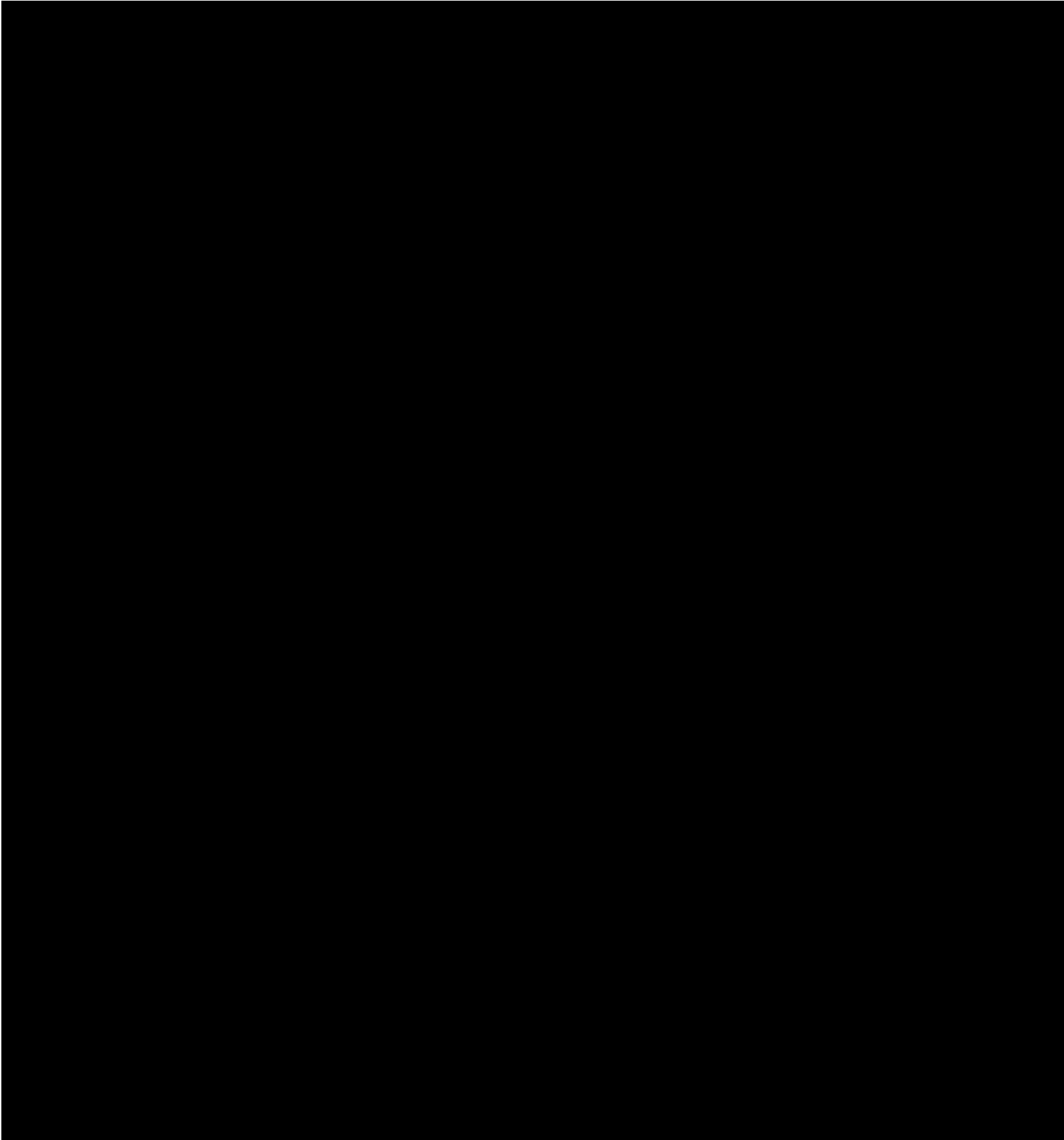
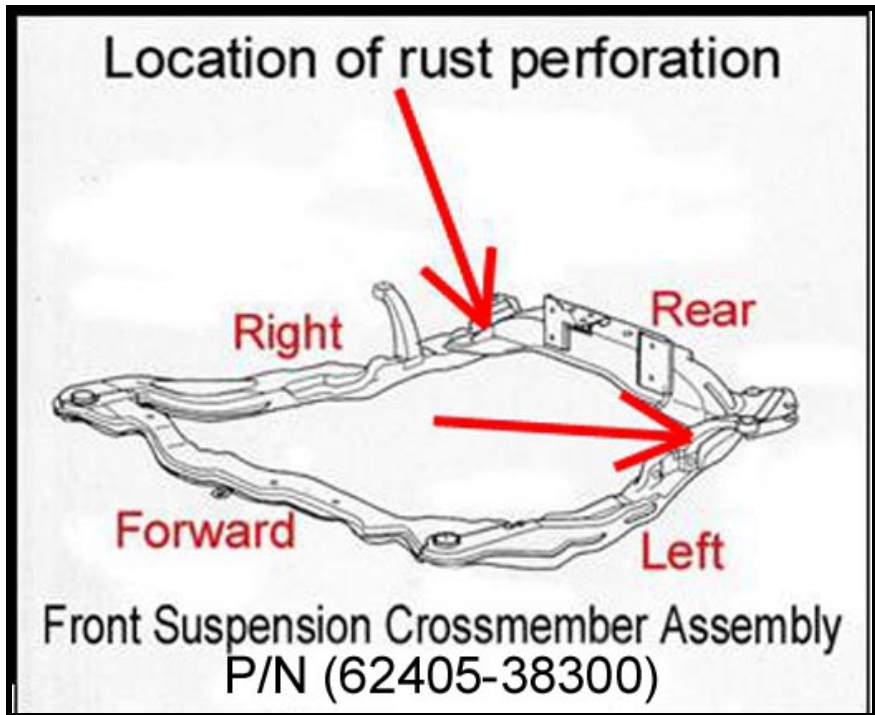


**PE08029/HYUNDAI-KIA  
EF 2001 CROSSMEMBER  
CORROSION 01**

**HYUNDAI**





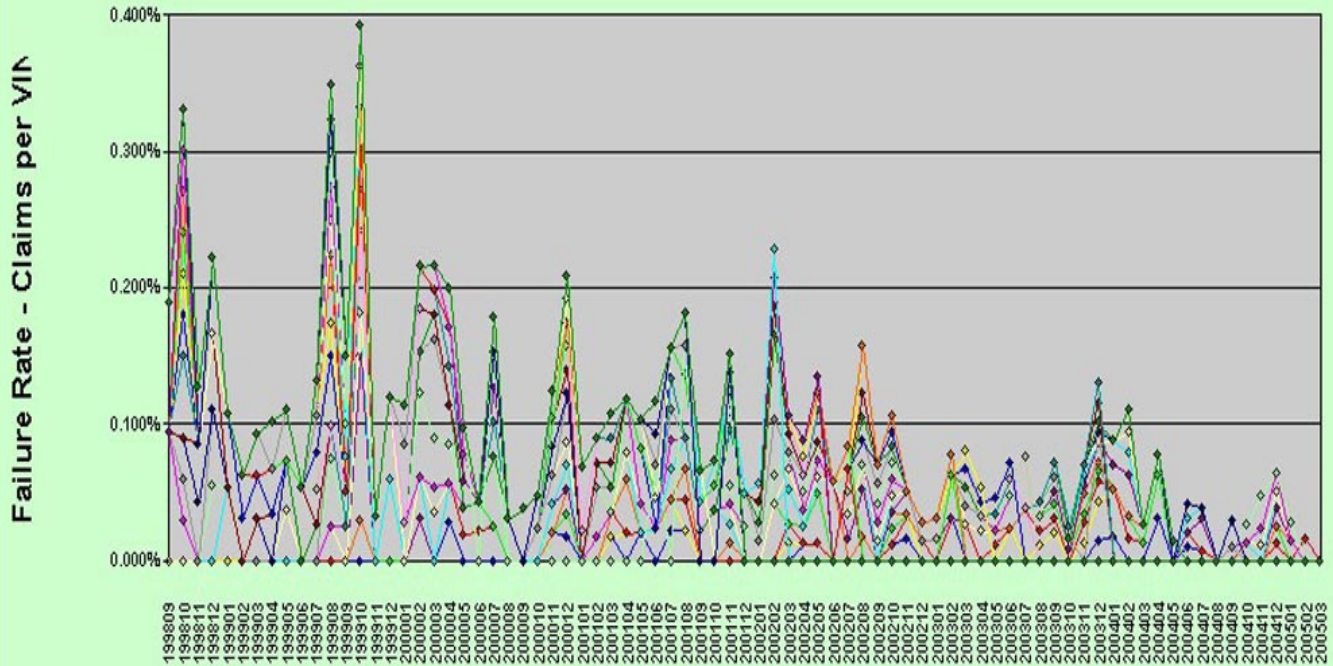
<b>ADDITIONAL VEHICLES WITH SIMILAR CONDITION</b>				
VIN	Production Date	Mileage	Condition	
KMHWF25S21A [REDACTED]	10/24/00	43444	Crossmember Corrosion.	
KMHWF25S71A [REDACTED]	8/28/00	84000	Crossmember Corrosion.	
KMHWF25S41A [REDACTED]	11/23/00	67401	Crossmember Corrosion.	
KMHWF25S81A [REDACTED]	10/20/00	100000	Crossmember Corrosion.	
KMHWF25S01A [REDACTED]	7/04/00	100000	Crossmember Corrosion.	

KMHWF35V81A	5/10/01	65000	Crossmember Corrosion.
KMHWF25S21A	9/19/00	59924	Crossmember Corrosion.
KMHWF25S51A	10/07/00	47561	Crossmember Corrosion.
KMHWF25S01A	3/17/01	38879	Crossmember Corrosion.
KMHWF25S11A	7/03/00	77118	Crossmember Corrosion.
KMHWF25S01A	8/10/00	77699	Crossmember Corrosion.

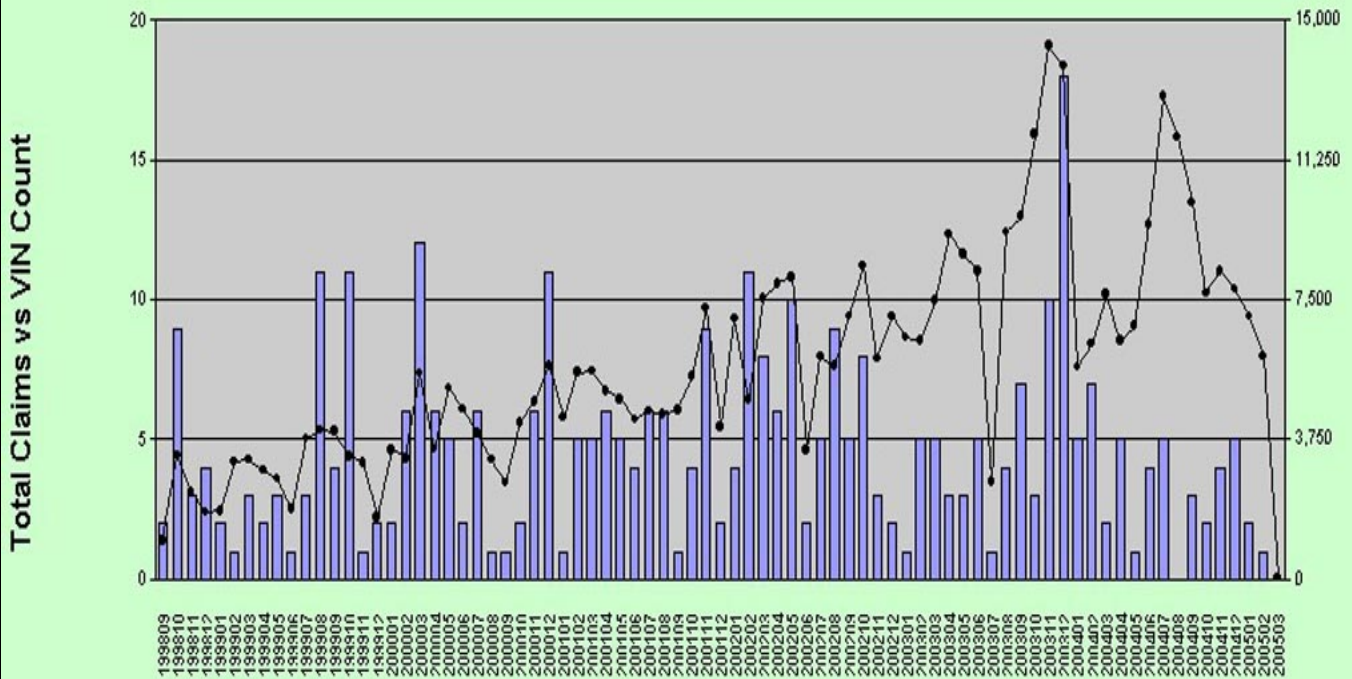
- Current warranty / goodwill data may not accurately quantify condition.

<b>WARRANTY / GOODWILL CLAIM DATA ANALYSIS</b>	
<b>Labor Operation (62410R00) 2001 EF Sonata</b>	
<b>Total Number of Claims With Parts</b>	<b>50 12</b>
<b>Total Cost</b>	<b>\$ 23,563</b>
<b>Average Cost Per Claim With parts</b>	<b>\$ 1,964</b>
<b>Nature Codes:</b>	<b>%</b>
<b>N29 (Abnormal Noise)</b>	<b>76</b>
<b>N56 (Rust, Corrosion)</b>	<b>12</b>
<b>Cause Codes:</b>	<b>%</b>
<b>C06 (Broken, Split, Torn)</b>	<b>42</b>
<b>C05 (Rusty, Corroded)</b>	<b>24</b>
<b>Mileage Range:</b>	<b>%</b>
<b>0 – 25</b>	<b>0</b>
<b>26 – 6,000</b>	<b>0</b>
<b>6,001 – 12,000</b>	<b>0</b>
<b>12,001 – 18,000</b>	<b>10</b>
<b>18,001 – 24,000</b>	<b>0</b>
<b>24,001 – 30,000</b>	<b>3</b>
<b>30,001 – 36,000</b>	<b>5</b>
<b>36,001 – 48,000</b>	<b>10</b>
<b>48,000 – Over</b>	<b>72</b>
<b>In Service:</b>	<b>%</b>
<b>0 – (PDS)</b>	<b>0</b>
<b>1 – 90</b>	<b>0</b>
<b>91 – 180</b>	<b>0</b>
<b>181 – 270</b>	<b>0</b>
<b>271 – 365</b>	<b>15</b>
<b>366 – 730</b>	<b>16</b>
<b>731 – 1,096</b>	<b>25</b>
<b>1,097 – Over</b>	<b>44</b>

### Op Code Waterfall Chart Production Range - ALL



### Claims by Production Month vs VIN Count



- Warranty coverage for the Crossmember assembly is 5 years and / or 60,000 miles.
- Crossmember Assembly Part Number Identification by vehicle production date:  
62405-38300 for vehicle produced from 8/14/00 to current.

### 3. Corrective Action:

- Replace crossmember assembly P/N (62405-38300).

### 4. Recommendation:

- HMC should investigate the Crossmember corrosion condition and take necessary corrective action.
- HMC countermeasure of increasing the paint thickness inside the crossmember assembly on 11/20/03 production vehicles may not be an effective solution for those vehicles produced after that date.
- HMA would like to know internal crossmember paint thickness measurements before and after countermeasure.
- Additionally HMA requests HMC to provide an effective countermeasure for vehicles produced prior to the countermeasure date.
- Customers who experience this condition may perceive an image of poor quality, long term durability and technician serviceability.

### 5. Attachments:

**PE08029/HYUNDAI-KIA**  
**QAEF-C-061205**

<b>Model Code</b> EF	<b>Subject Code*</b> CHASSIS	<b>Severity Code</b>	<b>HMA Report Number</b> QAEF-C-061205	
<b>Creation date/time/user:</b> 12/18/2006 12:22:36 by Randy Craley		<b>Analyst:*</b> Randy Craley	<b>Co-analyst(s):</b>	<b>Modified date/time/user:</b> 12/18/2006 12:51:45 PM by Randy Craley
<b>Distributor*</b> HMA	<b>Country*</b> USA	<b>Vendor Info</b>	<b>Causal part No</b>	<b>Attachments</b>  Yes <input type="checkbox"/> Movie <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Part <input type="checkbox"/> Other
<b>Model*</b> EF SONATA	<b>Engine or Transmission #*</b> G4JSY363855	<b>Lot #</b>	<b>Production Date*</b> (MM/DD/YY) 10-24-2000	
<b>VIN*</b> KMHWF25S21A390671	<b>Mileage*</b> 43444	<b>Repair Date</b> (MM/DD/YY)	<b>Delivery Date*</b> (MM/DD/YY) 07-23-2001	
<b>Subject*</b> [A] 2001 SONATA FRONT SUSPENSION CROSSMEMBER ASSEMBLY CPRROSION / RUST PERFORATION – DURABILITY / SERVICEABILITY ISSUE - HMC				

Types of QIR					
<input type="checkbox"/> General	<input type="checkbox"/> Early Warning	<input type="checkbox"/> Serviceability	<input type="checkbox"/> Port	<input type="checkbox"/> Monitoring	<input type="checkbox"/> VDS

**Condition:**

Date: 12/18/2006

Report Number :

- Customer states the crossmember is corroded.

**Analysis:**

Date: 12/18/2006

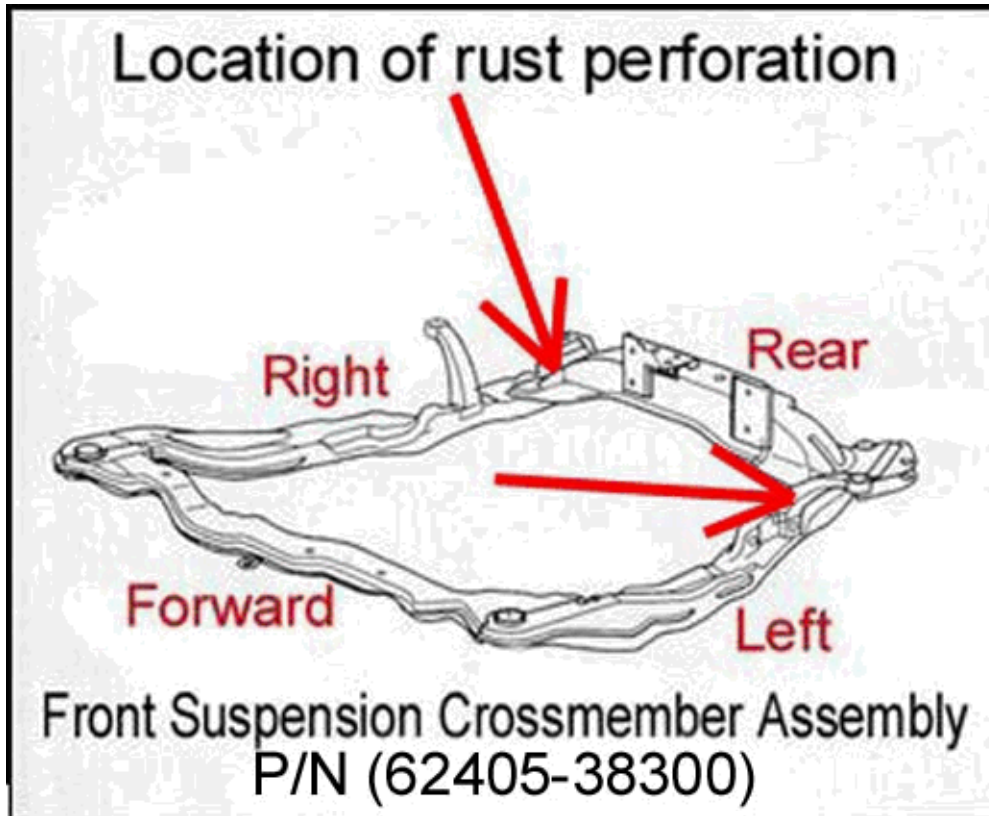
Report Number :

- Inspection revealed corrosion at the right rear section of the crossmember assembly P/N (62405-38300).
- Corrosion of the crossmember assembly is more evident at the right rear section of the crossmember assembly which may possibly be related to the air conditioning evaporator water dripping unto it.
- However additional incident vehicles have corrosion to the left rear section of the crossmember and or both left and right rear sections.



- Corrosion condition is not limited to the right rear section of the crossmember assembly
- Crossmember corrosion condition may result in the following customer and or servicing dealer complaints.
  - 1). Vehicle will not pass State Inspection.
  - 2). Technicians complain that when they are removing the lower control arm assembly to perform a ball joint replacement procedure the forward mount attaching bolts are seized to the fixed nut welded inside the crossmember assembly. When removing the 17mm attaching bolts the fixed nut inside the crossmember assembly separates from the assembly and spin freely.
- Central and Eastern regions of the USA represent 87% of the repairs. This is the "snow belt" area which have highly corrosive environments from salt and chloride materials used for snow removal.
- See attached photographs and illustration.





## ADDITIONAL VEHICLES WITH SIMILAR CONDITION

VIN	Production Date	Mileage	Condition
KMHWF25S21A390671	10/24/00	43444	Crossmember Corrosion.
KMHWF25S71A363353	8/28/00	84000	Crossmember Corrosion.
KMHWF25S41A403243	11/23/00	67401	Crossmember Corrosion.
KMHWF25S81A387709	10/20/00	100000	Crossmember Corrosion.
KMHWF25S01A335944	7/04/00	100000	Crossmember Corrosion.
KMHWF35V81A487101	5/10/01	65000	Crossmember Corrosion.
KMHWF25S21A372817	9/19/00	59924	Crossmember Corrosion.
KMHWF25S51A381978	10/07/00	47561	Crossmember Corrosion.
KMHWF25S01A458904	3/17/01	38879	Crossmember Corrosion.
KMHWF25S11A335208	7/03/00	77118	Crossmember Corrosion.
KMHWF25S01A354090	8/10/00	77699	Crossmember Corrosion.

- Current warranty / goodwill data may not accurately quantify condition.

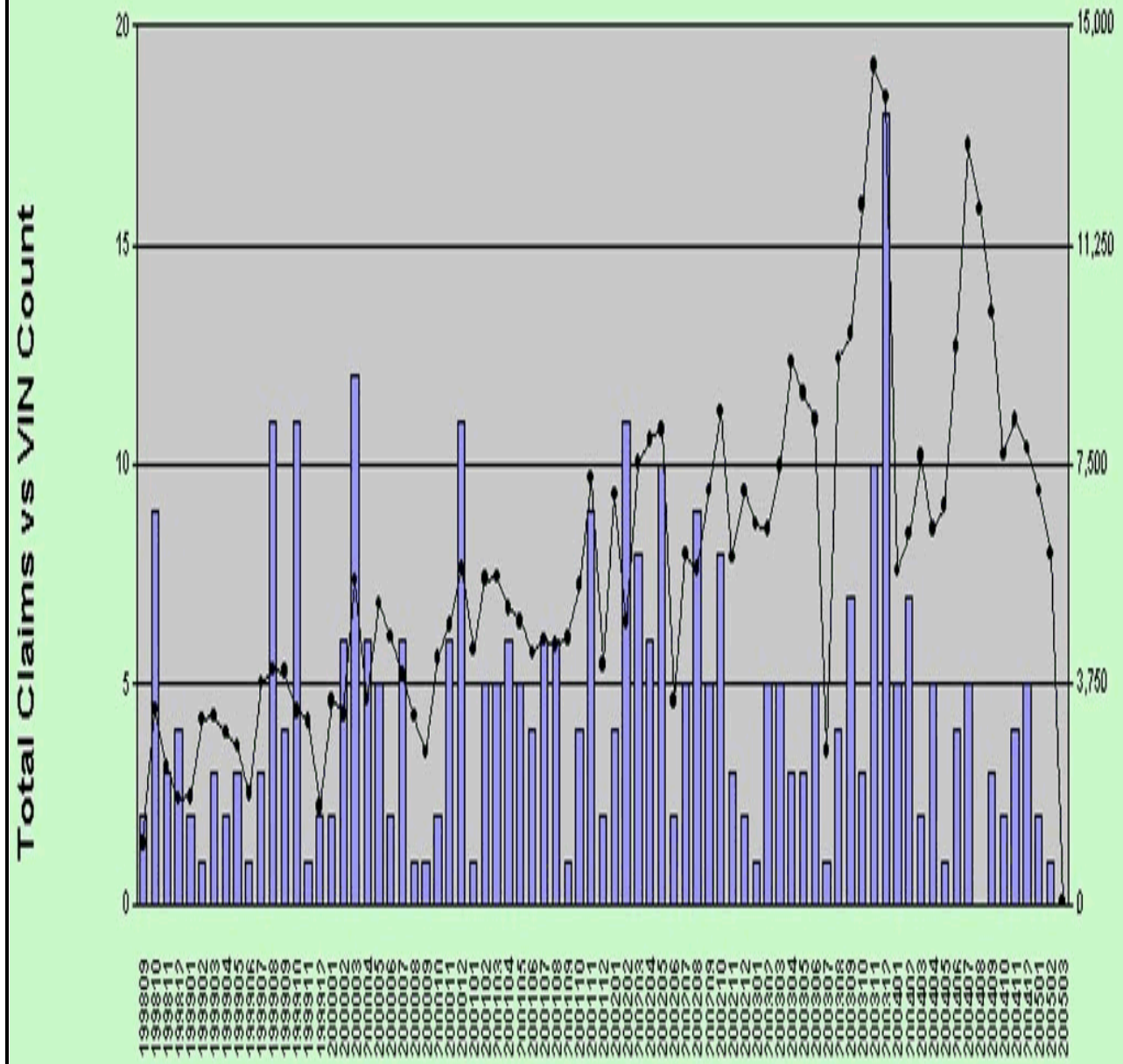
## WARRANTY / GOODWILL CLAIM DATA ANALYSIS

Labor Operation (62410R00)  
2001 EF Sonata

Total Number of Claims	50
With Parts	12
Total Cost	\$ 23,563
Average Cost Per Claim With parts	\$ 1,964
Nature Codes:	%
N29 (Abnormal Noise)	76
N56 (Rust, Corrosion)	12
Cause Codes:	%
C06 (Broken, Split, Torn)	42
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Mileage Range:	%
0 – 25	0
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6,001 – 12,000	0
12,001 – 18,000	10
18,001 – 24,000	0
24,001 – 30,000	3
30,001 – 36,000	5
36,001 – 48,000	10
48,000 – Over	72
In Service:	%
0 – (PDS)	0
1 – 90	0
91 – 180	0
181 – 270	0
271 – 365	15
366 – 730	16
731 – 1,096	25
1,097 – Over	44

### Op Code Waterfall Chart Claims by Production Month vs VIN Count

■ Total Claims    
 ◆ VIN Count



- Warranty coverage for the Crossmember assembly is 5 years and / or 60,000 miles.
- Crossmember Assembly Part Number Identification by vehicle production date:  
62405-38300 for vehicle produced from 8/14/00 to current.

**Corrective Action:**

Date: 12/18/2006

Report Number :

- Replace crossmember assembly P/N (62405-38300).

**Comments and Recommendations:**

Date: 12/18/2006

Report Number :

- HMC should investigate the Crossmember corrosion condition and take necessary corrective action.
- HMC countermeasure of increasing the paint thickness inside the crossmember assembly on 11/20/03 production vehicles may not be an effective solution for those vehicles produced after that date.
- HMA would like to know internal crossmember paint thickness measurements before and after countermeasure.
- Additionally HMA requests HMC to provide an effective countermeasure for vehicles produced

prior to the countermeasure date.

- Customers who experience this condition may perceive an image of poor quality, long term durability and technician serviceability.

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**Attachments:**

Date: 12/18/2006

Report Number :



Copy of 2001 EF Crossmember.xls



EF 2001 Crossmember Corrosion 02.jpg



EF 2001 Crossmember Corrosion 01.jpg



EF 2001 CROSSMEMBER CORROSION 01.doc

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