLE INSPECTION PROCEDURE

NOTE: MAZDASPEED Protege is not subject to this recall campaign because it has a different intake manifold.

- 1. Verify that the vehicle is within the following range:
  - 2003MY Protege VIN Range: (JM1 BJ\*\*\*\* 3\* 181114 JM1 BJ\*\*\*\* 3\* 219674)
  - If the vehicle is within the above range, proceed to step 2.
  - If the vehicle is not within the above range, return the vehicle to the customer or inventory.
- 2. Perform a Warranty Vehicle Inquiry using your eMDCS System and inspect vehicle for a Campaign Label RECALL 3005C attached to the vehicle's hood or bulkhead. Refer to eMDCS System - Warranty Vehicle Inquiry Results table below.

**NOTE:** Verify RECALL number as the vehicle may have multiple RECALLs.



**CAMPAIGN NO:** DEALER CODE:\_ DATE: P/N 9999-95-065A-05

# **eMDCS System - Warranty Vehicle Inquiry Results**

If eMDCS displays:	Campaign Label is:	Action to perform:
	Present	Contact the Mazda Corporate Dealer Assistance Group at (877) 727-6626 to update vehicle history.
RECALL 3005C OPEN	Not present	Review Vehicle Warranty History in eMDCS to determine if any previous replacement of the intake manifold is indicated. PNMC FS7N-13-100E or F, Quantity 1.  If the warranty history shows the intake manifold has been replaced with either an FS7N-13-100E or FS7N-13-100F part number intake manifold, proceed to REPAIR PROCEDURE "A".  If the warranty history shows the intake manifold has not been replaced or it has been replaced with a part number that is not an FS7N-13-100E or FS7N-13-100F part number intake manifold, proceed to REPAIR PROCEDURE "B".
RECALL 3005C	Present	Return vehicle to inventory or customer.
CLOSED	Not present	Complete a label and apply to vehicle's hood or bulkhead.
RECALL 3005C is not displayed	Does not apply	RECALL does not apply to this vehicle. Return vehicle to inventory or customer.

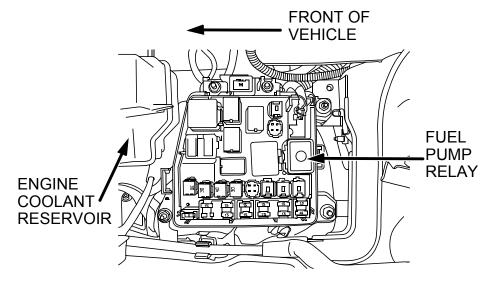
#### **REPAIR PROCEDURES**

#### **WARNING:**

- When the engine and intake-air system are hot, Severe Burns Can Occur. Turn off the engine and wait until they are cool before removing the intake-air system.
- Fuel vapor is hazardous. It can easily ignite, causing serious injury and damage. Always keep sparks and flames away from fuel.
- Fuel line spills and leakage are dangerous. Fuel can ignite and cause serious injuries or death and damage. Fuel can also irritate skin and eyes. To prevent this, always complete the "Fuel Line Safety Procedure". (See Workshop Manual 01-14 BEFORE REPAIR PROCEDURE.)

# **REPAIR PROCEDURE "A"**

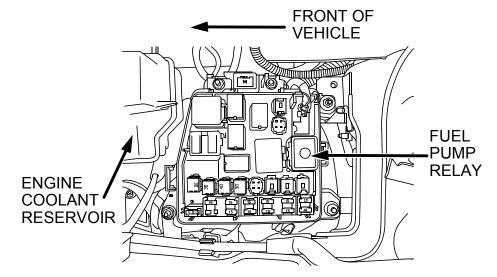
1. Start engine and remove fuel pump relay from main fuse box under hood. Allow engine to stall. This will ensure fuel pressure is relieved before starting any inspections or disassembly.



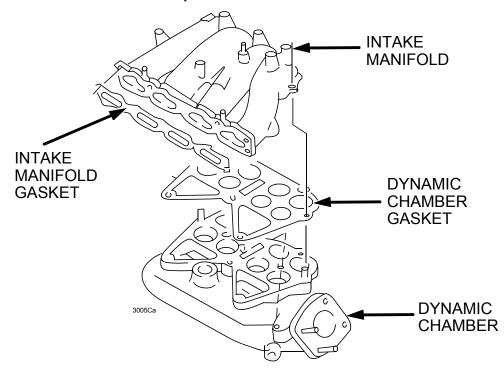
- 2. Remove spark plugs and perform a compression test per the procedure in the 03MY Protégé WSM page 01-10B-8.
  - If the compression test results confirm the engine compression to be in the normal range, reinstall the spark plugs, install a Recall Label in the prescribed location and return the vehicle to the customer.
  - If the compression test results confirm the engine compression to be lower than the normal range, contact the National Technical Hotline for further instructions.

# **REPAIR PROCEDURE "B"**

1. Start engine and remove fuel pump relay from main fuse box under hood. Allow engine to stall. This will ensure fuel pressure is relieved before starting any inspections or disassembly.



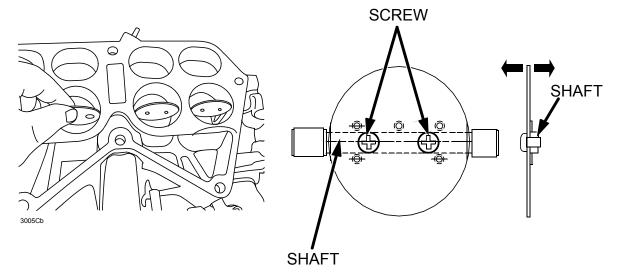
- 2. Remove the intake manifold assembly from the vehicle according to the Workshop Manual, page 01-13b-6.
- 3. Separate the intake manifold from the dynamic chamber.



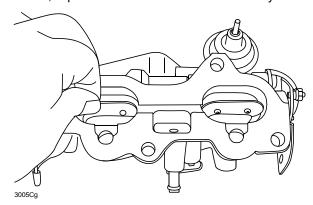
- 4. Inspect for missing and or loose Variable Inertia Charging System (VICS) and Variable Tumble Control System (VTCS) shutter valve screws and or plates.
  - If any screws or plates (VICS or VTCS) are found to be missing, inspect the dynamic chamber for loose parts and inspect the intake runners in the cylinder head to determine if the missing parts have become lodged in the head.
    - If any parts are found in the dynamic chamber or the head, remove the parts using an appropriate tool, then perform a compression test to determine if any internal engine damage has occurred (the compression test can be performed without reinstalling the intake manifold).
      - If NO internal damage is indicated, proceed with the intake manifold replacement. If the compression test indicates internal damage has occurred, contact the National Technical Hotline for instructions.
  - If no loose parts are found in the dynamic chamber or the head, then proceed to testing the compression.

NOTE: The compression test can be performed without reinstalling the intake manifold.

- If the compression test indicates NO internal damage is evident, proceed with the intake manifold replacement.
- If the compression test indicates internal damage has occurred, contact the National Technical Hotline for instructions.
- If no screws or plates are missing, check the torque condition of the VICS plate retaining screws. To check for looseness of the VICS plates to the shaft, pinch the valve with your fingers then push and pull in an up and down and then a back and forth motion to see if there is any looseness between valve and the shaft.
  - If there is no looseness; proceed to the VICS Plate Screw Replacement Procedure.
  - If there is looseness; check the valve plates and intake manifold ports to see if there is any visible damage.
    - If no damage is observed, proceed to VICS Plate Screw Replacement Procedure.
    - If any damage is observed, replace the intake manifold assembly.



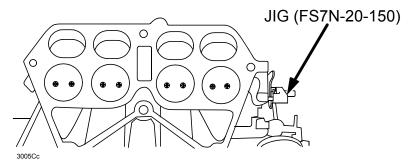
- Check the installation condition of Variable Tumble Control System (VTCS) shutter valve and shaft in the
  intake manifold. To check the torque condition of the VTCS screws, pinch the valve with your fingers (use
  the same motion procedure as used to check the VICS plates) to see if there is looseness in the valve and
  shaft.
  - If there is NO looseness in any of the plates; proceed to VTCS Screw Replacement Procedure.
  - If there is looseness, check the valve and intake manifold port to see if there is any damage.
    - If NO damage is observed, proceed to VTCS Screw Replacement Procedure.
    - If any damage is observed, replace the intake manifold assembly.



# **VICS Screw Replacement Procedure**

To keep the valves closed during the screw replacement procedure, fit a retaining jig part number FS7N-20-150 in the lever as shown.

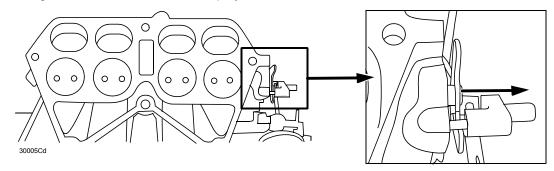
NOTE: Fitting the jig can be simplified by applying vacuum to the actuator with a hand vacuum pump.



- 1. Replace each valve's screw with a new one according to the following procedures.
  - If NO looseness is observed between the valve and shaft; remove and replace each valve's screws
    with new screws, one by one. Tighten them as you install them to the specified torque using the SST P/N
    MT05-A1-001 (torque screwdriver Set torque: 1.0 N.m).

**CAUTION:** Please be careful if the two screws are loosened at the same time, the valve shaft's location will vary and will come into contact with the port. This will cause the valve to get damaged or stuck.

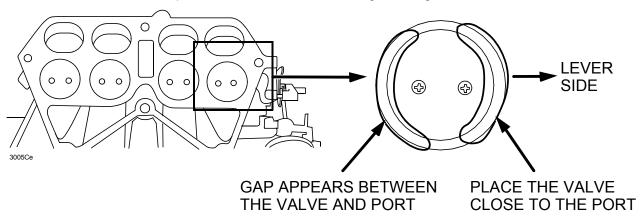
- If looseness IS observed between the valve and shaft, perform the following procedure.
  - a. Using a flat screwdriver, move the play of the shaft toward the lever.



b. Loosen the two screws until the valve is just free to move.

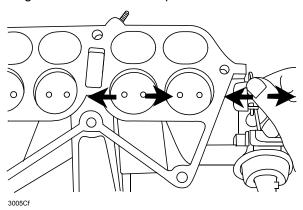
c. First, remove one screw, then move the valve toward the lever, install and tighten a new screw using the SST (torque screwdriver). Repeat the same procedure for the other new screw.

**CAUTION:** Make sure the valve is in the correct position. Otherwise, the valve will come into contact with the port. This will cause the valve to get damaged or stuck.



- 2. Remove the jig from the lever. Move the lever by hand to confirm it functions normally.
  - a. Make sure all the valves move smoothly.
  - b. Move the lever by hand to firmly close the valve. With the valve closed, move the lever toward the shaft back and forth and make sure the shaft and valves move together.

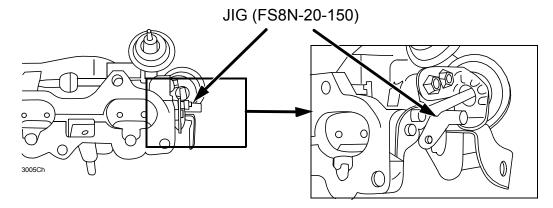
**CAUTION:** If they do not move together, there is a possibility that valves are touching the port. Loosen the screws until the valves are just free to move, and then re-adjust the location of each valve according to the VICS Screw Replacement Procedure "B"



# **VTCS** Screw Replacement Procedure

1. To close the valve, fit a jig part number FS8N-20-150 in the lever.

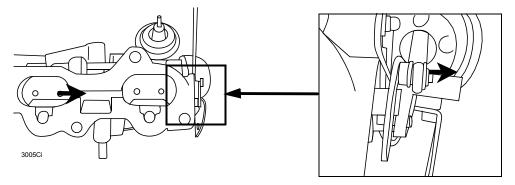
NOTE: Fitting the jig can be simplified by applying vacuum to the actuator with a hand vacuum pump.



- 2. Replace each valve's screw with a new one according to the following procedure.
  - **If no looseness is observed in the valve and shaft**; replace each valve's screw with a new one, one by one, tightening each screw as it is replaced using the SST (torque screwdriver).

**CAUTION:** Please be careful if the two screws are loosened at the same time, the valve shaft's location will vary and will come into contact with the port. This will cause the valve to get damaged or stuck.

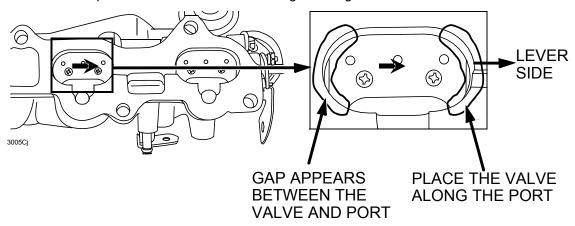
- If looseness is observed in the valve and shaft, perform the following procedure.



- a. Using a flat screwdriver, move the play of the shaft toward the lever.
- b. Loosen the two screws until the valve is just free to move.

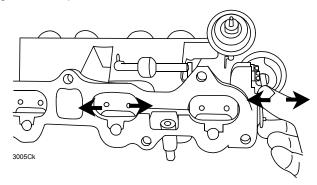
c. First remove one screw. Then, by moving the valve toward the lever, tighten a new screw using an SST (torque screwdriver). Do the same on the other new screw.

**CAUTION:** Make sure the valve is in position. Otherwise, the valve will come into touch with the port. This will cause the valve to get damaged or stuck.



- 3. Remove the jig from the lever. Move the lever by hand to confirm it functions normally.
  - a. Make sure the valves moves smoothly.
  - b. Move the lever by hand to firmly close the valve. With the valve closed, move the lever toward the shaft back and forth and make sure the shaft and valves move together.

**CAUTION:** If they do not move together, there is a possibility that a valve is touching the port. Loosen the screws until valves are just free to move, and then re-adjust the location of each valve according to the Step 2 "If looseness is observed in the valve and shaft".



- 4. Reinstall the parts in the reverse order of the removal.
- 5. Make sure each part is installed in the correct position and functions properly according to the Workshop Manual.
- 6. Reinstall fuel pump relay into main fuse box.
- 7. Start engine and check for leaks in the fuel system.

#### **CAMPAIGN LABEL INSTALLATION**

Complete a "Campaign Label" with the RECALL 3005C written on the sticker and affix it to the vehicle's hood or bulkhead. Refer back to the illustration under "VEHICLE INSPECTION PROCEDURE".