



GENERAL MOTORS NORTH AMERICA
Safety Center

RECEIVED
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DEFECTS INVESTIGATION

October 5, 2000

Mr. K. N. Weinstein
Associate Administrator for Safety Assurance
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

00V-309(01)

Dear Mr. Weinstein:

The following information is submitted pursuant to the requirements of 49 CFR 573.5 as it applies to a determination by General Motors of a noncompliance involving certain 2000 and 2001 Saturn S-Series vehicles.

573.5(c)(1): Saturn Corporation, a subsidiary of the General Motors Corporation.

573.5(c)(2)(3)(4): This information is shown on the attached sheet.

573.5(c)(5): Saturn has decided that certain 2000 and 2001 Saturn S-Series vehicles fail to conform to Federal Motor Vehicle Safety Standard (FMVSS) 301, "Fuel System Integrity." Some of these vehicles have been produced with an inadequate vent valve weld on the top portion of the fuel tank. Fuel spillage could occur during refueling or if the vehicle were involved in a rollover. If an ignition source were present, a fire could occur.

573.5(c)(7): The following chronology of principal events led to the determination of a defect:

- August 11, 2000: Saturn identified two field reports of fuel tank replacements on 2001 coupes. The vehicles were both built the week of June 19, 2000.
- August 15, 2000: Saturn Supplier Quality notified the fuel tank supplier (Walbro) of the field reports.
- September 2000: An analysis of warranty data was conducted. The analysis showed 11 fuel tanks being replaced over a period of approximately four weeks. Traceability information on 7 of the 11 failed tanks showed that they were manufactured by the supplier between June 14, 2000 and June 16, 2000. The Saturn build dates for the suspect fuel tanks ranged from June 21, 2000 through June 26, 2000.
- September 2000: Analysis of defective assemblies identified interference between the valve and the fuel tank opening. This was caused by shrinkage of the valve hole from excessive initial heating of the weld pad. The excessive heat was caused by a faulty thermocouple resulting in bad welds. Defective parts were able to pass through the system because the quality auditor did not contain the suspect product when a failed weld was discovered during destructive testing. The other control, the helium tester, was unable to detect all cold welds.
- October 4, 2000: The decision was made to conduct a safety recall.

Product Investigations

Mail Code: 480-106-304 • 30500 Mound Road • Warren, MI 48090-9055
Phone: (810) 998-8029 • Fax: (810) 947-2318
573.doc



Letter to Mr. K. N. Weinstein
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October 5, 2000
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573.5(c)(8): This information is included in service procedure of the attached dealer campaign bulletin.

573.5(c)(9): Draft copies of the owner letter and the dealer bulletin are attached. GM plans to begin this campaign in October 2000. Final copies of the owner letter and dealer bulletin will be forwarded to NHTSA when they are available.

Sincerely,


Frank C. Sorye, Jr.
Director
Product Investigations

1971 / 00081
Attachments

573.6(c)(2),(3),(4)

VEHICLES POTENTIALLY AFFECTED BY MAKE, MODEL, AND MODEL YEAR
PLUS INCLUSIVE DATES OF MANUFACTURE

<u>MAKE</u>	<u>MODEL SERIES</u>	<u>MODEL YEAR</u>	<u>NUMBER INVOLVED</u>	<u>INCLUSIVE MANUFACTURING DATES (FROM) _____ (TO)</u>		<u>DESCRIPTIVE INFO. TO PROPERLY IDENT. VEH.</u>	<u>EST. NO. W/CONDITION</u>
Saturn	S-Series	2000	4,872	1/00	6/00	All Models	* Unknown
Saturn	S-Series	2001	1,420	3/00	7/00	All Models	"
Grand Total:			6,092				

* All affected vehicles will be corrected.

1971 / 00081

001-309 (3)

00V-30909



**DRAFT 6 - 09/25
- 7:00 AM**

NO: 01-C-02
Non-Compliance
DATE: October, 2000
CATEGORY TYPE: Engine-01
CATEGORY: Fuel

PRODUCT CAMPAIGN BULLETIN

SUBJECT: INSPECTION OF FUEL TANK SERIAL NUMBER AND REPLACEMENT, IF NECESSARY

YEAR and MODEL: 2000 - 2001 SATURN S-SERIES VEHICLES (ALL MODELS)

TO: ALL SATURN RETAILERS and AUTHORIZED SERVICE PROVIDERS

The Highway Safety Act, as amended, provides that each vehicle which is subject to a recall campaign of this type must be adequately repaired within a reasonable time after the owner has tendered it for repair. A failure to repair within sixty (60) days after tender of a vehicle is prima facie evidence of failure to repair within a reasonable time.

If the condition is not adequately repaired within a reasonable time, the owner may be entitled to an identical or reasonably equivalent vehicle at no charge, or to a refund of the purchase price less a reasonable allowance for depreciation.

To avoid having to provide these burdensome remedies, every effort must be made to promptly schedule an appointment with each owner and to repair their vehicle as soon as possible. As you will see in reading the attached copy of the owner letter, the owners are being instructed to contact the Saturn Customer Assistance Center if their Retailer does not remedy the condition within five (5) days of the mutually agreed upon service date. If the condition is not remedied within a reasonable time, owners are instructed on how to contact the National Highway Traffic Safety Administration.

DEFECT INVOLVED

Saturn has decided that certain 2000 and 2001 S-Series Saturn vehicles fail to conform to Federal Motor Vehicle Safety Standard (FMVSS) 301, "Fuel System Integrity." Some of these vehicles have been produced with an inadequate vent valve weld on the top portion of the fuel tank. Fuel spillage could occur during refueling or if a vehicle were involved in a rollover. If an ignition source were present, a fire could result.

SATURN bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer." They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your **SATURN** Retailer for information on whether your vehicle may benefit from the information.

To prevent the possibility of this condition occurring, Saturn retailers will inspect, and, if necessary, replace the fuel tank assembly.

VEHICLES INVOLVED

Only selected 2000 – 2001 model year Saturn S-Series vehicles within the following VIN ranges will require this campaign.

2000 Model Year VIN Range (All Models) = YZ262962 – YZ267976

2001 Model Year VIN Range (Coupe Only) = 1Z116256 – 1Z117687

2001 Model Year VIN Range (All Models) = 1Z200071 – 1Z200150

You must verify campaign involvement through your AS400 system. It is important to note that campaign claims will only be paid on involved vehicles.

OWNER NOTIFICATION

Owners of all involved vehicles will be notified of this campaign by Saturn. (Refer to the owner letters included in this bulletin.)

FACILITY VIN LISTING

A list of vehicles assigned to you (Facility VIN Listing), which our records indicate were sold by or shipped to you, (or are located in close proximity to your facility) is enclosed.

This listing contains:

- Owner's name with address and telephone number;
- Complete vehicle identification number (VIN); and
- VINs of vehicles, which according to Saturn records are in retail stock.

The Facility VIN Listing (with owner information) is furnished to involved Retailers with the Product Campaign Bulletin. Although these vehicles are assigned to your facility, it is important to note that owners may elect to have their vehicle serviced at the Saturn Retail Facility of their choice.

Those Retailers not involved initially in this campaign will receive a message at the top of a blank Facility VIN Listing that states: **NO VEHICLES ASSIGNED AT THIS TIME FOR CAMPAIGN 01-C-02.**

RETAILER RESPONSIBILITY

All unsold vehicles in Retailers' possession and subject to this campaign must be held at the retail facility and repaired per the service procedure of this campaign bulletin before owners take possession of these vehicles.

Retailers are to service all vehicles subject to this campaign at no charge to owners, regardless of mileage, age of vehicle, or ownership, from this time forward.

Owners of vehicles recently sold from your vehicle inventory are to be contacted by the Retailer and arrangements made to make the required correction according to the procedure contained in this bulletin.

In summary, whenever a vehicle subject to this campaign enters your vehicle inventory, or is in your retail facility for service in the future, please take the steps necessary to be sure the campaign correction has been made before selling or releasing the vehicle.

This bulletin is notice to you that the new motor vehicles included in this campaign may not comply with the standard previously identified. Under 49 U.S.C. section 30112 of the Highway Safety Act as amended, it is illegal for a retailer to sell a new motor vehicle which the retailer knows does not comply with an applicable Federal Motor Vehicle Standard. As a consequence, if you sell any of these motor vehicles without first performing the campaign correction, your retail facility may be subject to a civil penalty up to \$1,100 for each such a sale.

TRANSFER OF CAMPAIGN RESPONSIBILITY

Saturn vehicles that have been sold by you, which may be closer in proximity to another Saturn Retailer, may still appear on your Facility VIN Listing. If either you or the vehicle owner determines that it is more desirable for a vehicle on your Facility VIN Listing to be serviced by another Saturn Retailer, or if the customer's address has recently changed, campaign responsibility may be transferred by completing the following:

- Submit a Campaign Vehicle Action Report to your Customer Assistance Manager (CAM) at the Saturn Customer Assistance Center.

– OR –

- Submit an update in owner information to the Saturn Owner of Record system, via SERVICELINE XL, for Saturn Customer Assistance Center review and approval.

A copy of the Campaign Vehicle Action Report is included for your reference. Additional copies can be ordered from Saturn Publications (1-800-828-2112, prompt 3, Item # S0397050). All changes to campaign responsibility will be reflected in your next Unfixed VIN Report.

All other changes in vehicle status (e.g., scrapped, stolen, etc.) are to be made in accordance with section 4.4.3 of the Retailer Service Reference Guide, "Notifying Saturn of Vehicle Status Change."



CAMPAIGN VEHICLE ACTION REPORT

VIN:	_____
CAMPAIGN NO(S):	_____, _____, _____
FACILITY CODE:	_____

CHANGE VEHICLE STATUS TO (PLACE AN [X] IN THE APPROPRIATE SPACE):

<input type="checkbox"/> VEHICLE STOLEN	VEHICLE STOLEN: _____
	POLICE RPT. NO.: _____
<input type="checkbox"/> VEHICLE SCRAPPED	DATE SCRAPPED: _____
<input type="checkbox"/> OWNER UNRESPONSIVE / UNREACHABLE	SUPPORTING DOCUMENTATION: _____
<input type="checkbox"/> VEHICLE TRADED TO: RETAILERS NAME: _____	RETAILER CODE: _____
<input type="checkbox"/> VEHICLE EXPORTED	EXPORT DEST.: _____

CHANGE OF OWNERSHIP INFORMATION:

_____	_____
(OWNERS FIRST NAME)	(LAST NAME)

(STREET ADDRESS)	

(CITY, STATE/COUNTRY, ZIP CODE)	

COMMENTS:

THE ABOVE INFORMATION IS, TO THE BEST OF MY KNOWLEDGE, ACCURATE AND COMPLETE AS SHOWN, IN ACCORDANCE WITH THE CAMPAIGN REPORTING REQUIREMENTS UNDER FEDERAL MOTOR VEHICLE SAFETY STANDARDS.

_____	_____
(AUTHORIZED RETAIL REPRESENTATIVE, TITLE)	(CUSTOMER ASSISTANCE MANAGER or DESIGNEE)
CUSTOMER ASSISTANCE MANAGER APPROVAL (YES/NO): _____	
IF NO, REASON: _____	

WHEN COMPLETE:
 RETAILER: SEND TO CUSTOMER ASSISTANCE MANAGER:
 SATURN CUSTOMER ASSISTANCE CENTER
 100 SATURN PARKWAY MAIL DROP 5-04
 SPRING HILL, TN 37174

CUSTOMER ASSISTANCE MANAGER: SEND APPROVED FORMS TO CAMPAIGN COMPLIANCE COORDINATOR
 SEND REJECTED FORMS, ALONG WITH REASON, BACK TO THE SUBMITTING RETAILER.

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PARTS INFORMATION

1. A pre-shipment of fuel tank assemblies and components required to perform this campaign has been automatically sent to each Retailer from Saturn Service Parts Operations (SSPO). These initial parts shipments are to aid the Retailers in campaign preparation and will ensure minimal customer inconvenience. Further shipments will automatically be sent at a later date to fulfill your forecasted parts requirements.
2. Should additional parts be required, please order as needed.
3. **Required Parts:**

Part Number	Description	Quantity Required
21007370*	Tank Asm - Fuel	1
21008100*	Seal - Fuel Sdr (O-Ring)	1
21020792*	Strap - Tie (8 per package)	1 (per 8 vehicles)
21007292	Retainers - Fuel Feed Pipe Conn (3/8 in.)	2
17122771**	Retainers - F/Injr (5/16 in.)	3

* These parts will only be required if the fuel tank is replaced.

** For retainer 17122771, only two are required if the tank is removed for inspection.

DISPOSITION OF REPLACED PARTS

Retailers will scrap all replaced parts in a manner that ensures that they cannot be reused, remanufactured, or otherwise entered into the stream of commerce in the future.

SUGGESTIONS FOR ENSURING CUSTOMER SATISFACTION

As you know, Saturn's success hinges upon our ability to execute superior customer support throughout the ownership experience, especially when important corrective actions such as this are required.

It is imperative that every effort is made to accommodate the affected owners. Additionally, priority should be given to customer vehicles over retail inventory vehicles. If you have any questions, please coordinate with the Saturn Customer Assistance Center to help ensure customer satisfaction.



SERVICE PROCEDURE

FUEL TANK INSPECTION

CAUTION: MAKE SURE THAT VEHICLE IS PROPERLY SUPPORTED AND SQUARELY POSITIONED ON HOIST. TO AVOID PERSONAL INJURY WHEN VEHICLE IS ON HOIST, PROVIDE ADDITIONAL SUPPORT FOR VEHICLE ON OPPOSITE END FROM WHICH COMPONENTS ARE BEING REMOVED.

1. Raise vehicle on hoist.
2. Locate fuel tank bar-code label on rear of tank assembly near fuel filler inlet. (Refer to illustration.) If fuel tank mounting strap partially covers fuel tank bar-code label, it will be necessary to support fuel tank and lower fuel tank mounting strap to read serial number.
3. Write down the serial number from fuel tank bar-code label on the customer service order (CSO).
4. Using serial number recorded from fuel tank bar-code label, perform "Fuel Tank Serial Number Inspection" flow chart on facing page to determine whether fuel tank is affected by this campaign.
 - If flow chart leads to "Lower tank and inspect FLVY for yellow paint mark," continue to "Fuel Tank Inspection/Replacement" on page 8 of this bulletin.
 - If flow chart leads to "Tank replacement not required," continue to next step.
5. If fuel tank mounting strap had to be lowered to read fuel tank bar-code label, install fuel tank mounting strap.

Torque:

Fuel Tank Straps-to-Body: 47 N•m (35 ft-lbs)

6. Lower vehicle and Affix Campaign Completion Label on a clean and dry surface of radiator core support, in an area clearly visible when hood is raised. (For more information, refer to "CAMPAIGN COMPLETION LABEL" in this bulletin.)

FUEL TANK SERIAL NUMBER INSPECTION

- START HERE -
Does serial number begin with "S1D - 38"?

No

Does serial number begin with "S1E - 39"?

No

Does serial number begin with "S1F - 40"?

No

Tank replacement not required.

Yes

Read remaining four positions of serial number.

Between and including 3255 and 3260?
Yes
No

Between and including 6589 and 6651?
Yes
No

Between and including 6767 and 7511?
Yes
No

Between and including 8348 and 1664?
Yes
No

Tank replacement not required.

Yes

Read remaining four positions of serial number.

Between and including 5693 and 5697?
Yes
No

Between and including 6675 and 6774?
Yes
No

Between and including 6679 and 7085?
Yes
No

Is equal to 7308?
Yes
No

Between and including 8499 and 9394?
Yes
No

Between and including 9579 and 9593?
Yes
No

Tank replacement not required.

Yes

Read remaining four positions of serial number.

Is equal to 0033?
Yes
No

Between and including 0219 and 0370?
Yes
No

Between and including 0464 and 1511?
Yes

No

Lower tank and inspect PLVV for yellow paint mark. (Refer to Fuel Tank Inspection-Replacement.)

Lower tank and inspect PLVV for yellow paint mark. (Refer to Fuel Tank Inspection-Replacement.)

Lower tank and inspect PLVV for yellow paint mark. (Refer to Fuel Tank Inspection-Replacement.)

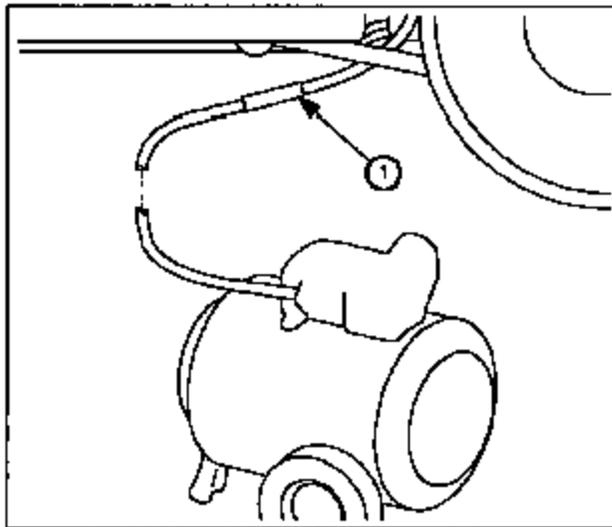
FUEL TANK INSPECTION/REPLACEMENT

CAUTION: DO NOT ALLOW SMOKING OR THE USE OF OPEN FLAMES IN THE AREA WHERE WORK ON THE FUEL SYSTEM IS TAKING PLACE.

CAUTION: FUEL SUPPLY LINES WILL REMAIN PRESSURIZED FOR LONG PERIODS OF TIME AFTER ENGINE IS SHUT OFF. THIS FUEL SYSTEM PRESSURE MUST BE RELIEVED BEFORE SERVICING FUEL SYSTEM.

CAUTION: WHENEVER FUEL LINE FITTINGS ARE LOOSENED OR REMOVED, WRAP A SHOP RAG AROUND THE FITTING AND HAVE AN APPROVED CONTAINER AVAILABLE TO COLLECT ANY FUEL.

CAUTION: NEVER DRAIN OR STORE FUEL IN AN OPEN CONTAINER DUE TO THE POSSIBILITY OF FIRE OR EXPLOSION.



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Drain Fuel Tank

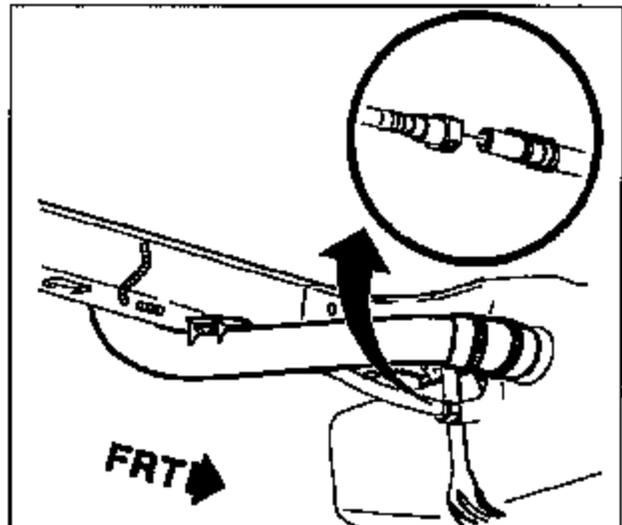
1. Connect Scan tool to vehicle data link connector (DLC) and start vehicle.
2. Relieve fuel system pressure by commanding fuel pump Off with the Scan tool.
3. Leave ignition On and raise vehicle to a comfortable working height. Keep Scan tool outside of vehicle and accessible from under car.
4. Disconnect fuel feed line (5/16 in. line) at inlet to fuel filter.
5. Connect 5/16" X 1/4" quick connect (1) adapter from Fuel/Pressure Adapter SA9127E-7 into fuel feed line.
6. Connect suitable fuel hose to adapter fitting and connect other end of hose to certified fuel handling cart.
7. Use Scan tool to energize fuel pump and completely drain fuel tank. Once fuel pump is commanded On using Scan tool, it will run for 1 minute before timing out and shutting Off. Continue to cycle fuel pump On until fuel tank is completely drained.

Remove Fuel Tank Assembly

1. Disconnect negative battery cable.
2. Remove fuel filler cap.
3. Remove driver's side rear wheelhouse liner.
4. Remove upper fuel filler pipe attachment screw. Screw is located under quarter panel grommet at the 1:00 position of fuel filler pipe. Gently pull quarter panel grommet outward to gain access to screw.
5. Disconnect wiring harness connector from EVAP canister vent solenoid.



6. Remove fuel filler pipe lower bracket attachment screw (10 mm hex) at underbody left hand side rail.
7. Remove quarter panel grommet from fuel filler pipe.
 - 7.1 Move fuel filler pipe as far rearward as possible in fuel door opening.
 - 7.2 Go through wheelhouse opening with one hand while guiding quarter panel grommet through fuel door opening and over fuel filler pipe.
8. Raise vehicle and disconnect EVAP canister vent pipe at 5/8 in. quick connect to canister vent hose.



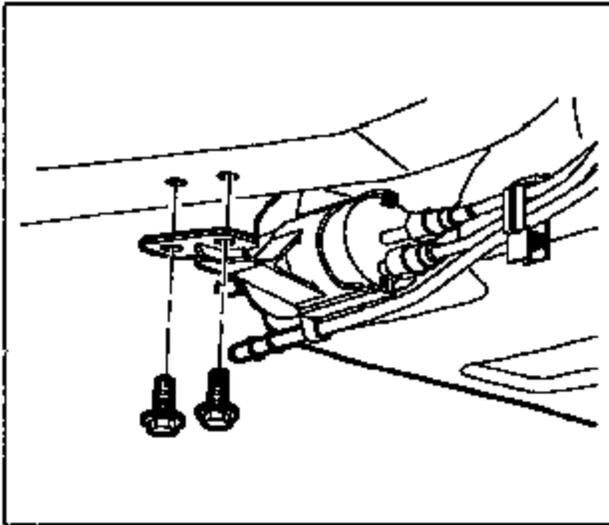
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9. Loosen fuel filler pipe hose clamp (7 mm hex) closest to the fuel tank.

CAUTION: SEVERAL OUNCES OF FUEL MAY REMAIN IN FUEL FILLER PIPE DUE TO THE DESIGN OF THE INLET CHECK VALVE. BE AWARE OF THIS WHEN HANDLING FUEL FILLER PIPE DURING REMOVAL FROM FUEL TANK. WRAP INLET CHECK VALVE WITH A SHOP RAG AND HOLD IT IN PLACE BY HAND. UNSEAT CHECK VALVE AND DRAIN ANY FUEL INTO AN APPROVED CONTAINER.

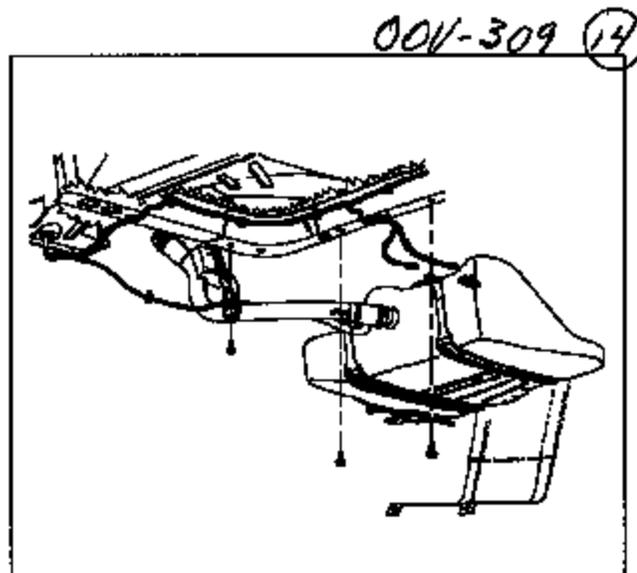
IMPORTANT: To provide space to remove filler pipe, guide top of filler pipe into quarter panel opening while removing fuel filler pipe.

10. Disengage filler pipe hose from fuel tank and remove fuel filler pipe from vehicle. Keep fuel filler pipe as level as possible when removing from tank. Fuel fill check valve may contact inlet neck of tank so use care when removing. If fuel fill check valve is dislodged from fuel filler pipe, it may remain in tank.
11. Remove two screws (10 mm hex) that attach fuel filter/pressure regulator bracket to vehicle.
12. Disconnect fuel feed line (90° quick-connect) from outlet of filter/pressure regulator.
13. Disconnect fuel vapor/canister purge line at 90° quick-connect adjacent to fuel filter/pressure regulator.
14. Slide filter/regulator bracket out from under brake lines.



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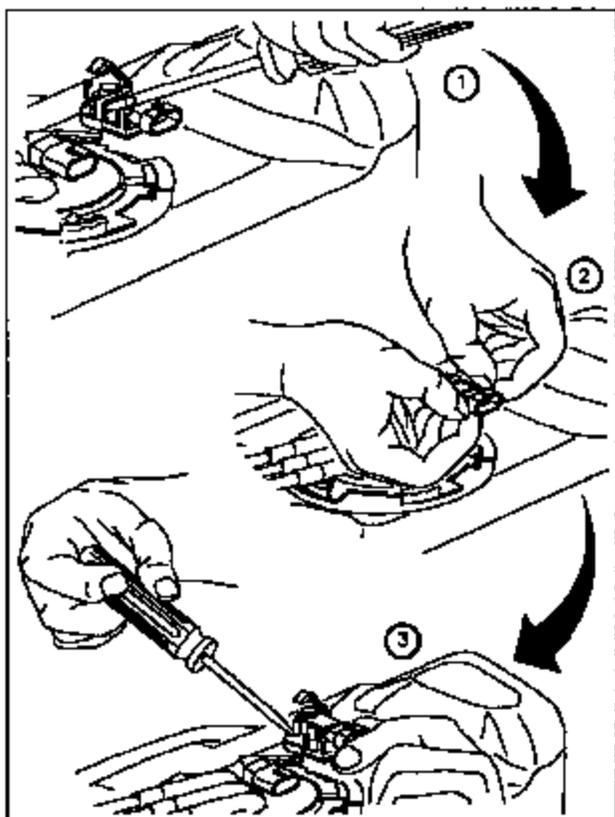
15. With aid of an assistant, remove two tank retaining strap bolts (15 mm hex) and lower tank enough to disconnect the two electrical connectors to the fuel pump and tank pressure sensor.
16. Remove fuel tank from vehicle.



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17. Inspect fill limit vent valve (FLVV) on top rear surface of fuel tank for a yellow paint marking. The yellow marking can be any kind of yellow marking. (Yellow dot, yellow line, yellow check mark, etc.).
- If yellow paint mark is present on FLVV, fuel tank must be replaced. Continue to next step.
 - If yellow paint mark is not present on FLVV, reinstall fuel tank. Continue to "Install Fuel Tank Assembly" on page 16 of this bulletin.
18. Obtain replacement parts. (Refer to "PARTS INFORMATION" in this bulletin.)





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Transfer Fuel Tank Pressure Sensor to Replacement Fuel Tank Assembly

NOTICE: Use care when removing fuel tank pressure sensor. Avoid contact of any tool with top surface of fuel tank pressure sensor. If this surface is damaged, fuel tank pressure sensor will have to be replaced.

1. Cut tie strap and use a flat blade screwdriver to unlatch fuel tank pressure sensor retaining arm. (1)
2. Use fingertips and light pressure to disengage fuel tank pressure sensor from locating tangs at end of connector housing. (2)
3. Use a flat blade screwdriver to remove fuel tank pressure sensor from fuel tank mounting pad. (3)
4. Install fuel tank pressure sensor on mounting pad of replacement fuel tank assembly.
5. Ensure proper alignment of locating tangs at connector end of fuel tank pressure sensor.
6. Install a new tie strap and latch fuel tank pressure sensor retaining arm.

Transfer Fuel Pump Module to Replacement Fuel Tank Assembly

NOTICE: Clean all fuel pipes, hose connections, and surrounding areas prior to disassembly to prevent fuel system contamination.

1. Disconnect fuel feed and return lines from filter/regulator assembly.
2. Disconnect fuel pump vapor line from fuel tank vent pipe.

NOTICE: To prevent retainer damage, do not attempt to remove retainer with a 12 in. or shorter ratchet/breaker bar.

IMPORTANT: Spray fuel pump module cam-locking tang with penetrating oil prior to attempting removal.

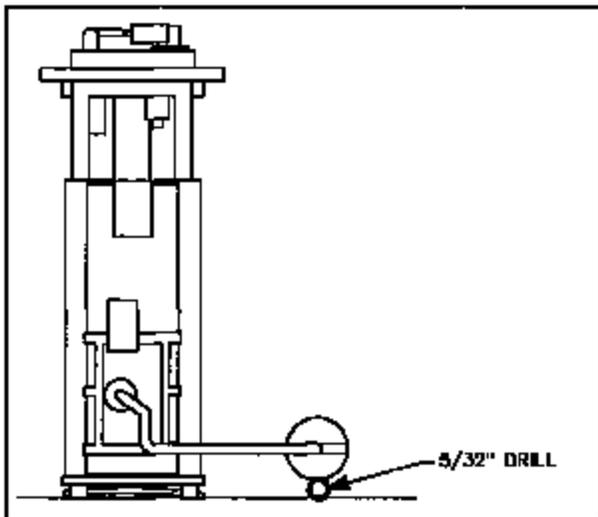
3. Use Fuel Tank Lock Ring Remover SA9156E and remove fuel pump module retaining ring. A 1/2 in. drive ratchet/breaker bar (approximately 18 in. long) will easily loosen and remove lock ring.

NOTICE: Care must be taken not to bend or twist fuel pump filter or sending unit float arm during removal/installation of fuel pump module. A damaged fuel pump filter restricts fuel flow to pump and a bent sending unit float arm will not provide accurate readings. Care must also be taken to ensure fuel pump module is not dropped. Dropping a fuel pump module can dislodge internal components and cause excessive noise and/or internal leakage.

4. To prevent bending of sending unit float arm during removal, lift pump module up slightly to disengage orientation tabs and rotate module 90° clockwise until fuel lines are facing the 1:00 o'clock position (12:00 is toward front of tank).
5. Carefully lift the fuel pump module (with sending unit) straight up from the fuel tank until the bottom of the pump module is very close to the fuel tank opening. Then tilt the pump module about 45° toward the right side of the tank and simultaneously lift it up and out of the tank opening watching that the level sender float arm is not being bent.

IMPORTANT: Always replace the fuel pump module to tank seal (O-ring) whenever the assembly is removed. The correct seal is green in color. Do not use the older black seal.

6. Discard the fuel pump module to tank seal.
7. Inspect fuel tank and clean the fuel tank seal groove of any foreign debris and install a new seal.



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NOTICE: If float arm requires repositioning to meet appropriate clearance specification, ensure that any bending is performed at the 90° bend near level sender. The short section of float arm going into level sender must be supported so that bending does not take place at level sender.

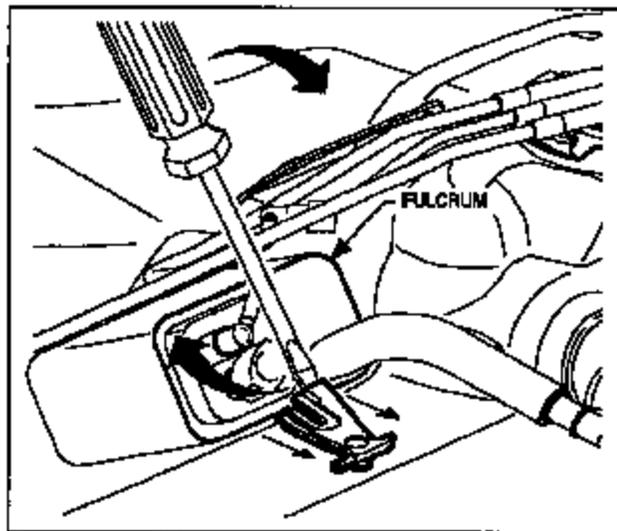
8. Verify that the float arm on the fuel level sender has not been bent by standing the fuel pump module on a flat, horizontal surface and measuring the distance from this surface and the bottom of the float. A 5/32 in. diameter drill can be used as a gage. The gage must freely pass between the float and the horizontal surface with no more than 1/16 in. clearance.
9. Carefully install the fuel pump module with sending unit in the fuel tank by orienting the float to face the right side of the tank, tilting the pump module approximately 45°, and loading the float arm and pump into the tank opening. Insert the pump module all the way down into the tank and then rotate 90° counterclockwise to align the module orientation tabs with slots in the tank opening. Correctly oriented, the lines from the pump module will be facing the 10 o'clock position (12 o'clock is front of tank).

IMPORTANT: The fuel pump retaining ring cannot be properly installed if the pump flange locator tabs are not aligned with the slots in the tank.

10. Install the retaining lock ring using service tool SA9156E.
11. Connect fuel pump vapor line to fuel tank vent pipe.
12. Connect fuel feed and return lines to filter/pressure regulator.
13. Position fuel feed, fuel return and EVAP canister purge line in fuel tank retaining clip and "snap" shut.
14. Install "loose" retainer clip around fuel feed, return, and purge line at upsets and "snap" closed.

Transfer EVAP Canister to Replacement Fuel Tank Assembly

1. Disconnect the 5/8 in. 90° fuel tank vapor inlet hose fitting from EVAP canister.
2. Remove EVAP canister retainer clip at top of canister.
3. Install EVAP canister in mounting pocket on top of replacement fuel tank assembly.
4. Install EVAP canister retainer clip at top of canister. Ensure retainer clip is installed over lower flange of canister before snapping into place.

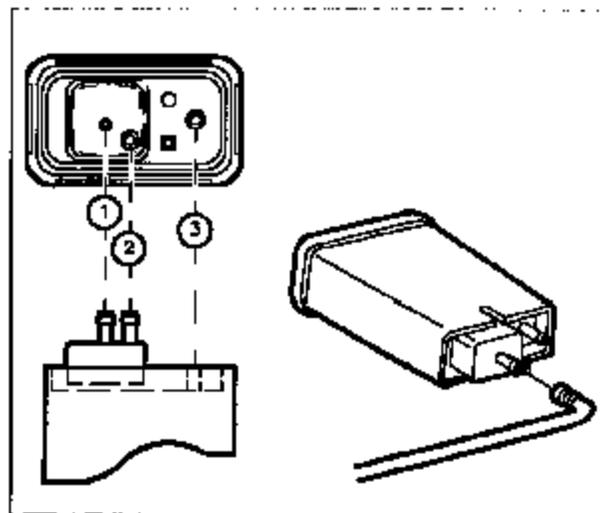


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NOTICE: Install purge fitting quick connector retainer into the female portion of connector. Care must be taken to ensure locking tab is centered in window of female connector.

- (1) Canister Purge
- (2) Vapor
- (3) Vent

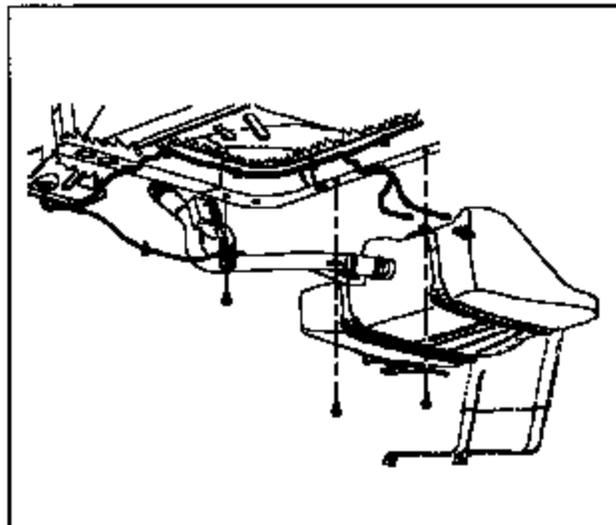
5. Install the 5/8 in. 90° vapor line fitting to TANK port on EVAP canister.



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Install Fuel Tank Assembly

1. With aid of an assistant, position fuel tank under vehicle.
2. Attach electrical connectors to fuel pump and tank pressure sensor.



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NOTICE: Position the fuel tank solidly against the left hand underbody side rail prior to tightening the strap mounting bolts. A small white locator button on the left side of the fuel tank shell should be tight against the left side rail at the completion of installation.

3. Reposition fuel tank mounting straps and shield around tank and install strap mounting bolts (15 mm hex) to underbody.

Torque:

Fuel Tank Straps-to-Body: 47 N•m (35 ft-lbs)

4. Install (2) mounting screws (10 mm hex) for the fuel filter/pressure regulator bracket.

Torque:

Fuel Filter/Pressure Regulator-to-Frame Rail: 8 N•m (71 in-lbs)

NOTICE: Replace the plastic fuel line retainers whenever the fuel supply lines are disconnected at the fuel filter/pressure regulator and fuel rail. Install the new retainer into the female portion of the connection. Care must be taken to assure that the locking tab is centered in the window of the female connection. Firmly press the male and female portions together until a "click" is heard, then pull firmly back to confirm engagement.

5. Install a new retainer into the female portion of the of the 90° quick-connect fitting on the underbody fuel feed line.

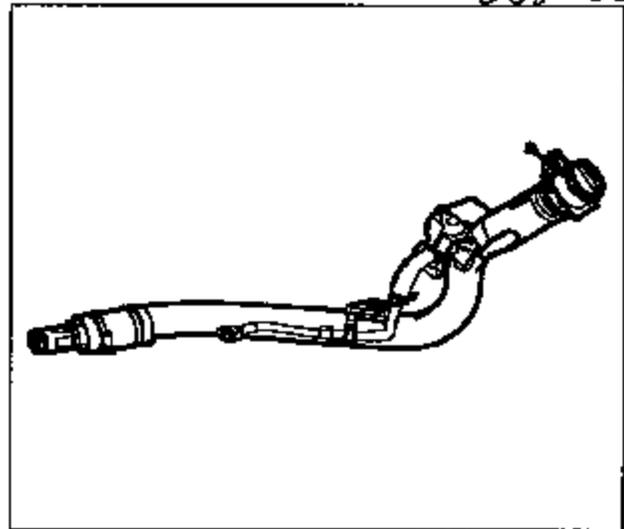
IMPORTANT: Lubricate the male ends of the filter/regulator with clean engine oil to ease installation.

6. Install the underbody fuel feed line onto the outlet of filter/regulator.

- 7. Ensure that fuel filler check valve is in place at the end of fuel filler pipe.

IMPORTANT: To ease installation, lightly wipe the outside of the fuel tank inlet connector with plain water.

- 8. Position filler pipe into wheel opening with top of pipe within body panel opening.
- 9. Install fuel filler pipe into fuel tank opening.
- 10. Lower vehicle and move fuel filler pipe to rear of fuel door opening. Starting with front portion, install quarter panel grommet around fuel filler neck and work down through fuel door opening.



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- 11. At location of upper fuel filler pipe attachment screw, pull just enough of quarter panel grommet out through fuel door opening and up over top of fuel filler pipe. Insert a flat blade tool inside fuel filler pipe between quarter panel grommet and fuel filler pipe edge to hold quarter panel grommet in place while installing upper attachment screw.
- 12. Raise vehicle and install fuel filler pipe lower bracket attachment bolt.



Torque:
Fuel Filler Pipe Lower Attachment Bolt: 8 N•m (71 in-lbs)

- 13. Lower vehicle and install fuel filler pipe upper bracket attachment screw.

Torque:
Fuel Filler Pipe Upper Attachment Screw: 4 N•m (35 in-lbs)

- 14. Carefully remove flat blade tool that was previously installed and route quarter panel grommet over top of fuel filler pipe.
- 15. Use a blunt end tool, such as a plastic tool, to carefully push remaining portion of quarter panel grommet under edge of fuel door opening as needed. Use care not to cut or damage quarter panel grommet.
- 16. Raise vehicle to a comfortable working height.

IMPORTANT: Ensure fuel filler pipe connecting hose is installed to within 6 mm (1/4 in.) of the stops on fuel tank inlet neck. The hose clamp should be located within 4 mm (3/16 in.) of the end of connecting hose.

17. Tighten hose clamp (7 mm hex) on fuel filler pipe connecting hose at fuel tank inlet neck.

Torque:

Fuel Filler Pipe Connecting Hose

Clamp: 4 N•m (35 in-lbs)

18. Connect wiring harness connector to EVAP canister vent solenoid.
19. Install driver's side rear wheelhouse liner to rear wheel opening.
20. Add fuel to fuel tank and install fuel filler cap.
21. Connect negative battery cable.

Torque:

Battery Terminal Bolts: 17 N•m (13 ft-lbs)

22. Prime fuel system using either of the following methods:
 - Cycle ignition switch On for 5 seconds and Off for 10 seconds. Repeat this twice.
 - Energize fuel pump using Scan tool. Run fuel pump for 10-20 seconds.
23. Examine all fuel line fittings that were disconnected for signs of leakage.
24. Start engine. Only crank engine for a maximum 15 seconds.
25. Using Scan tool, perform the "EVAP Service Bay Test." This test will verify the integrity of the vapor handling areas of fuel system. (Refer to SSS/Tech 2 User Guide for information on performing this test.)
 - If "EVAP Service Bay Test" is PASSED, continue to next step.
 - If "EVAP Service Bay Test" is FAILED, refer to DTC P0440 in the Engine/Emission Controls section of the 2000/2001 S-Series Engine Service Manual and perform the "EVAP SYSTEM" diagnostic flow chart.
26. Affix Campaign Completion Label on a clean and dry surface of radiator core support, in an area clearly visible when hood is raised. (For more information, refer to "CAMPAIGN COMPLETION LABEL" in this bulletin.)

CAMPAIGN COMPLETION LABEL

Upon completion of the campaign, a *Campaign Completion Label* and a *Clear Protective Cover* should be affixed on a clean, dry surface of the radiator core support in an area clearly visible when the hood is raised. Each label provides a space to print in ink (or type) the campaign number (01C02) and the five (5) digit facility code of the Retailer performing the campaign service.



As a reminder, additional labels may be ordered from Saturn publications (1-800-828-2112, prompt 3, Item #S03 00013A for the *Campaign Completion Label*, and item #S03 00013B for the *Clear Protective Cover*).

CREDIT

1. To receive credit for inspecting fuel tank serial number and replacing fuel tank, if necessary, submit a claim with the information below:

Repair Performed	Parts Allow.	Sale Type	Case Type	Labor Op.	Labor Hrs.	Admin. Hrs.**
To inspect fuel tank serial number ADD:	*	WC	VC	V0585	0.2	0.1
a. To reposition strap to gain access to bar-code label					0.2	
b. To inspect top of fuel tank for yellow mark					1.3	
To inspect fuel tank bar-code label and replace fuel tank assembly	*	WC	VC	V0586	1.8	0.1

2. To receive credit for loaner/rental car costs incurred while owner awaits campaign repair or other goodwill expenses, submit a claim with the information below:

Repair Performed	Sale Type	Case Type	Labor Op.	Net Item Amount	Net Item Code	# Days Rental
Loaner Reimbursement	WC	VC	Z4123	***	C	****
Other Goodwill	WC	VC	Z4124	***	R	N/A

3. Retailers are empowered to use good judgement regarding loaner/rental cars or any other goodwill expenses deemed necessary. It will not be necessary to call the Saturn Customer Assistance Center for authorization of goodwill. The Goodwill Worksheet (printed towards the back of this bulletin) must be used to document goodwill expenses. The completed Goodwill Worksheet must be attached to the hard copy of the CSO. Retailers are to make sufficient copies of the blank Goodwill Worksheet to document goodwill expenses.
4. Check your Saturn SERVICELINE.XL Claim Memorandum daily. Remember to code the claim as a WC sale type, and VC case type. Contact your field representative if you need assistance.
5. **All labor operations claimed in this bulletin must be submitted on individual (unrelated) CSO lines. Refer to the Customer Service Order Preparation Manual for details on Product Campaign Claim Submission.**

* The parts allowance should be the sum total of the current SSPO Retailer net price plus 30% of all parts required for the repair

** Campaign administrative allowance

*** Net amount must be submitted as a miscellaneous sale...Loaner reimbursement not to exceed \$30/day

**** Enter number of days vehicle was rented...Not to exceed 1 day



October, 2000

Dear Saturn Owner:

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

Saturn has decided that certain 2000 and 2001 S-Series Saturn vehicles fail to conform to the requirements of Federal Motor Vehicle Safety Standard (FMVSS) 301, "Fuel System Integrity." Some vehicles have been produced with an inadequate vent valve weld on the top portion of the fuel tank. Fuel spillage could occur during refueling or if a vehicle were involved in a rollover. If an ignition source were present, a fire could result.

To prevent the possibility of this occurring, Saturn retailers will inspect, and, if necessary, replace the fuel tank assembly.

What Saturn will do:

To ensure that the fuel tank vent valve is properly welded, Saturn will inspect the Fuel Tank Serial Number and replace the fuel tank assembly if necessary. This service will be performed at no charge to you. It will take approximately two (2) hours to make the repairs, although some additional time may be required for paperwork and processing.

What you should do:

Contact your Saturn Retailer to arrange to have this service performed.

Your Retailer is prepared to perform this service promptly and with minimal inconvenience to you. Should your Retailer be unable to schedule a service date within a reasonable time, please contact the Saturn Customer Assistance Center at 1-800-553-6000 prompt 3, or for the hearing impaired, 1-800-833-6000. We will assist you and the Retailer in getting your car serviced.

If, after contacting your Saturn Retailer and the Saturn Customer Assistance Center, you are still not satisfied we have done our best to remedy this condition without charge and within a reasonable time, you may wish to write the Administrator, National Highway Traffic Safety Administration, 400 Seventh St., SW, Washington, DC 20590, or call 1-800-424-9393 (Washington, DC residents use 202-366-0123).

Again, we sincerely regret any inconvenience or concern this situation may cause you. We want you to know that we will do our best, throughout your ownership experience, to ensure that your Saturn provides you many miles of enjoyable driving.

Sincerely,

Saturn Corporation

01-C-02

01-C-02 GOODWILL WORKSHEET

As stated in the "Credit" section of this bulletin, Retailers are empowered to use good judgement regarding loaner/rental cars or other goodwill expenses that might become necessary for customer satisfaction.

Complete this worksheet and attach it to the hard copy of the Customer Service Order (CSO) to document all campaign goodwill claims submitted to Saturn.

VIN # _____

A. Vehicle Loaner/Rental Allowance Explanation: \$ _____

Repair Performed	Sale Type	Case Type	Labor OP	Net Item Code	# Days Rental
Loaner Reimbursement	WC	VC	Z4123	C	*

* Not to exceed \$30/day for 1 day

B. Other/Goodwill Allowance Explanation (Specify what was done and why): \$ _____

Repair Performed	Sale Type	Case Type	Labor OP	Net Item Code	# Days Rental
Other Goodwill	WC	VC	Z4124	R	N/A

Authorized Retailer Signature

(Please copy this form as necessary)