



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE07-010
Date Opened: 02/16/2007 Date Closed: 08/08/2007
Principal Investigator: Derek Rinehardt
Subject: Front Strut to Tire Interference

Manufacturer: General Motors Corporation
Products: MY 2004 – 2006 Pontiac GTO
Population: 41,000

Problem Description: Front tires may fail suddenly due interference contact with front struts, possibly resulting in a loss of vehicle control.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	179	264	409
Crashes/Fires:	0	0	0
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	991	991

*Description of Other: - Warranty claims for wheel alignment, tire replacement and/or strut replacement.

Action: Preliminary Evaluation is closed.

Engineer: Derek Rinehardt

Div. Chief: Jeffrey L. Quandt

Office Dir.: Kathleen C. DeMeter

DR

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Summary: Note: The complaint and warranty counts given in the failure report summary of this resume include all records related to tire wear and wheel alignment and are not limited to tire-strut contact.

General Motors (GM) identified two contributors to premature front tire wear in the subject vehicles. One of the contributors causing the premature tire wear was out of specification negative camber. GM stated that excessive negative camber could be caused by improper camber settings from the factory or bending of the front strut assemblies due to sharp road impact (i.e., severe pot holes). To improve camber settings from the factory, GM stated that from February of 2005 through May of 2006 several modifications were made to the camber setting fixture. GM also noted that excessive negative camber could result in front tire to strut contact, which could also be caused by use of non-original equipment (OE) tires and/or wheels. GM stated that contact of the front tire and front strut assembly can cause a polishing on the tire sidewall and/or strut assembly; however, this does not cause a sudden loss of air.

General Motors provided ODI with the final factory front camber settings where available for complaint and warranty claim vehicles. Approximately 90 percent of these vehicles had right wheel camber settings that were out of design specification. Four percent of the vehicles had left wheel camber settings that were out of specification. In a review of consumer complaints, most noted excessive tire wear to varying degrees to both front tires. For complaints indicating excessive wear to a single front tire, 90 percent involved the right side.

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Although in some cases there are indications of tire contact with front strut assemblies in the subject vehicles, analysis of tire wear patterns in photographs shows the greatest wear occurring on the inboard tread surface from road wear and not on the area of the tire on the upper shoulder that contacts the strut. This is consistent with the known tire wear patterns associated with excessive negative camber, with or without strut contact. This is most apparent in some pictures, which show minor tire-strut contact while exhibiting significant wear of the inner tread surface of the tires. Based on data reviewed during the investigation, while excessive negative camber is an apparent issue, the premature tire wear appears to be primarily caused by tire to road surface contact as opposed to contact of the front tires to the front strut assemblies.

ODI reviewed approximately 1,400 total complaints and warranty claims potentially related to the alleged defect. Virtually all of the reports relate to uneven/excessive tire wear or some awareness of the tire-strut contact issue. ODI was able to identify 9 tire air loss incidents alleged to be caused by tire-strut contact, with 5 of these describing a slow air loss. While there was evidence of tire-strut contact in some of these vehicles, ODI's analysis did not find that this contact was the cause of the air loss but rather a secondary symptom of the excessive negative camber condition that results in rapid road wear on the inboard tread surface.

ODI is aware of one crash alleged to be caused by contact of the front strut to front tire. However, analysis of the information provided by the consumer, GM and a third party investigator does not indicate that tire-strut contact was a factor in the crash. ODI is unaware of any injuries or fatalities attributed to the alleged defect.

ODI has not identified a safety related defect trend in the subject vehicles. Accordingly, this investigation is closed. The closing of this investigation does not constitute a finding by NHTSA that a safety-related defect does not exist. The agency will continue to monitor complaints and other information relating to the alleged defect in the subject vehicles and take further action in the future if warranted.

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