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

ODI RESUME

Investigation: EA06-018
Date Opened: 10/30/2006 Date Closed: 12/03/2007
Principal Investigator: Chris Lash
Subject: Front suspension crossmember corrosion

Manufacturer: General Motors Corporation
Products: 1999-2004 Chevrolet Tracker in salt-belt states
Population: 127,604

Problem Description: The front suspension crossmember may corrode from the inside and fail at the front attachment of the left or right lower control arm (LCA). Partial or complete separation of a LCA attachment may affect directional control during hard braking.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total (duplicates removed)
Complaints:	21	37	55
Crashes/Fires:	0	0	0
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	12	12

*Description of Other: warranty claims

Action: This Engineering Analysis is closed.

Engineer: *Chris Lash* Date: *12/03/2007*
Div. Chief: *Jeffrey L. Quandt* Date: *12/03/2007*
Office Dir.: *Kathleen C. DeMeter* Date: *12/03/2007*

Summary: In October 2007, GM initiated a special coverage program for all model year (MY) 1999 through 2004 Chevrolet Tracker vehicles sold or currently registered in salt-belt states. The program extends the warranty coverage for front suspension crossmember corrosion to 10 years or 150,000 miles, whichever occurs first. GM is administering the program in phases due to part availability. The first phase started in October 2007 and covers the MY 1999 and 2000 vehicles. Owners of MY 2001 through 2004 vehicles will receive letters at a future date, but are eligible to receive free repairs from the program if the crossmember requires replacement. GM's program provides free inspections for consumers every 12 months through the terms of the policy adjustment. Copies of the dealer bulletin and owner letter for GM's special coverage program are attached to the closing report for this investigation.

The rate of confirmed LCA separations at 5 years in service is less than 10 per 100,000 vehicles, which is low relative to other investigations of front suspension issues previously investigated by ODI. 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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ENGINEERING ANALYSIS CLOSING REPORT

SUBJECT: Front suspension crossmember corrosion.

EA No.: EA06-018 **Date Opened:** 30-Oct-2006 **Date Closed:** -Nov-2007

SUBJECT VEHICLES: Model year (MY) 1999 through 2004 Chevrolet Tracker vehicles sold or currently registered in salt-belt states.[1]

Figure 1. MY 2000 Chevrolet Tracker.

BASIS: On June 12, 2006, the Office of Defects Investigation (ODI) opened a Preliminary Evaluation (PE06-021) to investigate six complaints alleging corrosion related failures of the front suspension crossmember in model year (MY) 2000 Chevrolet Tracker vehicles manufactured by Suzuki Motor Corporation (Suzuki) and sold by General Motors Corporation (GM). During PE06-021, ODI identified 25 complaints and 7 warranty claims related to front suspension crossmember corrosion in MY 2000 Chevrolet Tracker vehicles. Twenty-three of the complaints (92%) and all 7 of the warranty claims (100%) involved vehicles in salt-belt states.

ODI's analysis of the complaints and information provided by GM indicated that crossmembers were failing at the front attachment bracket for the lower control arm (LCA) due to crevice corrosion initiating on the interior of the part. GM and Suzuki attributed the problem to inadequate application of the electrodepositing corrosion protection (E-coat) on the interior surface of the crossmember. GM indicated that the subject crossmember was used in MY 1999 through 2004 Chevrolet Tracker vehicles. On October 30, 2006, the investigation was upgraded to an Engineering Analysis covering MY 1999 through 2004 Chevrolet Tracker vehicles in salt-belt states.

[1] For the purpose of this investigation, the "salt-belt" or corrosion states include the following 20 states and the District of Columbia: Connecticut, Delaware, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, West Virginia and Wisconsin.

DESCRIPTION OF COMPONENT OR VEHICLE SYSTEM: The subject crossmember is a front suspension component that provides a structural mount for the front link of the LCAs (Figure 2) and for the steering box. The crossmember has a box-type construction with upper and lower sections welded together along a flange. The interior is open to the environment through several drain holes and seams.

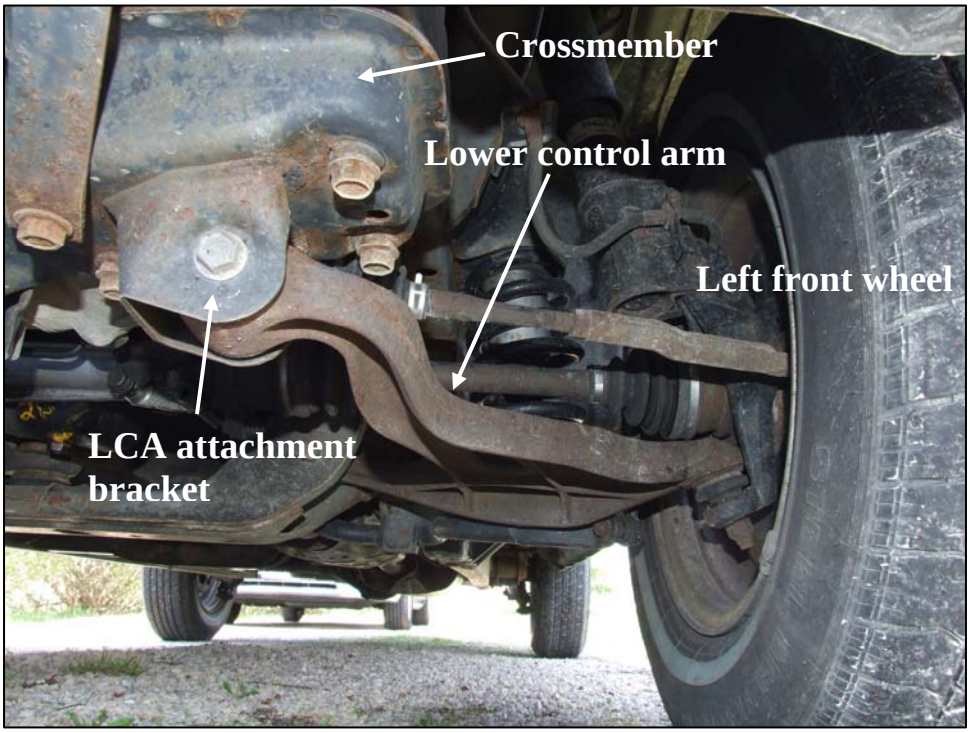


Figure 2. Front crossmember and left LCA attachment bracket, MY 2000 Chevrolet Tracker 4x4.

An electrodepositing (E-coat) corrosion protection is applied to the crossmembers, which must withstand 450 hours of salt spray without corrosion, swelling, peeling or softening of the coating.[2] A Suzuki painting standard[3] recommends a thickness of 20µm for vehicle components, but allows for variation as long as the corrosion resistance standard is met. According to Suzuki production documents, the E-Coat protection applied to the exterior of the crossmember is 20µm thick and the component meets the corrosion resistance specification.

Suzuki does not specify the E-Coat thickness for the interior of the part and Suzuki's examination of front crossmembers from field vehicles determined that the corrosion initiates on the interior of the part and that the E-Coating application did not provide adequate protection on the interior of the component.

[2] Suzuki Standard SES0197C.
[3] Suzuki Painting Parts Inspection Standard SES D2203a.

THE ALLEGED DEFECT: Corrosion of the front suspension crossmember that can result in separation of the LCA front attachment.

Figure 3. Partially separated right LCA attachment,
MY 2000 Chevrolet Tracker, Michigan, 92,000 miles.

FAILURE MECHANISM: Because the E-Coating application did not provide adequate corrosion protection on the interior of the crossmember, water and mud/salt from the road surface can enter through seams and holes and initiate crevice corrosion. Perforations may develop in areas of accelerated crevice corrosion. As perforations in the area of the LCA attachment grow, the bracket can fail, causing complete or partial separation of the LCA from the crossmember. Figure 4 shows the inside of a crossmember that was replaced for LCA separation after approximately 6 years of service.

Figure 4. Crevice corrosion inside crossmember.

CONTRIBUTING FACTORS: The primary factor contributing to the alleged defect in the subject vehicles appears to be insufficient corrosion protection on the inside of the crossmember coupled with exposure to road deicing materials (e.g., salts). GM has identified other possible factors including variability in the amount of E-Coating, vehicle underbody wash cycles and environmental conditions such as ambient and underhood temperatures and personal driving patterns (rural and urban, paved and non-paved roads).

VEHICLE POPULATION: GM sold approximately 230,000 Chevrolet Tracker vehicles equipped with the subject component. About 128,000 (55%) of these were sold in salt-belt states. The subject vehicles are all MY 1999 through 2004 Chevrolet Tracker vehicles sold or currently registered in salt belt states. Table 1 provides a breakdown of sales by region and model year.

	Model Year						
Region	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**Total**
Salt-belt	18,173	26,151	27,896	24,755	22,101	8,528	127,604
Other	15,008	18,722	21,878	20,990	19,527	6,717	102,842
Total	33,181	44,873	49,774	45,745	41,628	15,245	230,446

Table 1. Vehicle Sales by Region and Model Year.

FAILURE REPORT SUMMARY: ODI has identified 58 complaints and 12 warranty claims related to the alleged defect in the subject vehicles, including 21 to ODI and 37 to GM (Table 2). The owners of 3 of the subject vehicles submitted complaints to both ODI and GM, so the total count of complaint vehicles is 55. Over 90 percent of the complaints involved vehicles in salt belt states. None of the complaints or claims involved a crash or injuries.

Problem Experience	**EA Opened**			**EA Closed**		
	ODI	**GM**	**Total**	**ODI**	**GM**	**Total**
Owner Reports	6	29	32	21	37	55
Field Reports	-	-	-	-	-	-
Claims/Lawsuits	-	-	-	-	-	-
Injury Incidents	-	-	-	-	-	-
Fatal Incidents	-	-	-	-	-	-
Warranty Claims	-	12	12	-	12	12

Table 2. Complaint and Warranty Summary

WARRANTY: The subject vehicles are covered by a bumper-to-bumper new vehicle warranty for three years or 36,000 miles, whichever occurs first. A variety of extended warranty options were available for purchase for up to 7 years from the date of purchase or up to a total of 100,000 vehicle miles.

GM identified 15 warranty claims that were potentially related to the alleged defect. Based on its analysis of the repair codes and available claim summary information, ODI determined that 12 of the claims appear to be related to the alleged defect. Each of these

claims involved vehicles in salt-belt states that were beyond the standard warranty coverage terms. The time-in-service at repair ranged from 49 to 80 months and the repair mileages ranged from 32,982 to 104,507. Only 3 of the 12 warranty repairs occurred at less than 66,000 miles.

DESIGN, MATERIAL, AND/OR PRODUCTION MODIFICATIONS: Suzuki made no design or manufacturing changes related to the alleged defect during the production of the subject vehicles. In September 2006, Suzuki released a redesigned crossmember service part for the subject vehicles with enhanced E-coat corrosion protection coverage on the interior of the component.

TESTING: NHTSA's Vehicle Research and Test Center (VRTC) in East Liberty, Ohio assisted ODI in this investigation by participating in a vehicle driving demonstration simulating partial and complete separation of the LCA attachment, conducting a survey of Tracker owners, inspecting the front crossmembers in a select sampling of survey vehicles and performing more thorough analysis of corroded front crossmembers removed from two of the inspected vehicles.

Owner survey. VRTC conducted a survey of MY 1999 through 2001 Tracker owners to assess the frequency of front crossmember corrosion concerns in a salt-belt state. VRTC sent questionnaires to 308 owners of subject vehicles registered in 9 counties in west central Ohio. Seventy-two owners responded with information about the crossmember condition or service history. Figure 5 shows the VRTC survey vehicles by age and mileage categorized by owner-indicated corrosion and, for those indicating corrosion, whether the vehicle was inspected by VRTC. Forty-two of the owners who participated in the survey indicated that the front suspension crossmember was corroded on their vehicle or, in one instance, already replaced for corrosion related failure (58%).

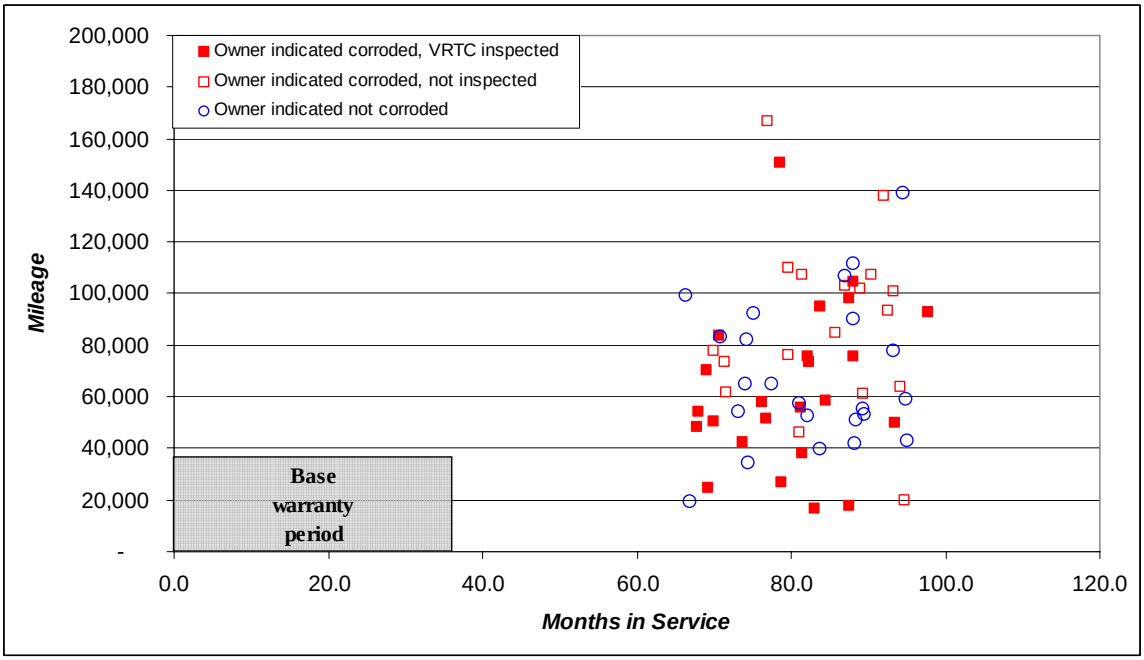
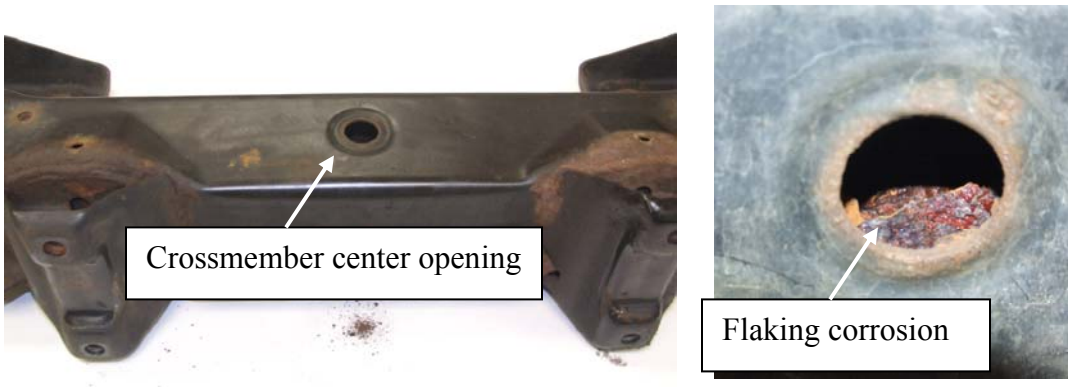


Figure 5. VRTC field survey vehicles by age and mileage.

Inspections. VRTC inspected the front suspension crossmembers of 23 of the 42 vehicles whose owners indicated observing crossmember corrosion in response to the survey.[4] The inspections found varying degrees of corrosion on the exterior surface of the parts, with little or no corrosion observed on 8 of the crossmembers and moderate exterior corrosion noted on 7 others. The crossmembers in the remaining 8 vehicles had more significant levels of exterior corrosion, particularly in the area around LCA attachment bracket, including two with heavy (flaking) corrosion. See Appendix A for examples of the levels of exterior crossmember corrosion observed in the VRTC vehicle inspections.



Figures 6a and 6b. Crossmember center opening used to assess interior corrosion.

Because the corrosion initiates on the inside of the parts, VRTC visually inspected the inside of 7 crossmembers through an opening in the center of the crossmember (Figure 6a). Though each of the 7 vehicles inspected in this manner exhibited a different degree of external corrosion, all 7 crossmembers showed significant levels of interior corrosion (i.e., loose, flaking corrosion – see Figure 6b).

Analysis of crossmember removed from vehicles. VRTC paid for the crossmembers on 2 of the 23 inspection vehicles to be replaced by GM dealers so that they closely examine the parts. One crossmember exhibited minimal exterior corrosion[5] and the other exhibited severe exterior corrosion. For the latter vehicle, the corrosion had progressed to the point that perforations had developed in the area above the LCA attachment bracket (see Figures A5 and A6 in Appendix A). For the other crossmember, initially classified as showing minimal exterior corrosion, VRTC observed perforations in two locations that were not visible when the part was installed in the vehicle (see Appendix B).

FAILURE MODE: Front suspension crossmember corrosion results in a progressive deterioration of the wall thickness of the part, leading to rust through perforations that typically occur in the area of the front LCA attachment brackets. If the perforations or corrosion are not detected during inspections or repairs, the perforations will grow in size resulting in progressive weakening of the front LCA attachment brackets.

[4] The front suspension crossmember of one vehicle scheduled for inspection by VRTC was replaced at a dealer prior to inspection due to "extreme" corrosion. VRTC was unable to inspect the vehicle or part.
[5] Interior flaking corrosion was observed through the center opening on this vehicle.

According to GM, the condition will first become evident to the driver when one or both attachments have weakened enough that they begin to flex. GM stated that, when this occurs, the driver may notice front tire wobble, steering looseness, vehicle pull to one side, front end noise (clunk, bang, rattle, etc.), vehicle shaking or steering wheel rotation when shifting from reverse to drive or drive to reverse.

Figure 7 shows an example of a crossmember with a large perforation above the left LCA attachment bracket that has not progressed to the stage where symptoms indicated by GM would be noticed by the driver.

Figure 7. Crossmember perforation above left LCA attachment bracket - MY 1999 Tracker, 69,000 miles, Brunswick, Ohio.

FAILURE EFFECTS: Both Suzuki and GM performed tests with the subject condition simulated to evaluate the effects on vehicle control. Suzuki's vehicle evaluation was conducted with the passenger side (right) front LCA attachment disconnected to simulate a completely separated LCA attachment bracket. Suzuki performed the following tests to evaluate the effects of a completely separated LCA attachment.

- During a hard stop (0.5g) from 80kph (50mph), the vehicle stopped within 53m (174ft) and pulled to the left without any steering correction.
- During a hard stop (0.5g) from 80kph (50mph), the vehicle stopped within 48m (164ft) and pulled to the left less than 1 meter with steering correction from the driver.
- The vehicle was driven through a slalom course at 40kph (25mph) and the driver was able to control the vehicle to a complete stop.

Suzuki's testing demonstrated that a vehicle with a complete separation of a LCA front attachment can be controlled with steering correction.

GM conducted its evaluation with the passenger side front LCA attachment modified to simulate the effects of a loose LCA attachment by welding a slotted attachment bracket

with an adjustable travel limiting bolt to control the amount of lateral movement up to 4 inches. GM tested the vehicle with the lateral movement limited to approximately 1 inch to simulate a partially separated LCA attachment (i.e., attachment that has begun to "flex"). GM also tested the vehicle with 4 inches of lateral movement allowed to simulate a complete LCA separation. The following summarize GM's descriptions of it vehicle evaluations contained in the PE06-021 response:

- Parking lot and low speed maneuvers, including shifts between reverse and drive, caused the steering wheel to rotate off-center approximately 20-30 degrees. Additional steering input was required to maintain intended path and looseness was felt in the steering system. Although the vehicle was easy to control, it was noted that significant steering wheel corrections were required.
- During stops from 50mph in a straight line at constant decelerations ranging from 0.05 to 0.7g and no steering wheel corrections by the driver, the vehicle pulled minimally to the left with LCA lateral movement limited to 1 inch and strongly to the left when the LCA was allowed to move 4 inches.
- During stops from 50mph in a straight line at constant decelerations ranging from 0.05 to 0.7g and steering correction by the driver, minimal correction was required to maintain path with LCA lateral movement limited to 1 inch and 180 degrees of steering wheel rotation were required to maintain road lane when the LCA was allowed to move 4 inches.

GM indicated that its testing showed that symptoms become more obvious to the driver as the range of travel of front LCA attachment point increases.

MANUFACTURER'S EVALUATION OF THE ALLEGED DEFECT: GM believes that the alleged defect in the subject vehicles does not pose a threat to motor vehicle safety because the condition presents symptoms to the driver before it progresses to the complete separation of the front LCA attachment and because the vehicle remains controllable even after complete separation has occurred based on vehicle testing and the absence of any crashes. GM maintains that the incident rates for reports and warranty claims that may relate to the alleged defect are extremely low, even in salt-belt states where most of the failure experience has been concentrated. Furthermore, GM indicated that its analysis of consumer complaints showed that, in general, "the driver realized that the vehicle required maintenance or service" before the LCA completely separated from the crossmember attachment bracket. The following is from GM's response to ODI's information request during PE06-021:

> **GM strongly believes the occurrence of the crossmember corrosion does not pose a threat to motor vehicle safety. All the warranty claims and two-thirds of the field reports state the crossmember was replaced for excessive corrosion found during vehicle inspections or other vehicle maintenance. As stated earlier, none of the field reports or warranty claims reported that the steering box separated from the crossmember assembly.**
>
> **GM and Suzuki's drive evaluations demonstrated that the Chevrolet Tracer's steering and braking systems can be effective in controlling the vehicle with the subject condition.**

GM SPECIAL COVERAGE PROGRAM: In October 2007, GM initiated a Special Coverage program for all MY 1999 through 2004 Chevrolet Tracker vehicles sold or currently registered in salt-belt states. The program extends the warranty coverage for front suspension crossmember corrosion to 10 years or 150,000 miles, whichever occurs first. GM is administering the program in phases due to part availability. The first phase started in October 2007 and covers the MY 1999 and 2000 vehicles. Owners of MY 2001 through 2004 vehicles will receive letters at a future date, but are eligible to receive free repairs from the program if they are experiencing symptoms. The owner letter states in part:

> **The Chevrolet Tracker vehicles have a front suspension cross member that did not receive adequate corrosion protection. The result of this condition may be most noticeable on vehicles driven in areas where rust is most common, such as areas where salt is used to control snow and ice. The corrosion may advance and cause rust-through perforation of the cross member in the area of the left and/or right front lower control arm attachment brackets. As the corrosion progresses, the cross member will become thinner and the perforations will grow in size. If there are a substantial amount of large perforations, the left and/or right front lower control arm attachment brackets will become weakened and begin to flex. If this occurs, the customer may notice front tire wobble, steering looseness, vehicle pull to one side, front end noises (clunk, bang, rattle, etc), vehicle shaking, or steering wheel rotation when shifting from reverse to drive and drive to reverse.**

GM's program provides free inspections for consumers every 12 months through the terms of the policy adjustment (10 years or 150,000 miles). Copies of the dealer bulletin and owner letter for GM's Special Coverage program are provided in Appendix C.

ODI ANALYSIS: ODI's analysis of information provided by GM and collected from the VRTC survey indicates that the subject front suspension crossmembers contain a defect in the corrosion protection applied to the interior of the parts that can result in loosening and eventual separation of the front LCA attachment. Analysis of all available warranty claim and complaint data show that the failures are occurring almost exclusively in salt-belt states (Tables 3-5). The overall failure rate in these states is approximately 0.48 incidents per thousand vehicles (IPTV), with the highest rate occurring in the MY 2000 vehicles in salt belt states (1.45 IPTV). The rates in the remaining (non salt-belt) states are much lower: 0.06 IPTV overall and 0.21 IPTV for MY 2000 vehicles.

	Model Year						
Region	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**Total**
Salt-belt	2	7	3	-	-	-	12
Other	-	-	-	-	-	-	-
Total	2	7	3	-	-	-	12

Table 3. Warranty Claims by Region and Model Year.

	Model Year						
Region	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**Total**
Salt-belt	13	31	5	-	-	-	49
Other	1	4	1	-	-	-	6
Total	14	35	6	-	-	-	55

Table 4. Owner Complaints by Region and Model Year.

	Model Year						
Region	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**Total**
Salt-belt	0.83	1.45	0.29	-	-	-	0.48
Other	0.07	0.21	0.05	-	-	-	0.06
Total	0.48	0.94	0.18	-	-	-	0.29

Table 5. Combined Failure Rates (IPTV) by Region and Model Year.

Analysis of the combined failure data from consumer complaints and warranty claims shows that it takes approximately 4 years for the corrosion of the front crossmember to progress far enough to produce driving symptoms (caused by complete or partial separation of the LCA attachment bracket from the crossmember) or visible evidence of extreme corrosion (Figure 8). The rate of confirmed LCA attachment separations in salt belt states at 5 years in service is 4.1 per 100,000 vehicles for all subject vehicles and 7.6 per 100,000 vehicles for the MY 2000 vehicles.

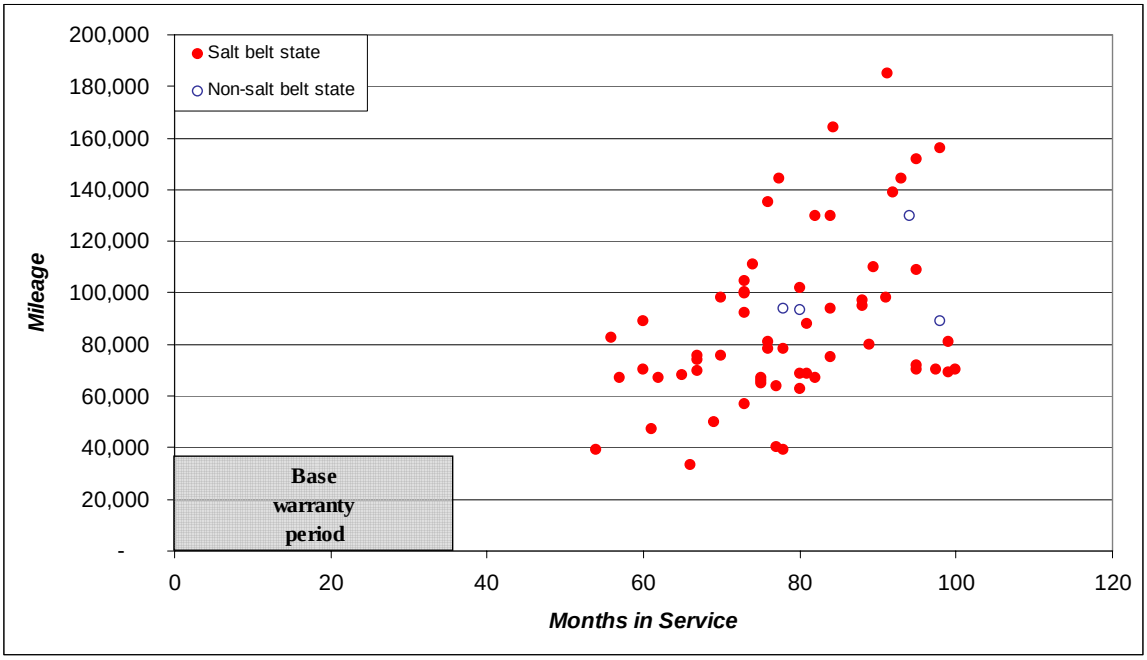


Figure 8. Front suspension crossmember failures (complaints and warranty claims) by age and mileage.

REASON FOR CLOSING: The rate of confirmed LCA separations at 5 years in service is less than 10 per 100,000 vehicles, which is low relative to other investigations of front suspension issues previously investigated by ODI.

ODI and VRTC engineers participated in testing of the vehicles GM modified to simulate a partially separated LCA attachment. The results of this testing indicate that when the LCA is only partially detached from the crossmember, the condition is noticeable and only minimal counter steering is required to maintain lane during hard braking. If the vehicle is driven until the LCA attachment bracket completely separates from the crossmember, or if a separation occurs suddenly, substantially more counter-steering is required to maintain course during hard braking.

While the absence of crashes or injuries does not mean that there is not a safety-related defect, there have been no reported crashes caused by the alleged defect in the subject vehicles, which have been in service for up to nine years.

GM's Special Program provides free inspections of vehicles sold or currently registered in a salt-belt state every 12 months through the terms of the policy adjustment (10 years or 150,000 miles). The program also provides for a free replacement of crossmembers as soon as signs of advanced corrosion or LCA attachment separation are detected. Limiting the program to salt-belt states is warranted by the higher failure rates in these states.

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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APPENDIX A:
Examples of different levels of exterior corrosion observed in survey vehicles inspected by VRTC.

Figure A1. Left LCA attachment, minimal corrosion, Inspection Vehicle #20, MY 2000 Tracker with 79 months in service and 26,765 miles.

Figure A2. Right LCA attachment, early corrosion, Inspection Vehicle #1, MY 2000 Tracker with 84 months in service and 75,336 miles.

Figure A3. Right LCA attachment, moderate corrosion, , Inspection Vehicle #11, MY 2000 Tracker with 82 months in service and 75,371 miles.

Figure A4. Left LCA attachment, exterior flaking corrosion, Inspection Vehicle #13, MY 2001 Tracker with 68 months in service and 54,115 miles.

Figure A5. Left LCA attachment, exterior flaking corrosion, Inspection Vehicle #8, MY 2000 Tracker with 84 months in service and 58,208 miles.

Figure A6. Left LCA attachment, perforated crossmember, Inspection Vehicle #8, MY 2000 Tracker less than one month after initial inspection.

APPENDIX B:
VRTC evaluation of a crossmember from an inspection vehicle with minimal level of exterior corrosion.

Figure B1. Left LCA attachment showing front surface of crossmember.

Figure B2. Left LCA attachment showing rear surface after part removal.

Figure B3. Perforation under the right LCA attachment, not visible during initial vehicle inspection.

APPENDIX C:
GM Special Coverage Adjustment Program

File In Section: Special Coverage
Bulletin No.: 06186
Date: October 2007

Service Bulletin

SPECIAL COVERAGE

SUBJECT: SPECIAL COVERAGE ADJUSTMENT – FRONT SUSPENSION CROSSMEMBER CORROSION

MODELS: 1999-2004 CHEVROLET TRACKER
CURRENTLY OR PREVIOUSLY REGISTERED IN THE STATES OF CONNECTICUT, DELAWARE, ILLINOIS, INDIANA, IOWA, MAINE, MARYLAND, MASSACHUSETTS, MICHIGAN, MINNESOTA, MISSOURI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, OHIO, PENNSYLVANIA, RHODE ISLAND, VERMONT, WASHINGTON D.C., WEST VIRGINIA, WISCONSIN, OR IN THE PROVINCES OF NEW BRUNSWICK, NEWFOUNDLAND, NOVA SCOTIA, ONTARIO, PRINCE EDWARD ISLAND, AND QUEBEC

Due to part availability, this special coverage is being administered in phases. The first phase will consist of 1999 and 2000 model year vehicles. Customers of 2001 – 2004 model year vehicles will not receive their notification letter until some time in the future. This, however, does not preclude them from presenting their vehicle for repair if they are experiencing this condition. In such cases, **dealers should perform the inspection/repair and submit a claim following the instructions contained in this special coverage bulletin**.

In other words, **this inspection/repair should be performed at no cost to the customer even though they may not have yet received their notification letter**. Under no circumstance should these customers be asked to pay for the repair and then advised to seek reimbursement from GM when their notification letter arrives.

You will be notified as additional phases are released.

Breakpoints listed in this bulletin cover vehicles in phase one only, which are the 1999 and 2000 model year vehicles. As additional phases are released, the breakpoints will be updated in SI.

CONDITION

Some 1999-2004 model year Chevrolet Tracker vehicles have a front suspension crossmember that did not receive adequate corrosion protection. The result of this condition may be most noticeable on vehicles driven in areas where rust is most common, such as areas where salt is used to control snow and ice. The corrosion may advance and cause rust-through perforation of the crossmember in the area of the left and/or right front lower control arm attachment brackets. As the corrosion progresses, the crossmember will become thinner and the perforations will grow

in size. If there are a substantial amount of large perforations, the left and/or right front lower control arm attachment brackets will become weakened and begin to flex. If this occurs, the customer may notice front tire wobble, steering looseness, vehicle pull to one side, front end noises (clunk, bang, rattle, etc), vehicle shaking, or steering wheel rotation when shifting from reverse to drive and drive to reverse.

Corrosion may progress over time until the front lower control arm bracket separates from the crossmember.

SPECIAL COVERAGE ADJUSTMENT

This special coverage covers the condition described above for a period of 10 years or 150,000 miles (240,000 km), whichever occurs first, from the date the vehicle was originally placed in service, regardless of ownership. The repairs will be made at no charge to the customer.

Dealers are to inspect the crossmember. If the crossmember shows signs of advanced corrosion or perforation caused by corrosion, the crossmember is to be replaced.

If the inspection indicates that the crossmember does not need replacement, customers may bring the vehicle back to the dealership every 12 months for another inspection.

Diagnosis or repair for conditions other than the condition described above is not covered under this special coverage program.

For vehicles covered by Vehicle Service Contracts, all eligible claims with repair orders on or after October 17, 2007, are covered by this special coverage and must be submitted using the labor operation codes provided with this bulletin. Claims with repair orders prior to October 17, 2007, must be submitted to the Service Contract provider.

VEHICLES INVOLVED

Note: Since this special coverage is being released in phases, breakpoints will be updated in SI as phases are released.

Involved are **certain** 1999-2004 Chevrolet Tracker vehicles built within the following VIN breakpoints:

YEAR	DIVISION	MODEL	FROM	THROUGH
1999	Chevrolet	Tracker	X6900587	X6938738
2000	Chevrolet	Tracker	Y6900052	Y6958644
2001	Chevrolet	Tracker	SOP – EOP in involved regions	
2002	Chevrolet	Tracker	SOP – EOP in involved regions	
2003	Chevrolet	Tracker	SOP – EOP in involved regions	
2004	Chevrolet	Tracker	SOP – EOP in involved regions	

PARTS INFORMATION

Parts required to complete this special coverage are to be obtained from General Motors Service and Parts Operations (GMSPO).

Part Number	Description	Quantity/Vehicle
91177632	Crossmember, Frt Susp	1

CUSTOMER NOTIFICATION

General Motors will notify customers of this special coverage on their vehicles (see copy of typical customer letter included with this bulletin - actual divisional letter may vary slightly).

SERVICE PROCEDURE

Inspection Procedure

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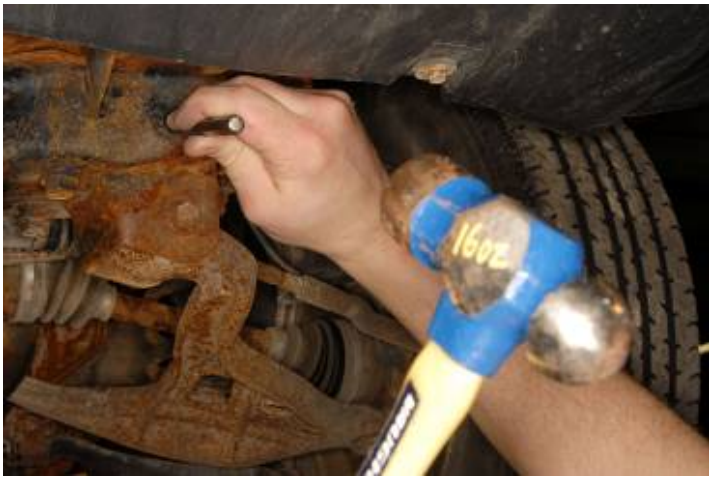
1. Conduct the steel integrity inspection using a 4.8 mm (3/16 in) flat-tip punch and a 340-454 gram (12-16 ounce) hammer.



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2. Place the punch on the crossmember surface and strike the punch with the hammer using a 25-31 cm (10-12 in) swing and light-to-moderate force. Inspect several locations on both the left and right sides of the crossmember.

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3. Carefully inspect the lower portion of the crossmember, on both the front and rear vertical surfaces, at the front lower control arm mount.

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- If the metal perforates or displays a significant "dent" upon test completion, replace the crossmember. Refer to *Front Suspension Crossmember Replacement* in SI.
- If the metal does NOT perforate or display a significant "dent" upon test completion, no further action is required. Refer to the Claim section of the bulletin.

Crossmember Replacement

1. Remove the crossmember from the vehicle. Refer to *Front Suspension Crossmember Replacement* in SI.

Important: After installing the new crossmember, measure the wheel alignment and adjust the front toe, if necessary. Refer *to Measuring Wheel Alignment and Front Toe Adjustment* in SI.

2. Install the new crossmember. Refer to *Front Suspension Crossmember Replacement* in SI.

CLAIM INFORMATION

For vehicles repaired under the terms of this special coverage, submit a claim with the information indicated below:

REPAIR PERFORMED	PART COUNT	PART NUMBER	PARTS ALLOW	CC-FC	LABOR OP	LABOR HOURS	NET ITEM
Inspect Front Suspension Crossmember – No Further Action Req'd.	N/A	N/A	N/A	MK-95	T5689	0.3	N/A
Inspect & Replace Front Suspension Crossmember (inc. Wheel Align & Front Toe Adjust)	1	---	*	MK-95	T5690	4.6	N/A
Customer Reimbursement (Canadian Dealers & US CAC)	N/A	N/A	N/A	MK-95	T5691	0.2	**

* The "Parts Allowance" should be the sum total of the current GMSPO Dealer net price plus applicable Mark-Up or Landed Cost Mark-Up (for Export) for front suspension crossmember needed to complete the repair.

** The amount identified in the "Net Item" column should represent the customer reimbursement amount.

CUSTOMER REIMBURSEMENT - For US

All customer requests for reimbursement for previous repairs for the special coverage condition will be handled by the Customer Assistance Center, not by dealers.

A General Motors Customer Reimbursement Procedure and Claim Form is included with the customer letter.

IMPORTANT: Refer to the GM Service Policies and Procedures Manual, section 6.1.12, for specific procedures regarding customer reimbursement and the form.

CUSTOMER REIMBURSEMENT - For Canada

Customer requests for reimbursement of previously paid repairs to correct the condition described in this bulletin are to be submitted to the dealer prior to or by January 31, 2009. Repairs must have occurred within the 10 years of the date the vehicle was originally placed in service, or 240,000 km, whichever occurs first.

When a customer requests reimbursement, they must provide the following:

- Proof of ownership at time of repair.
- Original paid receipt confirming the amount of unreimbursed repair expense(s) (including Service Contract deductibles), a description of the repair, and the person or entity performing the repair.

If the work was done by someone other than a GM dealership, the amount of reimbursement will be limited to the amount that the repair would have cost GM to have it completed by a GM dealership.

I M P O R T A N T

- Your 1999-2004 model year Chevrolet Tracker is involved in special coverage 06186.
- Your Chevrolet dealer will inspect the front suspension crossmember for corrosion that could result in control arm separation.
- Your dealer will perform this inspection for you at **no charge**.

Dear General Motors Customer:

As the owner of a 1999–2004 model year Chevrolet Tracker, your satisfaction with our product is very important to us.

Some 1999-2004 model year Chevrolet Tracker vehicles have a front suspension crossmember that did not receive adequate corrosion protection. The result of this condition may be most noticeable on vehicles driven in areas where rust is most common, such as areas where salt is used to control snow and ice. The corrosion may advance and cause rust-through perforation of the crossmember in the area of the left and/or right front lower control arm attachment brackets. As the corrosion progresses, the crossmember will become thinner and the perforations will grow in size. If there are a substantial amount of large perforations, the left and/or right front lower control arm attachment brackets will become weakened and begin to flex. If this occurs, the customer may notice front tire wobble, steering looseness, vehicle pull to one side, front end noises (clunk, bang, rattle, etc), vehicle shaking, or steering wheel rotation when shifting from reverse to drive and drive to reverse.

Corrosion may progress over time until the front lower control arm bracket separates from the crossmember.

Take your vehicle to your <VINDivisionName> dealer if you believe that your vehicle may have the condition as described above.

What We Have Done: General Motors is providing you with this special coverage for corrosion failures of the front crossmember. If this condition occurs on your 1999-2004 model year Chevrolet Tracker within 10 years of the date that your vehicle was originally placed in service or 150,000 miles (240,000 km), whichever occurs first, the condition will be repaired for you at **no charge**.

What You Should Do: If you believe that your vehicle may have the condition as described above, take your vehicle to your GM dealer and they will inspect the crossmember for you at no charge. If the crossmember shows signs of advanced corrosion or perforation caused by corrosion, the crossmember will be replaced at no charge.

If the inspection indicates that the crossmember does not need replacement, you may bring your vehicle back to your dealer every 12 months for another inspection. Keep this letter with your other important glove box literature for future reference.

Diagnosis or repair for conditions other than the condition described above is not covered under this special coverage program.

Reimbursement: The enclosed form explains what reimbursement is available and how to request reimbursement if you have paid for repairs for the special coverage condition.

If you have any questions or need any assistance, just contact your dealer or the Chevrolet Customer Assistance Center at 1-800-630-2438 or 1-800-833-2438 (TTY). The Customer Assistance Center's hours of operation are from 8:00 AM to 11:00 PM, EST, Monday through Friday.

We are sorry for any inconvenience you may experience; however we have taken this action in the interest of your continued satisfaction with our products.

Scott Lawson
General Director,
Customer and Relationship Services

Enclosure
06186