

285870



GENERAL MOTORS NORTH AMERICA  
Structure & Safety Integration

DEPT. OF TRANSPORTATION  
DC:20113

June 21, 2004

USG 3842

2004 JUN 20 P 1:53

The Honorable Jeffrey W. Runge, M.D.  
Administrator  
National Highway Traffic Safety Administration  
400 Seventh St. SW  
Washington, DC 20590

*NHTSA-2004-18556-1*

**Re: Petition for Determination of Inconsequential Noncompliance**

Dear Dr. Runge:

Pursuant to 49 CFR Part 556, General Motors Corporation (GM) hereby requests exemption from the notification and remedy requirements of the Safety Act for a noncompliance on the basis that the noncompliance is inconsequential to motor vehicle safety.

GM has determined that certain 2004 model year Saab 9-3 Sport Sedans and Convertibles may not comply with S4.2(b) of Federal Motor Vehicle Safety Standard No. 114 (FMVSS-114). Some of these vehicles were produced with an ignition key assembly that may contain a center spring plate switch that can bind in the closed position. This switch communicates to certain vehicle systems that the ignition key has been inserted or removed from the ignition switch. When this switch binds in the closed position, certain systems will read that the ignition key is still in the ignition switch, even after ignition key removal. One of the systems using the input from this switch is the electronic steering column lock. Manual transmission variants of the Saab 9-3 are equipped with this electronic locking steering column to meet the S4.2(b) requirement of FMVSS 114. If a subject vehicle has the aforementioned condition, the steering column will not lock upon ignition key removal.

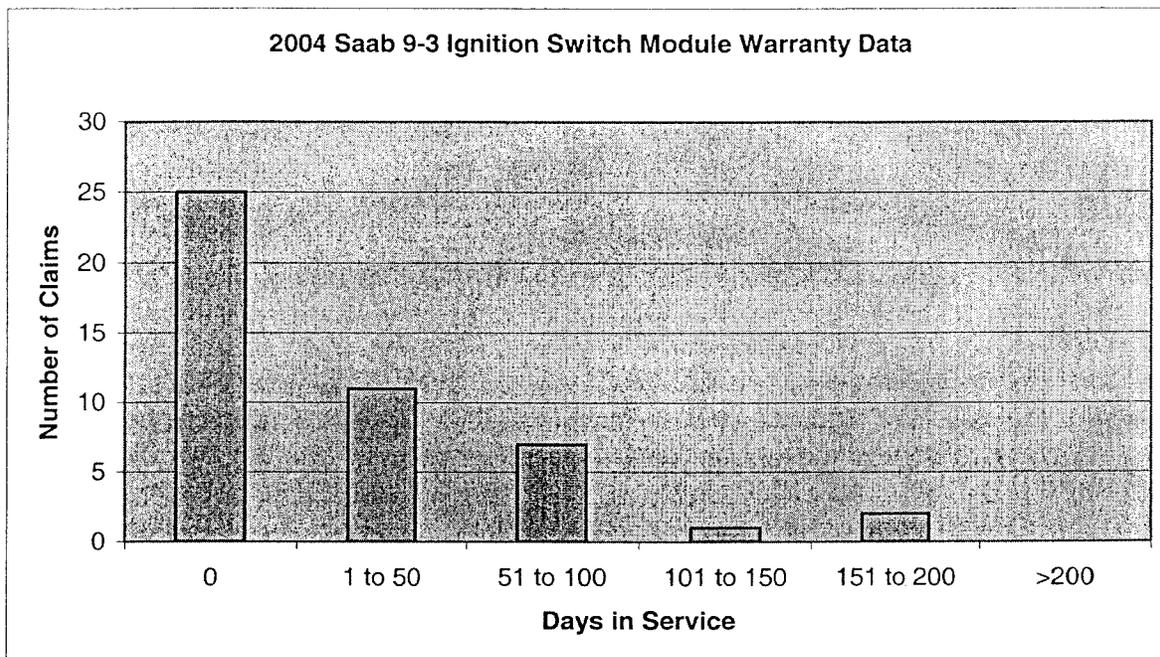
Corrected ignition module assemblies were placed into vehicle production on January 13, 2004 for the Saab 9-3 Sport Sedan and February 2, 2004 for the Saab 9-3 Convertible. It is expected that the majority of the vehicles built before these dates have been retailed.

GM has submitted a letter notifying the agency of the noncompliance as required under 49 CFR Part 573 (copy attached). That letter provides additional details regarding the noncompliance, the specific vehicle models affected, and the volume of models affected.



GM considers this issue to be inconsequential to motor vehicle safety for the following reasons:

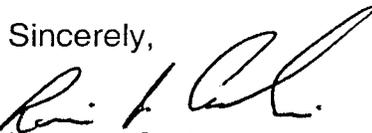
- *Continued Theft Protection* – FMVSS 114 was developed to increase road safety by reducing the risk of traffic accidents resulting from unauthorized vehicle operation. All Saab 9-3 vehicles are equipped with an electronic engine immobilizer system that prevents engine operation in the absence of the vehicle's ignition key from the ignition switch module. The immobilizer remains fully operation on vehicles with the aforementioned condition present. Although a vehicle could be steered with this condition, the engine could not be started, even through hot-wiring or other vehicle manipulation. GM considers the immobilizer system to be at least as effective as a steering column lock in preventing vehicle theft. NHTSA and Highway Loss Data Institute data have also confirmed the effectiveness of passively activated engine immobilizers such as that present on the 9-3.
- *Overt Symptoms* - When this condition occurs, the symptoms are very obvious to the customer: Upon key removal the radio/CD player stays on, interior lights will not operate and the remote door locking functions will not operate. Additionally, even though the key has been removed, the key warning system will activate when the driver's door is opened. These symptoms will induce the customer to return to the dealer for repairs under the new car warranty.
- *Failure Occurs Early and only a Small Percentage of Vehicles are Affected* - If this condition is present, it is most likely to occur very early in the vehicle's life. In an analysis performed by the component supplier (Delphi), it was estimated that of the components affected by this condition, 85% would fail within the first month and 99% would fail within six months. Most occurrences have been and will be caught prior to retail delivery. The following chart is based on warranty data from the Saab Cars USA, Inc. warranty system. Shown in this chart are the numbers of warranty claims for the subject condition against the number of days that the vehicle was in service when the repair was made. Zero (0) days indicate that the repair was performed prior to retail delivery.



It has been estimated by the supplier of the ignition switch assembly that as of the end of April 2004, a maximum of 15 additional vehicles might experience this condition. Saab warranty data shows that 4 warranty repairs have been performed since May 1, 2004. Therefore, based on this projection, a maximum of 11 additional units could be expected to be subject to this condition. We would expect any of these additional instances to occur over the next few months.

In consideration of the foregoing, General Motors petitions to be exempted from the remedy and recall provisions of 49 USC sec. 30101 for this specific noncompliance.

If any questions develop regarding this letter please contact Mr. Gary Jones at (248) 685-6966, or Mr. Steve Gehring in GM's Washington DC office at (202) 775-5071, or myself at (586) 947-0149.

Sincerely,  
  
Louis J. Carlin  
Safety Regulations & Consumer Information

cc: Ms. Jacqueline Glassman, Chief Counsel  
Mr. Stephen Kratzke, Associate Administrator for Rulemaking  
Mr. Kenneth Weinstein, Associate Administrator for Enforcement

Attachment



May 24, 2004

Mr. Kenneth N. Weinstein  
Associate Administrator for Safety Assurance  
National Highway Traffic Safety Administration  
400 Seventh Street, S.W., Room 5321  
Washington, D.C. 20590

Dear Mr. Weinstein:

The following information is submitted pursuant to the requirements of 49 CFR 573.6 as it applies to a determination by General Motors of a noncompliance involving certain 2004 model year Saab 9-3 Sport Sedan and Convertible model vehicles equipped with manual transmissions.

573.6(c)(1): Saab Automobile AB (Saab), a subsidiary of General Motors Corporation (the designated agent for Saab).

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

573.6(c)(5): General Motors has decided that certain 2004 model year Saab 9-3 Sport Sedans and Convertibles fail to conform to FMVSS 114 "Theft Protection." Some of these vehicles were produced with an ignition key assembly that may contain a center spring plate switch that can bind in the closed position. This switch communicates to certain vehicle systems that the ignition key has been inserted or removed from the ignition switch. When this switch binds in the closed position, certain systems will read that the ignition key is still in the ignition switch even after ignition key removal. One of the systems using the input from this switch is the electronic locking steering column. The failure of the steering column to lock upon ignition key removal is the subject of this noncompliance.

The binding of the switch is due to production tolerance stacking and the hydrophilic nature of the plastic components within the switch. If the production tolerances are stacked and there is a high amount of humidity in the air, the plastic can slightly swell and the edges of the plastic center spring plate can bind with the sides of the ignition barrel.

When this condition occurs, the symptoms are very obvious to the customer: Upon key removal the radio/CD player stays on, interior lights will not operate and the remote door locking functions will not operate, and the key warning system activates when the driver door is opened.<sup>1</sup>

If this condition is present, it is most likely to occur very early in the vehicle's life. Most, but not all occurrences should be caught either at the ports when the vehicles are unloaded, or at the dealerships. It has been estimated by the supplier that a maximum of 15 vehicles sold to customers might experience this condition.

573.6(c)(6): Saab Automobile AB and the supplier (Delphi Mechatronics) began an investigation in December of 2003 after receiving field reports of ignition switch malfunctions. It was quickly established that plastic expansion due to humidity absorption could cause the center spring

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<sup>1</sup> This condition does not affect the vehicle's anti-theft protection, since the immobilizer is keyed to a rolling electronic code within the ignition key transponder unit and is still fully functional upon key removal.

**Product Investigations**

Mail Code: 480-106-304 • 30500 Mound Road • Warren, MI 48090-9055  
Phone: (586) 986-8029 • Fax: (586) 947-2318  
Saab Ignition 573.Doc



plate to stick. In January 2004 the plastic material (PA6) was replaced with a different plastic material (PBT) that is not as sensitive to humidity absorption.

However, this was not considered to be the entire root cause of the problem since the PA6 compound had been used in the application during model year 2003 with no instances of failures, and field complaints started with the 2004 model year vehicles. While the replacement of the PA6 material did remedy the problem, additional failed parts were collected to analyze the root cause.

In March of 2004, Delphi Mechatronics completed its investigation and presented Saab Automobile AB with their root cause analysis. It was established that in connection with model year 2004 model year start-up the ignition switch barrel compound had been changed from PA6 to carbon fiber. For 2003 vehicles, the center spring plate and the ignition switch barrel were both made of PA6, which would both expand at the same rate in humid conditions and would not interfere with each other. With an ignition barrel made of carbon fiber, the center spring plate and ignition switch barrel expanded at different rates. Under high humidity conditions only the center spring plate would swell. If the tolerances were stacked unfavorably, the center spring plate would then bind with the sides of the barrel.

After analysis of failed parts, Delphi established that this is an early failure condition, with 85% of affected components projected to fail within the first month and 99% within the first six months.

In April of 2004 Delphi Mechatronics and Saab Automobile AB conducted an investigation of stocked vehicles in US ports to establish an expected failure rate. An inspection of approximately 1,200 vehicles (~ 400 manual trans) indicated a failure rate of about 2%.

In early May the issue was presented to the Saab FPE Steering Committee and it was decided that due to the rapidly decreasing warranty claims world wide, a maximum of 15 additional failures would be expected in the US.

The European Field Action Decision Committee decided on May 17<sup>th</sup> that a noncompliance to FMVSS 114 existed on manual transmission vehicles. Because of the extremely low projected number (15) of affected vehicles, the pattern of early failures and repairs, and the overt symptoms when the condition occurs, GM believes that this condition may be inconsequential to motor vehicle safety.

573.6(c)(8): GM will submit to the agency a Petition for Inconsequential Noncompliance or our recall plan within 30 days.

Pursuant to 577.11(e), Saab does not believe notification about reimbursement is required for this recall. Involved vehicles are covered by the new vehicle warranty.

573.6(c)(9): Saab has issued a pre-delivery inspection procedure (attached) to dealers to check for this condition. If further dealer notices are produced, they will be forwarded to NHTSA when they are available.

Sincerely,

Gay P. Kent  
Director  
Product Investigations

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>
Saab	9-3 Sport Sedan w/manual transmission	2004	2903	6/30/03	1/13/04	Sport Sedans	11
Saab	9-3 Convertible w/manual transmission	2004	1129	7/02/03	2/02/04	Convertible	4
		Total:	4032				

Letter to Mr. K. N. Weinstein  
15000 - 04046  
May 24, 2004  
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## Service and Warranty Reference Library

Date: April 23, 2004

To: All Saab Dealers  
Saab Service Managers

From: Rich Miller

Reference: Additional check at PDI, 2004 9-3 Sport Sedans and Convertibles.

We have seen complaints from customers caused by the center plunger of the Ignition Switch Module (ISM) sticking causing symptoms such as: radio continues to play with key out, interior lights do not come on or remotes inoperative. Of course a battery draw from this condition can cause a battery to drain if the vehicle is stored for long periods.

Because of this, when performing the PDI on a 2004 model 9-3 Sport Sedan or convertible, check the plunger by simply sticking your finger into the ISM to make sure the plunger does not stick in the down position. If a sticking plunger is found, the ISM must be replaced. Normal warranty procedures apply.

If you have any questions, please contact the Technical Assistance Center at 1-800-766-2857.

Thank you for your attention.

Sincerely,  
**Rich Miller**

Manager,

Technical Services Quality

**Abe Buchbinder**

Director, Product Quality & Service

Saab Cars USA, Inc.

Please direct questions concerning this document to: the Saab Technical Assistance Center at 1-800-766-2857.

Saab Dealer Assistance Center @ 1-800-934-9403, prompt # 1

Saab Cars USA, Inc. bulletins are intended for use by professional Saab technicians only, NOT a do-it-yourselfer. They are designed 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. Saab 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 the condition. See your authorized Saab dealer for information on whether your vehicle may benefit from the information. © 2003 Saab Cars USA, Inc.