

INFORMATION Redacted PURSUANT TO THE FREEDOM OF
INFORMATION ACT (FOIA), 5 U.S.C . 552(B)(6)

**RESPONSE TO QUESTION
NO. 9**

Response to Question 9

a. Action title or identifier	b. The actual or planned start date	c. The actual or expected end date	d. Brief summary of the subject and the objective of the action	e. Engineering group(s)/supplier(s) designing and for conducting the action
Defect Investigation 03-1-1	12/13/2002	3/4/2003	Investigate reports of upper bunk side window glass de-bonding from the window opening side track mechanism.	Water Bonnet, supplier of the window.
QJ843-11	7/24/2006	9/11/2006	Lower sleeper window leaking	Water Bonnet, supplier of the window.
QJ843-12	10/16/2006	2/12/2007	Lower sleeper window leaking	Water Bonnet, supplier of the window.
QJ844-13	2/16/2009	5/18/2009	Investigate reports of sleeper side window side track de-bonding from the window glass.	Water Bonnet, supplier of the window.
Defect Investigation V2010-01	10/13/2009	6/7/2010	Investigate reports of upper bunk side window glass de-bonding from the window frame.	Mack Molding, Sika Transportation & Component Unit, Volvo Trucks Engineering AND Supplier Quality Departments
Defect Investigation V2010-04	5/1/2010	12/2/2010	Investigate reports of upper bunk side window of the bottom track that attaches to the arms used to open and close the window de-bonding.	Water Bonnet, supplier of the window.

**DEFECT INVESTIGATION
NO. 03-1-1**


Powell Charles

From: Coy R Miller [CMiller@waterbonnet.com]
Sent: Monday, December 16, 2002 11:18 AM
To: Barbara Flammia; Ken Isabell; Ken Roberts (Ken Roberts); Ben Greer; "Terry G Safer"@mail-gw2.volvo.se
Cc: Keith Mabe; Joe Anderson; Chuck Powell; Ken Moore; Stewart Moran
Subject: Water Bonnet Phone Report



PR-Volvo-TS KI CM
TA-2002-12-1...

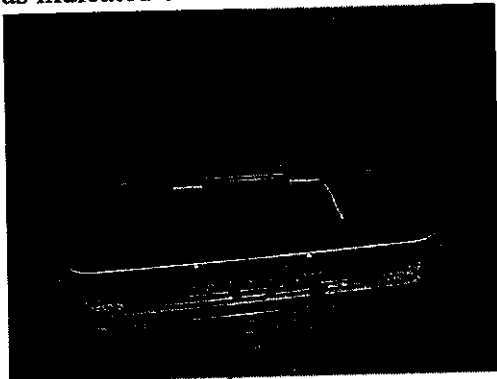
Coy R Miller
Water Bonnet Mfg Inc
mailto:CMiller@waterbonnet.com

	TRIP REPORT	PHONE REPORT	X	REPRESENTATIVES Terry Safer with Kenneth Isabell, Terry Adams, Coy Miller
	DATE OF VISIT/CALL	12/13/02		
	Conference call with Volvo concerning slider tracks			
	WB	TW	X	

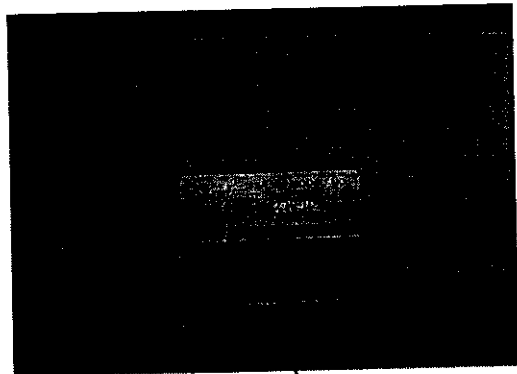
ACCT. # :	COMPANY:		<u>CONTACT MADE (x)</u>		<u>CONTACT MADE (x)</u>
66656	Volvo Trucks N. America	X	Gary Brewer,	X	Thomas Keberly Jr., Purchasing Project Manager, Greensboro 336-393-2709
X	Andy Adams,	X	Ken Moore, Engineer Prod. Reliability , Dublin 540-674-7399	X	Jason Spence, Assoc. Eng. Production Development, Greensboro 336-393-3065
X	Chuck Powell, Staff Recall Administrator	X	Stewart Moran, Supplier Quality Assurance Eng., Dublin 540-674-71537153	X	Martin Phillips, Assoc. Eng. Product Development, Greensboro
X	Don Porter, Quality Assurance Dept.	X	Joe Anderson, Quality Assurance Dept.	X	Keith Mabe, Quality Assurance Engineer, Greensboro 336-393-2692
X	Martin Phillips,	X	Brenda McCoy, Planner / Expeditor, Dublin 540-674-7372	X	Ken Moore, Warranty Claims Dealer Liaison

Recap of phone calls on 12/13/02 regarding the issue of the slider track coming un-glued from the glass on the Volvo sleeper windows.

We have isolated the production dates of the questionable windows to those windows built between 8/22/02 and 9/2/02 bearing Julian dates ranging from 234-02 to 245-02. Julian dates indicate the numbered day of the specified year. To find the date sticker, open the window and look inside the track from the outside of the window as indicated below.



Sticker location



Sticker showing Julian date of 234-02

There are a total of 760 windows, consisting of 360 of part number 807613 and 400 of part number 807614, which are suspect. Volvo will issue a recall notice to all dealers telling them which VIN numbers are involved and instructions for dealing with the situation.

Volvo will also issue a recall notice to all truck owners with vehicles built between the dates of 8/22/02 and 11/6/02 instructing them to bring those vehicles to the nearest Volvo dealership to have the windows inspected and repaired as needed.

A team from Water Bonnet Mfg., Inc. will inspect all trucks on the yard at Volvo and repair all windows found to be faulty. This process will commence on 12/17/02.

12/13/02 cm

Powell Charles

From: Moore Kenneth
Sent: Thursday, December 19, 2002 3:26 PM
To: 'CMiller@waterbonnet.com'; 'TSafer@waterbonnet.com'; Adams Andy; Spence Jason; Phillips Martin; Powell Charles; Brewer Gary
Cc: Moran Stewart; Schlottmann Guenter; Lytton Duane; Grubb Daniel
Subject: VNL Window Roof Side - Water Bonnet



PR-Volvo-TS KI CM
TA-2002-12-1...



Water Bonnet Sleeper
Windows.x...

Gentlemen,


We were able to verify the integrity of (523) VN trucks, P/N 8078613 and P/N 8078614 at the NRV plant, truck transport facility and Fontaine. Water Bonnet sent (4) individuals to check the windows on all the trucks and inventory at Dublin, VA. I have attached a copy of all the trucks checked. These trucks should not be included in the Recall. Any windows found defective were changed. Trucks that have the build date were units located at truck transport facility. The julian date is Water Bonnet's build date for the window. If there are any questions please give me a call.

Regards,
Ken Moore

-----Original Message-----

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Sent: Monday, December 16, 2002 11:18 AM
To: Barbara Flammia; Ken Isabell; Ken Roberts (Ken Roberts); Ben Greer; "Terry G Safer"@mail-gw2.volvo.se
Cc: Keith Mabe; Joe Anderson; Chuck Powell; Ken Moore; Stewart Moran
Subject: Water Bonnet Phone Report

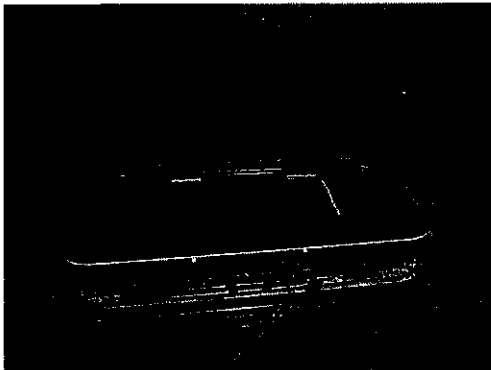
Coy R Miller
Water Bonnet Mfg Inc
mailto:CMiller@waterbonnet.com

	TRIP REPORT	PHONE REPORT	X	REPRESENTATIVES	
	DATE OF VISIT/CALL			12/13/02	Terry Safer with Kenneth Isabell, Terry Adams, Coy Miller
	Conference call with Volvo concerning slider tracks				
	WB	TW	X		

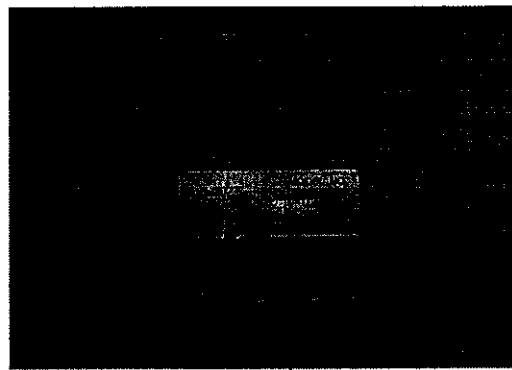
ACCT. # :	66656		<u>CONTACT MADE (x)</u>		<u>CONTACT MADE (x)</u>
COMPANY:	Volvo Trucks N. America	X	Gary Brewer,	X	Thomas Keberly Jr., Purchasing Project Manager, Greensboro 336-393-2709
	X Andy Adams,	X	Ken Moore, Engineer Prod. Reliability , Dublin 540-674-7399	X	Jason Spence, Assoc. Eng. Production Development, Greensboro 336-393-3065
	X Chuck Powell, Staff Recall Administrator	X	Stewart Moran, Supplier Quality Assurance Eng., Dublin 540-674-71537153	X	Martin Phillips, Assoc. Eng. Product Development, Greensboro
	X Don Porter, Quality Assurance Dept.	X	Joe Anderson, Quality Assurance Dept.	X	Keith Mabe, Quality Assurance Engineer, Greensboro 336-393-2692
	X Martin Phillips,	X	Brenda McCoy, Planner / Expeditor, Dublin 540-674-7372	X	Ken Moore, Warranty Claims Dealer Liaison

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12/13/02 cm

Powell Charles

From: Adams Andy
Sent: Monday, December 16, 2002 8:47 AM
To: Powell Charles
Cc: Anderson James
Subject: FW: Window Roof Side 660 / 770

Chuck,
Here is the list of trucks that will be inspected at ATT.
PNs stated below.

Andy

-----Original Message-----

From: Moore Kenneth
Sent: Saturday, December 14, 2002 12:40 PM
To: Adams Andy; Porter Donald; Mabe Keith; Moran Stewart; Spence Jason; Lytton Duane; Grubb Daniel
Cc: Schlottmann Guenter
Subject: Window Roof Side 660 / 770

Gentlemen,
I have attached a copy of all the 660's and 770's that were built prior to November 8, 2002. All these units are now (12/14/02) located at the truck transport facility.
The roof side windows P/N's 8078613 & 8078614 are suspect. Water Bonnet can not assure that these windows will have a positive bond between the glass and metal slide strip. It has been determined that these units should be put on hold until Water Bonnet can inspect and insure their integrity.
Regards,
Ken Moore



list.xls

Powell Charles

From: Moore Kenneth
Sent: Thursday, January 09, 2003 1:41 PM
To: 'CMiller@waterbonnet.com'
Cc: Powell Charles
Subject: Sleeper Windows

Coy,

We need a list of the VIN's of the trucks Water Bonnet replaced at Nocarato Volvo & GMC Truck in Nashville, TN. Charles Powell (Recall Administrator) 336-393-223 would like to delete these trucks along with the ones you checked at Dublin, VA. Please send these as soon as possible.

Charles has some concerns with the dealerships and their technicians making the decision of replacing the window or not. The final decision to Recall has not been determined at this point in time. It will be presented to the committee by Charles, Monday January 13, 2003. Charles tells me that he is planning on calling you tomorrow January 10, 2003. Feel free to call him, he would like to discuss all the issues with you prior to his presentation. Regards,
Ken Moore

Powell Charles

From: Moore Kenneth
Sent: Friday, January 10, 2003 11:51 AM
To: Powell Charles
Subject: FW: Spread Sheet



volvorepl.xls

Chuck,
Here are is the list of trucks that were inspected and corrected if necessary at Nocarato Volvo & GMC Truck in Nasheville, TN.
These can be deducted from the dial run.
Ken Moore

-----Original Message-----

From: Terry L Adams [mailto:TLAdams@WaterBonnet.com]
Sent: Friday, January 10, 2003 11:50 AM
To: kenneth.moore@volvo.com; "Coy R Miller"@mail-gw1.volvo.se
Subject: Spread Sheet

Ken

Here is a spread sheet on the information that you had asked for from Coy M.

Terry L Adams
Water Bonnet Mfg Inc
mailto:TLAdams@WaterBonnet.com

Powell Charles

From: Moore Kenneth
Sent: Friday, January 10, 2003 1:05 PM
To: Powell Charles
Subject: FW: VNL Window Roof Side - Water Bonnet



PR-Volvo-TS KI CM
TA-2002-12-1...



Water Bonnet Sleeper
Windows.x...

Chuck,

Here is the list of trucks Water Bonnet corrected here at Dublin, VA. They tell me that they started using the power coat on the metal strip week 51.02 and went to the black anodised week 2.03.

Ken Moore

-----Original Message-----

From: Moore Kenneth
Sent: Thursday, December 19, 2002 3:26 PM
To: 'CMiller@waterbonnet.com'; 'T safer@waterbonnet.com'; Adams Andy; Spence Jason; Phillips Martin; Powell Charles; Brewer Gary
Cc: Moran Stewart; Schlottmann Guenter; Lytton Duane; Grubb Daniel
Subject: VNL Window Roof Side - Water Bonnet

Gentlemen,

We were able to verify the integrity of (523) VN trucks, P/N 8078613 and P/N 8078614 at the NRV plant, truck transport facility and Fontaine. Water Bonnet sent (4) individuals to check the windows on all the trucks and inventory at Dublin, VA. I have attached a copy of all the trucks checked. These trucks should not be included in the Recall. Any windows found defective were changed. Trucks that have the build date were units located at truck transport facility. The julian date is Water Bonnet's build date for the window. If there are any questions please give me a call.

Regards,
Ken Moore

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From: Coy R Miller [mailto:CMiller@waterbonnet.com]
Sent: Monday, December 16, 2002 11:18 AM
To: Barbara Flammia; Ken Isabell; Ken Roberts (Ken Roberts); Ben Greer; "Terry G Safer"@mail-gw2.volvo.se
Cc: Keith Mabe; Joe Anderson; Chuck Powell; Ken Moore; Stewart Moran
Subject: Water Bonnet Phone Report

Coy R Miller
Water Bonnet Mfg Inc
mailto:CMiller@waterbonnet.com

INTEROFFICE MEMO

TO: Steve Buchinsky
Bill Dawson
Terry Grube
Dennis Langervik
Gilbert Passin

DATE: January 14, 2003

FROM: Chuck Powell

SUBJECT: Defect Investigation
03-1-1

Attached for your review and response is a copy of the chronology for Defect Investigation 03-1-1 entitled "Roof Side Window".

The slider track glued to the upper sleeper window may come loose and allow the window glass to fall free of the vehicle. If this occurs the glass may become a projectile potentially hitting a pedestrian or passing vehicle.

This matter will affect approximately 1,800 VNL, and VNM model trucks, built between August, and September of 2002.

There will be an inspection and as required the replacement of the suspect glass.

After your review, please date and sign the attached "Defect Committee Member Form" and return it to me by **January 20, 2003**.

If you have questions concerning the investigation please give me a call at extension 2233.



Enclosures (2)

VOLVO

DEFECT INVESTIGATION

1. **TITLE:** Roof Side Window **INVESTIGATION NO.** 03-1-1
2. **SUBMITTED BY:** Product Reliability **RECALL NO.**
3. **STATUS:** Investigation **NHTSA NO.**
4. **EXPOSURE:** VNL Models

5. **PROBLEM SUMMARY:**

The slider track on the upper sleeper window may come un-glued from the window glass. If this were to occur the window glass may separate from the window assembly and potentially becoming a projectile capable of hitting a pedestrian or a vehicle.

6. **CHRONOLOGY:**

- 12-13-02 Product Reliability reported that a problem had been encountered with the 770 and 660 upper window glass coming out.
The vendor of the parts has been involved and stated that the slider track glued to the window glass may come loose. If that happens the glass will eventually fall free of the window assembly.
Water Bonnet believes the suspect period is from 8-22-02 through 9-2-02. The vendor is inspecting every vehicle they can locate. If the window has a certain date codes they are testing the slider track to see if the glued joint is good.
- 1-10-03 Water Bonnet has provided VTNA with a list of all vehicles they have inspected in the field.
The vendor provided a copy of their inspection instructions used in the field.
- 1-14-03 Issue sent to the Committee for their review and recommendations.

VOLVO

DEFECT COMMITTEE MEMBER POSITION

DEFECT INVESTIGATION NO.: 03-1-1

TITLE: Roof Side Window

COMMITTEE MEMBER/DESIGNATE POSITION:

- Recommends submitting the determination request
- Do not recommend submitting the determination request
- Request additional information
- Inconclusive findings continue investigation

COMMITTEE MEMBER/DESIGNATE SIGNATURE: _____

DATE: _____

Please return form by: Monday January 20, 2003

To: C Powell
Recall Department
Corp. Center 2nd Floor

Powell Charles

From: Moore Kenneth
Sent: Friday, January 17, 2003 8:44 AM
To: 'CMiller@waterbonnet.com'
Cc: Powell Charles; Schlottmann Guenter
Subject: Meeting - Water Bonnet

Gentlemen,
We have NR4 reserved here at NRV for our meeting Thursday January 23, 2003 9:30 to 11:00AM. This is to discuss the field service procedures and issues pertaining to the VN sleeper windows.
Regards,
Ken Moore

- 1-23-03
- VENDOR REVIEWING FUEL ABOVE WAY TO DETERMINE IF TRUCK AND WINDOW IS PROPERLY BUNDLED
 - INSPECT ALL NEW MORTAR DATE CODES
 - WINDOWS REPLACEMENT RETURN TO TUMAC CONCRETE SUBMITTED FOR RETURN OF REMOVED GLASS
 - BACK WITH INSPECTION IDEN 154 1-31-03
 - IF ADHESION LESS THAN 3% EXPECTED TO NOT BE BONDED PROPERLY
 - VENDOR TO BUY WINDOWS FOR SPCA FROM ABC TO DEALER
 - BUILD DATES: 8-22-02 THRU 11-5-02

Powell Charles


From: Coy R Miller [CMiller@waterbonnet.com]
Sent: Tuesday, January 21, 2003 5:35 PM
To: Ken Moore; Chuck Powell
Cc: "Ben E Greer"@mail-gw2.volvo.se; "Kenneth R Isabell"@mail-gw2.volvo.se; "Terry G Safer"@mail-gw2.volvo.se; "Terry L Adams"@mail-gw2.volvo.se; Ken Roberts (Ken Roberts)
Subject: Trucks checked in Nashville

Ken and Chuck,
It just occurred to me that the list Terry Adams sent to Ken on 1/10/03 pertaining to trucks checked at Mike Nacarato Volvo and Averitt Express shows the 66 vehicles that were repaired but does not list the VIN numbers on the other vehicles that were checked and found OK. I think this amounts to approximately 300 trucks which could be excluded from the recall if we could come up with a list of the trucks at these two locations between Nov. 6 and 8, 2002.

Please see if you can come up with something.

Thanks,
Coy

Coy R Miller
Water Bonnet Mfg Inc
mailto:CMiller@waterbonnet.com

	TRIP REPORT	<input checked="" type="checkbox"/>	PHONE REPORT	REPRESENTATIVES	
	DATE OF VISIT/CALL			Coy Miller & Terry Safer	
	1/23/03				
WB		TW	<input checked="" type="checkbox"/>		

ACCT. # :	66656		CONTACT MADE (x)		CONTACT MADE (x)
COMPANY:	Volvo Trucks N. America		Thomas Novotny, Quality Supervisor, Quality Assurance, Dublin 540-674-7428		Thomas Keberly Jr., Purchasing Project Manager, Greensboro 336-393-2709
LOCATION:	Dublin, VA	<input checked="" type="checkbox"/>	Ken Moore, Engineer Prod. Reliability, Dublin 540-674-7399		Jason Spence, Assoc. Eng. Production Development, Greensboro 336-393-3065
		<input checked="" type="checkbox"/>	Stewart Moran, Supplier Quality Assurance Eng., Dublin 540-674-7153		Martin Phillips, Assoc. Eng. Product Development, Greensboro
			Bill Leadmon, Analyst Product Reliability, Dublin 540-674-7360		Keith Mabe, Quality Assurance Engineer, Greensboro 336-393-2692
			Brenda McCoy, Planner / Expeditor, Dublin 540-674-7372	<input checked="" type="checkbox"/>	Chuck Powell, Recall Administrator, Greensboro 336-393-2233

Recap of Jan. 23, 2003 meeting between Terry Safer, Coy Miller, Ken Moore, Stewart Moran at Volvo in Dublin, and with Chuck Powell on the speaker phone.

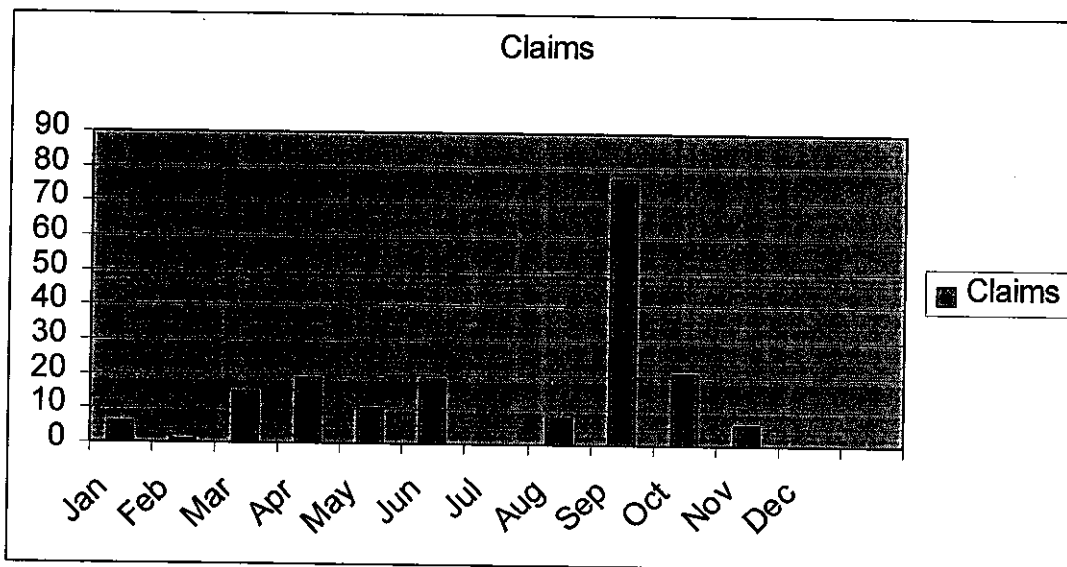
Ken Moore gave a presentation of how many warranty claims received over the last three calendar years were actually related to the window track. He found there were only 16 in 2000 and 9 in 2001. He found 182 in 2002, with a peak of 77 in September. They have established the build dates for the suspect trucks to be August 22, 2002 though November 8, 2002. We have established the Julian dates of the suspect windows to be August 6, 2002 through October 30, 2002. The following diagram illustrates that our findings support each other.

August
September
October
November

Julian dates of windows - 8/6 through 10/30

Build dates of trucks - 8/22 through 11/8

Ken's chart of warranty claims in 2002 also confirms our dates, as shown below.



Ken's research also revealed the absence of claims for track related problems with the lower windows. He asked if we could offer an explanation for the fact that they have not experienced the same problem with the lower windows.

Terry explained that when we set up to urethane tracks on the glass; we will run enough to last a while. Due to the fact that we haven't built many of the lower windows in recent months, we had ample lower glass with tracks cut out of a previous metal run, not the same as the metal used for the suspect upper windows.

At this point, Chuck Powell laid out a scenario of how he expected a recall would proceed. After removing the trucks which have

already been checked by Transwind, he expects to have between 1500 and 1600 trucks in the recall. If Nacarato Volvo and Averitt Express would allow us to go back over their inventory, we may be able to reduce that number by about 200 trucks, although it is likely too late for that.

A letter would be sent to all the dealers (approximately 260) and truck owners in possession of any of the suspect trucks. It would state the nature of the recall and instruct the owners to take the truck to the nearest dealership to be checked and repaired, if necessary.

The dealers would receive letters instructing them to check the Julian dates and replace any windows with dates between Aug. 6, 2000 (218-02) and Oct. 30, 2002 (313-02).

At this point we informed Chuck that our findings indicate that the failure rate is no more than 3%. If they recalled 1500 trucks that would mean replacing 3000 windows (providing all the windows fell within the suspect date range). At 3%, only 90 would need to be replaced. 2910 would be unnecessarily replaced. We asked that if we could devise an acceptable method of checking the windows, would they allow the dealers to check the windows and avoid this kind of excess. Chuck said that Volvo has no desire to nail Transwind to the wall and if an acceptable, repeatable procedure could be devised they would allow the dealers to use it. Then only the windows that were actually defective would have to be replaced. He said they would give us until the first week of February to present such a test procedure to them.

We discussed how much time would be reasonable to allow for the procedure. The figures of 15 minutes to check both windows and 30 minutes to replace both glasses were discussed, but we did not come to a final agreement. Chuck said he would have someone perform the procedures and time them. Then he would have more discussion with Ken and Stewart, after which he would suggest a time to us.

Ken Moore interjected that the dealers should be told that each warranty claim must be accompanied by the old glass and track and that the track must not be destroyed as if it had been pried off. This would discourage abuse from over ambitious repair shops. Chuck agreed whole-heartedly. They also said the glass would have to be returned to their facility where it would be held for inspection by a Transwind representative before the claim is approved. After the return is approved by Transwind, they would process the warranty. Terry Gordon would track the claims and debit Transwind quarterly.

Chuck said the recall would be good for the life of the truck, which could be twenty years or more. But, based on past experience, probably only about 60% of the trucks would be brought in to the dealerships for inspection and that within the first six to eight quarters.

Concerning the parts, Chuck suggested that we individually box about 800 left and 800 right windows in preparation for the recall. When the letters go out, they expect that the dealers would order a few of each to put in their inventory. We would have to sell the parts to Volvo and they would sell them to their dealers through their normal supply routes.

We brought the meeting to a close with agreement to revisit the issue of allowable repair time and a possible repair procedure the first week of February.

CRM via e-mail 1-24-02

SAFETY RECALL RVXX0302
FEBRUARY 2003

**ATTENTION: SERVICE MANAGERS
PARTS MANAGERS**

SUBJECT: VNL Sleeper Section Upper Side Window

SAFETY RECALL INFORMATION:

Volvo Trucks North America, Inc. has decided that a defect relating to motor vehicle safety exists in certain Volvo, VNL model vehicles.

The sleeper section upper side window glass may de-bond from the window opening slide track mechanism.

If the window is open and this event occurs the window glass could separate from the window frame and becomes a hazard to an oncoming vehicle and/or person.

VEHICLES AFFECTED:

Certain VNL model vehicles manufactured by Volvo Trucks North America, Inc. between August 1, 2002, and November 20, 2002.

VEHICLE IDENTIFICATION NUMBERS (VIN):

There are two thousand, four hundred and thirty-five (2,435) vehicles affected by this recall of which one hundred and ninety-one (191) were delivered into the Canadian market.

NOTE: To verify or determine if a particular vehicle is affected by this recall (or any other recall), you should consult the DCS, Service/Warranty screen. By entering the Vehicle Identification Number into the VEHINQ segment, the screen will display any outstanding recall.

If a "Dealer Listing" is enclosed it identifies the vehicles that were sold or shipped to your dealership. Be sure to check the VEHINQ screen before performing the recall to verify that the recall is still open.

**SAFETY RECALL RVXX0302
FEBRUARY 2003**

INSPECTION INSTRUCTIONS:

The inspection consist of following the inspection instructions found on page x of this bulletin and using the inspection tool included with this bulletin.

REPAIR:

The recall repair consists of replacing the sleeper section upper window glass that fails the inspection.

TIME ALLOWANCE:

- | | |
|------------------------------|---|
| Inspection: | - 0.3 hour per vehicle (two windows) |
| Repair including inspection: | - 0.6 hour per vehicle (one or two windows) |

RECALL PARTS:

Recall Kit Number:

- | | |
|-------------------|-------------------|
| Left side window | - <u>85105312</u> |
| Right side window | - <u>85105315</u> |

Kits consists of one window glass including slide track.

One kit is required per window

KIT ORDERING PROCEDURES:

Kits for this recall should be ordered through Volvo Trucks North America, Inc. Dealer Communications System on an as required basis only. The following information is required to place an order:

1. Your dealer account number
2. Recall kit number
3. Quantity of kits
4. Order priority: VOR

The cost of the kit plus 30% dealer mark-up will have to be claimed per the guidelines identified under the heading "Claims for Credit".

SAFETY RECALL RVXX0302
FEBRUARY 2003

DEALER INVENTORY:

No parts should be required from dealer stock.

REMOVED PARTS:

Window glass removed per this recall must be tagged with a copy of your claim and shipped to:

Technical Material Analysis Center
Volvo Trucks North America
4100 Bobwhite Blvd.
Pulaski, VA 24301

Your claim for performing this recall will ***NOT*** be processed until receipt of the removed sleeper section upper window glass with the associated claim attached.

CLAIMS FOR CREDIT:

Expenses associated with the performance of this recall will be reimbursed based on the guidelines identified in this Bulletin, and by submitting a claim following published instructions in the claim preparation section of the "Service Operations Manual".

NOTE: Claims for a recall repair must be submitted within 2 working days from the repair date.

CLAIM CODING INFORMATION:

Type	- P	
Authorization Number	- RVXX0302	
Inspection	- 84422-0-01	0.3 hour per vehicle (two windows)
Repair <u>including</u> inspection	- 84422-0-02	0.6 hour per vehicle (one or two windows)

OWNER RECALL RESPONSE CARD:

The "Owner Recall Response Card" is to provide the vehicle owner with a convenient way to notify Volvo Trucks North America, Inc. of changes affecting the ownership of the subject vehicle. The owner card is not intended for dealer usage other than to assist you in the preparation of the repair orders necessary to perform the applicable recall on the subject vehicle. Please do not use the card as a way to inform Volvo Trucks North America, Inc. that the vehicle has been inspected or modified. Your DCS claim on line is sufficient.

**SAFETY RECALL RVXX0302
FEBRUARY 2003**

DEALER RECALL RESPONSIBILITY:

Dealers are to perform the recall on all vehicles subject to the recall at no charge to the owner regardless of mileage, age of vehicle, or ownership from this time forward. Whenever a vehicle subject to this recall is taken into or is in your vehicle inventory or dealership for service, we strongly recommend you make every effort to perform the recall correction before the vehicle is sold or released to the owner.

Volvo Trucks North America, Inc.
P.O. Box 26115
Greensboro, NC 27102-6115

SAFETY RECALL RVXX0302
FEBRUARY 2003

Repair Instruction

Inspection

DANGER

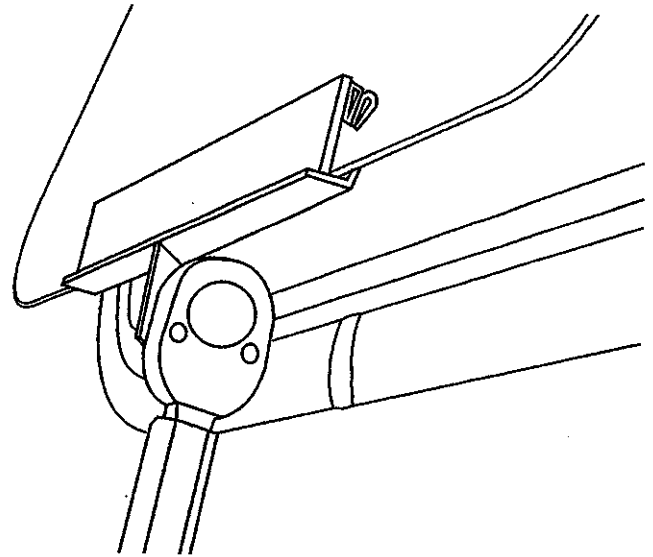
Before working on a vehicle, set the parking brake, place the transmission in neutral, and block the wheels. Failure to do so can result in unexpected vehicle movement and can cause serious personal injury or death.

DANGER

Scaffolding or other suitable work platform must be used when performing this procedure. Failure to do so may result a a fall causing serious injury or death.

WARNING

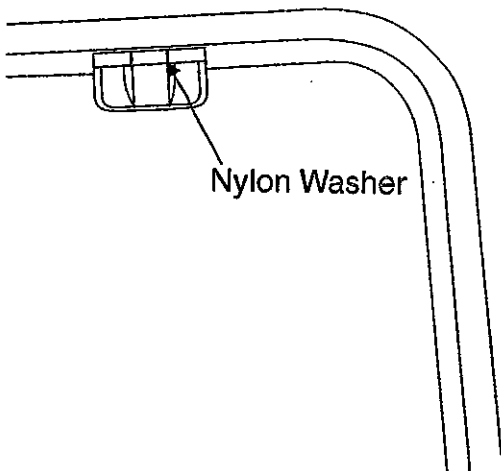
.Always wear appropriate eye protection to prevent the risk of eye injury due to contact with debris.



W8003357

1. Open the cab side upper window. From outside the cab install the tool to the window glass as shown above. Apply 20 ft-lb of torque (**Do Not exceed this torque spec as it may damage the window**) to the tool, if the glass separates from the slide track the window must be replaced (replace a failed window glass before inspecting the other side). If no separation occurs not further repair is required.

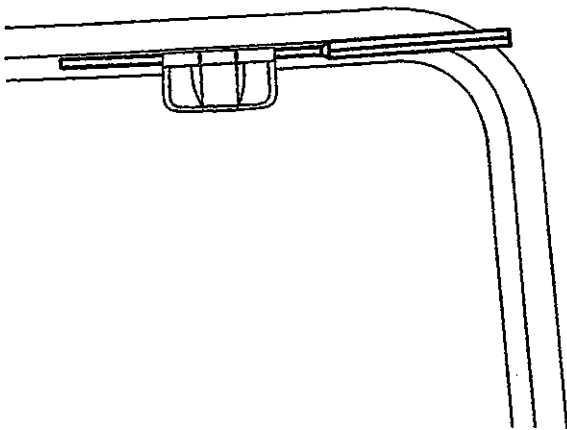
Repair



Nylon Washer

1. Before removing the hinge pins note the location of the nylon washers, one washer is used per hinge it may be installed on either side of the hinges fixed barrel. This washer is for alignment of the glass in the frame, failure to reinstall the washer in the correct location may cause sealing issues with the window.

W8003358



W8003359

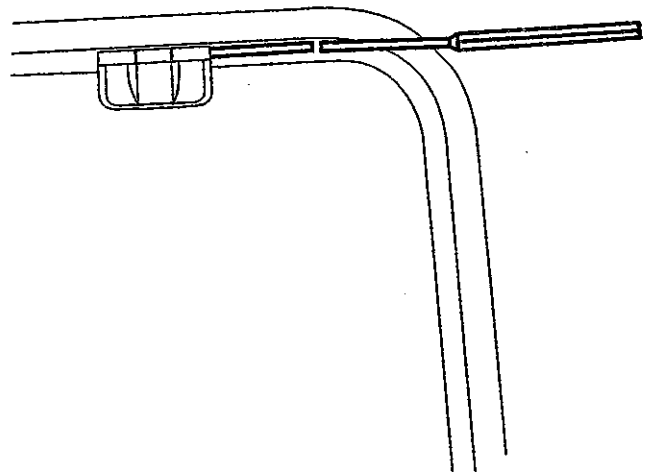
2. Using a punch and dead blow hammer carefully drive the hinge pins out of the hinge. Be careful not to lose the nylon washer.

NOTE: Be careful not to strike the glass with the hammer. Tempered glass will shatter with this type of impact.

SAFETY RECALL RVXX0302 FEBRUARY 2003

3. With the hinge pins removed, allow the glass to lean away from the cab. Slide the glass off the glide shoes, do not lose the nylon spacer strip.
4. Slide the first glide shoe into the glass track, then insert the nylon spacer strip and the second glide shoe.

NOTE: Failure to reinstall the nylon spacer strip will allow the window to open to far over center and may damage the operating mechanism.



W8003360

5. Reinstall the hinge pins and nylon washers.
6. Check for proper operation of the window crank mechanism.

SAFETY RECALL NOTICE

SAFETY RECALL RVXX0302
FEBRUARY 2003

Dear Volvo Truck Owner:

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

Volvo Trucks North America, Inc. has decided that a defect that relates to motor vehicle safety exists in certain VNL model vehicles built between August 1, 2002, and November 20, 2002.

SAFETY DEFECT:

The sleeper section upper side window glass may de-bond from the window opening slide track mechanism.

POTENTIAL RISK:

If the window is open and this event occurs, the window glass could separate from the window frame and become a hazard to an oncoming vehicle and/or person.

PRECAUTION YOU CAN TAKE:

A precaution you can take is to keep the two sleeper section upper side windows closed until a Volvo truck dealer has inspected them.

REPAIR:

At no charge to you regardless of your vehicle's age or mileage, a Volvo truck dealer will inspect the two sleeper section upper side windows and replace the glass if required.

TIME REQUIRED FOR THE REPAIR:

The labor time required to inspect and/or repair your vehicle is about thirty-five minutes.

WHAT YOU SHOULD DO:

Volvo Trucks North America, Inc. **RECALLS** you to immediately contact a Volvo truck dealer for a service appointment to have your vehicle inspected and if required repaired. Parts are currently available for shipment to the dealer scheduling your service appointment.

Volvo Trucks North America, Inc.
3000 Airport Road
Ottawa, Ontario K1A 0N5
Canada (613) 274-2115

Owners Letter

SAFETY RECALL RVXX0302 FEBRUARY 2003

OWNER RECALL RESPONSE CARD:

The enclosed "Owner Recall Response Card" identifies your vehicle. Presentation of this card to any authorized full-service Volvo truck dealer will assist in the processing of your vehicle in the shortest time possible. If you do not own, have sold or have traded the vehicle identified, please let us know by completing, and signing the postage-paid Card and returning it to Volvo Trucks North America, Inc. so we can update our records.

ASSISTANCE:

If your vehicle has not been modified within a reasonable time after delivering it to the dealer on the agreed-upon date, please contact:

Volvo Trucks Canada Inc.
Service Department
5600A Concession Court
Mississauga, Ontario L5R 3E9

You may also submit a complaint to:

Mr. Derek Sweet
Transport Canada
Road & Motor Vehicle Safety Branch
Ottawa, Ontario K1A 0N5

We regret any inconvenience this recall may cause, but hope you will share in our concern for your safety and satisfaction with your vehicle.

Sincerely,
Volvo Trucks North America, Inc.

**SAFETY RECALL RVXX0302
FEBRUARY 2003**

Dear Volvo Truck Owner:

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

Volvo Trucks North America, Inc. has decided that a defect that relates to motor vehicle safety exists in certain VNL model vehicles built between August 1, 2002, and November 20, 2002.

- SAFETY DEFECT:** The sleeper section upper side window glass may de-bond from the window opening slide track mechanism.
- POTENTIAL RISK:** If the window is open and this event occurs the window glass could separate from the window frame and become a hazard to an oncoming vehicle and/or person.
- PRECAUTION YOU CAN TAKE:** A precaution you can take is to keep the two sleeper section upper side windows closed until a Volvo truck dealer has inspected them.
- REPAIR:** At no charge to you regardless of your vehicle's age or mileage, a Volvo truck dealer will inspect the two sleeper section upper side windows and replace the glass if required.
- TIME REQUIRED FOR THE REPAIR:** The labor time required to inspect and/or repair your vehicle is about thirty-five minutes.
- WHAT YOU SHOULD DO:** Volvo Trucks North America, Inc. *urges* you to immediately contact a Volvo truck dealer for a service appointment to have your vehicle inspected and if required repaired. Parts are currently available for shipment to the dealer scheduling your service appointment.

**NOTICE REGARDING
LEASED VEHICLES:**

If you are a Lessor of vehicles subject to this Notice, you have an obligation under Federal Law to provide a copy of this Notice to all Lessees within 10 days of your receipt of this Notice. Further, you must maintain a record which identifies the Lessee(s) to whom you send a copy of this letter, the date you send this letter, and the Vehicle Identification Number(s) of the vehicle(s) that you have leased to that Lessee. For purposes of this Notice, the term Lessor means: a person or entity that is the owner, as reflected on the vehicle's title, of any five or more leased vehicles (as defined in 49 CFR Section 577.4), as of the date of notification by the manufacturer of the existence of a safety-related defect or non-compliance with a Federal Motor Vehicle Safety Standard in one or more of the leased motor vehicles.

**OWNER RECALL
RESPONSE CARD:**

The enclosed "Owner Recall Response Card" identifies your vehicle. Presentation of this card to any authorized full-service Volvo truck dealer will assist in the processing of your vehicle in the shortest time possible. If you do not own, have sold or have traded the vehicle identified, please let us know by completing, and signing the postage-paid Card and returning it to Volvo Trucks North America, Inc. so we can update our records.

ASSISTANCE:

If your vehicle has not been modified within a reasonable time after delivering it to the dealer on the agreed-upon date, please contact:

Volvo Trucks North America, Inc.

Recall Department

P.O. Box 26115

Greensboro, NC 27402-6115

or call our toll-free number: 1-800-528-6586. You may also submit a complaint to the Administrator, National Highway Safety Administration, 400 Seventh Street, S.W., Washington DC 20590 or call the toll-free Auto Safety Hot Line at 1-888-327-4236.

We regret any inconvenience this recall may cause, but hope you will share in our concern for your safety and satisfaction with your vehicle.

Sincerely,
Volvo Trucks North America, Inc.

RECALL ALERT
PARTS REQUIREMENTS

TO: Distribution RECALL NO: RVXX0302
 FROM: RECALL DEPARTMENT INITIATED BY: C. Powell
 DATE: 2-3-03 APPROVED BY:

This will advise that Recall No. RVXX0302 will be released. Details are as follows:

TITLE OF RECALL: Sleeper Section Upper Side Window			
Number of Vehicles Involved	2,435		
Expected Release Date for the Recall	2-24-03		
Recall uses Production Released Parts	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Parts are designed for Recall only	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Vendor Specified	Water Bonnet		
Vendor Parts Shipped Direct to Dealer	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

RECALL PARTS

PART NUMBER	QTY PER KIT	DESCRIPTION	KIT NUMBER ASSIGNED	MAX KIT QTY
85105373	1	Sleeper <u>left</u> side upper window glass	85105312	600
85105374	1	Sleeper <u>right</u> side upper window glass	85105315	600

We request that adequate quantities of material be acquired to accommodate the initial surge of orders, and that usage be reviewed at regular intervals for future requirements.

NOTES:

DISTRIBUTION: Janice Morrison David Pardue
 Jim Derfel Lisa Fuller
 Wade Lewis Julie Brown

February 4, 2003

VIA EXPRESS MAIL

Associate Administrator for Enforcement
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, DC 20590

The following information is submitted in accordance with the requirements of 49 CFR Part 573.5 as it applies to a defect relating to motor vehicle safety.

573.5(c)(1)
Volvo Trucks North America, Inc.
P.O. Box 26115
Greensboro, NC 27402-6115

573.5(c)(2)
Volvo VNL model, heavy-duty class 8 vehicles assembled by Volvo Trucks North America, Inc. between August 1, 2002, and November 20, 2002.

The vehicles affected by this notification were selected by using the part numbers of the two suspect window glass assemblies.

The Manufacturer of the subject window assembly is: TRANSWIND
800 Water Bonnet Blvd
Springfield, TN 37172
Telephone: 615-384-6170 Mr. Terry Safer

573.5(c)(3)
Two thousand, four hundred and thirty-five (2,435) vehicles potentially contain the suspect defect.

573.5(c)(4)
Percentage of vehicles expected to contain the suspect defect is 3%.

573.5(c)(5)
The sleeper section upper side window glass may de-bond from the window opening slide track mechanism. If the window is open and this event occurs the window glass could separate from the window frame and become a hazard to an oncoming vehicle and/or person.

NHTSA
Page Two
February 4, 2003

573.5 (c)(6)

12-13-02

During production a problem was encountered where the sleeper compartment upper side window glass fell out after being installed in the vehicle.

The problem was traced to the window assembly slide track debonding from the window glass.

1-29-03

No complaints or reports of accidents or injuries have been reported attributable to this issue.

1-30-03

Volvo Trucks North America, Inc. decided that the sleeper side window glass separation constitutes a defect and that such defect is safety related.

573.5(c)(7)

Not applicable

573.5(c)(8)

Volvo Trucks North America, Inc. will initiate a voluntary owner notification, and recall of all vehicles built with the suspect sleeper compartment side upper window assembly.

Repairs made to vehicles affected by this issue during the pre-notification period were performed under warranty and at no cost to the owner.

The recall repair will consist of an inspection and replacement of the window as required.

The number, which has been assigned to this recall by Volvo Trucks North America, Inc., is RVXX0302.

The recall is tentatively scheduled to commence within 40 working days of this notification.

March 4, 2003

EXPRESS MAIL

Associate Administrator for Enforcement
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, DC 20590

RE: NHTSA Recall Campaign Number: **03V-038**

Volvo Trucks North America, Inc., Recall Number: **RVXX0302**

Volvo Trucks North America, Inc. of Greensboro, North Carolina, per the requirements of 49 CFR Part 573.5(c)(9), herewith submits a copy of its recall bulletin and owner notice for the subject recall. Mailing of the bulletin and owner notices was started on February 26, 2003, and completed on February 28, 2003.

Very Truly Yours

Charles D. Powell
Recall Administrator

Enclosures (2)

573.7 (b) (1) NHTSA Recall Campaign No. 03V-038

VOLVO TRUCKS NORTH AMERICA, INC. RECALL NO. RVXX0302

Title of Recall: Sleeper Section Upper Window

573.7 (b) (2) Notification Date:

Began: 2-26-03

Completed: 2-28-03

573.7 (b) (3) Number of Vehicles involved in the Notification: 2,435

REPORTING QUARTER

	JUN03 1	SEP 03 2	DEC 03 3	MAR 04 4	JUN 04 5	SEP 04 6
573.7 (b) (4) Correction:						
Inspected and repaired:	127	181	219	231	240	254
Inspected and no repair required:	729	979	1,086	1,162	1217	1,254
573.7 (b) (5) Unreachable due to:						
Export	191	191	191	191	191	191
Theft	0	0	0	0	0	0
Scrapped	0	0	0	0	0	0
Address Unknown	0	0	0	0	0	0
Other	0	0	2	6	7	7
TOTAL	1,047	1,351	1,498	1,590	1655	1706

SAFETY RECALL

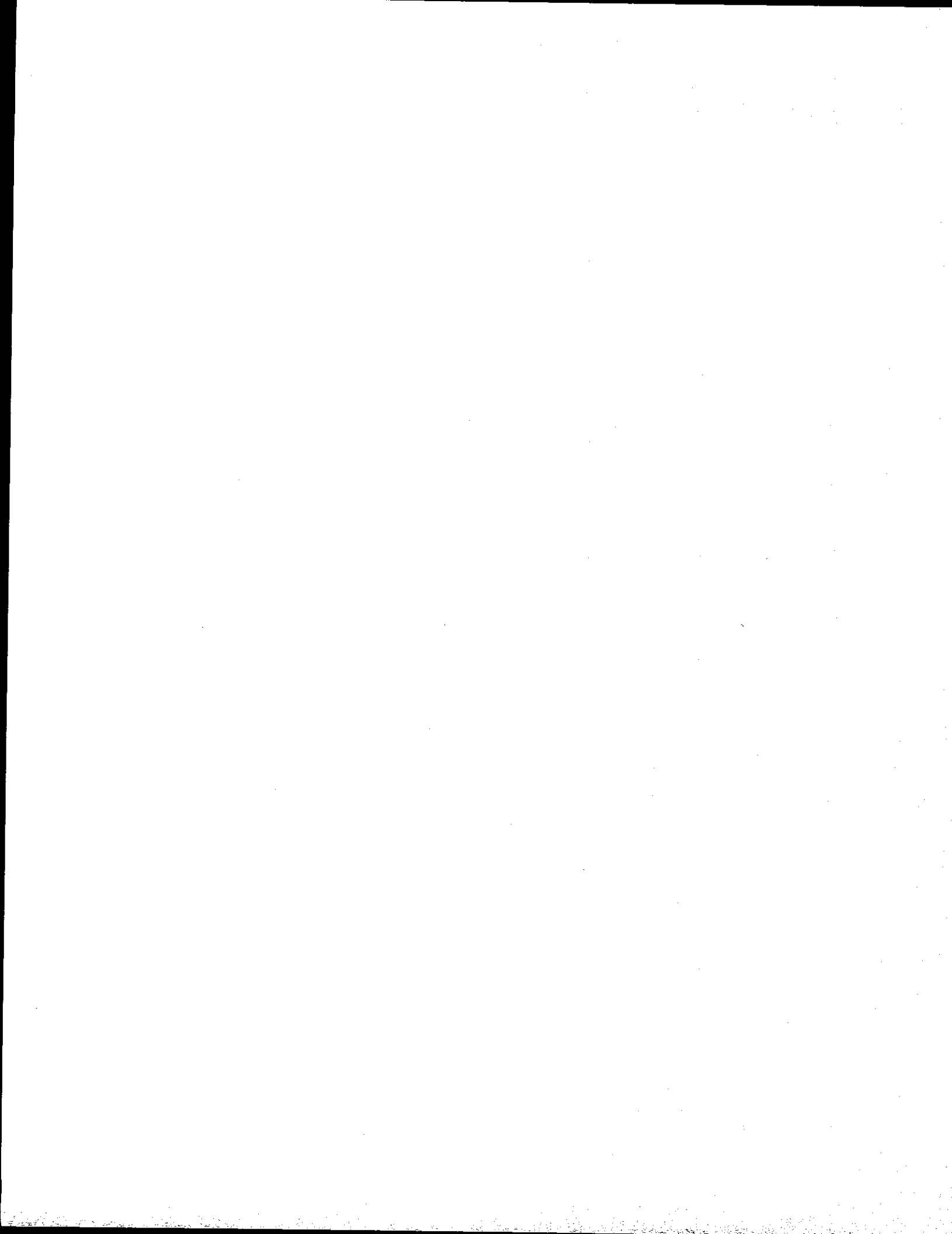
RECALL NO. RVXX0302

NHTSA NO. 03V-038

1. **TITLE:** Sleeper Section Upper Side Window
2. **STATUS:** Recall
3. **EXPOSURE:** VNL model
4. **PROBLEM SUMMARY:**

The sleeper section upper side window glass may de-bond from the window opening slide track mechanism. If the window is open and this event occurs the glass could separate from the window frame.
5. **CHRONOLOGY:**

1-30-03	The CEO signed determination request to recall the suspect vehicles
2-3-03	Management notified of the recall determination. Parts alert issued.
2-4-03	NHTSA notified of the recall determination.
2-11-03	Received initial acknowledgement fax from NHTSA and assigned recall number.
2-17-03	Draft of owner notice faxed to NHTSA for approval.
2-20-03	Accrual analysis sent to Warranty and Accounting.
2-24-03	Copy of Bulletin distributed to Volvo employees.
2-26-03	Bulletins mailed to the US and Canadian dealers.
2-28-03	Owner notices mailed to the US, and Canadian vehicle owners.
3-4-03	NHTSA and Transport Canada notified of the start-up of the recall.



843-11 pg 1
 Total # of pgs is 8
 =

Quality Journal Item

General Information

	QJS TRUCKS 843-11
	addition Lower Steep Window Leaking
	Unknown
	QJS TRUCKS Design
	0

	CSG CAB
	Unknown
	QJS TRUCKS

C-Value

	100
	38000
	1
	1
	1
	1
	1
	1

	0

[Back to list](#)

Quality Journal Item

Problem Description and Investigation

audit QJ***
lower sleeper window leaking leaking during audit inspections

Window Size Slightly oversized upper and lower for dial purposes - parts available since 1988
New type seal expected for final 1988

		VN		8078615		
		VI		8078616		
				8084415		
				8084579		

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Quality Journal Item

Responsible

[REDACTED]	VTNA
	0630
	Francis Komayes
	0630
	Kevin Nott

[REDACTED]
[REDACTED]

Action Plan

[REDACTED]	MR	0637
------------	----	------

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	0630	0630	0631	0637	0637	0637	[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

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Quality Journal Item

[REDACTED]

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Quality Journal Item

Documentation of Solution

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
200903254	D-15340192	[REDACTED]	[REDACTED]
200903255	K-10495-99	[REDACTED]	[REDACTED]
200903257		[REDACTED]	[REDACTED]
200903259		[REDACTED]	[REDACTED]

QJ Solution

[REDACTED]

Search and window frame profiles optimized. Added feature to the search to increase the number of water barriers/passes and related issues recorded.
Implemented in 1997.
The QJ's MR: Unknown

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Quality Journal Item

QJ Internal

Created by: ut03892, Francis Komuves on 2006-08-23 14:53:57
Last modified by: ut03892, Francis Komuves on 2006-08-23 14:55:21

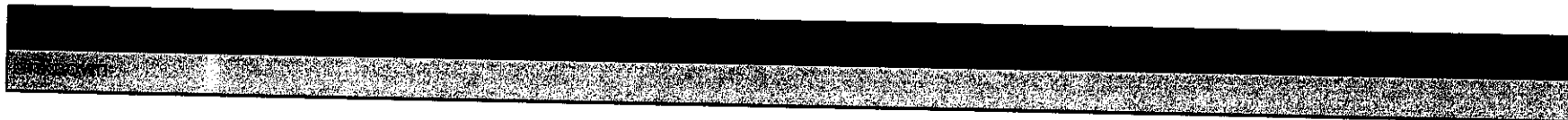
Fixed window frame problem optimized. Added feature features
were seek to increase the number of water barriers. Passed final
test on 8/23/06.

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843-11 ps 7

Quality Journal Item

QJ External



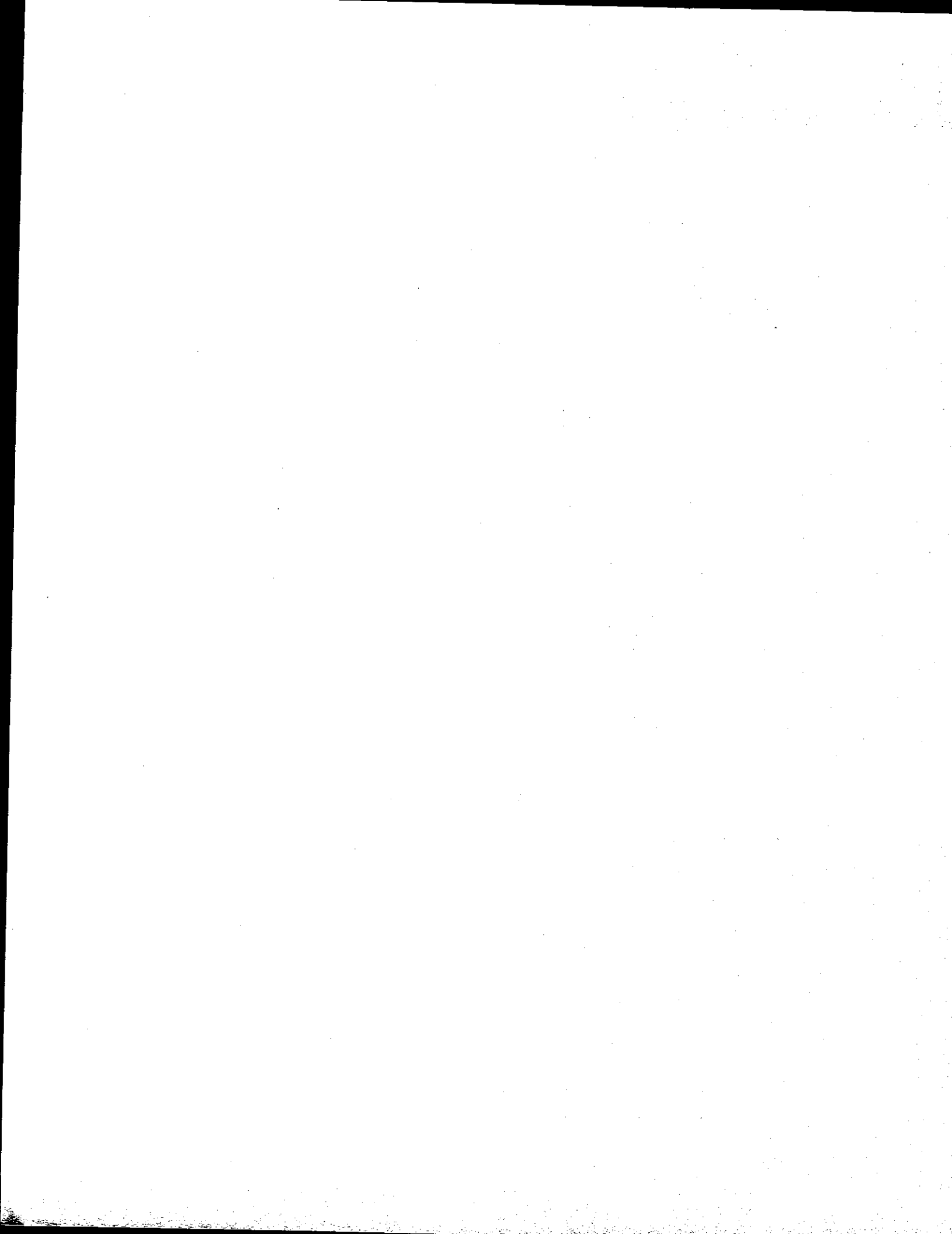
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Quality Journal Item

Attachments



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843-12 pg 1
 Total # of pgs is 8

Quality Journal Item

General Information

	QJS_TRUCKS_843-12
	** Audit of ** Sleeper window leakage
	Unknown
	QJS_TRUCKS_Design
	0

	GSD_CAB
	Unknown
	QJS_TRUCKS_

C-Value

	200
	30000
	2
	2
	1
	1000
	0
	NO

	0

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Quality Journal Item

Problem Description and Investigation

Audit Q1
The lower sleeper window leaks. The leak is believed to be coming from the bonded joint in the window frame and/or the bubble seal where it seals to the glass.

On completion of the supply process, new glass fit to the bubble seal, a detailed action plan for implementation of the window frame joint weld will be issued.

				20095254		
				20095253		

[Back to list](#)

Quality Journal Item

Responsible

[Redacted]	ATNA
	Mario Phillips 11631
	Francis Komuves
	BUS TRUCKS 11631
	Kevin Nutt

[Redacted]
WFOBO Cab Body

Action Plan

[Redacted]	MR	0761
------------	----	------

[Redacted]	[Redacted]					
	0642	0643	0644	0645	0646	0647

[Redacted]	[Redacted]
	0648

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843-12
194

Quality Journal Item

[REDACTED] JS

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Quality Journal Item

Documentation of Solution

[Redacted]	[Redacted]	[Redacted]	[Redacted]
2023116	D-13381-87	[Redacted]	[Redacted]
2025118	[Redacted]	[Redacted]	[Redacted]

QJ Solution

[Redacted]

all the new windows were in production under development
MS and QJ's MR. Unknown

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843-12
pg 6

Quality Journal Item

QJ Internal



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843-12
Pg 7

Quality Journal Item

QJ External



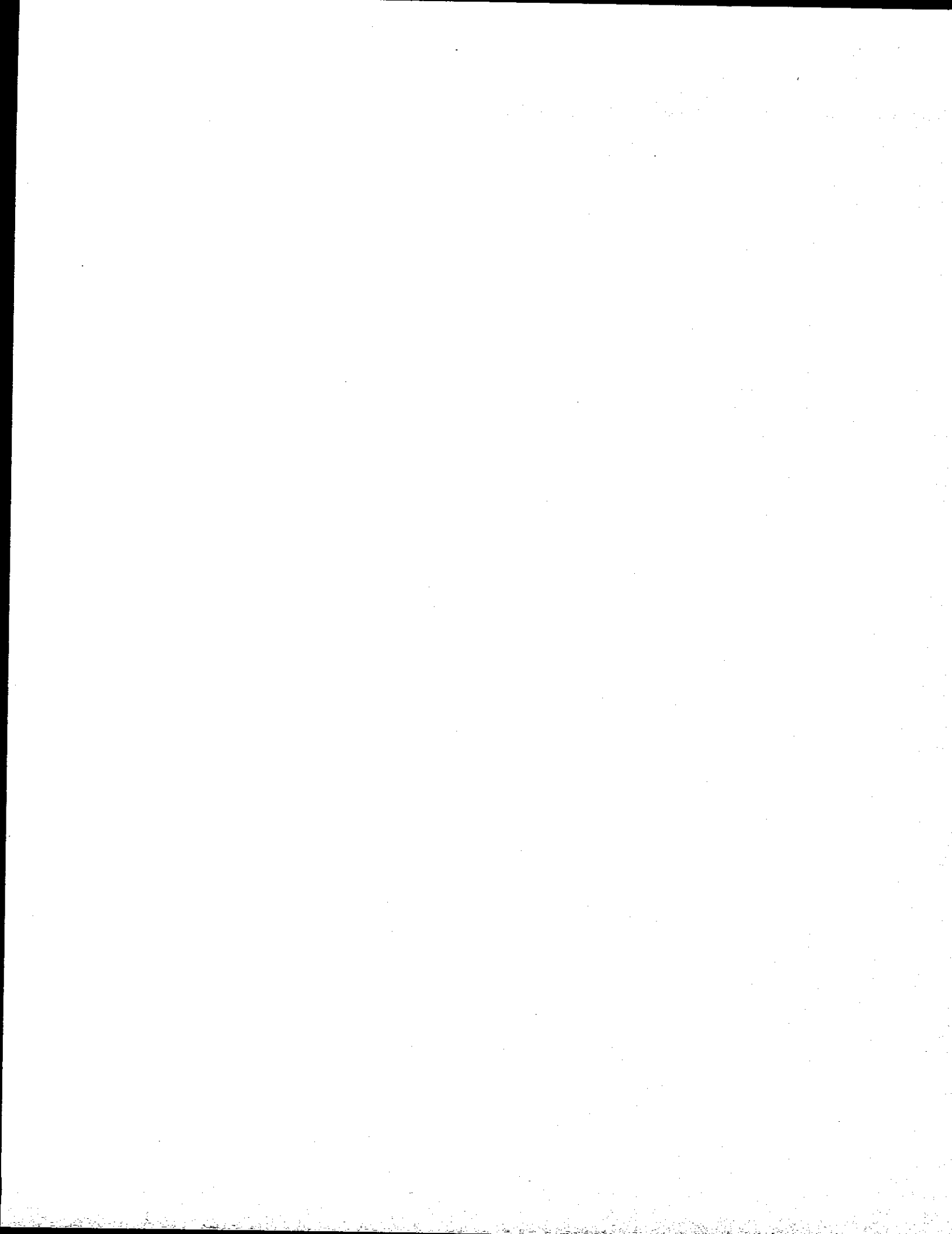
[Back to list](#)

Quality Journal Item

Attachments



[Back to list](#)



844-13 pg 1
 Total # of pgs is 8

Quality Journal Item

General Information

QIS TRUCKS 844-13
AN Sleeper Side Window Side Tracks Debonding from Window Glass
Unknown
QIS TRUCKS Supplier process
1

GSO CAB
Unknown
QIS TRUCKS 844-4

C-Value

59
15060
9
2
1
5276
YES

[Back to list](#)

Quality Journal Item

Problem Description and Investigation

Product Reliability reports:
 Various customers: Bison, Central Refrig and the dayaway company have been received reporting sleeper side glass on both the upper and lower windows falling out.
 Refer to Argus case 1-1286343544. C values 10'

0903 Failed material shows that the aluminum slide track is debonding from the adhesive. Adhesive is still on the glass.
 0914 Supplier states root cause as improper priming of the glass or track. However they could not reproduce the failure.

334825

UN
 VT

21025016
 21025018
 8676613
 8676614

176607
 176608
 176609
 176610

Quality Journal Item

Responsible

[Redacted]	Unknown
	Mike Barkin Unknown
	Michael Kane
	O/S TRUCKS Unknown
	Kevin Nutt

[Redacted]
WMP000 Cab Body

Action Plan

[Redacted]	AR	0914
------------	----	------

[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	0908	0908	0908	0912	0912	
[Redacted]	0908	0908	0908	0912	0912	

[Redacted]	[Redacted]
[Redacted]	Unknown

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Quality Journal Item



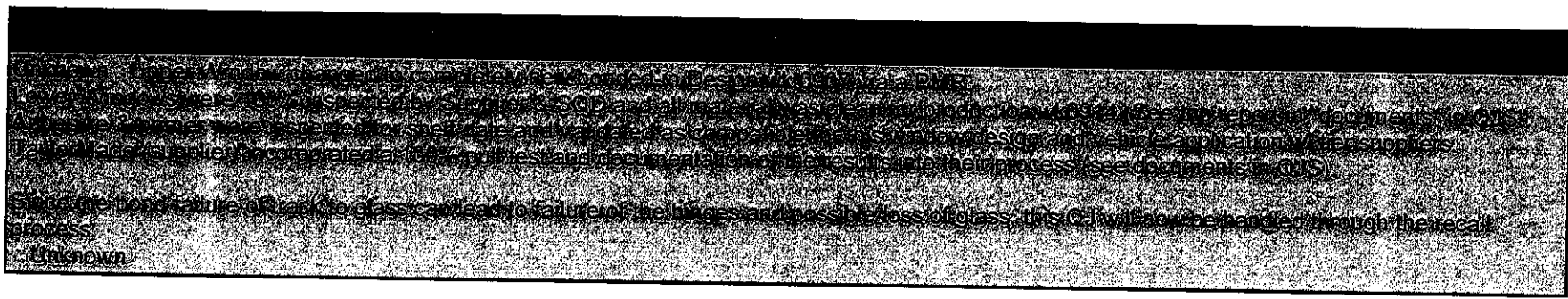
[Back to list](#)

Quality Journal Item

Documentation of Solution



QJ Solution



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Quality Journal Item

QJ Internal

Created by: UT03873, Michael Kane on 2009-05-18 15:35:54
Last modified by: UT03873, Michael Kane on 2009-05-18 16:28:31

0920: 3D repair requested from supplier. See documents. (1)

0921: Supplier submitted 3D, but didn't include clear root cause analysis nor validated solution.

0922: Supplier and SQD stated stock at NPV due to old material being in the warehouse. It did not hold. After lead was 20 minutes we decided. Clear again in production for lower temps.

0924: Supplier states root cause as improper painting of the glass on back. However they could not reproduce the failure.

0925: Supplier process will have a 100% call list and data record. Call for any more reference. See documents. This has been ongoing since 12/08.

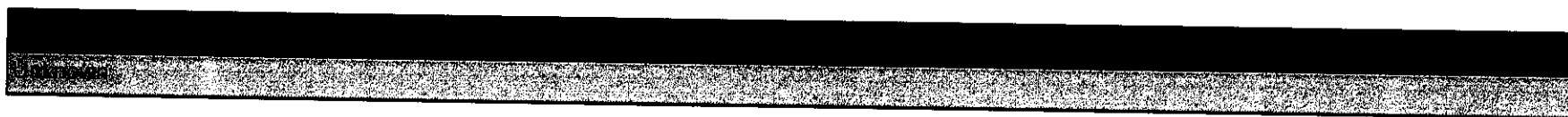
0926: This QJ will be a safety Recall.

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844-13 pg 7

Quality Journal Item

QJ External



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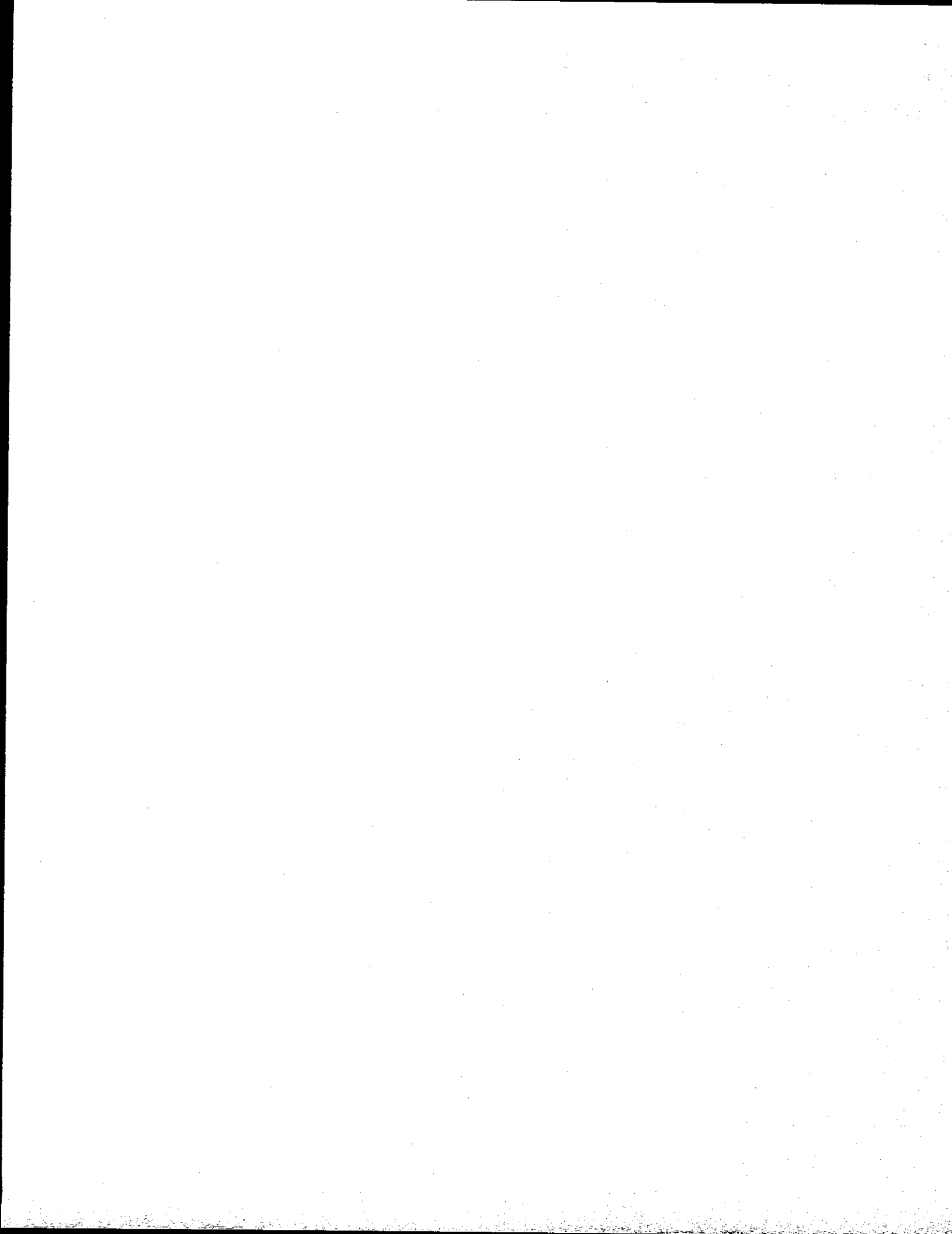
844-13
Pg 8

Quality Journal Item

Attachments

	8D for Volvo.doc	
	TMS SQD Trip Report 040309 rev7.doc	69
	Supplier Process Quality Check.pdf	2600-74

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V2010-01

Lafon Tim (othy)

From: argus@argusapp.com
Sent: Wednesday, September 30, 2009 6:21 PM
To: Rankin Michael
Cc: Marsh Wes (ley)
Subject: 1-1342563771

Please, do not change the Subject line if you want to reply to this email.

The following service request has been assigned to you:

Service Request Number: 1-1342563771

Date Opened : 2009-09-29 22:15:12

Severity : 3-Medium

Product : VNL64T

Chassis Id : N [REDACTED]

VIN/Serial #: 4V4NC9TH4AN [REDACTED]

Summary : First Express Bunk Sleeper Window Failures

Description : 780 Side Upper Window Failures. Fleet has currently taken 45 New Units (Chassis 282654-

[REDACTED]) Failure Chassis Numbers Include [REDACTED], [REDACTED], [REDACTED], [REDACTED], [REDACTED], [REDACTED], [REDACTED]. Volvo Engineering Visit completed 8/27/09. All documentation attached along with Repair Order Copies. Part Numbers: 20582366 Left Side, 20582367 Right Side. Writer to monitor failures with fleet and selling dealer.

----SR Activities----

Comment: Please replace or repair bunk windows. Please review with your DSM.

Status: In Progress

Creator: MICHAEL RANKIN

Created: 2009-09-30 08:32:31

----SR Activities----

Comment: An attachment with filename 'Volvo Engineering Info.' has been added.

Status: Done

Creator: SIEBEL ADMINISTRATOR

Created: 2009-09-29 22:18:50

----SR Activities----

Comment: An attachment with filename 'First Express RO's' has been added.

Status: Done

Creator: SIEBEL ADMINISTRATOR

Created: 2009-09-29 22:16:50

Lafon Tim (othy)

From: argus@argusapp.com
Sent: Wednesday, September 30, 2009 5:34 PM
To: Rankin Michael
Cc: Marsh Wes (ley)
Subject: 1-1342563728

Please, do not change the Subject line if you want to reply to this email.

The following service request has been assigned to you:

Service Request Number: 1-1342563728

Date Opened : 2009-09-29 21:11:17

Severity : 3-Medium

Product : VNL

Chassis Id : N [REDACTED]

VIN/Serial #: 4V4NC9TG6AN [REDACTED]

Summary : Big G Express Sleeper Window Failures

Description : 41 reported Bunk Sleeper Window Failures with 2010 Model Volvo's.
20582366 - Driver Side, 20582367 - Passenger Side.

Fleet Meeting held 9/29/09 to review issue, gather failed parts with Nacarato Parts and Body

Shop Manager. Failed Window Assemblies to be returned to Michael Kale, Volvo Greensboro Engineering for evaluation. Nacarato to order left and right bunk window assemblies for Warranty

Replacements. Attached list of Fleet reported suspect 2010 units with Window iissues. Reported Fleet to make repairs and file OEM Warranty.

----SR Activities----

Comment: An attachment with filename 'Failure Info' has been added.

Status: Done

Creator: SIEBEL ADMINISTRATOR

Created: 2009-09-29 21:12:43

Lafon Tim (othy)

From: Marsh Wes (ley)
Sent: Thursday, October 01, 2009 10:11 AM
To: Schaefer Skip (skip.schaefer@volvo.com)
Cc: Curri Mark; Schlottmann Guenter; Lafon Tim (othy) (timothy.lafon@volvo.com)
Subject: Upper Bunk Window Failures Nashville Fleets 5339D
Attachments: Beacon Bunk Windows; 1-1342563771; 1-1342563728; RE: Big G Upper Bunk Windows

Skip

We are in the middle of concern with bunk windows blowing or falling out of trucks while they are moving on the highway.

Fleets Big G Express, Beacon, First Express, Averitt involved.

Jimmy Carter has 2 cases in system and has been working with Mike Rankin NRV on containment.

There will be claims coming into system.

All these trucks built March / April 2009, now with the possibility of some trucks built September 17/18, 2009.

Please review attached cases and emails.

Replacement of these windows at Big G Express has been moved to replace before failure as their safety and HR departments have become involved.

Hopefully this is enough information to have all these claims paid as warranty.

Call with any questions

Regards

Wes Marsh

Lafon Tim (othy)

From: Kane Michael
Sent: Tuesday, October 13, 2009 3:20 PM
To: PPDL VTNA QJNA
Cc: Adolfsson Jonas; Albert Doug; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy)
Subject: QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding
Attachments: Quality Journal Detail Report.htm
New VTNA Cab QJ...

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

Quality Journal Detail Report - Internal - Confidential

QJ # 1-1347051717

QJ Info

Func. Group: 843-glass and sealing moulding for windscreen and rear window
 QJ Type: Quality issues
 QJ Area: QJ
 App/Service: qj
 Sub Area:
 Sub Area 2:
 Sub Area 3:
 Argus Company: Volvo 3P Corporation
 Object #:

QJ Phase

QJ Phase: Assign Team - 2D

QJ Ownership

Created By: MICHAEL KANE
 Total Days: 0
 QJ Opened: 10/13/2009
 QJ Closed:

Responsible VMT080 : Cab Body
 Area / Vehicle
 Module Team:

Issue/Summary:

VN Upper Sleeper Side Window Glass Is Debonding

Description/Complaint:

Reports of VN sleeper side window glass falling out. These are the upper windows that went into production in February of 2009. Early warranty data shows the following extrapolated claim rates; Feb=2%, Mar=7%, and Apr=4%. Ref: SR #1-1332505396

Describe Problem - 1D

Unplanned Yes
 Stop/Breakdown:
 Failure Code:
 First Known Failure: 08/24/2009

QJ Auditor:

Safety Issue/BA: No
 WBS Element/Order #:

QJ Owner: ANNA-LENA RINALDO

QJ Responsible: MICHAEL KANE

QJ Requestor: MICHAEL KANE

Affected/Impacted Organization

BA/BU	Affected	Impacted	Driving BU
3P	N	N	Y
PARTS	N	Y	N
VTNA	Y	N	N

Red Card

BA	Red Card
VTNA	No

C-Value

C-Value(QJ): 78.304362
 Penta C-Value:

Priority:

Fault Frequency

BA	N Total Value	N Value	FF%
VTNA	459	29	6.3180928

Assign Team - 2D

Leading Site: Greensboro
 Leading Department:

QJ Auditor:

QJ Owner: ANNA-LENA RINALDO
 QJ Responsible: MICHAEL KANE
 QJ Requestor: MICHAEL KANE

QJ Team

User	eService User	Role	Description
MICHAEL RANKIN		Brand Quality/Customer Satisf	
P BRUCE MOCHRIE		BA Aftermarket	
MICHAEL KANE		QJ Requestor	Requestor of the QJ
MICHAEL KANE		QJ Responsible	Responsible Person of the QJ
ANNA-LENA RINALDO		QJ Owner	Owner of the QJ

Containment Action - 3D

Validate Containment Action

BA	Containment Action OK
VTNA	

Investigation - 4D

Causing Part Number

BA	Part Number	Supplier
VTNA	20582366(LH) & 20582367(RH)	Mack Molding

Solution - 5Da

Recommendation for Campaign:

Reason for Recommendation for Campaign:

Created Date: 10/13/2009

New: 10/13/2009

KOFF (Kickoff):

DEC (Decision):

Status Plan

BA	Milestone	QJ Phase	Original Date
VTNA	Describe Problem - 1D	New	
VTNA	Assign Team - 2D	Kick-Off (KOFF)	
VTNA	Investigate - 4D	Decision (DEC)	
VTNA	Develop Solution - 5D	Released (REL)	
VTNA	Implement Solution - 6D	Supplier Ready to deliver to Production (SU-P)	
VTNA	Implement Solution - 6D	Serial Production Start (SP-S)	
VTNA	Implement Solution - 6D	Market Prepared (MP)	
VTNA	Implement Solution - 6D	Market Ready (MR)	
	END	QJ Completed (END)	

Implement Solution - 6D

PPAP:
QJ Implementation
Comment:

NA: N

Internal Campaign: N
Product Flow NA: N

Check Effectiveness - 7D

Follow Up Dates

BA	Follow Up Date	Follow Up Date Completed	Reason for no Follow Up Date	N/A
VTNA				

Validate Check Effectiveness

BA	Check Effectiveness OK
VTNA	

Action Plan

Action Plan

BA/BU	QJ Phase	Action	Type	Original	Planned Start	Planned End	Actual/System Validation	Actual Start	Actual End	Responsible	Comment	Deviation1	Deviation2	Deviation3	Deviation4	Deviation5
	Describe problem - 1D	First Known Failure	QJ Date													
	Describe Problem - 1D	New	QJ Milestone				10/13/2009		10/13/2009							
VTNA	Assign Team - 2D	Kick-Off (KOFF)	QJ Milestone													
VTNA	Containment action - 3D	Containment action	QJ Date													
VTNA	Investigate - 4D	Decision (DEC)	QJ Milestone													
VTNA	Develop Solution - 5D	Released (REL)	QJ Milestone													
VTNA	Implement Solution - 6D	PPAP	QJ Date													
VTNA	Implement Solution - 6D	Supplier Ready to deliver to Production (SU-P)	QJ Milestone													
VTNA	Implement Solution - 6D	Serial Production Start (SP-S)	QJ Milestone													
VTNA	Implement Solution - 6D	Market Prepared (MP)	QJ Milestone													
VTNA	Implement Solution - 6D	Market Ready (MR)	QJ Milestone													
VTNA	Follow-up - 7D 8D	Follow up	QJ Date													
VTNA	Follow-up - 7D 8D	Check effectiveness	QJ Date													
	END	QJ Completed (END)	QJ Milestone													

UPPER SLEEPER WINDOW GLASS DE-BONDING ACTION ITEMS.

Part# Code:	34346
Supplier:	Mack Molding
Location:	149 Watermark Road, Statesville, NC 28677
Volvo SP:	CAB Vehicle Module Team and Volvo Customer Satisfaction
Component:	Upper Sleeper Window - 20592386 / 87

Revision:	Rev. Date:	Comment:	Revisions	Rev. Date:	Comment:
1	9/30/2009	Created	6		
2	10/6/2009	KBN	7		Added tasks and completions.
3	10/13/2009	KBN	8		up-dated task information.
4			9		
5			10		

Color Codes
 "G"-Task Completed/Issue Closed White - Task in progress
 "Q"-Task Answered/Closure pending
 "Y"-Task May Be Late, No target date for completion
 "R" - Task is Late, reaction required

Item No.	Action Item	Action Required (Yes / No)	Open Date	ACTION LEADERS	TARGET CLOSE DATE	REVISION STATUS HISTORY (color codes)					ACTUAL CLOSE DATE	Comments
						1	2	3	4	5		
											TOTAL ACTIONS	TOTAL CLOSED
											11	6
1	obtain additional examples of window failures	YES	29-Sep-09	D. Meyer	9-Oct-09						9-Oct-09	request send to M. Rankin, G. Schlotzman - 09-29-09
1a	obtain where failure occurred	YES	29-Sep-09	D. Meyer	?							request sent to M. Rankin, G. Schlotzman -09-28-09
1b	side affected L / R	YES	29-Sep-09	D. Meyer	9-Oct-09						9-Oct-09	
2	Trials - first builds - any with concerns	YES	26-Sep-09	D. Meyer	?							
3	warranty claims to date	YES	29-Sep-09	D. Meyer	6-Oct-09						6-Oct-09	email sent to M. Rankin / G. Schlotzman 9-29-09
4	Review adhesive testing reports. Confirm against material of frame.	YES	29-Sep-09	K.B.NUTT	6-Oct-09						13-Oct-09	All frame material testing has been under taken on Xenoy 5220UV. Production material ended up being Nova-Poly 0225UV. NovaPoly 0225UV has been tested also. Age testing done in Lyon, ER-608483 10x30 hours -40 - +85
5	Review Bond Path on window frames.	YES	29-Sep-09	K.B.NUTT	6-Oct-09							Bond Bead needs to be firm of adhesion at the base. Confirm this and position on next batch run.
6	Review NovaPoly material spec with Xenoy 0225UV spec.		29-Sep-09	K.B.NUTT	6-Oct-09							Material properties are virtually identical, however there is no surface tension statistic to compare between the two material, which would be an issue with bonding.
	Provide Test Report of NovaPoly to 255FC adhesion tests.	YES	6-Oct-09	Jack Kallius	?							As it is not clear if Silca tested NovaPoly or GE Xenoy during March 15th 2005 testing. This could be from Paul Gross latest testing that was good with the Mack frame. (NovaPoly)
8	Test current material, Nova-Poly 0225UV to current 255FC.	YES	6-Oct-09	Jack Kallius	?							May not now be required.

"Color Codes"

- "G"-Task Completed/Issue Closed
- "G"-Task Answered/Closure pending
- "Y"-Task May Be Late, No target date for completion
- "R"- Task is Late, reaction required
- White - Task in progress

Item No.	Action Item	Action Required (Yes / No)	Open Date	ACTION LEADERS	TARGET CLOSE DATE	REVISION STATUS HISTORY (color codes)					ACTUAL CLOSE DATE	Comments
						1	2	3	4	5		
						TOTAL ACTIONS						
						11						
9	Adjust adhesive bead application, to center the process, ensure bond width meets minimum requirement of 8mm at the base.	YES	6-Oct-09	Jack Kautilius	next batch run							Current sample KBN reviewed does not correspond with recommendations by Sika (Paul Gross) March 15th 2009 testing. Also lead time to completion.
10	Endorse the Wipe on Wipe off process for the Aktivator outlined in the TechReg.	YES	8-Oct-09	Jack Kautilius	9-Oct-09							This may have been completed. Needs confirming please. B.Colton please confirm.
11	PROCESS AND ADHESION REVIEW AT Mack Moulding	YES	8-Oct-09	Jack Kautilius	ASAP							Please invite all involved and Sika expertise and relevant person for history from sika.
						TOTAL CLOSED						
						8						

thy)

tt Kevin

uesday, October 13, 2009 3:48 PM

Les Martin; Brian Colton; Meyer Dean; Kane Michael; Paul Gross

Cc: Adolfsson Jonas; Hsiao Ming-Chu; Komuves Francis; Albert Doug; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy)

Subject: RE: VN Roof Side Sleeper Window debonding.

Attachments: Upper Sleeper Window Action Items revision 8.xls

Please find attached the action sheet to date regarding the above subject.
This issue has now become a QJ. No 1-1347051717

Please review the action list and refer any questions to Den Meyers or Myself.

Dean, please could you forward tomorrow mornings meeting to all concerned. Many thanks.

Regards,

Kevin Nutt.

Kevin Nutt
Lead Engineer
Cab Exterior
VOLVO 3P
Greensboro, NC.27104

Telephone: 336 393 3409
Telefax: 336 393 3003
kevin.nutt@volvo.com

Lafon Tim (othy)

From: Schlottmann Guenter
Sent: Friday, October 23, 2009 9:20 AM
To: Nutt Kevin; Kane Michael; Rinaldo Anna-Lena; Meyer Dean; Mochrie Bruce
Cc: Hazlett Jim; Adolfsson Jonas (Jonas.Adolfsson@volvo.com)
Subject: FW: Upper Sleeper Window (Killpack)...another

Another Killpack upper window for QJ # 1-1347051717 meeting Monday morning.
 This is in addition to the two I referenced yesterday that DSM found loose in parking lot.
 Hopefully kick-off meeting has answers, need to move fast on resolution. Failed part scattered on interstate.....GPS

Vin # 4V4NC9EH9AN [REDACTED]built 3/30/09
Miles approx 63,000 miles

From: Smith Gregory
Sent: Thursday, October 22, 2009 5:09 PM
To: Schlottmann Guenter
Subject: FW: Upper Sleeper Window

Hi Guenter,

I called the dealer and asked him to take some pictures and report this on a case, it sounds like they are going to replace the window only due to time.

No parts will be available for this truck because the windows is somewhere on I 80!

Greg

From: Smith Gregory
Sent: Thursday, October 22, 2009 4:46 PM
To: blaine@killpack.com
Cc: Dick Fazzio; 'Tina Harrow'; 'Kara Holladay'; Schlottmann Guenter
Subject: RE: Upper Sleeper Window

Blaine,

I have called the dealership and they do have a window in stock. I have asked them to take pictures and get me a report in the system to document this failure. Dealer said they will be jumping right on the truck and will try to get him out asap.

As for testing windows, please use the suction cup and pull outwards of about 50lb pounds of pressure. Use your own judgment on this. If the glass starts to separate then it will require a new window. If the glass does not separate then I will say the glass is secured and you are good to go. Please make sure you document the test and let MWTC know which ones you have tested.

Thanks for your support.

Greg

From: Blaine Killpack [mailto:blaine@killpack.com]
Sent: Thursday, October 22, 2009 2:18 PM
To: Smith Gregory
Cc: 'Ron Carter'; Dick Fazzio; 'Tina Harrow'; merrillv@mountainwesttc.com; 'Kara Holladay'
Subject: Upper Sleeper Window

Greg,

I just received a call from our driver in Iowa who just lost a RH bunk window. I have routed him to Mckenna Truck Center in Des Moines, IA. I did confirm they do have a window and it will be installed shortly.

Vin # 4V4NC9EH9AN [REDACTED]
Miles approx 63,000 miles

8/16/2011

My reason for the email is to just inform you of this failure. Tina emailed me earlier and said she was shipping overnight the tool so that we can test the other trucks in the fleet.

If you have a procedure that we should follow in testing these windows please let me know.

Thanks -- Blaine

Killpack
TRUCKING, INC.

Blaine Killpack
Vice President Operations

4000 W. 65 S.
Idaho Falls, ID 83402
www.killpack.com

(208) 523-0099
Fax (208) 523-0717
blaine@killpack.com

Powered by [CardScan](#)

Lafon Tim (othy)

From: Kane Michael
Sent: Tuesday, October 27, 2009 11:08 AM
To: Rankin Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky
Subject: Kickoff Minutes - QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding
Attachments: Action List.xls
Actions from 1st meeting attached.

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

Lafon Tim (othy)

From: Schlottmann Guenter
Sent: Tuesday, October 27, 2009 2:09 PM
To: Kane Michael; Mochrie Bruce; Hazlett Jim; Lafon Tim (othy); Meyer Dean
Subject: FW: QJ # 1-1347051717: Upper Sleeper Side Window Glass(Return Address)

This concerns me that Mack Molding is trying to position themselves with no responsibility. Root cause investigation from 3P becomes even more critical as we'll need \$\$\$ to pay for whatever service actions are decided.....GPS

From: Williams Billy
Sent: Friday, October 23, 2009 2:35 PM
To: Schlottmann Guenter
Subject: RE: QJ # 1-1347051717: Upper Sleeper Side Window Glass(Return Address)
 GPS,

Les Martin of Mack Molding is disputing these failures as their own, see below.
 Can you send me what you have on this failure investigation? Parts will have to come to TMAC if they want them. Billy

Billy,

Do not issue a debit against Mack Molding for the Window failures. The root cause of the failure as not been determined.

Mack Molding is stating that there are no workmanship issues. We have assembled the Windows in accordance to Volvo's specifications.

Please send me a detailed breakdown (Cost of the labor versus the cost of the materials) of the amounts listed below. Thank you.

From: Schlottmann Guenter
Sent: Friday, October 23, 2009 2:31 PM
To: Smith Gregory; Williams Billy
Cc: Meyer Dean
Subject: RE: QJ # 1-1347051717: Upper Sleeper Side Window Glass(Return Address)

Would expect that there are going to be claims involved so parts may have to come to TMAC first and then returned for recovery.

I'm OK if they send it back direct to Mack Molding unless Warranty system won't allow it.

Billy, Please confirm.....GPS

From: Smith Gregory
Sent: Friday, October 23, 2009 2:21 PM
To: Meyer Dean; Schlottmann Guenter
Subject: RE: QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding

Günter,

Which address would you like for me to send the parts to, TMAC or Mack Molding co.?
 Greg Smith

From: Meyer Dean
Sent: Friday, October 23, 2009 8:16 AM

To: Schlottmann Guenter; Smith Gregory
Subject: RE: QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding

Gentlemen,

Here is the contact information for the subject parts to be returned to:

Mack Molding Company
149 Watertank Road
Statesville, NC 28677
1 704 878 9641
Attention: Brian Colton

Regards,

Dean Meyer
Volvo 3P - SQD
7900 National Service Road
Greensboro, NC 27410

Office: 1.336.393.3860
Fax: 1.336.393.2203
Cell: 1.336.210.0952
Email: dean.meyer@volvo.com

From: Schlottmann Guenter
Sent: Thursday, October 22, 2009 11:44 AM
To: Smith Gregory
Cc: Kane Michael (michael.kane@volvo.com); Mochrie Bruce (bruce.mochrie@volvo.com); Rinaldo Anna-Lena (anna-lena.rinaldo@volvo.com); Hazlett Jim (jim.hazlett@volvo.com); Meyer Dean; Rankin Michael; Lytton Duane
Subject: RE: QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding

Greg,
Return all failed material from this inspection to TMAC to my attention. Be sure to note my name and the case number on the box.
SQD will forward contact info at supplier and we'll get an RGA# for tracking.

VMT, Case and photos attached.....GPS

From: Smith Gregory
Sent: Thursday, October 22, 2009 11:21 AM
To: Schlottmann Guenter
Subject: RE: QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding
Right now I have **two** but I have not finished checking the rest of the fleet.
I have only check around 7 trucks (waiting to be delivered to the customer) we have around 18 more running the road.
Greg

From: Schlottmann Guenter
Sent: Thursday, October 22, 2009 9:14 AM
To: Smith Gregory

8/16/2011

Subject: RE: QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding

How many parts do you have , two ?

From: Smith Gregory

Sent: Wednesday, October 21, 2009 9:09 PM

To: Schlottmann Guenter

Cc: Poulson Jerry

Subject: RE: QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding
Guenter,

I had the dealer enter a ecase and I just updated it with pictures and a short write up. I had checked 4 more today (290199,98,97,95) and found another one that was not as bad but still had some movement. I will get this replaced as well and send you the complete glass.

Greg

RE: E case # 1-1350414387

From: Schlottmann Guenter

Sent: Thursday, October 15, 2009 8:53 AM

To: Al Zuback (E-mail 2); Bob Rose (E-mail); Jerry Poulson (E-mail); John Montgomery (E-mail); Rick Marshall (E-mail); Vince Lindley (Nt) (E-mail); Wes Marsh (E-mail)

Cc: Smith Gregory; Carter Jimmy; Neal Frank (a); Buchinsky Stephen; Meyer Dean

Subject: FW: QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding

FYI.....GPS

From: Kane Michael

Sent: Tuesday, October 13, 2009 3:20 PM

To: PPDL VTNA QJNA

Cc: Adolfsson Jonas; Albert Doug; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy)

Subject: QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding

New VTNA Cab QJ...

Br//

Michael Kane

Case Manager - Cab Engineering

Volvo 3P - North America

336-393-3236

336-501-3552 (mobile)

Lafon Tim (othy)

From: Kane Michael
Sent: Thursday, October 29, 2009 9:49 AM
To: Meyer Dean
Cc: Rankin Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky
Subject: FW: Your SAS Warranty Analysis report completed successfully (Bonded Upper Side Windows)
Attachments: Bonded Sleeper Windows - 0944.pdf; Bonded Slpr Window Claims - 0944.xls



Bonded Sleeper
Windows - 0944....



Bonded Slpr
Window Claims - 09..

Dean,

For your trip today to Mack Molding. Latest claim data attached.

Biggest change I see in the Number of claims in the first few mos of production has escalated.

Extrapolated rate is now predicted to be 16% failure rate for the build mo of February...vs...the 7% that we looked at 4 weeks ago.

There are now 126 claims for vehicles built since 2/4/09. Almost double what we saw 4 weeks ago (65 we said).

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

-----Original Message-----

From: laura.beyer@volvo.com [mailto:laura.beyer@volvo.com]
Sent: Thursday, October 29, 2009 8:30 AM
To: Kane Michael
Subject: SWA: Your SAS Warranty Analysis report completed successfully (Bonded Upper Side Windows)

You can view your report output in the SWA Report Library

Report Description: Bonded Upper Side Windows
Data Filter: Bonded Upper Side Windows
Analysis Type: Trend/Exposure

Report submitted 10/29/09 8:24:47
Report completed 10/29/09 8:29:34

(R208I23J7)

Bonded Upper Side Windows

20582366, 20582367

Report Details

<i>Option</i>	<i>Value</i>
Filter Name:	Bonded Upper Side Windows
Analysis Type:	Trend/Exposure
Reporting Variable:	Vehicle Assembly Month
Analysis Variable:	Claim Rate
Calculation Method:	Extrapolated
Apply Claim Submission Lag Adjustment:	Yes
Apply Usage Profiles:	No
Claims Per Unit to Include:	All
Maturity Value:	None
Include pre - delivery claims:	Yes
Minimum Sample Size Type:	Percent
Minimum Sample Size:	20
Time in Service Values to Display	0 months
	3 months
	6 months
	12 months
	24 months
Display Gridlines:	Yes
Title:	Bonded Upper Side Windows
SubTitle:	20582366, 20582367
Footnote:	

Bonded Upper Side Windows

20582366, 20582367

Filter Details

Bonded Upper Side Windows (Description: 20582366, 20582367) - Data Source: Volvo North America - Data Type: - Author Name: UT03873 - Modification Date: 020CT09:14:36:52

Volvo - All (Description:) - Data Source: Volvo North America - Data Type: Products - Author Name: UT03873 - Modification Date: 08AUG08:10:20:31

Vehicle Make: 'VOLVO'

Bonded Upper Side Windows (Description: 20582366, 20582367) - Data Source: Volvo North America - Data Type: Claims - Author Name: UT03873 - Modification Date: 020CT09:14:35:59

Debit Code: '10' '18'

Causal Part Number: '20582366' '20582367'

Total Claim Payment: (From:) 1

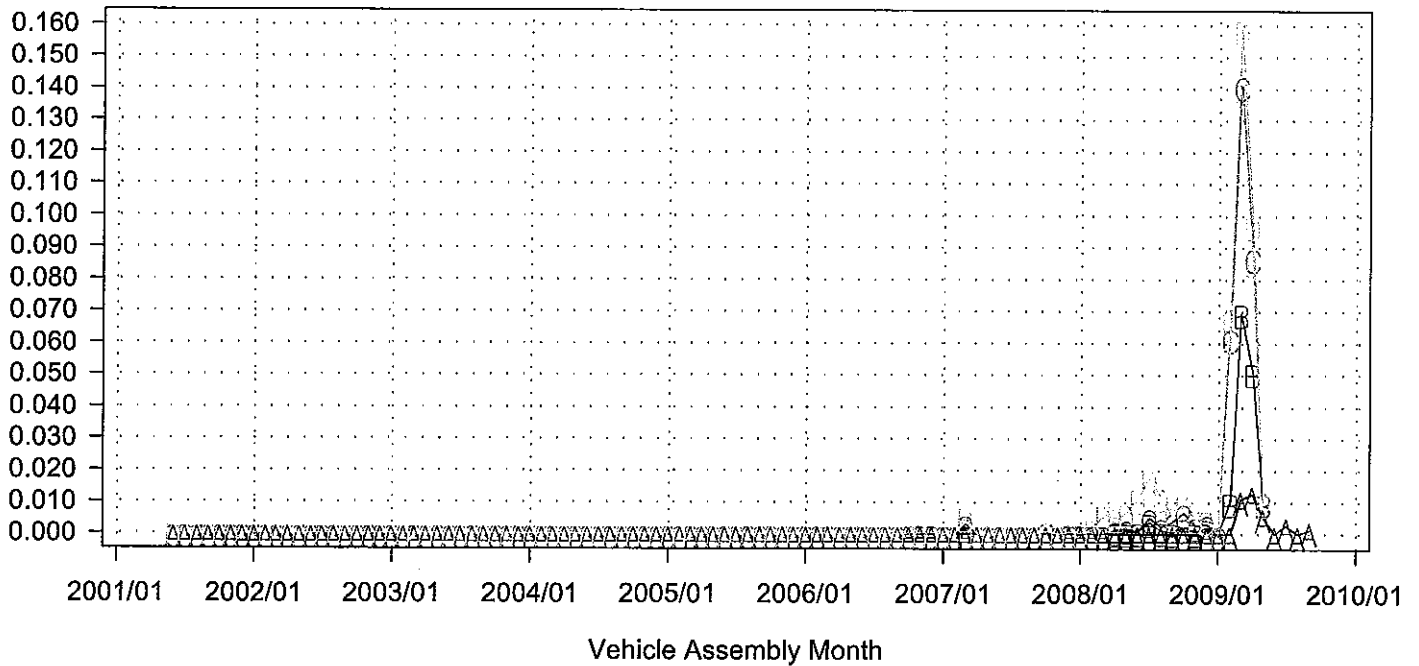
Total Claim Payment: (To:) 999999

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Extrapolated Claim Rate



Time in Service	A	B	C
	A - A - A	B - B - B	C - C - C
	0	3	6
	12	24	

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

<i>Vehicle Assembly Month</i>	<i>Time in Service</i>	<i>Sample Size</i>	<i>Extrapolated Claim Rate</i>	<i>Extrapolated Total Claim Count</i>	<i>Maximum Age in Days</i>	<i>Average Age in Days</i>	<i>Extrapolated</i>
2001/06	0	1,276	0.000	0.00	3060	2893	NO
2001/07	0	581	0.000	0.00	3032	2964	NO
2001/08	0	1,296	0.000	0.00	3004	2931	NO
2001/09	0	844	0.000	0.00	2960	2884	NO
2001/10	0	1,074	0.000	0.00	2934	2831	NO
2001/11	0	1,069	0.000	0.00	2912	2760	NO
2001/12	0	500	0.000	0.00	2871	2801	NO
2002/01	0	1,090	0.000	0.00	2843	2732	NO
2002/02	0	502	0.000	0.00	2804	2722	NO
2002/03	0	968	0.000	0.00	2785	2677	NO
2002/04	0	1,016	0.000	0.00	2757	2674	NO
2002/05	0	1,491	0.000	0.00	2724	2595	NO
2002/06	0	1,599	0.000	0.00	2694	2592	NO
2002/07	0	951	0.000	0.00	2652	2513	NO
2002/08	0	1,582	0.000	0.00	2640	2468	NO
2002/09	0	1,726	0.000	0.00	3587	2450	NO
2002/10	0	1,819	0.000	0.00	2575	2458	NO
2002/11	0	360	0.000	0.00	2539	2371	NO
2002/12	0	576	0.000	0.00	2496	2296	NO
2003/01	0	1,016	0.000	0.00	2476	2289	NO
2003/02	0	974	0.000	0.00	2436	2295	NO
2003/03	0	1,018	0.000	0.00	2421	2323	NO
2003/04	0	1,130	0.000	0.00	2392	2309	NO
2003/05	0	1,591	0.000	0.00	2359	2284	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

R208I23J7 - 29OCT09.08:24:46

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2003/06	0	1,657	0.000	0.00	2335	2255	NO
2003/07	0	864	0.000	0.00	2291	2228	NO
2003/08	0	1,650	0.000	0.00	2267	2190	NO
2003/09	0	1,767	0.000	0.00	2239	2159	NO
2003/10	0	2,169	0.000	0.00	2213	2134	NO
2003/11	0	1,416	0.000	0.00	3587	2102	NO
2003/12	0	1,509	0.000	0.00	2145	2083	NO
2004/01	0	1,682	0.000	0.00	2113	2024	NO
2004/02	0	1,613	0.000	0.00	2080	1981	NO
2004/03	0	1,817	0.000	0.00	2061	1987	NO
2004/04	0	1,824	0.000	0.00	2030	1962	NO
2004/05	0	1,568	0.000	0.00	1996	1924	NO
2004/06	0	2,616	0.000	0.00	1971	1900	NO
2004/07	0	2,015	0.000	0.00	1933	1873	NO
2004/08	0	2,107	0.000	0.00	1903	1846	NO
2004/09	0	2,775	0.000	0.00	1877	1804	NO
2004/10	0	2,791	0.000	0.00	1842	1761	NO
2004/11	0	2,623	0.000	0.00	1812	1734	NO
2004/12	0	2,269	0.000	0.00	1783	1709	NO
2005/01	0	2,675	0.000	0.00	1754	1685	NO
2005/02	0	2,545	0.000	0.00	1721	1637	NO
2005/03	0	2,222	0.000	0.00	1694	1605	NO
2005/04	0	2,816	0.000	0.00	1667	1574	NO
2005/05	0	2,803	0.000	0.00	1636	1554	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2005/06	0	2,946	0.000	0.00	1602	1513	NO
2005/07	0	2,045	0.000	0.00	1579	1483	NO
2005/08	0	2,434	0.000	0.00	1537	1451	NO
2005/09	0	3,218	0.000	0.00	1511	1418	NO
2005/10	0	3,365	0.000	0.00	1478	1398	NO
2005/11	0	2,871	0.000	0.00	1452	1348	NO
2005/12	0	2,285	0.000	0.00	1425	1320	NO
2006/01	0	2,440	0.000	0.00	1385	1292	NO
2006/02	0	2,869	0.000	0.00	1357	1274	NO
2006/03	0	3,415	0.000	0.00	1335	1239	NO
2006/04	0	2,991	0.000	0.00	1293	1211	NO
2006/05	0	3,574	0.000	0.00	1271	1167	NO
2006/06	0	3,566	0.000	0.00	1244	1134	NO
2006/07	0	3,238	0.000	0.00	1205	1104	NO
2006/08	0	2,328	0.000	0.00	1162	1070	NO
2006/09	0	3,375	0.000	0.00	1142	1032	NO
2006/10	0	3,720	0.000	0.00	1119	979	NO
2006/11	0	3,082	0.000	0.00	1089	953	NO
2006/12	0	2,671	0.000	0.00	1054	935	NO
2007/01	0	2,801	0.000	0.00	1501	912	NO
2007/02	0	1,397	0.000	0.00	979	873	NO
2007/03	0	956	0.000	0.00	957	755	NO
2007/04	0	432	0.000	0.00	905	700	NO
2007/05	0	1,159	0.000	0.00	2615	688	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time In Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2007/06	0	542	0.000	0.00	844	671	NO
2007/07	0	1,134	0.000	0.00	902	687	NO
2007/08	0	1,209	0.000	0.00	823	669	NO
2007/09	0	1,146	0.000	0.00	865	662	NO
2007/10	0	1,953	0.000	0.00	1026	647	NO
2007/11	0	2,205	0.000	0.00	1025	620	NO
2007/12	0	1,712	0.000	0.00	994	603	NO
2008/01	0	2,494	0.000	0.00	664	531	NO
2008/02	0	794	0.000	0.00	626	418	NO
2008/03	0	197	0.000	0.00	560	433	NO
2008/04	0	2,536	0.000	0.00	567	447	NO
2008/05	0	1,391	0.000	0.00	529	358	NO
2008/06	0	1,213	0.000	0.00	496	359	NO
2008/07	0	793	0.000	0.00	474	395	NO
2008/08	0	935	0.000	0.00	431	352	NO
2008/09	0	1,396	0.000	0.00	664	315	NO
2008/10	0	1,478	0.000	0.00	383	294	NO
2008/11	0	1,180	0.000	0.00	3579	276	NO
2008/12	0	1,152	0.000	0.00	657	195	NO
2009/01	0	859	0.000	0.00	277	177	NO
2009/02	0	870	0.000	0.00	3466	155	NO
2009/03	0	459	0.011	5.00	225	142	NO
2009/04	0	397	0.013	5.00	194	112	NO
2009/05	0	361	0.006	2.00	169	101	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time In Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2009/06	0	572	0.000	0.00	137	59	NO
2009/07	0	368	0.003	1.00	793	44	NO
2009/08	0	500	0.000	0.00	67	22	NO
2009/09	0	762	0.001	1.00	6572	14	NO
2001/06	3	1,276	0.000	0.00	3060	2893	NO
2001/07	3	581	0.000	0.00	3032	2964	NO
2001/08	3	1,296	0.000	0.00	3004	2931	NO
2001/09	3	844	0.000	0.00	2960	2884	NO
2001/10	3	1,074	0.000	0.00	2934	2831	NO
2001/11	3	1,069	0.000	0.00	2912	2760	NO
2001/12	3	500	0.000	0.00	2871	2801	NO
2002/01	3	1,090	0.000	0.00	2843	2732	NO
2002/02	3	502	0.000	0.00	2804	2722	NO
2002/03	3	968	0.000	0.00	2785	2677	NO
2002/04	3	1,016	0.000	0.00	2757	2674	NO
2002/05	3	1,491	0.000	0.00	2724	2595	NO
2002/06	3	1,599	0.000	0.00	2694	2592	NO
2002/07	3	951	0.000	0.00	2652	2513	NO
2002/08	3	1,582	0.000	0.00	2640	2468	NO
2002/09	3	1,726	0.000	0.00	3587	2450	NO
2002/10	3	1,819	0.000	0.00	2575	2458	NO
2002/11	3	360	0.000	0.00	2539	2371	NO
2002/12	3	576	0.000	0.00	2496	2296	NO
2003/01	3	1,016	0.000	0.00	2476	2289	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2003/02	3	974	0.000	0.00	2436	2295	NO
2003/03	3	1,018	0.000	0.00	2421	2323	NO
2003/04	3	1,130	0.000	0.00	2392	2309	NO
2003/05	3	1,591	0.000	0.00	2359	2284	NO
2003/06	3	1,657	0.000	0.00	2335	2255	NO
2003/07	3	864	0.000	0.00	2291	2228	NO
2003/08	3	1,650	0.000	0.00	2267	2190	NO
2003/09	3	1,767	0.000	0.00	2239	2159	NO
2003/10	3	2,169	0.000	0.00	2213	2134	NO
2003/11	3	1,416	0.000	0.00	3587	2102	NO
2003/12	3	1,509	0.000	0.00	2145	2083	NO
2004/01	3	1,682	0.000	0.00	2113	2024	NO
2004/02	3	1,613	0.000	0.00	2080	1981	NO
2004/03	3	1,817	0.000	0.00	2061	1987	NO
2004/04	3	1,824	0.000	0.00	2030	1962	NO
2004/05	3	1,568	0.000	0.00	1996	1924	NO
2004/06	3	2,616	0.000	0.00	1971	1900	NO
2004/07	3	2,015	0.000	0.00	1933	1873	NO
2004/08	3	2,107	0.000	0.00	1903	1846	NO
2004/09	3	2,775	0.000	0.00	1877	1804	NO
2004/10	3	2,791	0.000	0.00	1842	1761	NO
2004/11	3	2,623	0.000	0.00	1812	1734	NO
2004/12	3	2,269	0.000	0.00	1783	1709	NO
2005/01	3	2,675	0.000	0.00	1754	1685	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2005/02	3	2,545	0.000	0.00	1721	1637	NO
2005/03	3	2,222	0.000	0.00	1694	1605	NO
2005/04	3	2,816	0.000	0.00	1667	1574	NO
2005/05	3	2,803	0.000	0.00	1636	1554	NO
2005/06	3	2,946	0.000	0.00	1602	1513	NO
2005/07	3	2,045	0.000	0.00	1579	1483	NO
2005/08	3	2,434	0.000	0.00	1537	1451	NO
2005/09	3	3,218	0.000	0.00	1511	1418	NO
2005/10	3	3,365	0.000	0.00	1478	1398	NO
2005/11	3	2,871	0.000	0.00	1452	1348	NO
2005/12	3	2,285	0.000	0.00	1425	1320	NO
2006/01	3	2,440	0.000	0.00	1385	1292	NO
2006/02	3	2,869	0.000	0.00	1357	1274	NO
2006/03	3	3,415	0.000	0.00	1335	1239	NO
2006/04	3	2,991	0.000	0.00	1293	1211	NO
2006/05	3	3,574	0.000	0.00	1271	1167	NO
2006/06	3	3,566	0.000	0.00	1244	1134	NO
2006/07	3	3,238	0.000	0.00	1205	1104	NO
2006/08	3	2,328	0.000	0.00	1162	1070	NO
2006/09	3	3,375	0.000	0.00	1142	1032	NO
2006/10	3	3,720	0.000	0.00	1119	979	NO
2006/11	3	3,082	0.000	0.00	1089	953	NO
2006/12	3	2,671	0.000	0.00	1054	935	NO
2007/01	3	2,801	0.000	0.00	1501	912	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2007/02	3	1,397	0.000	0.00	979	873	NO
2007/03	3	956	0.002	2.07	957	755	NO
2007/04	3	432	0.000	0.00	905	700	NO
2007/05	3	1,159	0.000	0.00	2615	688	NO
2007/06	3	542	0.000	0.00	844	671	NO
2007/07	3	1,134	0.000	0.00	902	687	NO
2007/08	3	1,209	0.000	0.00	823	669	NO
2007/09	3	1,146	0.000	0.00	865	662	NO
2007/10	3	1,953	0.001	2.05	1026	647	NO
2007/11	3	2,205	0.000	0.00	1025	620	NO
2007/12	3	1,712	0.000	0.00	994	603	NO
2008/01	3	2,494	0.000	0.00	664	531	NO
2008/02	3	794	0.000	0.00	626	418	NO
2008/03	3	197	0.000	0.00	560	433	NO
2008/04	3	2,536	0.001	2.13	567	447	NO
2008/05	3	1,391	0.001	1.18	529	358	NO
2008/06	3	1,213	0.001	1.15	496	359	NO
2008/07	3	793	0.004	3.12	474	395	NO
2008/08	3	935	0.001	1.06	431	352	NO
2008/09	3	1,396	0.001	1.10	664	315	NO
2008/10	3	1,478	0.002	3.31	383	294	NO
2008/11	3	1,180	0.001	1.05	3579	276	NO
2008/12	3	1,152	0.002	2.47	657	195	NO
2009/01	3	859	0.000	0.00	277	177	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

<i>Vehicle Assembly Month</i>	<i>Time In Service</i>	<i>Sample Size</i>	<i>Extrapolated Claim Rate</i>	<i>Extrapolated Total Claim Count</i>	<i>Maximum Age in Days</i>	<i>Average Age in Days</i>	<i>Extrapolated</i>
2009/02	3	870	0.010	9.02	3466	155	NO
2009/03	3	459	0.070	32.04	225	142	NO
2009/04	3	397	0.051	20.31	194	112	NO
2009/05	3	361	0.010	3.64	169	101	NO
2001/06	6	1,276	0.000	0.00	3060	2893	NO
2001/07	6	581	0.000	0.00	3032	2964	NO
2001/08	6	1,296	0.000	0.00	3004	2931	NO
2001/09	6	844	0.000	0.00	2960	2884	NO
2001/10	6	1,074	0.000	0.00	2934	2831	NO
2001/11	6	1,069	0.000	0.00	2912	2760	NO
2001/12	6	500	0.000	0.00	2871	2801	NO
2002/01	6	1,090	0.000	0.00	2843	2732	NO
2002/02	6	502	0.000	0.00	2804	2722	NO
2002/03	6	968	0.000	0.00	2785	2677	NO
2002/04	6	1,016	0.000	0.00	2757	2674	NO
2002/05	6	1,491	0.000	0.00	2724	2595	NO
2002/06	6	1,599	0.000	0.00	2694	2592	NO
2002/07	6	951	0.000	0.00	2652	2513	NO
2002/08	6	1,582	0.000	0.00	2640	2468	NO
2002/09	6	1,726	0.000	0.00	3587	2450	NO
2002/10	6	1,819	0.000	0.00	2575	2458	NO
2002/11	6	360	0.000	0.00	2539	2371	NO
2002/12	6	576	0.000	0.00	2496	2296	NO
2003/01	6	1,016	0.000	0.00	2476	2289	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2003/02	6	974	0.000	0.00	2436	2295	NO
2003/03	6	1,018	0.000	0.00	2421	2323	NO
2003/04	6	1,130	0.000	0.00	2392	2309	NO
2003/05	6	1,591	0.000	0.00	2359	2284	NO
2003/06	6	1,657	0.000	0.00	2335	2255	NO
2003/07	6	864	0.000	0.00	2291	2228	NO
2003/08	6	1,650	0.000	0.00	2267	2190	NO
2003/09	6	1,767	0.000	0.00	2239	2159	NO
2003/10	6	2,169	0.000	0.00	2213	2134	NO
2003/11	6	1,416	0.000	0.00	3587	2102	NO
2003/12	6	1,509	0.000	0.00	2145	2083	NO
2004/01	6	1,682	0.000	0.00	2113	2024	NO
2004/02	6	1,613	0.000	0.00	2080	1981	NO
2004/03	6	1,817	0.000	0.00	2061	1987	NO
2004/04	6	1,824	0.000	0.00	2030	1962	NO
2004/05	6	1,568	0.000	0.00	1996	1924	NO
2004/06	6	2,616	0.000	0.00	1971	1900	NO
2004/07	6	2,015	0.000	0.00	1933	1873	NO
2004/08	6	2,107	0.000	0.00	1903	1846	NO
2004/09	6	2,775	0.000	0.00	1877	1804	NO
2004/10	6	2,791	0.000	0.00	1842	1761	NO
2004/11	6	2,623	0.000	0.00	1812	1734	NO
2004/12	6	2,269	0.000	0.00	1783	1709	NO
2005/01	6	2,675	0.000	0.00	1754	1685	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2005/02	6	2,545	0.000	0.00	1721	1637	NO
2005/03	6	2,222	0.000	0.00	1694	1605	NO
2005/04	6	2,816	0.000	0.00	1667	1574	NO
2005/05	6	2,803	0.000	0.00	1636	1554	NO
2005/06	6	2,946	0.000	0.00	1602	1513	NO
2005/07	6	2,045	0.000	0.00	1579	1483	NO
2005/08	6	2,434	0.000	0.00	1537	1451	NO
2005/09	6	3,218	0.000	0.00	1511	1418	NO
2005/10	6	3,365	0.000	0.00	1478	1398	NO
2005/11	6	2,871	0.000	0.00	1452	1348	NO
2005/12	6	2,285	0.000	0.00	1425	1320	NO
2006/01	6	2,440	0.000	0.00	1385	1292	NO
2006/02	6	2,869	0.000	0.00	1357	1274	NO
2006/03	6	3,415	0.000	0.00	1335	1239	NO
2006/04	6	2,991	0.000	0.00	1293	1211	NO
2006/05	6	3,574	0.000	0.00	1271	1167	NO
2006/06	6	3,566	0.000	0.00	1244	1134	NO
2006/07	6	3,238	0.000	0.00	1205	1104	NO
2006/08	6	2,328	0.000	0.00	1162	1070	NO
2006/09	6	3,375	0.000	0.00	1142	1032	NO
2006/10	6	3,720	0.000	0.00	1119	979	NO
2006/11	6	3,082	0.000	0.00	1089	953	NO
2006/12	6	2,671	0.000	0.00	1054	935	NO
2007/01	6	2,801	0.000	0.00	1501	912	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2007/02	6	1,397	0.000	0.00	979	873	NO
2007/03	6	956	0.003	3.12	957	755	NO
2007/04	6	432	0.000	0.00	905	700	NO
2007/05	6	1,159	0.000	0.00	2615	688	NO
2007/06	6	542	0.000	0.00	844	671	NO
2007/07	6	1,134	0.000	0.00	902	687	NO
2007/08	6	1,209	0.000	0.00	823	669	NO
2007/09	6	1,146	0.000	0.00	865	662	NO
2007/10	6	1,953	0.001	2.05	1026	647	NO
2007/11	6	2,205	0.000	0.00	1025	620	NO
2007/12	6	1,712	0.001	1.02	994	603	NO
2008/01	6	2,494	0.000	0.00	664	531	NO
2008/02	6	794	0.000	0.00	626	418	NO
2008/03	6	197	0.000	0.00	560	433	NO
2008/04	6	2,536	0.001	3.23	567	447	NO
2008/05	6	1,391	0.002	2.43	529	358	NO
2008/06	6	1,213	0.001	1.15	496	359	NO
2008/07	6	793	0.005	4.18	474	395	NO
2008/08	6	935	0.002	2.14	431	352	NO
2008/09	6	1,396	0.004	5.69	664	315	NO
2008/10	6	1,478	0.007	10.08	383	294	NO
2008/11	6	1,180	0.003	3.25	3579	276	NO
2008/12	6	1,152	0.003	3.77	657	195	NO
2009/01	6	859	0.000	0.00	277	177	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2009/02	6	870	0.062	53.95	3466	155	NO
2009/03	6	459	0.141	64.82	225	142	YES
2009/04	6	397	0.087	34.60	194	112	YES
2009/05	6	361	0.010	3.70	169	101	YES
2001/06	12	1,276	0.000	0.00	3060	2893	NO
2001/07	12	581	0.000	0.00	3032	2964	NO
2001/08	12	1,296	0.000	0.00	3004	2931	NO
2001/09	12	844	0.000	0.00	2960	2884	NO
2001/10	12	1,074	0.000	0.00	2934	2831	NO
2001/11	12	1,069	0.000	0.00	2912	2760	NO
2001/12	12	500	0.000	0.00	2871	2801	NO
2002/01	12	1,090	0.000	0.00	2843	2732	NO
2002/02	12	502	0.000	0.00	2804	2722	NO
2002/03	12	968	0.000	0.00	2785	2677	NO
2002/04	12	1,016	0.000	0.00	2757	2674	NO
2002/05	12	1,491	0.000	0.00	2724	2595	NO
2002/06	12	1,599	0.000	0.00	2694	2592	NO
2002/07	12	951	0.000	0.00	2652	2513	NO
2002/08	12	1,582	0.000	0.00	2640	2468	NO
2002/09	12	1,726	0.000	0.00	3587	2450	NO
2002/10	12	1,819	0.000	0.00	2575	2458	NO
2002/11	12	360	0.000	0.00	2539	2371	NO
2002/12	12	576	0.000	0.00	2496	2296	NO
2003/01	12	1,016	0.000	0.00	2476	2289	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

R20812317 - 29OCT09:08:24:46

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time In Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2003/02	12	974	0.000	0.00	2436	2295	NO
2003/03	12	1,018	0.000	0.00	2421	2323	NO
2003/04	12	1,130	0.000	0.00	2392	2309	NO
2003/05	12	1,591	0.000	0.00	2359	2284	NO
2003/06	12	1,657	0.000	0.00	2335	2255	NO
2003/07	12	864	0.000	0.00	2291	2228	NO
2003/08	12	1,650	0.000	0.00	2267	2190	NO
2003/09	12	1,767	0.000	0.00	2239	2159	NO
2003/10	12	2,169	0.000	0.00	2213	2134	NO
2003/11	12	1,416	0.000	0.00	3587	2102	NO
2003/12	12	1,509	0.000	0.00	2145	2083	NO
2004/01	12	1,682	0.000	0.00	2113	2024	NO
2004/02	12	1,613	0.000	0.00	2080	1981	NO
2004/03	12	1,817	0.000	0.00	2061	1987	NO
2004/04	12	1,824	0.000	0.00	2030	1962	NO
2004/05	12	1,568	0.000	0.00	1996	1924	NO
2004/06	12	2,616	0.000	0.00	1971	1900	NO
2004/07	12	2,015	0.000	0.00	1933	1873	NO
2004/08	12	2,107	0.000	0.00	1903	1846	NO
2004/09	12	2,775	0.000	0.00	1877	1804	NO
2004/10	12	2,791	0.000	0.00	1842	1761	NO
2004/11	12	2,623	0.000	0.00	1812	1734	NO
2004/12	12	2,269	0.000	0.00	1783	1709	NO
2005/01	12	2,675	0.000	0.00	1754	1685	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

R208I23J7 - 29OCT09:08:24:46

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time In Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2005/02	12	2,545	0.000	0.00	1721	1637	NO
2005/03	12	2,222	0.000	0.00	1694	1605	NO
2005/04	12	2,816	0.000	0.00	1667	1574	NO
2005/05	12	2,803	0.000	0.00	1636	1554	NO
2005/06	12	2,946	0.000	0.00	1602	1513	NO
2005/07	12	2,045	0.000	0.00	1579	1483	NO
2005/08	12	2,434	0.000	0.00	1537	1451	NO
2005/09	12	3,218	0.000	0.00	1511	1418	NO
2005/10	12	3,365	0.000	0.00	1478	1398	NO
2005/11	12	2,871	0.000	0.00	1452	1348	NO
2005/12	12	2,285	0.000	0.00	1425	1320	NO
2006/01	12	2,440	0.000	0.00	1385	1292	NO
2006/02	12	2,869	0.000	0.00	1357	1274	NO
2006/03	12	3,415	0.000	0.00	1335	1239	NO
2006/04	12	2,991	0.000	0.00	1293	1211	NO
2006/05	12	3,574	0.000	0.00	1271	1167	NO
2006/06	12	3,566	0.000	0.00	1244	1134	NO
2006/07	12	3,238	0.000	0.00	1205	1104	NO
2006/08	12	2,328	0.000	0.00	1162	1070	NO
2006/09	12	3,375	0.000	0.00	1142	1032	NO
2006/10	12	3,720	0.000	1.01	1119	979	NO
2006/11	12	3,082	0.000	1.01	1089	953	NO
2006/12	12	2,671	0.000	1.01	1054	935	NO
2007/01	12	2,801	0.000	0.00	1501	912	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

R208123J7 - 29OCT09:08:24:46

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time In Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2007/02	12	1,397	0.000	0.00	979	873	NO
2007/03	12	956	0.006	5.27	957	755	NO
2007/04	12	432	0.000	0.00	905	700	NO
2007/05	12	1,159	0.000	0.00	2615	688	NO
2007/06	12	542	0.000	0.00	844	671	NO
2007/07	12	1,134	0.000	0.00	902	687	NO
2007/08	12	1,209	0.000	0.00	823	669	NO
2007/09	12	1,146	0.000	0.00	865	662	NO
2007/10	12	1,953	0.001	2.05	1026	647	NO
2007/11	12	2,205	0.000	0.00	1025	620	NO
2007/12	12	1,712	0.001	1.02	994	603	NO
2008/01	12	2,494	0.000	1.12	664	531	NO
2008/02	12	794	0.002	1.30	626	418	NO
2008/03	12	197	0.006	1.25	560	433	NO
2008/04	12	2,536	0.005	13.38	567	447	NO
2008/05	12	1,391	0.007	9.32	529	358	NO
2008/06	12	1,213	0.011	13.60	496	359	NO
2008/07	12	793	0.018	14.03	474	395	NO
2008/08	12	935	0.012	11.03	431	352	NO
2008/09	12	1,396	0.006	8.06	664	315	NO
2008/10	12	1,478	0.009	13.99	383	294	YES
2008/11	12	1,180	0.005	5.91	3579	276	YES
2008/12	12	1,152	0.005	5.47	657	195	YES
2009/01	12	859	0.000	0.00	277	177	YES

Bonded Upper Side Windows (Data as of 2009/10/27)

R20812317 - 29OCT09:08:24:46

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2009/02	12	870	0.068	59.45	3466	155	YES
2009/03	12	459	0.159	72.91	225	142	YES
2009/04	12	397	0.097	38.61	194	112	YES
2009/05	12	361	0.011	3.92	169	101	YES
2001/06	24	1,276	0.000	0.00	3060	2893	NO
2001/07	24	581	0.000	0.00	3032	2964	NO
2001/08	24	1,296	0.000	0.00	3004	2931	NO
2001/09	24	844	0.000	0.00	2960	2884	NO
2001/10	24	1,074	0.000	0.00	2934	2831	NO
2001/11	24	1,069	0.000	0.00	2912	2760	NO
2001/12	24	500	0.000	0.00	2871	2801	NO
2002/01	24	1,090	0.000	0.00	2843	2732	NO
2002/02	24	502	0.000	0.00	2804	2722	NO
2002/03	24	968	0.000	0.00	2785	2677	NO
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2002/05	24	1,491	0.000	0.00	2724	2595	NO
2002/06	24	1,599	0.000	0.00	2694	2592	NO
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2002/08	24	1,582	0.000	0.00	2640	2468	NO
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2003/01	24	1,016	0.000	0.00	2476	2289	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

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2003/10	24	2,169	0.000	0.00	2213	2134	NO
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2003/12	24	1,509	0.000	0.00	2145	2083	NO
2004/01	24	1,682	0.000	0.00	2113	2024	NO
2004/02	24	1,613	0.000	0.00	2080	1981	NO
2004/03	24	1,817	0.000	0.00	2061	1987	NO
2004/04	24	1,824	0.000	0.00	2030	1962	NO
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2004/06	24	2,616	0.000	0.00	1971	1900	NO
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2005/01	24	2,675	0.000	0.00	1754	1685	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

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Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

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2006/08	24	2,328	0.000	0.00	1162	1070	NO
2006/09	24	3,375	0.000	0.00	1142	1032	NO
2006/10	24	3,720	0.000	1.01	1119	979	NO
2006/11	24	3,082	0.000	1.01	1089	953	NO
2006/12	24	2,671	0.000	1.01	1054	935	NO
2007/01	24	2,801	0.000	0.00	1501	912	NO

Bonded Upper Side Windows (Data as of 2009/10/27)

R208123J7 - 29OCT09:08:24:46

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time In Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
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2007/05	24	1,159	0.000	0.00	2615	688	NO
2007/06	24	542	0.000	0.00	844	671	NO
2007/07	24	1,134	0.000	0.00	902	687	NO
2007/08	24	1,209	0.000	0.00	823	669	NO
2007/09	24	1,146	0.000	0.00	865	662	YES
2007/10	24	1,953	0.001	2.05	1026	647	YES
2007/11	24	2,205	0.000	0.00	1025	620	YES
2007/12	24	1,712	0.001	1.02	994	603	YES
2008/01	24	2,494	0.000	1.12	664	531	YES
2008/02	24	794	0.002	1.30	626	418	YES
2008/03	24	197	0.006	1.25	560	433	YES
2008/04	24	2,536	0.005	13.38	567	447	YES
2008/05	24	1,391	0.007	9.32	529	358	YES
2008/06	24	1,213	0.011	13.60	496	359	YES
2008/07	24	793	0.018	14.03	474	395	YES
2008/08	24	935	0.012	11.03	431	352	YES
2008/09	24	1,396	0.006	8.06	664	315	YES
2008/10	24	1,478	0.009	13.97	383	294	YES
2008/11	24	1,180	0.005	5.88	3579	276	YES
2008/12	24	1,152	0.005	5.34	657	195	YES
2009/01	24	859	0.000	0.00	277	177	YES

Bonded Upper Side Windows (Data as of 2009/10/21)

R208123J7 - 29OCT09:08:24:46

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

<i>Vehicle Assembly Month</i>	<i>Time in Service</i>	<i>Sample Size</i>	<i>Extrapolated Claim Rate</i>	<i>Extrapolated Total Claim Count</i>	<i>Maximum Age in Days</i>	<i>Average Age in Days</i>	<i>Extrapolated</i>
2009/02	24	870	0.062	54.07	3466	155	YES
2009/03	24	459	0.139	63.82	225	142	YES
2009/04	24	397	0.086	34.11	194	112	YES
2009/05	24	361	0.010	3.65	169	101	YES

Bonded Upper Side Windows
20582366, 20582367
Important Report Messages

<i>Report Messages</i>
Records have been eliminated due to Minimum Sample Size condition.
Data values were limited to the most recent 100 values of the reporting variable

Lafon Tim (othy)

From: Schlottmann Guenter
Sent: Thursday, October 29, 2009 11:22 AM
To: Kane Michael; Meyer Dean
Cc: Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky
Subject: RE: Your SAS Warranty Analysis report completed successfully (Bonded Upper Side Windows)

I have more failed parts from TMAC that will be delivered to M.Kane this evening.....GPS

-----Original Message-----

From: Kane Michael
Sent: Thursday, October 29, 2009 9:49 AM
To: Meyer Dean
Cc: Rankin Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky
Subject: FW: Your SAS Warranty Analysis report completed successfully (Bonded Upper Side Windows)

Dean,

For your trip today to Mack Molding. Latest claim data attached.

Biggest change I see in the Number of claims in the first few mos of production has escalated.

Extrapolated rate is now predicted to be 16% failure rate for the build mo of February...vs...the 7% that we looked at 4 weeks ago.
There are now 126 claims for vehicles built since 2/4/09. Almost double what we saw 4 weeks ago (65 we said).

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

-----Original Message-----

From: laura.beyer@volvo.com [mailto:laura.beyer@volvo.com]
Sent: Thursday, October 29, 2009 8:30 AM
To: Kane Michael
Subject: SWA: Your SAS Warranty Analysis report completed successfully (Bonded Upper Side Windows)

You can view your report output in the SWA Report Library

Report Description: Bonded Upper Side Windows
Data Filter: Bonded Upper Side Windows
Analysis Type: Trend/Exposure

Report submitted 10/29/09 8:24:47
Report completed 10/29/09 8:29:34

(R208I23J7)

Lafon Tim (othy)

From: Meyer Dean
Sent: Monday, November 02, 2009 4:25 PM
To: Rankin Michael; Komuves Francis; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Kane Michael
Cc: Nutt Kevin; Rutt Barry
Subject: Minutes from Supplier Visit - Sleeper Side Window Glass is Debonding
Attachments: 36346 Mack Molding week 0944 SQD Trip Report rev8.doc

All,

Meeting minutes from visit to Mack Molding last thursday 10/29/09

Kevin Nutt and Barry Rutt are in receipt of these minutes.

Regards,

Dean Meyer
Volvo 3P - SQD
7900 National Service Road
Greensboro, NC 27410

Office: 1.336.393.3860
Fax: 1.336.393.2203
Cell: 1.336.210.0952
Email: dean.meyer@volvo.com

From: Kane Michael
Sent: Tuesday, October 27, 2009 11:08 AM
To: Rankin Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky
Subject: Kickoff Minutes - QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding

Actions from 1st meeting attached.

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

8/16/2011



Volvo 3P Supplier Quality Development

TRIP REPORT

Date of Visit: Oct 29, 2009

Length of Trip (days): .1

Time at Supplier (days 0.5, 1, 1.5 etc): .75

Parma Code: 36346

Supplier: Mack Molding

Location: Statesville, NC

Participants: Mack Molding - L. Martin, J. Katilius, B. Colton, K. Honeycutt
Sika – P. Gross, M. Wheeler, J. Wright, - V3P – B. Rutt, K. Nutt, D. Meyer

Trip report by: D. Meyer

Was a SEM completed? (yes,no) n **SEM Action Items? (yes/no)** n

Is there a current quality issue? (yes,no) y

Was a process audit performed? (yes,no) n

Process Audit Action Items? (yes,no) n

Reason for visit: The purpose of the meeting was to bring all interested parties together with the proper expertise in order to move forward in a more expeditious manner to identify the root cause for the lack of adhesion. The issue has been the lack of bonding material adhesion to the plastic substrate of the of the upper side sleeper windows part numbers 20582366 / 67. In addition to the meeting which will be addressed in the findings, remarks section an in-depth review of the bonding assembly operation was conducted by the participants as a team.

Conclusion: To be followed up at next meeting which will be established after mid week 0945 with the latest testing results.

Strictly Confidential

This report is for Volvo internal use only and is not to be shared with the supplier without the express written consent of the author.

Findings/Remarks/Open Actions: Sika staff gave an update on the testing for 5 windows returned to them. It was noted that they are 95% certain that one of the main contributors to the root cause is the presence of too much activator on the plastic window frame., however they have had a slight delay and have committed to a test report to be issued by mid week of 0945. The test will include if there are any surface contaminants that are blooming from the substrate (surface extractions). They have observed a white powdery layer at the edge of the bead on the frame which is crystalline like in structure. Sika noted that there should be no evidence of the crystalline structures on the surface. A dry film build with an acidic solution is to be conducted on the surface and will be done at the SIKa lab.

It was suggested by SIKa to calculate how much activator has been used versus how much should have been used.

Some discussion centered around tunneling – this is when adhesion is present on the outside but not on the inside, and one cause could be static stress applied to the part. This is where much discussion began on the current pressure testing that is completed on approximately 20% of the assembled product from a 30% test ratio of product.

Currently, testing is being completed after 24 hours of bonding of the glass to the substrate with a pressure of 400 psi for a maximum of 10 seconds. Per SIKa there is a 21 day cure for 100% bond strength, however after 7 days it should be able to be tested at 50 psi which should be enough testing strength per SIKa, however it was noted that the cure time is based upon time and temperature as well as humidity. Mack Molding stated that their production environment and warehouse never sees a temperature below 60 degrees F.

Based on the green strength required in the bonding it was decided to stop immediately any pressure testing after 24 hours as it is highly possible that the pressure could easily be attributing to failures. In an effort to continue with some type of testing the following was agreed upon.

A first piece bonded window will be retained from 7 days after the production run and will be tested at that time. Going forward any known change to the process a bonded window assembly will also be retained and tested after a 7 day period to allow for cure. Process changes include but are not limited to the changing of a drum of adhesive, a batch/lot change of window frames from the resin, etc. The window assemblies will be maintained on site at Mack Molding for a period of not less and than 6 months and more than 1 year.

The question of robotic application came up as a method of better controlling the amount of activator being applied. SIKa advised that a company Nordson has a reel to reel type piece of equipment that can be utilized, however they stated that this is only used typically in high volume cases and that the automotive industry is still using the wipe on / wipe off process which has been proven for greater than 20 years.

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The suggestion of switching to an ASA material was discussed; however the shrink rate does not work for the current built tooling. The testing done on the current material shows 100% adhesion.

The following house keeping / maintenance items were observed and noted by the team and although not necessarily a full contributing factor it is good practice to observe in the bonding process.

Currently pouring unused activator at the end of the day into the SIKA activator container. Going forward this activator can be used in to charge the docking station during production. It is possible that contaminants could be added back into the virgin activator.

Maintain the docking station with cleaning on a daily basis. The docking station is the device which holds the applicator bottle in an upright position.

Eliminate the use of the anti-static window cleaner to clean the glass and use a regular cleaner. There are additives in the anti-static cleaner than can interfere with adhesion by leaving an invisible film.

Make sure the glass surface cleaned with the window cleaner is completely dry prior to applying the activator. This can be accomplished but not limited to as follows: fan, heated dryer fan, staging several windows after cleaning.

Verify the adhesive bead with physical measure at each start up (height and width)

6 additional windows taken to Mack Molding were left there so that SIKA can test them as well. SIKA feels that with the testing of those 6 final windows they should be able to confirm pending results.

The meeting closed with discussion that to date a majority of the failures seen have stemmed from a build date prior to April 17th with an exception of approximately 7 pieces. It was also mentioned that a great deal of work has went into analyzing this issue however; the documentation available to note the activities is slim to none at best. Also, a more detailed look needs to be assessed, i.e., putting all changes into a timeline and not trying to look at the from a high level but picking up every piece of evidence no matter how small. It was also explained how critical it is to get resolution and how much exposure that Volvo has to the issue.

CC: K. Nutt, B. Rutt

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Updated: 30APRIL09

Lafon Tim (othy)

From: Meyer Dean
Sent: Wednesday, November 04, 2009 3:00 PM
To: Kane Michael; Rankin Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky
Cc: Rutt Barry
Subject: RE: QJ Mtg Notes from November 2, 2009
Attachments: Sleeper Window Action List.xls

Items in red in attachment are notes from 11/2/09 meeting.

Regards,

Dean Meyer
Volvo 3P - SQD
7900 National Service Road
Greensboro, NC 27410

Office: 1.336.393.3860
Fax: 1.336.393.2203
Cell: 1.336.210.0952
Email: dean.meyer@volvo.com

From: Kane Michael
Sent: Tuesday, October 27, 2009 11:08 AM
To: Rankin Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky
Subject: Kickoff Minutes - QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding

Actions from 1st meeting attached.

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

Item:	Action	Who
1	Inspection at Mack Molding	Meyer
2	Inspection at Cammett & NRV	Meyer
3	3rd party lab testing of failed parts	Nutt
4	2 part Adhesive alternatives solution to existing bonded joint	Nutt
5	Cost of overmold option to secure window in bezel	Nutt
6	Raw material testing at each batch run of windows	Meyer
7	Implement raw material testing	Meyer
8	AM strategy	Schlottman
9	Mack molding run qtys and dates of production built bezels (mold in dates)	Meyer
10	Vender recovery	Williams
11	Reviewing of bonding TR	
12	Alternative Method of attaching glass	

Comments/Findings	Status	Due
20% currently, Request 100% & previous result.	Open	0945
See trip report from 10/29 visit to MMC		
	Open	0945
MMC to advise of plan		
Testing initiated w/ Lyon	Open	0948
Initial review of specs and material display poor joint adhesion responsible group (Sika) Sika should direct actions for better joint adhesion. Deemed poor advice from sika on testing. More independent testing should have been done. Review needed of N/A bondings regs for urethane adhesive. Documents too light. Independant age testing was not specific to bond joint alone. Poor cataplastm test was not a good sign for the joint life cycle.		
Test results from 7 suppliers	Open	0948
testing is in place		
bring business case to QJ team	Open	0950
this is being started week 0945, which may offer other alternatives		
Discuss w/ supplier and comeback to team (izod, meltflow, etc.)	Open	0945
It is not the physical properties of the material, but the chemicals in the material which may bloom - this is being tested with results due end of week 0945-		
	Open	0947
see response for item # 6		
	Open	
Comparison w/ field claims	Open	0945
Information available from a high level, MMC to break down in smaller portions with a timeline		
Strategy and status? Warranty agreement says 3/350k. 50/50 until RC id'd.	Open	0945

Lafon Tim (othy)

From: Meyer Dean
Sent: Friday, November 13, 2009 5:00 PM
To: Nutt Kevin; Hsiao Ming-Chu; Hazlett Jim; Kane Michael; Lafon Tim (othy)
Cc: Rutt Barry
Subject: Trip report - Upper Sleeper Window
Attachments: MMC 36346 week 0946 SQD Trip Report rev8.doc



VOLVO

Volvo 3P Supplier Quality Development

TRIP REPORT

Date of Visit: 2009-11-12

Length of Trip (days): .75

Time at Supplier (days 0.5, 1, 1.5 etc): .5

Parma Code: 36346

Supplier: Mack Molding

Location: Statesville, NC

Participants: J. Katilius, L. Martin, B. Colton, K. Honeycutt

Trip report by: D. Meyer

Was a SEM completed? (yes,no) no SEM Action Items? (yes/no) no

Is there a current quality issue? (yes,no) yes

Was a process audit performed? (yes,no) no

Process Audit Action Items? (yes,no) no

Reason for visit: The purpose of the visit was to review progress to actions outlined in the meeting held on 10/29/2009 at the Mack Molding Statesville, NC location. The issue continues to be the lack of adhesion with the bonding material to the plastic window frame.

Conclusion: SIKA has committed to a November 23, 2009 date for testing results to be completed and communicated to the affected parties. The original committed date was mid week of 0945

The operator instructions have been updated for the maintenance of recycling the old activator in the docking station rather than back into the original container.

The glass cleaner has been change from an anti-static cleaner to using Castle non anti-static cleaner.

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Updated: 30APRIL09

The an air hose with nozzle has been incorporated to dry the window (glass) after using the cleaner.

It was found that there was a mis-understanding concerning what was meant by a first article inspection (check) and that would be tested after 7 days. This has now been clarified that a retain will be made every day that the bonding assembly operation occurs and that part will be retained, indentified and tested at the end of the 7 day cycle. To date Mack Molding has shipped the following:

	Production	Aftermarket
20582366	2448	981
20582367	2417	812

Findings/Remarks/Open Actions: Measuring of the proper bead size to commence next bonding assembly production run. Mack Molding has committed to putting the necessary activities in place in order to fulfill a 21 day adhesive cure cycle with the bonding assembly operation. The parts will be bonded and then stored 21 days prior to assembly. This should allow the adhesive to be fully cured before any additional handling and assembly occur. A pressure test will be completed at the end of the 21 days with a ratio of 1:20. The tested parts will be identified with silver paint pen or some type of equivalent that is readily identifiable. The latest date that was targeted for this activity to happen is January 11, 2010 or when the plant resumes from the planned shut down. Mack Molding will be shut down for two weeks beginning December 21, 2009, therefore the last production shipment from Mack Molding will have a 21 day cure.

Discussion was held on the material testing and how to control the resin suppliers. First, Mack Moldings purchasing has issued a letter to all of their suppliers that any type of change in processing, sub suppliers is to be communicated to them.

Tthe resin suppliers are required to send in material certifications that state they are meeting the necessary requirements. It was suggested since we cannot test for chemicals that several statistical charts are developed and the material certification results are plotted and tracked in order to see if the material supplier is in control and meeting the specs rather just meeting the specs.

It was decided and committed to by Mack Molding that they will layout all the production dates of the plastic window frames, bonding of glass to the frames using a timeline and incorporating changes (resin lots, adhesive drums, operators, etc) into the timeline as well to help in confirming whether something is has been overlooked or

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stands out, or can help to eliminate concerns in certain areas. The warranty data truck build dates will also be used in this exercise to help in working toward resolution. This will be completed end of week 0947.

CC: B. Rutt, K. Nutt, M. Hsiao, Mack Molding, file,

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Updated: 30APRIL09

Lafon Tim (othy)

From: Kane Michael
Sent: Tuesday, November 17, 2009 8:11 AM
To: Rankin Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky
Subject: 0947 Meeting Minutes - QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding

Attachments: Action List.xls

Latest actions attached...

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

Item:	Action	Who	Comments/Findings	Status	Due
1	Inspection at Mack Molding	Meyer	20% currently, Request 100% & previous result.	Closed	0945
	Follow up to ensure this process has started.	Meyer	Test one piece at every batch run or with any process change after 7 days of cure. Tested parts will be retained for min 6mos, max 12mos.	Closed	0947
			Starting the 11th of Jan, 2010 Mack will have windows that have cured for 21 days and pressure test 5%. Follow Up.	Open	
2	Inspection at Cammett & NRV	Meyer	MMC to advise of plan	Closed	0945
	Follow up.		Pressure testing windows inside the 21 day cure period is not advised. Mack is however currently retaining parts from each batch to test after the 21 days.	Closed	
3	3rd party lab testing of failed parts	Nutt	Testing initiated w/ Lyon	Open	0948
	Return to Lab with recommended solution for independent validation testing.	Nutt	Initial review of specs and material display poor joint adhesion responsible group (Sika) Sika should direct actions for better joint adhesion. Deemed poor advice from sika on testing. More independent testing should have been done. Review needed of N/A bondings regs for urethane adhesive. Documents too light. Independent age testing was not specific to bond joint alone. Poor catapasm test was not a good sign for the joint life cycle.		
4	2 part Adhesive alternatives solution to existing bonded joint	Nutt	Test results from 7 suppliers	Open	0948
			testing is in place		
			Need to include testing for alternative substrat materials and/or alternative adhesives.	Open	0977
5	Cost of overmold option to secure window in bezel	Nutt	bring business case to QJ team	Closed	0946
			Has potential to bring on additional risks (leaks, bonding to rubber, etc). Will not pursue this further.		
6	Raw material testing at each batch run of windows	Meyer	Discuss w/ supplier and comeback to team (izod, meltflow, etc.)	Open	0945
	Follow up.		It is not the physical properties of the material, but the chemicals in the material which may bloom - this is being tested with results due end of week 0945-...now due 11/23 from Sika. Dean also asked Mack to plot the process / material to spc for later follow-up.		0948
8	AM strategy	Schlottman		Open	
9	Mack molding run qties and dates of production built bezels (mold in dates)	Meyer	Comparison w/ field claims	Open	0945
	Follow up.		Information available from a high level, MMC to break down in smaller portions with a timeline. Event graph due wk0947.		
10	Vender recovery	Williams	Strategy and status? Warranty agreement says 3/350k. 50/50 until RC id'd.	Closed	0945
11	Reviewing of bonding TR	Nutt	Apply to future releases and use for testing going forward.	Closed	0946

Lafon Tim (othy)

From: Kane Michael
Sent: Tuesday, November 24, 2009 11:05 AM
To: Rankin Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-Chu
Subject: 0948 Meeting Minutes - QJ # 1-1347051717: VN Upper Sleeper Side Window Glass is Debonding

Attachments: Action List.xls

Latest actions attached...

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

Item:	Action	Who	Comments/Findings	Status	Due
1	Inspection at Mack Molding	Meyer	20% currently, Request 100% & previous result.	Closed	0945
	Follow up to ensure this process has started.	Meyer	Test one piece at every batch run or with any process change after 7 days of cure. Tested parts will be retained for min 6mos, max 12mos.	Closed	0947
	Follow up to ensure this process has started.	Meyer	Starting the 11th of Jan, 2010 Mack will have windows that have cured for 21 days and pressure test 5%. Follow Up.	Open	
2	Inspection at Cammett & NRV	Meyer	MMC to advise of plan	Closed	0945
	Follow up.		Pressure testing windows inside the 21 day cure period is not advised. Mack is however currently retaining parts from each batch to test after the 21 days.	Closed	
3	3rd party lab testing of failed parts	Nutt	Testing initiated w/ Lyon	Open	0948
	Return to Lab with recommended solution for independent validation testing.	Nutt	Initial review of specs and material display poor joint adhesion responsible group (Sika) Sika should direct actions for better joint adhesion. Deemed poor advice from sika on testing. More independent testing should have been done. Review needed of N/A bondings regs for urethane adhesive. Documents too light. Independant age testing was not specific to bond joint alone. Poor cataplastm test was not a good sign for the joint life cycle.	Open	0950
4	2 part Adhesive alternatives solution to existing bonded joint	Nutt	Test results from 7 suppliers	Open	
			testing is in place	Open	
			Need to include testing for alternative substrat materials and/or alternative adhesives.	Open	0948
5	Cost of overmold option to secure window in bezel	Nutt	bring business case to QJ team	Closed	0946
			Has potential to bring on additional risks (leaks, bonding to rubber, etc). Will not pursue this further.	Closed	0946
6	Raw material testing at each batch run of windows	Meyer	Discuss w/ supplier and comeback to team (izod, meltflow, etc.)	Open	0948
	Follow up.	Meyer	It is not the physical properties of the material, but the chemicals in the material which may bloom - this is being tested with results due end of week 0945-... now due 11/23 from Sika. Dean also asked Mack to plot the process / material to spc for later follow-up.	Open	0948
8	AM strategy	Schlottman		Open	
9	Mack molding run qtys and dates of production built bezels (mold in dates)	Meyer	Comparison w/ field claims	Open	
	Follow up.	Meyer	Information available from a high level, MMC to break down in smaller portions with a timeline. Event graph due wk0947. Received, need to re-format, share at next meeting.	Open	0949

Lafon Tim (othy)

From: Kane Michael
Sent: Wednesday, November 25, 2009 8:58 AM
To: Kane Michael; Meyer Dean
Cc: Rankin Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Akers Tony
Subject: 0948 - Your SAS Warranty Analysis report completed successfully (Bonded Upper Side Windows)

Attachments: TRENDEXP[1].pdf; Bonded Slpr Window Claims - 0948.xls

All,
Updated Warranty Info...
Extrapolated claim rate for February, 2009 built vehicles now = 28.5% for 12mis.
Total claims paid since build date of 2/4/09 now = 237 claims

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)



TRENDEXP[1].pdf
(146 KB)



Bonded Slpr
Window Claims - 09..

-----Original Message-----

From: Kane Michael
Sent: Thursday, October 29, 2009 9:49 AM
To: Meyer Dean
Cc: Rankin Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky
Subject: FW: Your SAS Warranty Analysis report completed successfully (Bonded Upper Side Windows)

Dean,

For your trip today to Mack Molding. Latest claim data attached.

Biggest change I see in the Number of claims in the first few mos of production has escalated.

Extrapolated rate is now predicted to be 16% failure rate for the build mo of February...vs...the 7% that we looked at 4 weeks ago.

There are **now 126 claims for vehicles built since 2/4/09.** Almost double what we **saw 4 weeks ago (65 we said).**

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

-----Original Message-----

From: laura.beyer@volvo.com [<mailto:laura.beyer@volvo.com>]

Sent: Thursday, October 29, 2009 8:30 AM

To: Kane Michael

Subject: SWA: Your SAS Warranty Analysis report completed successfully (Bonded Upper Side Windows)

You can view your report output in the SWA Report Library

Report Description: Bonded Upper Side Windows

Data Filter: Bonded Upper Side Windows

Analysis Type: Trend/Exposure

Report submitted 10/29/09 8:24:47

Report completed 10/29/09 8:29:34

(R208I23J7)

Bonded Upper Side Windows
20582366, 20582367
Report Details

<i>Option</i>	<i>Value</i>
Filter Name:	Bonded Upper Side Windows
Analysis Type:	Trend/Exposure
Reporting Variable:	Vehicle Assembly Month
Analysis Variable:	Claim Rate
Calculation Method:	Extrapolated
Apply Claim Submission Lag Adjustment:	Yes
Apply Usage Profiles:	No
Claims Per Unit to Include:	All
Maturity Value:	None
Include pre-delivery claims:	Yes
Minimum Sample Size Type:	Percent
Minimum Sample Size:	20
Time in Service Values to Display	0 months
	3 months
	6 months
	12 months
	24 months
Display Gridlines:	Yes
Title:	Bonded Upper Side Windows
SubTitle:	20582366, 20582367
Footnote:	

Bonded Upper Side Windows

20582366, 20582367

Filter Details

Bonded Upper Side Windows (Description: 20582366, 20582367) - Data Source: Volvo North America - Data Type: - Author Name: UT03873 - Modification Date: 020CT09:14:36:52

Volvo - All (Description:) - Data Source: Volvo North America - Data Type: Products - Author Name: UT03873 - Modification Date: 08AUG08:10:20:31

Vehicle Make: 'VOLVO'

Bonded Upper Side Windows (Description: 20582366, 20582367) - Data Source: Volvo North America - Data Type: Claims - Author Name: UT03873 - Modification Date: 020CT09:14:35:59

Debit Code: '10' '18'

Causal Part Number: '20582366' '20582367'

Total Claim Payment: (From:) 1

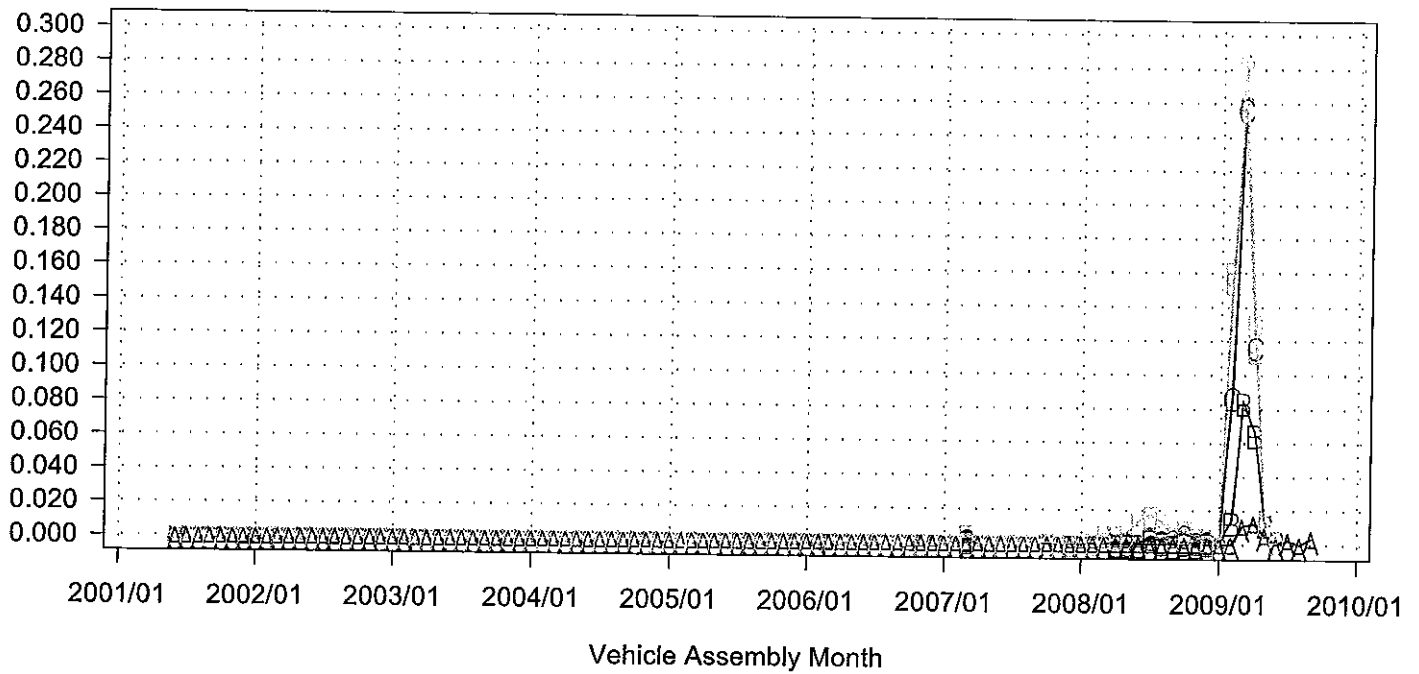
Total Claim Payment: (To:) 999999

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Extrapolated Claim Rate



Time in Service	A	B	C
	A A A	B B B	C C C
	0	3	6
	12	24	

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2001/06	0	1,276	0.000	0.00	3085	2917	NO
2001/07	0	581	0.000	0.00	3057	2989	NO
2001/08	0	1,296	0.000	0.00	3029	2956	NO
2001/09	0	844	0.000	0.00	2985	2909	NO
2001/10	0	1,074	0.000	0.00	2959	2856	NO
2001/11	0	1,069	0.000	0.00	2937	2785	NO
2001/12	0	500	0.000	0.00	2896	2826	NO
2002/01	0	1,090	0.000	0.00	2868	2757	NO
2002/02	0	502	0.000	0.00	2829	2747	NO
2002/03	0	968	0.000	0.00	2810	2701	NO
2002/04	0	1,016	0.000	0.00	2782	2699	NO
2002/05	0	1,491	0.000	0.00	2749	2620	NO
2002/06	0	1,599	0.000	0.00	2719	2617	NO
2002/07	0	951	0.000	0.00	2677	2537	NO
2002/08	0	1,582	0.000	0.00	2665	2492	NO
2002/09	0	1,726	0.000	0.00	3612	2474	NO
2002/10	0	1,819	0.000	0.00	2600	2483	NO
2002/11	0	360	0.000	0.00	2564	2396	NO
2002/12	0	576	0.000	0.00	2521	2321	NO
2003/01	0	1,016	0.000	0.00	2501	2314	NO
2003/02	0	974	0.000	0.00	2461	2320	NO
2003/03	0	1,018	0.000	0.00	2446	2348	NO
2003/04	0	1,130	0.000	0.00	2417	2334	NO
2003/05	0	1,591	0.000	0.00	2384	2309	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

R20C9GTMI - 24NOV09:16:10:38

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time In Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2003/06	0	1,657	0.000	0.00	2360	2280	NO
2003/07	0	864	0.000	0.00	2316	2253	NO
2003/08	0	1,650	0.000	0.00	2292	2215	NO
2003/09	0	1,767	0.000	0.00	2264	2184	NO
2003/10	0	2,169	0.000	0.00	2238	2159	NO
2003/11	0	1,416	0.000	0.00	3612	2127	NO
2003/12	0	1,509	0.000	0.00	2170	2108	NO
2004/01	0	1,682	0.000	0.00	2138	2049	NO
2004/02	0	1,613	0.000	0.00	2105	2006	NO
2004/03	0	1,817	0.000	0.00	2086	2012	NO
2004/04	0	1,824	0.000	0.00	2055	1987	NO
2004/05	0	1,568	0.000	0.00	2021	1949	NO
2004/06	0	2,616	0.000	0.00	1996	1925	NO
2004/07	0	2,015	0.000	0.00	1958	1898	NO
2004/08	0	2,107	0.000	0.00	1928	1871	NO
2004/09	0	2,775	0.000	0.00	1902	1829	NO
2004/10	0	2,791	0.000	0.00	1867	1786	NO
2004/11	0	2,623	0.000	0.00	1837	1759	NO
2004/12	0	2,269	0.000	0.00	1808	1734	NO
2005/01	0	2,675	0.000	0.00	1779	1710	NO
2005/02	0	2,545	0.000	0.00	1746	1662	NO
2005/03	0	2,222	0.000	0.00	1719	1630	NO
2005/04	0	2,816	0.000	0.00	1692	1599	NO
2005/05	0	2,803	0.000	0.00	1661	1579	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

R20C9GTM1 - 24NOV09:16:10:38

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2005/06	0	2,946	0.000	0.00	1627	1538	NO
2005/07	0	2,045	0.000	0.00	1604	1508	NO
2005/08	0	2,434	0.000	0.00	1562	1476	NO
2005/09	0	3,218	0.000	0.00	1536	1443	NO
2005/10	0	3,365	0.000	0.00	1503	1423	NO
2005/11	0	2,871	0.000	0.00	1477	1373	NO
2005/12	0	2,285	0.000	0.00	1450	1345	NO
2006/01	0	2,440	0.000	0.00	1410	1310	NO
2006/02	0	2,869	0.000	0.00	1382	1299	NO
2006/03	0	3,415	0.000	0.00	1360	1264	NO
2006/04	0	2,991	0.000	0.00	1318	1236	NO
2006/05	0	3,574	0.000	0.00	1296	1192	NO
2006/06	0	3,566	0.000	0.00	1269	1159	NO
2006/07	0	3,238	0.000	0.00	1230	1129	NO
2006/08	0	2,328	0.000	0.00	1187	1095	NO
2006/09	0	3,375	0.000	0.00	1167	1057	NO
2006/10	0	3,720	0.000	0.00	1144	1004	NO
2006/11	0	3,082	0.000	0.00	1114	977	NO
2006/12	0	2,671	0.000	0.00	1079	960	NO
2007/01	0	2,801	0.000	0.00	1526	937	NO
2007/02	0	1,397	0.000	0.00	1004	898	NO
2007/03	0	956	0.000	0.00	982	780	NO
2007/04	0	432	0.000	0.00	930	723	NO
2007/05	0	1,159	0.000	0.00	2640	712	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2007/06	0	542	0.000	0.00	869	694	NO
2007/07	0	1,134	0.000	0.00	927	711	NO
2007/08	0	1,209	0.000	0.00	848	693	NO
2007/09	0	1,146	0.000	0.00	890	686	NO
2007/10	0	1,953	0.000	0.00	1051	671	NO
2007/11	0	2,205	0.000	0.00	1050	644	NO
2007/12	0	1,712	0.000	0.00	1019	628	NO
2008/01	0	2,494	0.000	0.00	689	555	NO
2008/02	0	794	0.000	0.00	651	441	NO
2008/03	0	197	0.000	0.00	585	456	NO
2008/04	0	2,536	0.000	0.00	592	471	NO
2008/05	0	1,391	0.000	0.00	554	380	NO
2008/06	0	1,213	0.000	0.00	521	379	NO
2008/07	0	793	0.000	0.00	499	420	NO
2008/08	0	935	0.000	0.00	456	376	NO
2008/09	0	1,396	0.000	0.00	689	338	NO
2008/10	0	1,478	0.000	0.00	408	317	NO
2008/11	0	1,180	0.000	0.00	3604	300	NO
2008/12	0	1,152	0.000	0.00	682	217	NO
2009/01	0	859	0.000	0.00	368	199	NO
2009/02	0	870	0.000	0.00	3491	177	NO
2009/03	0	459	0.011	5.00	250	165	NO
2009/04	0	397	0.013	5.00	219	135	NO
2009/05	0	361	0.006	2.00	194	124	NO

Bonded Upper Side Windows (Data as of 2008/11/21)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2009/06	0	572	0.000	0.00	162	76	NO
2009/07	0	368	0.003	1.00	818	66	NO
2009/08	0	500	0.000	0.00	92	41	NO
2009/09	0	783	0.004	3.00	64	20	NO
2001/06	3	1,276	0.000	0.00	3085	2917	NO
2001/07	3	581	0.000	0.00	3057	2989	NO
2001/08	3	1,296	0.000	0.00	3029	2956	NO
2001/09	3	844	0.000	0.00	2985	2909	NO
2001/10	3	1,074	0.000	0.00	2959	2856	NO
2001/11	3	1,069	0.000	0.00	2937	2785	NO
2001/12	3	500	0.000	0.00	2896	2826	NO
2002/01	3	1,090	0.000	0.00	2868	2757	NO
2002/02	3	502	0.000	0.00	2829	2747	NO
2002/03	3	968	0.000	0.00	2810	2701	NO
2002/04	3	1,016	0.000	0.00	2782	2699	NO
2002/05	3	1,491	0.000	0.00	2749	2620	NO
2002/06	3	1,599	0.000	0.00	2719	2617	NO
2002/07	3	951	0.000	0.00	2677	2537	NO
2002/08	3	1,582	0.000	0.00	2665	2492	NO
2002/09	3	1,726	0.000	0.00	3612	2474	NO
2002/10	3	1,819	0.000	0.00	2600	2483	NO
2002/11	3	360	0.000	0.00	2564	2396	NO
2002/12	3	576	0.000	0.00	2521	2321	NO
2003/01	3	1,016	0.000	0.00	2501	2314	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2003/02	3	974	0.000	0.00	2461	2320	NO
2003/03	3	1,018	0.000	0.00	2446	2348	NO
2003/04	3	1,130	0.000	0.00	2417	2334	NO
2003/05	3	1,591	0.000	0.00	2384	2309	NO
2003/06	3	1,657	0.000	0.00	2360	2280	NO
2003/07	3	864	0.000	0.00	2316	2253	NO
2003/08	3	1,650	0.000	0.00	2292	2215	NO
2003/09	3	1,767	0.000	0.00	2264	2184	NO
2003/10	3	2,169	0.000	0.00	2238	2159	NO
2003/11	3	1,416	0.000	0.00	3612	2127	NO
2003/12	3	1,509	0.000	0.00	2170	2108	NO
2004/01	3	1,682	0.000	0.00	2138	2049	NO
2004/02	3	1,613	0.000	0.00	2105	2006	NO
2004/03	3	1,817	0.000	0.00	2086	2012	NO
2004/04	3	1,824	0.000	0.00	2055	1987	NO
2004/05	3	1,568	0.000	0.00	2021	1949	NO
2004/06	3	2,616	0.000	0.00	1996	1925	NO
2004/07	3	2,015	0.000	0.00	1958	1898	NO
2004/08	3	2,107	0.000	0.00	1928	1871	NO
2004/09	3	2,775	0.000	0.00	1902	1829	NO
2004/10	3	2,791	0.000	0.00	1867	1786	NO
2004/11	3	2,623	0.000	0.00	1837	1759	NO
2004/12	3	2,269	0.000	0.00	1808	1734	NO
2005/01	3	2,675	0.000	0.00	1779	1710	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time In Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2005/02	3	2,545	0.000	0.00	1746	1662	NO
2005/03	3	2,222	0.000	0.00	1719	1630	NO
2005/04	3	2,816	0.000	0.00	1692	1599	NO
2005/05	3	2,803	0.000	0.00	1661	1579	NO
2005/06	3	2,946	0.000	0.00	1627	1538	NO
2005/07	3	2,045	0.000	0.00	1604	1508	NO
2005/08	3	2,434	0.000	0.00	1562	1476	NO
2005/09	3	3,218	0.000	0.00	1536	1443	NO
2005/10	3	3,365	0.000	0.00	1503	1423	NO
2005/11	3	2,871	0.000	0.00	1477	1373	NO
2005/12	3	2,285	0.000	0.00	1450	1345	NO
2006/01	3	2,440	0.000	0.00	1410	1310	NO
2006/02	3	2,869	0.000	0.00	1382	1299	NO
2006/03	3	3,415	0.000	0.00	1360	1264	NO
2006/04	3	2,991	0.000	0.00	1318	1236	NO
2006/05	3	3,574	0.000	0.00	1296	1192	NO
2006/06	3	3,566	0.000	0.00	1269	1159	NO
2006/07	3	3,238	0.000	0.00	1230	1129	NO
2006/08	3	2,328	0.000	0.00	1187	1095	NO
2006/09	3	3,375	0.000	0.00	1167	1057	NO
2006/10	3	3,720	0.000	0.00	1144	1004	NO
2006/11	3	3,082	0.000	0.00	1114	977	NO
2006/12	3	2,671	0.000	0.00	1079	960	NO
2007/01	3	2,801	0.000	0.00	1526	937	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2007/02	3	1,397	0.000	0.00	1004	898	NO
2007/03	3	956	0.002	2.07	982	780	NO
2007/04	3	432	0.000	0.00	930	723	NO
2007/05	3	1,159	0.000	0.00	2640	712	NO
2007/06	3	542	0.000	0.00	869	694	NO
2007/07	3	1,134	0.000	0.00	927	711	NO
2007/08	3	1,209	0.000	0.00	848	693	NO
2007/09	3	1,146	0.000	0.00	890	686	NO
2007/10	3	1,953	0.001	2.05	1051	671	NO
2007/11	3	2,205	0.000	0.00	1050	644	NO
2007/12	3	1,712	0.000	0.00	1019	628	NO
2008/01	3	2,494	0.000	0.00	689	555	NO
2008/02	3	794	0.000	0.00	651	441	NO
2008/03	3	197	0.000	0.00	585	456	NO
2008/04	3	2,536	0.001	2.12	592	471	NO
2008/05	3	1,391	0.001	1.17	554	380	NO
2008/06	3	1,213	0.001	1.14	521	379	NO
2008/07	3	793	0.004	3.11	499	420	NO
2008/08	3	935	0.002	2.09	456	376	NO
2008/09	3	1,396	0.001	1.09	689	338	NO
2008/10	3	1,478	0.002	3.29	408	317	NO
2008/11	3	1,180	0.001	1.05	3604	300	NO
2008/12	3	1,152	0.002	2.43	682	217	NO
2009/01	3	859	0.000	0.00	368	199	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2009/02	3	870	0.014	12.49	3491	177	NO
2009/03	3	459	0.085	39.02	250	165	NO
2009/04	3	397	0.066	26.22	219	135	NO
2009/05	3	361	0.013	4.70	194	124	NO
2009/06	3	572	0.003	1.98	162	76	NO
2001/06	6	1,276	0.000	0.00	3085	2917	NO
2001/07	6	581	0.000	0.00	3057	2989	NO
2001/08	6	1,296	0.000	0.00	3029	2956	NO
2001/09	6	844	0.000	0.00	2985	2909	NO
2001/10	6	1,074	0.000	0.00	2959	2856	NO
2001/11	6	1,069	0.000	0.00	2937	2785	NO
2001/12	6	500	0.000	0.00	2896	2826	NO
2002/01	6	1,090	0.000	0.00	2868	2757	NO
2002/02	6	502	0.000	0.00	2829	2747	NO
2002/03	6	968	0.000	0.00	2810	2701	NO
2002/04	6	1,016	0.000	0.00	2782	2699	NO
2002/05	6	1,491	0.000	0.00	2749	2620	NO
2002/06	6	1,599	0.000	0.00	2719	2617	NO
2002/07	6	951	0.000	0.00	2677	2537	NO
2002/08	6	1,582	0.000	0.00	2665	2492	NO
2002/09	6	1,726	0.000	0.00	3612	2474	NO
2002/10	6	1,819	0.000	0.00	2600	2483	NO
2002/11	6	360	0.000	0.00	2564	2396	NO
2002/12	6	576	0.000	0.00	2521	2321	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2003/01	6	1,016	0.000	0.00	2501	2314	NO
2003/02	6	974	0.000	0.00	2461	2320	NO
2003/03	6	1,018	0.000	0.00	2446	2348	NO
2003/04	6	1,130	0.000	0.00	2417	2334	NO
2003/05	6	1,591	0.000	0.00	2384	2309	NO
2003/06	6	1,657	0.000	0.00	2360	2280	NO
2003/07	6	864	0.000	0.00	2316	2253	NO
2003/08	6	1,650	0.000	0.00	2292	2215	NO
2003/09	6	1,767	0.000	0.00	2264	2184	NO
2003/10	6	2,169	0.000	0.00	2238	2159	NO
2003/11	6	1,416	0.000	0.00	3612	2127	NO
2003/12	6	1,509	0.000	0.00	2170	2108	NO
2004/01	6	1,682	0.000	0.00	2138	2049	NO
2004/02	6	1,613	0.000	0.00	2105	2006	NO
2004/03	6	1,817	0.000	0.00	2086	2012	NO
2004/04	6	1,824	0.000	0.00	2055	1987	NO
2004/05	6	1,568	0.000	0.00	2021	1949	NO
2004/06	6	2,616	0.000	0.00	1996	1925	NO
2004/07	6	2,015	0.000	0.00	1958	1898	NO
2004/08	6	2,107	0.000	0.00	1928	1871	NO
2004/09	6	2,775	0.000	0.00	1902	1829	NO
2004/10	6	2,791	0.000	0.00	1867	1786	NO
2004/11	6	2,623	0.000	0.00	1837	1759	NO
2004/12	6	2,269	0.000	0.00	1808	1734	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2005/01	6	2,675	0.000	0.00	1779	1710	NO
2005/02	6	2,545	0.000	0.00	1746	1662	NO
2005/03	6	2,222	0.000	0.00	1719	1630	NO
2005/04	6	2,816	0.000	0.00	1692	1599	NO
2005/05	6	2,803	0.000	0.00	1661	1579	NO
2005/06	6	2,946	0.000	0.00	1627	1538	NO
2005/07	6	2,045	0.000	0.00	1604	1508	NO
2005/08	6	2,434	0.000	0.00	1562	1476	NO
2005/09	6	3,218	0.000	0.00	1536	1443	NO
2005/10	6	3,365	0.000	0.00	1503	1423	NO
2005/11	6	2,871	0.000	0.00	1477	1373	NO
2005/12	6	2,285	0.000	0.00	1450	1345	NO
2006/01	6	2,440	0.000	0.00	1410	1310	NO
2006/02	6	2,869	0.000	0.00	1382	1299	NO
2006/03	6	3,415	0.000	0.00	1360	1264	NO
2006/04	6	2,991	0.000	0.00	1318	1236	NO
2006/05	6	3,574	0.000	0.00	1296	1192	NO
2006/06	6	3,566	0.000	0.00	1269	1159	NO
2006/07	6	3,238	0.000	0.00	1230	1129	NO
2006/08	6	2,328	0.000	0.00	1187	1095	NO
2006/09	6	3,375	0.000	0.00	1167	1057	NO
2006/10	6	3,720	0.000	0.00	1144	1004	NO
2006/11	6	3,082	0.000	0.00	1114	977	NO
2006/12	6	2,671	0.000	0.00	1079	960	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2007/01	6	2,801	0.000	0.00	1526	937	NO
2007/02	6	1,397	0.000	0.00	1004	898	NO
2007/03	6	956	0.003	3.11	982	780	NO
2007/04	6	432	0.000	0.00	930	723	NO
2007/05	6	1,159	0.000	0.00	2640	712	NO
2007/06	6	542	0.000	0.00	869	694	NO
2007/07	6	1,134	0.000	0.00	927	711	NO
2007/08	6	1,209	0.000	0.00	848	693	NO
2007/09	6	1,146	0.000	0.00	890	686	NO
2007/10	6	1,953	0.001	2.05	1051	671	NO
2007/11	6	2,205	0.000	0.00	1050	644	NO
2007/12	6	1,712	0.001	1.02	1019	628	NO
2008/01	6	2,494	0.000	0.00	689	555	NO
2008/02	6	794	0.000	0.00	651	441	NO
2008/03	6	197	0.000	0.00	585	456	NO
2008/04	6	2,536	0.001	3.21	592	471	NO
2008/05	6	1,391	0.002	2.40	554	380	NO
2008/06	6	1,213	0.001	1.14	521	379	NO
2008/07	6	793	0.005	4.16	499	420	NO
2008/08	6	935	0.003	3.16	456	376	NO
2008/09	6	1,396	0.004	5.64	689	338	NO
2008/10	6	1,478	0.007	10.01	408	317	NO
2008/11	6	1,180	0.003	3.23	3604	300	NO
2008/12	6	1,152	0.003	3.69	682	217	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2009/01	6	859	0.000	0.00	368	199	NO
2009/02	6	870	0.088	76.52	3491	177	NO
2009/03	6	459	0.258	118.49	250	165	NO
2009/04	6	397	0.118	46.78	219	135	YES
2009/05	6	361	0.013	4.76	194	124	YES
2009/06	6	572	0.004	2.11	162	76	YES
2001/06	12	1,276	0.000	0.00	3085	2917	NO
2001/07	12	581	0.000	0.00	3057	2989	NO
2001/08	12	1,296	0.000	0.00	3029	2956	NO
2001/09	12	844	0.000	0.00	2985	2909	NO
2001/10	12	1,074	0.000	0.00	2959	2856	NO
2001/11	12	1,069	0.000	0.00	2937	2785	NO
2001/12	12	500	0.000	0.00	2896	2826	NO
2002/01	12	1,090	0.000	0.00	2868	2757	NO
2002/02	12	502	0.000	0.00	2829	2747	NO
2002/03	12	968	0.000	0.00	2810	2701	NO
2002/04	12	1,016	0.000	0.00	2782	2699	NO
2002/05	12	1,491	0.000	0.00	2749	2620	NO
2002/06	12	1,599	0.000	0.00	2719	2617	NO
2002/07	12	951	0.000	0.00	2677	2537	NO
2002/08	12	1,582	0.000	0.00	2665	2492	NO
2002/09	12	1,726	0.000	0.00	3612	2474	NO
2002/10	12	1,819	0.000	0.00	2600	2483	NO
2002/11	12	360	0.000	0.00	2564	2396	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2002/12	12	576	0.000	0.00	2521	2321	NO
2003/01	12	1,016	0.000	0.00	2501	2314	NO
2003/02	12	974	0.000	0.00	2461	2320	NO
2003/03	12	1,018	0.000	0.00	2446	2348	NO
2003/04	12	1,130	0.000	0.00	2417	2334	NO
2003/05	12	1,591	0.000	0.00	2384	2309	NO
2003/06	12	1,657	0.000	0.00	2360	2280	NO
2003/07	12	864	0.000	0.00	2316	2253	NO
2003/08	12	1,650	0.000	0.00	2292	2215	NO
2003/09	12	1,767	0.000	0.00	2264	2184	NO
2003/10	12	2,169	0.000	0.00	2238	2159	NO
2003/11	12	1,416	0.000	0.00	3612	2127	NO
2003/12	12	1,509	0.000	0.00	2170	2108	NO
2004/01	12	1,682	0.000	0.00	2138	2049	NO
2004/02	12	1,613	0.000	0.00	2105	2006	NO
2004/03	12	1,817	0.000	0.00	2086	2012	NO
2004/04	12	1,824	0.000	0.00	2055	1987	NO
2004/05	12	1,568	0.000	0.00	2021	1949	NO
2004/06	12	2,616	0.000	0.00	1996	1925	NO
2004/07	12	2,015	0.000	0.00	1958	1898	NO
2004/08	12	2,107	0.000	0.00	1928	1871	NO
2004/09	12	2,775	0.000	0.00	1902	1829	NO
2004/10	12	2,791	0.000	0.00	1867	1786	NO
2004/11	12	2,623	0.000	0.00	1837	1759	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

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Bonded Upper Side Windows

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Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2004/12	12	2,269	0.000	0.00	1808	1734	NO
2005/01	12	2,675	0.000	0.00	1779	1710	NO
2005/02	12	2,545	0.000	0.00	1746	1662	NO
2005/03	12	2,222	0.000	0.00	1719	1630	NO
2005/04	12	2,816	0.000	0.00	1692	1599	NO
2005/05	12	2,803	0.000	0.00	1661	1579	NO
2005/06	12	2,946	0.000	0.00	1627	1538	NO
2005/07	12	2,045	0.000	0.00	1604	1508	NO
2005/08	12	2,434	0.000	0.00	1562	1476	NO
2005/09	12	3,218	0.000	0.00	1536	1443	NO
2005/10	12	3,365	0.000	0.00	1503	1423	NO
2005/11	12	2,871	0.000	0.00	1477	1373	NO
2005/12	12	2,285	0.000	0.00	1450	1345	NO
2006/01	12	2,440	0.000	0.00	1410	1310	NO
2006/02	12	2,869	0.000	0.00	1382	1299	NO
2006/03	12	3,415	0.000	0.00	1360	1264	NO
2006/04	12	2,991	0.000	0.00	1318	1236	NO
2006/05	12	3,574	0.000	0.00	1296	1192	NO
2006/06	12	3,566	0.000	0.00	1269	1159	NO
2006/07	12	3,238	0.000	0.00	1230	1129	NO
2006/08	12	2,328	0.000	0.00	1187	1095	NO
2006/09	12	3,375	0.000	0.00	1167	1057	NO
2006/10	12	3,720	0.000	1.01	1144	1004	NO
2006/11	12	3,082	0.000	1.01	1114	977	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

R20C9GTMI - 24NOV09:16:10:38

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2006/12	12	2,671	0.000	1.01	1079	960	NO
2007/01	12	2,801	0.000	0.00	1526	937	NO
2007/02	12	1,397	0.000	0.00	1004	898	NO
2007/03	12	956	0.005	5.25	982	780	NO
2007/04	12	432	0.000	0.00	930	723	NO
2007/05	12	1,159	0.000	0.00	2640	712	NO
2007/06	12	542	0.000	0.00	869	694	NO
2007/07	12	1,134	0.000	0.00	927	711	NO
2007/08	12	1,209	0.000	0.00	848	693	NO
2007/09	12	1,146	0.000	0.00	890	686	NO
2007/10	12	1,953	0.001	2.05	1051	671	NO
2007/11	12	2,205	0.000	0.00	1050	644	NO
2007/12	12	1,712	0.001	1.02	1019	628	NO
2008/01	12	2,494	0.000	1.11	689	555	NO
2008/02	12	794	0.002	1.27	651	441	NO
2008/03	12	197	0.006	1.22	585	456	NO
2008/04	12	2,536	0.006	14.37	592	471	NO
2008/05	12	1,391	0.007	9.10	554	380	NO
2008/06	12	1,213	0.013	16.16	521	379	NO
2008/07	12	793	0.018	13.91	499	420	NO
2008/08	12	935	0.013	11.93	456	376	NO
2008/09	12	1,396	0.006	7.98	689	338	NO
2008/10	12	1,478	0.009	13.66	408	317	YES
2008/11	12	1,180	0.005	5.62	3604	300	YES

Bonded Upper Side Windows (Data as of 2009/11/21)

R20C9GTM1 - 24NOV09:16:10:38

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time In Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2008/12	12	1,152	0.005	5.19	682	217	YES
2009/01	12	859	0.000	0.00	368	199	YES
2009/02	12	870	0.162	140.77	3491	177	YES
2009/03	12	459	0.285	130.89	250	165	YES
2009/04	12	397	0.132	52.33	219	135	YES
2009/05	12	361	0.014	5.12	194	124	YES
2009/06	12	572	0.004	2.34	162	76	YES
2001/06	24	1,276	0.000	0.00	3085	2917	NO
2001/07	24	581	0.000	0.00	3057	2989	NO
2001/08	24	1,296	0.000	0.00	3029	2956	NO
2001/09	24	844	0.000	0.00	2985	2909	NO
2001/10	24	1,074	0.000	0.00	2959	2856	NO
2001/11	24	1,069	0.000	0.00	2937	2785	NO
2001/12	24	500	0.000	0.00	2896	2826	NO
2002/01	24	1,090	0.000	0.00	2868	2757	NO
2002/02	24	502	0.000	0.00	2829	2747	NO
2002/03	24	968	0.000	0.00	2810	2701	NO
2002/04	24	1,016	0.000	0.00	2782	2699	NO
2002/05	24	1,491	0.000	0.00	2749	2620	NO
2002/06	24	1,599	0.000	0.00	2719	2617	NO
2002/07	24	951	0.000	0.00	2677	2537	NO
2002/08	24	1,582	0.000	0.00	2665	2492	NO
2002/09	24	1,726	0.000	0.00	3612	2474	NO
2002/10	24	1,819	0.000	0.00	2600	2483	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

R20C9CTM1 - 24NOV09:16:10:38

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

<i>Vehicle Assembly Month</i>	<i>Time in Service</i>	<i>Sample Size</i>	<i>Extrapolated Claim Rate</i>	<i>Extrapolated Total Claim Count</i>	<i>Maximum Age in Days</i>	<i>Average Age in Days</i>	<i>Extrapolated</i>
2002/11	24	360	0.000	0.00	2564	2396	NO
2002/12	24	576	0.000	0.00	2521	2321	NO
2003/01	24	1,016	0.000	0.00	2501	2314	NO
2003/02	24	974	0.000	0.00	2461	2320	NO
2003/03	24	1,018	0.000	0.00	2446	2348	NO
2003/04	24	1,130	0.000	0.00	2417	2334	NO
2003/05	24	1,591	0.000	0.00	2384	2309	NO
2003/06	24	1,657	0.000	0.00	2360	2280	NO
2003/07	24	864	0.000	0.00	2316	2253	NO
2003/08	24	1,650	0.000	0.00	2292	2215	NO
2003/09	24	1,767	0.000	0.00	2264	2184	NO
2003/10	24	2,169	0.000	0.00	2238	2159	NO
2003/11	24	1,416	0.000	0.00	3612	2127	NO
2003/12	24	1,509	0.000	0.00	2170	2108	NO
2004/01	24	1,682	0.000	0.00	2138	2049	NO
2004/02	24	1,613	0.000	0.00	2105	2006	NO
2004/03	24	1,817	0.000	0.00	2086	2012	NO
2004/04	24	1,824	0.000	0.00	2055	1987	NO
2004/05	24	1,568	0.000	0.00	2021	1949	NO
2004/06	24	2,616	0.000	0.00	1996	1925	NO
2004/07	24	2,015	0.000	0.00	1958	1898	NO
2004/08	24	2,107	0.000	0.00	1928	1871	NO
2004/09	24	2,775	0.000	0.00	1902	1829	NO
2004/10	24	2,791	0.000	0.00	1867	1786	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

R20C9GTM1 - 24NOV08:16:10:38

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time In Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2004/11	24	2,623	0.000	0.00	1837	1759	NO
2004/12	24	2,269	0.000	0.00	1808	1734	NO
2005/01	24	2,675	0.000	0.00	1779	1710	NO
2005/02	24	2,545	0.000	0.00	1746	1662	NO
2005/03	24	2,222	0.000	0.00	1719	1630	NO
2005/04	24	2,816	0.000	0.00	1692	1599	NO
2005/05	24	2,803	0.000	0.00	1661	1579	NO
2005/06	24	2,946	0.000	0.00	1627	1538	NO
2005/07	24	2,045	0.000	0.00	1604	1508	NO
2005/08	24	2,434	0.000	0.00	1562	1476	NO
2005/09	24	3,218	0.000	0.00	1536	1443	NO
2005/10	24	3,365	0.000	0.00	1503	1423	NO
2005/11	24	2,871	0.000	0.00	1477	1373	NO
2005/12	24	2,285	0.000	0.00	1450	1345	NO
2006/01	24	2,440	0.000	0.00	1410	1310	NO
2006/02	24	2,869	0.000	0.00	1382	1299	NO
2006/03	24	3,415	0.000	0.00	1360	1264	NO
2006/04	24	2,991	0.000	0.00	1318	1236	NO
2006/05	24	3,574	0.000	0.00	1296	1192	NO
2006/06	24	3,566	0.000	0.00	1269	1159	NO
2006/07	24	3,238	0.000	0.00	1230	1129	NO
2006/08	24	2,328	0.000	0.00	1187	1095	NO
2006/09	24	3,375	0.000	0.00	1167	1057	NO
2006/10	24	3,720	0.000	1.01	1144	1004	NO

Bonded Upper Side Windows (Data as of 2009/11/21)

Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2006/11	24	3,082	0.000	1.01	1114	977	NO
2006/12	24	2,671	0.000	1.01	1079	960	NO
2007/01	24	2,801	0.000	0.00	1526	937	NO
2007/02	24	1,397	0.000	0.00	1004	898	NO
2007/03	24	956	0.005	5.25	982	780	NO
2007/04	24	432	0.000	0.00	930	723	NO
2007/05	24	1,159	0.000	0.00	2640	712	NO
2007/06	24	542	0.000	0.00	869	694	NO
2007/07	24	1,134	0.000	0.00	927	711	NO
2007/08	24	1,209	0.000	0.00	848	693	NO
2007/09	24	1,146	0.000	0.00	890	686	NO
2007/10	24	1,953	0.001	2.05	1051	671	YES
2007/11	24	2,205	0.000	0.00	1050	644	YES
2007/12	24	1,712	0.001	1.02	1019	628	YES
2008/01	24	2,494	0.000	1.11	689	555	YES
2008/02	24	794	0.002	1.27	651	441	YES
2008/03	24	197	0.006	1.22	585	456	YES
2008/04	24	2,536	0.006	14.37	592	471	YES
2008/05	24	1,391	0.007	9.10	554	380	YES
2008/06	24	1,213	0.013	16.16	521	379	YES
2008/07	24	793	0.018	13.91	499	420	YES
2008/08	24	935	0.013	11.93	456	376	YES
2008/09	24	1,396	0.006	7.98	689	338	YES
2008/10	24	1,478	0.009	13.64	408	317	YES

Bonded Upper Side Windows (Data as of 2009/11/21)

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Bonded Upper Side Windows

20582366, 20582367

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Time in Service	Sample Size	Extrapolated Claim Rate	Extrapolated Total Claim Count	Maximum Age in Days	Average Age in Days	Extrapolated
2008/11	24	1,180	0.005	5.60	3604	300	YES
2008/12	24	1,152	0.004	5.15	682	217	YES
2009/01	24	859	0.000	0.00	368	199	YES
2009/02	24	870	0.156	135.72	3491	177	YES
2009/03	24	459	0.259	118.75	250	165	YES
2009/04	24	397	0.116	46.05	219	135	YES
2009/05	24	361	0.013	4.71	194	124	YES
2009/06	24	572	0.003	1.99	162	76	YES

Bonded Upper Side Windows

20582366, 20582367

Important Report Messages

Report Messages

Records have been eliminated due to Minimum Sample Size condition.

Data values were limited to the most recent 100 values of the reporting variable

Technical Services

Mack Molding / Volvo

Sleeper Window Investigation Status

Sika Corporation

11/25/09

CONFIDENTIAL

Sika®

Sika Corporation

Activity Overview

Activity	Complete/Open
Adhesive quality and Sika Aktivator quality QC review	Complete
NovaPoly & Xenoy substrate comparison	Open
Molding process review	Open
Bonding process Audit at Mack Molding	Complete
Adhesion on Novapoly & Xenoy	Complete
Analytical Testing to field failure parts	Complete



Activity Overview

- **Adhesive quality and Sika Aktivator quality QC Review**
 - No known quality issues with Sika Aktivator, SikaTack Ultrafast, or Sikaflex-255FC from December 2008-November 2009.
 - QIR database search

complete
- **NovaPoly 0225UV vs. Xenoy 5220U comparison**
 - Datasheet comparison between two, discussion with NovaPoly through Mack Molding
 - New adhesion testing conducted on both materials after molding through Mack Molding processing.

complete
- Investigation ongoing of crystallinity of the surface, effects of molding on surface makeup

open



Activity Overview

- **Molding Process Review**
 - Received processing temperatures from Mack Molding complete
 - Reviewed PDS's of mold anti-corrosion material, and though no listed ingredients were noted to effect bonding, small runs and known failure rates do not rule out effects of on mold chemicals open
 - Molding tools not running during plant visit to review process open

Activity Overview

- **Bonding Process Audit at Mack Molding**
 - Anti-static glass cleaner was being used with too little flash time before Sika Aktivator application. Changed to non-anti-static glass cleaner and suggested methods to ensure solvents from glass cleaner flash before next step **complete**
 - Unused Sika Aktivator was being poured back into original container after shift, suggested practice stopped immediately. **complete**
 - Trained on proper use of docking station to maximize tip life on designetics bottle tip **complete**
 - During audit, no evidence of excess Sika Aktivator application to the glue track **complete**



Sika Corporation

Activity Overview

- **Adhesion to NovaPoly and Xenoy**

- New testing conducted on molded Xenoy and molded NovaPoly with current Sika Aktivator and both SikaTack Ultrafast and Sikaflex-255FC.

complete

- All testing showed with proper surface preparation with Sika Aktivator, a strong adhesive bond resulted

complete



Sika Corporation

Activity Overview

- **Analytical Testing to Field Failure parts**
 - FTIR analysis of failed parts unable to detect Sika Aktivator presence/absence conclusively **complete**
 - Extraction/ICAPES detection of Titanium as indicator of Sika Aktivator successful. **complete**
 - Results indicate no trace of Titanium on Volvo bonded Sikaflex-255FC surface or frame surface
 - Results indicate Titanium present in what was thought to be excessive Sika Aktivator on the failed frames
 - Results indicate Titanium present on the surface of the failed bead of SikaTack Ultrafast after separation of the adhesive bead to frame, indicative of excess Sika Aktivator
- 9 of 9 field failure parts sent to Sika exhibited excess Sika Aktivator in the glue channel



Sika Corporation

Findings and Considerations

- New testing to both NovaPoly and Xenoy show good adhesion with Sika Aktivator and SikaTack Ultrafast as well as Sikaflex-255FC with proper application procedures followed
- Analytical testing showed no Sika Aktivator and/or excess Sika Aktivator observed in conjunction with poor adhesion on 9/9 field frames and 1/2 frames received from Mack Molding.
- Further investigation into processing effects on the crystallinity of frame surface and/or changes to chemical makeup of frame surface and their possible effects on bond durability still unknown
- An alternate pre-treatment process has been investigated to account for known variability in manufacture process (above). New pre-treatment process seems more tolerant of variables based on 300+ hours of humidity/temperature exposure testing



Lafon Tim (othy)

From: Meyer Dean
Sent: Tuesday, December 15, 2009 1:17 PM
To: Kane Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-Chu; Akers Tony
Subject: RE: w0951-Sleeper Window QJ

Mike,

Mack Molding is measureing Flex Modulus and Specific Gravity for material performance

Also, the first 21 day hold windows will be shipped on Jan. 04, 2010, the start of production for this 21 day wait time is Dec. 14, 2009

Regards,

Dean Meyer
Volvo 3P - SQD
7900 National Service Road
Greensboro, NC 27410

Office: 1.336.393.3860
Fax: 1.336.393.2203
Cell: 1.336.210.0952
Email: dean.meyer@volvo.com

From: Kane Michael
Sent: Monday, December 14, 2009 5:09 PM
To: Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-Chu; Akers Tony
Subject: w0951-Sleeper Window QJ

See actions attached.

Item:	Action	Who	Comments/Findings	Status	Due
	Follow up to ensure this process has started.	Meyer	Starting the 11th of Jan, 2010 Mack will have windows that have cured for 21 days and pressure test 5%. Follow Up.	Open	
3	Return to Lab with recommended solution for independent validation testing.	Nutt	Start age testing w/ Lyon on the Lord adhesive.	Open	1006
4	2 part Adhesive alternatives solution to existing bonded joint	Nutt	Test results from 7 suppliers	Open	
			testing is in place	Open	
			Need to include testing for alternative substrat materials and/or alternative adhesives.	Open	0948
6	Raw material testing at each batch run of windows	Meyer	Discuss w/ supplier and comeback to team (izod, meltflow, etc.)	Open	0948
			It is not the physical properties of the material, but the chemicals in the material which may bloom - this is being tested with results due end of week 0945-...now due 11/23 from Sika. Dean also asked Mack to plot the process / material to spc for later follow-up.		
8	Follow up. AM strategy	Meyer		Open	0948
		Schlottman		Open	
9	Mack molding run qty's and dates of production built bezels (mold in dates)	Meyer	Comparison w/ field claims	Open	
			Information available from a high level, MMC to break down in smaller portions with a timeline. Event graph due wk0947. Received, need to re-format, share at next meeting.		
13	Follow up. Criticality applied to window for bonding	Meyer		Open	0949
		Nutt	Report back to the team	Open	0951
14	Scope, Recommended Field Check Process, & Recommended Field Repair Procedure?	Nutt	Report back to the team	Open	0950
15	Agreement with tier 1 supplier on root cause of mis-application of the activator.	Nutt	Report back to the team	Open	0950
16	Quote Lord Adhesive w/ Mack Molding	Hsiao		Open	0952
17	Sign deviation to start w/ Lord Adhesive	Nutt		Open	0952
18	Design review at Mack Molding	Nutt	Lord to review at gso first on 12/17.	Open	0952
19	Determine assembly breakdown in AM	Mochrie		Open	0952
21					

Lafon Tim (othy)

From: Kane Michael
Sent: Monday, December 21, 2009 3:39 PM
To: Kane Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-Chu; Akers Tony
Subject: w0952-Sleeper Window QJ
Attachments: Action List.xls

See actions attached.

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

Item:	Action	Who	Comments/Findings	Status	Due
	Follow up to ensure this process has started.	Meyer	Starting the 11th of Jan, 2010 Mack will have windows that have cured for 21 days and pressure test 5%. Follow Up.	Open	
3	Return to Lab with recommended solution for independent validation testing.	Nutt	Start age testing w/ Lyon on the Lord adhesive.	Open	1006
4	2 part Adhesive alternatives solution to existing bonded joint	Nutt	Test results from 7 suppliers	Open	
			testing is in place	Open	
			Need to include testing for alternative substrat materials and/or alternative adhesives.	Open	0948
6	Raw material testing at each batch run of windows	Meyer	Discuss w/ supplier and comeback to team (izod, meltflow, etc.)	Closed	0951
	Follow up.	Meyer	It is not the physical properties of the material, but the chemicals in the material which may bloom - this is being tested with results due end of week 0945-...now due 11/23 from Sika. Dean also asked Mack to plot the process / material to spc for later follow-up.	Open	0948
8	AM strategy	Schlottman		Open	
9	Mack molding run qtys and dates of production built bezels (mold in dates)	Meyer	Comparison w/ field claims	Open	
	Follow up.	Meyer	Information available from a high level, MMC to break down in smaller portions with a timeline. Event graph due wk0947. Received, need to re-format, share at next meeting.	Open	0949
13	Criticality applied to window for bonding	Nutt	Report back to the team	Open	0951
14	Scope, Recommended Field Check Process, & Recommended Field Repair Procedure?	Nutt	Report back to the team	Open	0950
15	Agreement with tier 1 supplier on root cause of mis-application of the activator.	Nutt/Hsiao	Report back to the team	Open	0950
16	Quote Lord Adhesive w/ Mack Molding	Hsiao		Open	0952
17	Sign deviation to start w/ Lord Adhesive	Nutt	Waiting on cataplast test results before releasing deviation.	Open	0952
18	Design review at Mack Molding	Nutt	Lord to review at gso first on 12/17. 12/22 at Mack Molding?	Open	0952
19	Determine assembly breakdown in AM	Mochrie		Open	0952
21					
22					
23					
24					
25					

Lafon Tim (othy)

From: Kane Michael
Sent: Monday, January 04, 2010 4:25 PM
To: Kane Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-Chu; Akers Tony
Subject: w1002-Sleeper Window QJ
Attachments: Action List.xls; Bonded Slpr Window Claims - 1001.xls; Unadjusted Claim Count by Month - wk1001.pdf; Bonded Sleeper Windows - wk1001 - 2009 view.pdf

All, See today's actions attached.

Also see Claim Rate Chart, Claim Count by Build Month, and Claim text for all claims since Feb, 2009 (the SP Start of these Windows)

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

Item:	Action	Who	Comments/Findings	Status	Due
3	Return to Lab with recommended solution for independent validation testing.	Nutt	Start age testing w/ Lyon on the Lord adhesive. We start w/ cataplast test first and this age testing will be done after.	Open	1008
6	Follow up...Raw material testing at each batch run of windows	Meyer	It is not the physical properties of the material, but the chemicals in the material which may bloom - this is being tested with results due end of week 0945-...now due 11/23 from Sika. Dean also asked Mack to plot the process / material to spc for later follow-up. Flexmod recieved. Dean is following up with other specifics. Rotating of resin lots are being looked at. MK to send latest data for Dean to find any correlations.		
8	AM strategy	Schlottman		Open	0948
13	Criticality applied to window for bonding	Nutt	Report back to the team	Open	1004
14	Mack Molding to provide Scope of vehicles affected by failures and recommended repair procedures.	Lafon	Issue letter to Mack Molding for response	Open	1002
15	Agreement with tier 1 supplier on root cause of mis-application of the activator.	Hsiao	If not activator, then show that adhesive is RC.	Open	1002
16	Quote Lord Adhesive w/ Mack Molding	Hsiao	Include leadtimes.	Open	1002
17	Sign deviation to start w/ Lord Adhesive	Nutt	Waiting on cataplast test results before releasing deviation.	Open	1002
18	Design review at Mack Molding	Nutt	Lord to review at gso first on 12/17. Week 2 or 3 at Mack Molding?	Open	1003
19	Determine assembly breakdown in AM	Mochrie		Open	0952

Current PNs: 20582366, 20582367

Bonded Upper Side Windows

Report Details

<i>Option</i>	<i>Value</i>
Filter Name:	Bonded Upper Side Windows
Analysis Type:	Pareto
Reporting Variable:	Vehicle Assembly Month
By Variable:	
Analysis Variable:	Total Claim Count
Calculation Method:	Unadjusted
Apply Claim Submission Lag Adjustment:	No
Apply Usage Profiles:	No
Claims Per Unit to Include:	All
Maximum Exposure Value:	None
Maturity Value:	None
Include pre - delivery claims:	Yes
Minimum Sample Size Type:	None
Minimum Sample Size:	
Number of Bars:	25
Title:	Bonded Upper Side Windows
SubTitle:	
Footnote:	

Bonded Upper Side Windows

Filter Details

Bonded Upper Side Windows (Description: 20582366, 20582367) - Data Source: Volvo North America - Data Type: - Author Name: UT03873 - Modification Date: 0
20CT09:14:36:52

Volvo - All (Description:) - Data Source: Volvo North America - Data Type: Products - Author Name: UT03873 - Modification Date: 08AUG08:10:20:31
Vehicle Make: 'VOLVO'

Bonded Upper Side Windows (Description: 20582366, 20582367) - Data Source: Volvo North America - Data Type: Claims - Author Name: UT03873 - Modification
Date: 02OCT09:14:35:59
Debit Code: '10' '18'

Causal Part Number: '20582366' '20582367'

Total Claim Payment: (From:) 1

Total Claim Payment: (To:) 999999

Additional subset criteria applied:

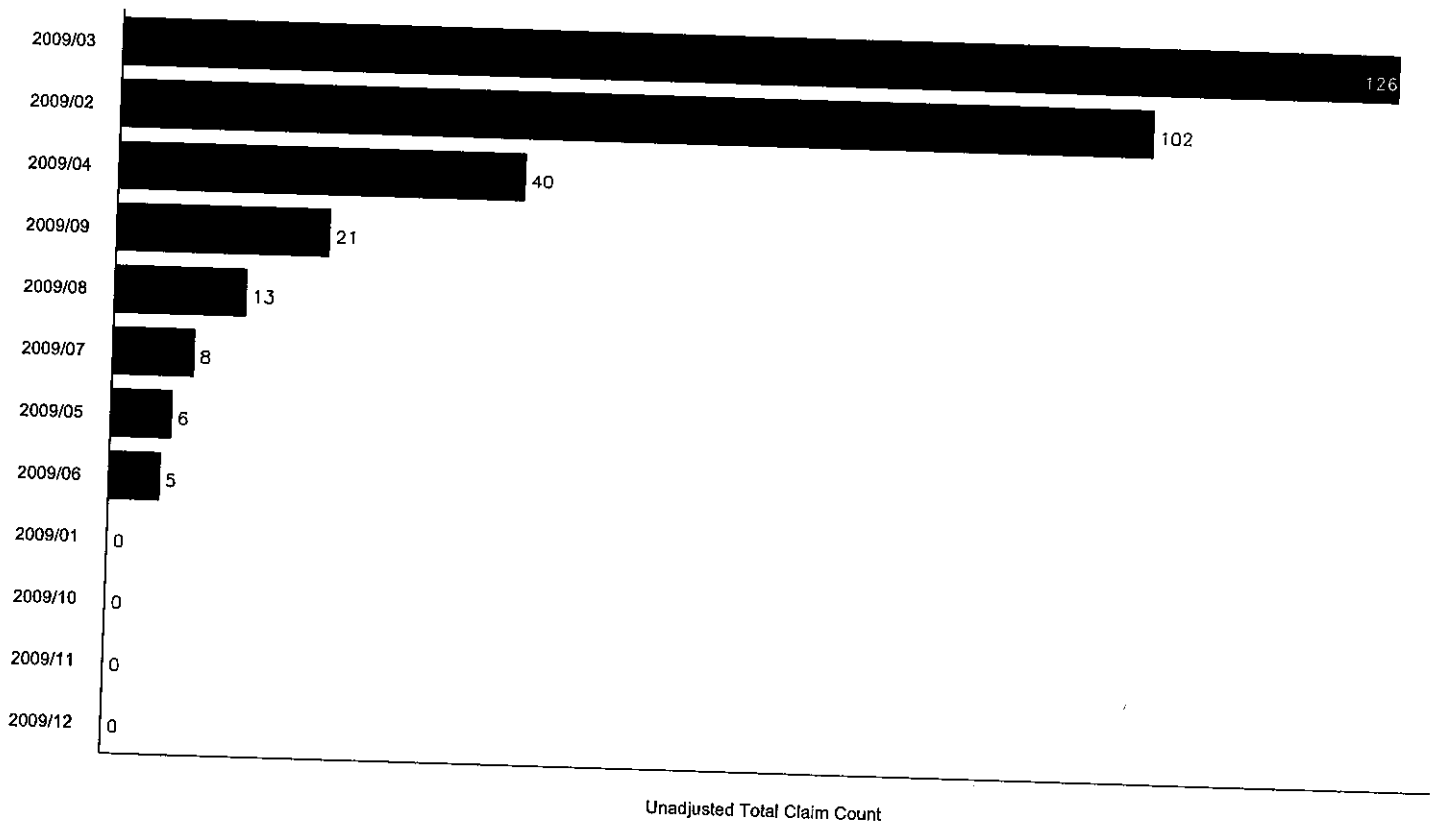
Vehicle Assembly Year = 2009

Bonded Upper Side Windows (Data as of 2010/01/02)
Vehicle Assembly Year = 2009

R2014E3A9 - 04JAN10:16:16:23

Bonded Upper Side Windows

Pareto - Vehicle Assembly Month



Bonded Upper Side Windows (Data as of 2010/01/02)

Vehicle Assembly Year = 2009

R2014E3A9 - 04JAN10:16:16:23

Bonded Upper Side Windows

Pareto - Vehicle Assembly Month

Vehicle Assembly Month	Sample Size	Unadjusted Total Claim Count	Unadjusted Claim Rate	Maximum Age in Days	Average Age in Days	Percent Weighted Count	Cumulative Percent
2009/03	459	126	0.275	292	205	39.2523	39.252
2009/02	870	102	0.117	461	208	31.7757	71.028
2009/04	397	40	0.101	261	175	12.4611	83.489
2009/09	785	21	0.027	106	54	6.5421	90.031
2009/08	500	13	0.026	134	75	4.0498	94.081
2009/07	368	8	0.022	860	104	2.4922	96.573
2009/05	361	6	0.017	236	162	1.8692	98.442
2009/06	572	5	0.009	204	106	1.5576	100.000
2009/01	859	0	0.000	410	235	0.0000	100.000
2009/10	893	0	0.000	90	25	0.0000	100.000
2009/11	778	0	0.000	361	4	0.0000	100.000
2009/12	781	0	0.000	19	0	0.0000	100.000
		321					

Bonded Upper Side Windows (Data as of 2010/01/02)
 Vehicle Assembly Year = 2009

Bonded Upper Side Windows

Report Details

<i>Option</i>	<i>Value</i>
Filter Name:	Bonded Upper Side Windows
Analysis Type:	Trend/Exposure
Reporting Variable:	Vehicle Assembly Month
Analysis Variable:	Claim Rate
Calculation Method:	Unadjusted
Apply Claim Submission Lag Adjustment:	No
Apply Usage Profiles:	No
Claims Per Unit to Include:	All
Maturity Value:	None
Include pre-delivery claims:	Yes
Minimum Sample Size Type:	None
Minimum Sample Size:	
Time in Service Values to Display	0 months
	1 month
	2 months
	3 months
	6 months
	9 months
	12 months
Display Gridlines:	Yes
Title:	Bonded Upper Side Windows
SubTitle:	
Footnote:	

Bonded Upper Side Windows

Filter Details

Bonded Upper Side Windows (Description: 20582366, 20582367) - Data Source: Volvo North America - Data Type: - Author Name: UT03873 - Modification Date: 20OCT09:14:36:52 0

Volvo - All (Description:) - Data Source: Volvo North America - Data Type: Products - Author Name: UT03873 - Modification Date: 08AUG08:10:20:31

Vehicle Make: 'VOLVO'

Bonded Upper Side Windows (Description: 20582366, 20582367) - Data Source: Volvo North America - Data Type: Claims - Author Name: UT03873 - Modification Date: 02OCT09:14:36:59

Debit Code: '10' '18'

Causal Part Number: '20582366' '20582367'

Total Claim Payment: (From:) 1

Total Claim Payment: (To:) 999999

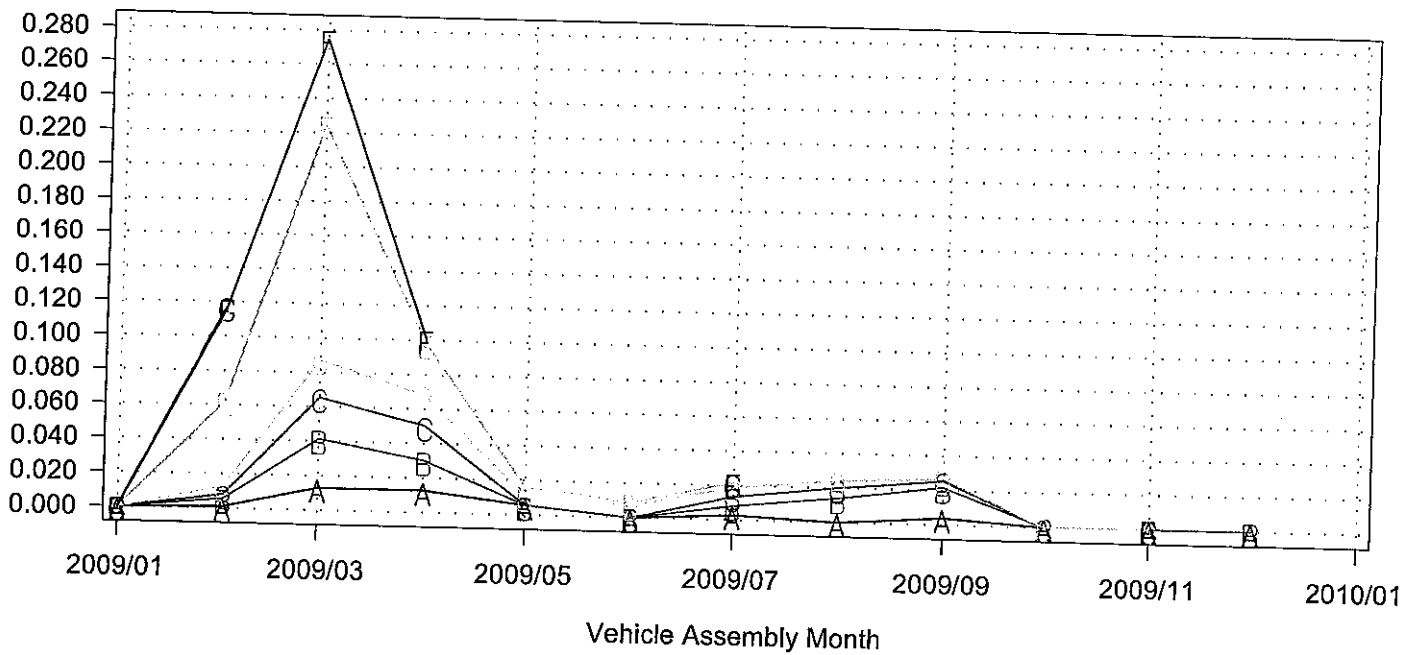
Additional subset criteria applied:

Vehicle Assembly Year = 2009

Bonded Upper Side Windows

Trend/Exposure - Vehicle Assembly Month

Unadjusted Claim Rate



Months in Service	A	A	A	0	B	B	B	1	C	C	C	2	D	D	D	3
	E	E	E	6	F	F	F	9	G	G	G	12				

Bonded Upper Side Windows

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Months in Service	Sample Size	Unadjusted Claim Rate	Unadjusted Total Claim Count	Maximum Age in Days	Average Age in Days
2009/01	0	859	0.000	0	410	235
2009/02	0	870	0.001	1	461	208
2009/03	0	459	0.013	6	292	205
2009/04	0	397	0.013	5	261	175
2009/05	0	361	0.006	2	236	162
2009/06	0	572	0.000	0	204	106
2009/07	0	368	0.003	1	860	104
2009/08	0	500	0.000	0	134	75
2009/09	0	785	0.004	3	106	54
2009/10	0	893	0.000	0	90	25
2009/11	0	778	0.000	0	361	4
2009/12	0	781	0.000	0	19	0
2009/01	1	859	0.000	0	410	235
2009/02	1	870	0.006	5	461	208
2009/03	1	459	0.041	19	292	205
2009/04	1	397	0.030	12	261	175
2009/05	1	361	0.006	2	236	162
2009/06	1	572	0.000	0	204	106
2009/07	1	368	0.008	3	860	104
2009/08	1	500	0.014	7	134	75
2009/09	1	785	0.022	17	106	54
2009/10	1	893	0.000	0	90	25
2009/11	1	778	0.000	0	361	4
2009/12	1	781	0.000	0	19	0

Bonded Upper Side Windows (Data as of 2010/01/02)
 Vehicle Assembly Year = 2009

R2014DKKN - 04JAN10:16:12:24

Bonded Upper Side Windows

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Months In Service	Sample Size	Unadjusted Claim Rate	Unadjusted Total Claim Count	Maximum Age in Days	Average Age in Days
2009/01	2	859	0.000	0	410	235
2009/02	2	870	0.008	7	461	208
2009/03	2	459	0.065	30	292	205
2009/04	2	397	0.050	20	261	175
2009/05	2	361	0.006	2	236	162
2009/06	2	572	0.000	0	204	106
2009/07	2	368	0.014	5	860	104
2009/08	2	500	0.020	10	134	75
2009/09	2	785	0.025	20	106	54
2009/10	2	893	0.000	0	90	25
2009/11	2	778	0.000	0	361	4
2009/01	3	859	0.000	0	410	235
2009/02	3	870	0.013	11	461	208
2009/03	3	459	0.087	40	292	205
2009/04	3	397	0.068	27	261	175
2009/05	3	361	0.011	4	236	162
2009/06	3	572	0.007	4	204	106
2009/07	3	368	0.019	7	860	104
2009/08	3	500	0.024	12	134	75
2009/09	3	785	0.027	21	106	54
2009/10	3	893	0.000	0	90	25
2009/11	3	778	0.000	0	361	4
2009/01	6	859	0.000	0	410	235
2009/02	6	870	0.062	54	461	208

Bonded Upper Side Windows (Data as of 2010/01/02)
Vehicle Assembly Year = 2009

R2014DKKN - 04JAN10:16:12:24

Bonded Upper Side Windows

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Months in Service	Sample Size	Unadjusted Claim Rate	Unadjusted Total Claim Count	Maximum Age in Days	Average Age in Days
2009/03	6	459	0.224	103	292	205
2009/04	6	397	0.098	39	261	175
2009/05	6	361	0.017	6	236	162
2009/06	6	572	0.009	5	204	106
2009/07	6	368	0.022	8	860	104
2009/11	6	778	0.000	0	361	4
2009/01	9	859	0.000	0	410	235
2009/02	9	870	0.116	101	461	208
2009/03	9	459	0.275	126	292	205
2009/04	9	397	0.101	40	261	175
2009/07	9	368	0.022	8	860	104
2009/11	9	778	0.000	0	361	4
2009/01	12	859	0.000	0	410	235
2009/02	12	870	0.117	102	461	208
2009/07	12	368	0.022	8	860	104
2009/11	12	778	0.000	0	361	4

Bonded Upper Side Windows (Data as of 2010/01/02)
 Vehicle Assembly Year = 2009

Technical Services

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Mack Molding / Volvo

Sleeper Window Investigation Status

Sika Corporation

01/08/10

The Sika logo is located in the bottom left corner. It consists of the word "Sika" in a stylized, italicized font, with a registered trademark symbol (®) to its right. The logo is set against a dark, triangular background that is part of a larger graphic element.

Sika Corporation

Past Meeting Summary

- Excess Aktivator on 9/9 field failure parts
- At this point, evidence points to this as cause
- Further investigations complicated by factors such as moisture sensitivity and substrate differences.
- Current failures, based on received parts, cannot be correlated to moisture sensitivity or other variable outside of excess Aktivator
- SikaPrimer 209D helps compensate for variability
- Volvo needs to review adhesion data before making process change.
- Review scope
- Action items



Adhesion Testing

- To build more data regarding long term bondline durability, a study was developed to determine the effect of 100%rh with the following variables:
 - NovaPoly and Xenoy Alloys
 - As received vs 60°C 72 hr temperature exposure before bonding
 - SikaTack Ultrafast and Sikaflex-255FC adhesives
 - Test after intervals up to 500 hr temperature/humidity exposure
- Additionally, an alternate pre-treatment process was included based on data from previous testing on PC and PC alloys combined with the application process needs for more forgiving application amounts as well as a positive indication of surface treatment
- Summary of the results of the humidity/temperature exposure testing follows



Adhesion Testing

1

Xenoy: Bonded after 72 hr 60C exposure

1.a Xenoy, treated with Sika Aktivator + SikaTack Ultrafast to OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	1.a.1	4	5	5	5	5	5
60C/100%rh	1.a.2	1	1	4	5	5	5
40C/100%rh	1.a.3	1	1	1	1	1	1
30C/100%rh	1.a.4	1	1	1	1	1	1

1.b Xenoy, treated with Sika Aktivator + SikaTack Ultrafast to non-OE bond area of frame

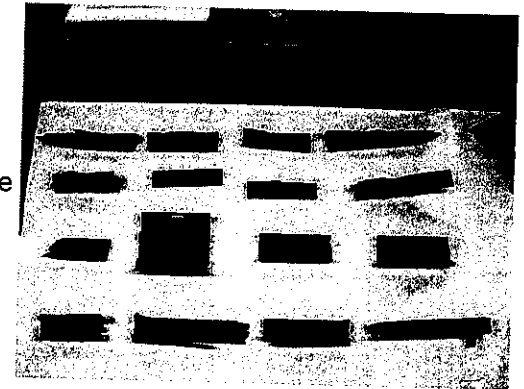
Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	1.b.1	4	5	5	5	5	5
60C/100%rh	1.b.2	1	1	5	5	5	5
40C/100%rh	1.b.3	1	1	1	1	1	1
30C/100%rh	1.b.4	1	1	1	1	1	1

1.c Xenoy, treated with Sika Aktivator + Sikaflex-255FC to OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	1.c.1	4	5	5	5	5	5
60C/100%rh	1.c.2	1	1	4	5	5	5
40C/100%rh	1.c.3	1	1	1	1	3	3
30C/100%rh	1.c.4	1	1	1	1	1	1

1.d Xenoy, treated with Sika Aktivator + Sikaflex-255FC to non-OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	1.d.1	4	5	5	5	5	5
60C/100%rh	1.d.2	1	1	5	5	5	5
40C/100%rh	1.d.3	1	1	1	1	1	2
30C/100%rh	1.d.4	1	1	1	1	1	1



Sika Corporation

Adhesion Testing

Findings for current pre-treatment:

- Both NovaPoly and Xenoy alloys bonded after exposure to 60°C for 72 hours showed slightly lower temperature/humidity resistance
- Overall, NovaPoly and Xenoy showed similar performance through the humidity temperature study under like preparations.

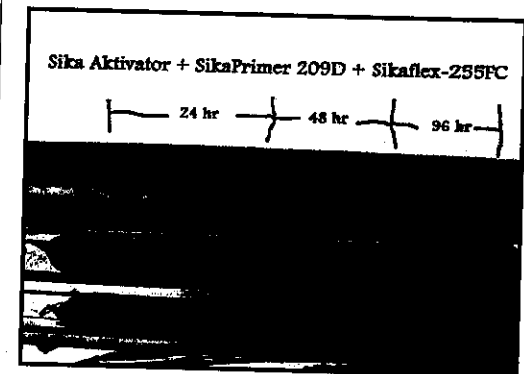
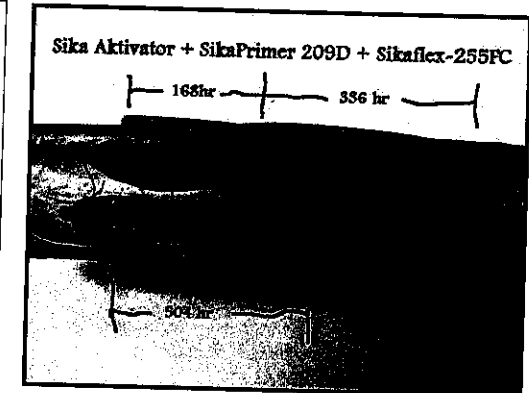
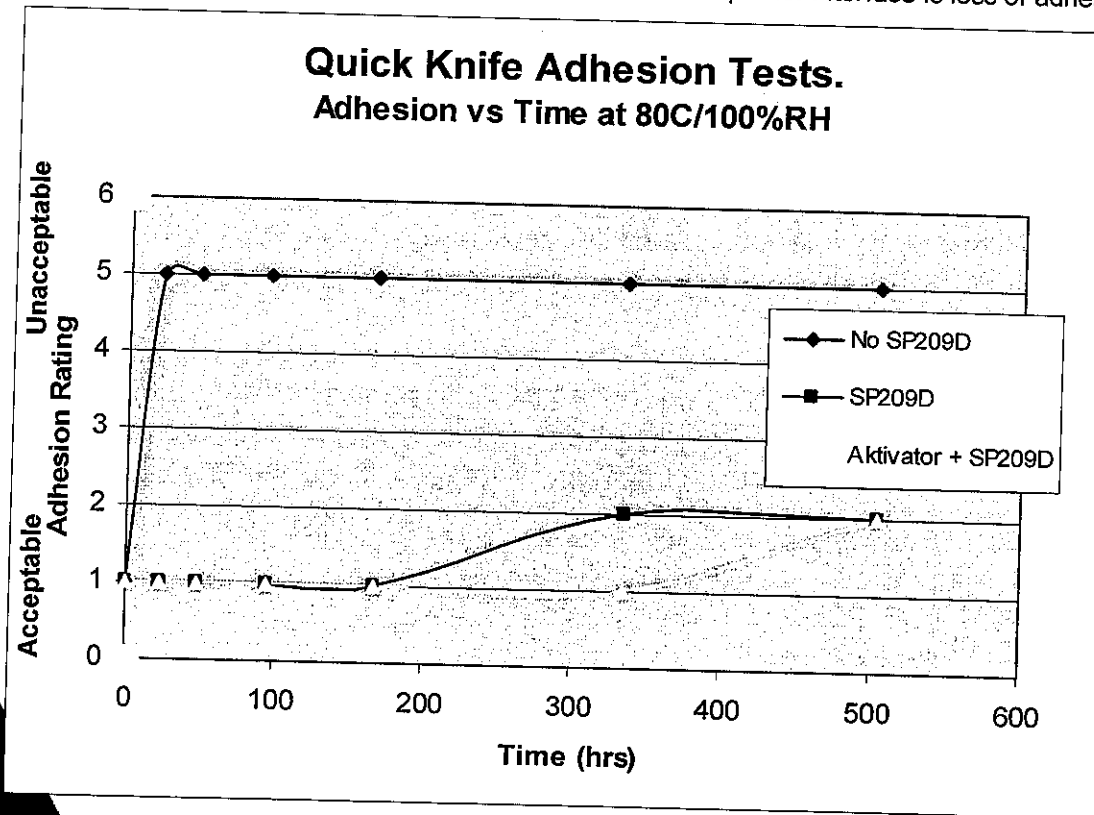
Adhesion Testing

SikaPrimer 209D Influence vs Current Pretreatment

NovaPoly: Bonded, cure 7 days before Cycling with Sikaflex-255FC

Exposure	Pretreatment	24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	Aktivator + SP 209D	1	1	1	1	1	2*
80C/100%rh	SP 209D	1	1	1	1	2*	2*

*adhesive to primer interface is loss of adhesion interface



Sika Corporation

Adhesion Testing

SikaPrimer 209D Influence vs Current Pretreatment

Findings for SikaPrimer-209D pretreatment:

- SikaPrimer-209D pretreatment showed no loss of adhesion through 500 hr 80°C / 100%rh.
- Acceptable adhesion was maintained with or without the use of Sika Aktivator before priming with SikaPrimer-209D



Sika Corporation

Adhesion Testing

Summary of Findings

- Investigation shows most likely cause of field failures to be related to the application of Sika Aktivator
- Investigations with DSC, chemical extractions, and adhesion through high temperature/ high humidity exposure showed slight variability in substrate and potential sensitivity in high temperature/ high humidity environments with current surface preparation system to the surface and bond line.
- Investigated a relatively new primer, SikaPrimer-209D, as a more forgiving application pre-treatment because it offers:
 - No wipe on/ wipe off requirement
 - Positive indication of surface treatment
 - Wider tolerance to application amounts
- Inclusion of SikaPrimer-209D in long term temperature/humidity study found higher resistance to high temperature/humidity environments than current pre-treatment
- SikaPrimer-209D appears to be an improvement to current system to correct both the cause of current field failures as well as an improvement to the systems overall temperature/humidity resistance



Sika Corporation

Potential Lap Shear Testing

- Substrates to be “like to like”, Xenoy and Novapoly coupons
- Potential matrix as follows:

Conditions	# lap shears
Room temp	5
Cold	5
Hot	5
Soak	5
Cataplasma	5
Aged per STD 1027, 42 cycles	5
Total lap shears	30 per substrate



Potential Lap Shear Testing

Bead Adhesion (Quick Knife) & Lap Shear Correlation

Adhesive	Substrate	Condition	Bead Adhesion Results		Lap Shear Results		PDS Lap Shear Strength, psi
			Sika Rating	Description	psi	Description	
STUF	FRP	7 day cure	3	50% CF / 50% FT	465	98% CF	580
		7 day cure + 500 hrs @90C	5	100% AF	493	98% CF	
		7 day cure + 500 hrs water	5	100% AF	23	100% AF	
SF 255FC	FRP	7 day cure	2	80% CF / 20% FT	409	89% FT / 31% CF	580
		7 day cure + 500 hrs @90C	5	100% AF	566	58% CF / 28% AF / 14% SF	
		7 day cure + 500 hrs water	3	40% CF / 40% FT / 20% AF	468	88% CF / 8% AF / 6% FT	
SF 255FC	Painted Steel	7 day cure	1	>95% CF	625	100% CF	580
STUF	Painted Steel	7 day cure	4	<25 CF	686	100% CF	580
SF 252	Aluminum	7 day cure	5	100% AF	119*	100% AF (from aluminum) (bonded steel to aluminum)	360
	Painted Steel		1	>95% CF			
SF 552	Aluminum	7 day cure	1	>95% CF	266	100% CF (bonded steel/aluminum)	300
	Painted Steel		1	>95% CF			
SF 252	Plastic	7 day cure	1	>95% CF	308	100% CF*	360
SF 552	Plastic	7 day cure	5	100% AF	172	100% AF*	300

* Bonding plastic to fiberglass. No bead adhesion data on fiberglass. AF was from Plastic.

- Bead Adhesion is a more severe test -- worse case.
- A "1" Bead Adhesion Rating correlate fairly well to lap shear data sheet values
- Lap shear values can be high, but with low bead adhesion values.



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Adhesion Testing

2

NovaPoly: Bonded after 72 hr 60C exposure

2.a NovaPoly, treated with Sika Aktivator + SikaTack Ultrafast to OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	2.a.1	5	5	5	5	5	5
60C/100%rh	2.a.2	1	1	4	5	5	5
40C/100%rh	2.a.3	1	1	1	1	3	5
30C/100%rh	2.a.4	1	1	1	1	1	1

2.b NovaPoly, treated with Sika Aktivator + SikaTack Ultrafast to non-OE bond area of frame

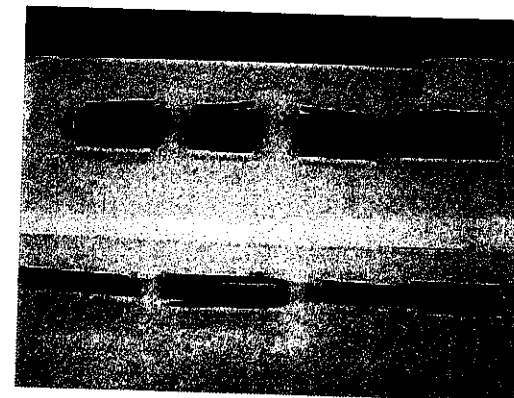
Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	2.b.1	5	5	5	5	5	5
60C/100%rh	2.b.2	1	1	1	5	5	5
40C/100%rh	2.b.3	1	1	1	1	3	5
30C/100%rh	2.b.4	1	1	1	1	1	1

2.c No Test to Mack Molding Glue Channel

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	2.c.1						
60C/100%rh	2.c.2						
40C/100%rh	2.c.3						
30C/100%rh	2.c.4						

2.d NovaPoly, treated with Sika Aktivator + Sikaflex-255FC to non-OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	2.d.1	4	5	5	5	5	5
60C/100%rh	2.d.2	1	1	4	5	5	5
40C/100%rh	2.d.3	1	1	1	1	2	2
30C/100%rh	2.d.4	1	1	1	1	1	1



Sika Corporation

Adhesion Testing

3

Xenoy: Bonded 7 days before 72 hr 60C exposure

3.a Xenoy, treated with Sika Aktivator + SikaTack Ultrafast to OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	3.a.1	4	5	5	5	5	5
60C/100%rh	3.a.2	1	1	3	5	5	5
40C/100%rh	3.a.3	1	1	1	1	1	1
30C/100%rh	3.a.4	1	1	1	1	1	1

3.b Xenoy, treated with Sika Aktivator + SikaTack Ultrafast to non-OE bond area of frame

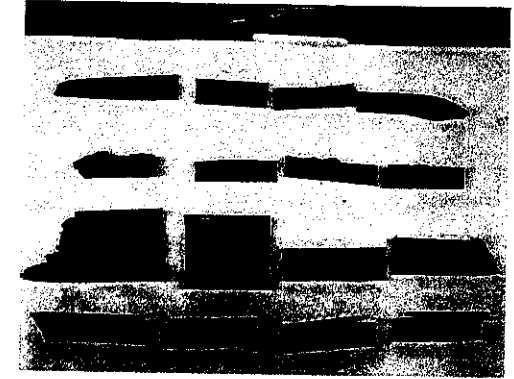
Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	3.b.1	5	5	5	5	5	5
60C/100%rh	3.b.2	1	1	5	5	5	5
40C/100%rh	3.b.3	1	1	1	1	1	1
30C/100%rh	3.b.4	1	1	1	1	1	1

3.c Xenoy, treated with Sika Aktivator + Sikaflex-255FC to OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	3.c.1	4	5	5	5	5	5
60C/100%rh	3.c.2	1	1	2	4	5	5
40C/100%rh	3.c.3	1	1	2	2	2	1
30C/100%rh	3.c.4	1	1	1	1	1	1

3.d Xenoy, treated with Sika Aktivator + Sikaflex-255FC to non-OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	3.d.1	3	5	5	5	5	5
60C/100%rh	3.d.2	1	1	1	5	5	5
40C/100%rh	3.d.3	1	1	1	1	1	2
30C/100%rh	3.d.4	1	1	1	1	1	1



Sika Corporation

Adhesion Testing

4

NovaPoly: Bonded 7 days before 72 hr 60C exposure

4.a NovaPoly, treated with Sika Aktivator + SikaTack Ultrafast to OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	4.a.1	5	5	5	5	5	5
60C/100%rh	4.a.2	1	1	1	5	5	5
40C/100%rh	4.a.3	1	1	1	1	1	2
30C/100%rh	4.a.4	1	1	1	1	1	1

4.b NovaPoly, treated with Sika Aktivator + SikaTack Ultrafast to non-OE bond area of frame

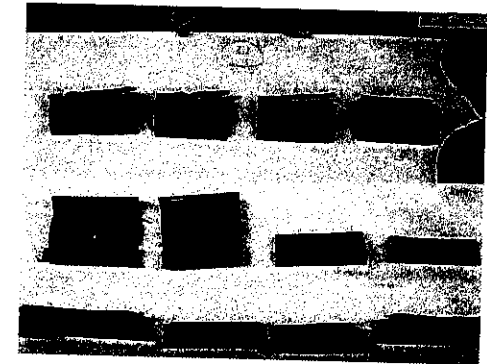
Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	4.b.1	5	5	5	5	5	5
60C/100%rh	4.b.2	1	1	3	5	5	5
40C/100%rh	4.b.3	1	1	1	1	1	1
30C/100%rh	4.b.4	1	1	1	1	1	1

4.c No Test to Mack Molding Glue Channel

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	4.c.1	4	5	5	5	5	5
60C/100%rh	4.c.2	1	1	3	5	5	5
40C/100%rh	4.c.3	1	1	1	1	1	2
30C/100%rh	4.c.4	1	1	1	1	1	1

4.d NovaPoly, treated with Sika Aktivator + Sikaflex-255FC to non-OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	4.d.1	4	5	5	5	5	5
60C/100%rh	4.d.2	1	1	4	5	5	5
40C/100%rh	4.d.3	1	1	1	1	1	2
30C/100%rh	4.d.4	1	1	1	1	1	1



Sika Corporation

Lafon Tim (othy)

From: Kane Michael
Sent: Monday, January 11, 2010 4:04 PM
To: Kane Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-Lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-Chu; Akers Tony
Subject: w1002-Sleeper Window QJ

Attachments: Action List.xls

All, See today's actions attached.

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

Item:	Action	Who	Comments/Findings	Status	Due
3	Return to Lab with recommended solution for independent validation testing.	Nutt	Start age testing w/ Lyon on the Lord adhesive. We start w/ cataplast test first and this age testing will be done after. Acceptable test results from a Lord cataplast test. Sika has brought a primer alternative to Volvo. Sika to provide test results by Friday 1/15.	Open	
8	AM strategy	Schlottman	Awaiting responses to # 14 & #15	Open	1008
13	Criticality applied to window for bonding	Nutt	Will apply it to the new release.	Open	
14	Mack Molding to provide Scope of vehicles affected by failures and recommended repair procedures.	Lafon	Issue letter to Mack Molding for response	Open	1002
15	Agreement with tier 1 supplier on root cause of mis-application of the activator.	Hsiao/Meyer	If not activator, then show that adhesive is RC. Include email about "issue in August" in this agreement.	Open	1002
16	Quote Lord Adhesive w/ Mack Molding	Hsiao	Include leadtimes. Kevin reports 15 business days for test mat'l.	Open	1002
17	Sign deviation to start w/ Lord Adhesive	Nutt	Waiting on cataplast test results before releasing deviation. Hold off till sika results are in.	Open	1002

Current PNs: 20582366, 20582367

Technical Services

CONFIDENTIAL

Mack Molding / Volvo

Sleeper Window Investigation Status

Sika Corporation

01/15/10

The Sika logo is a stylized, italicized wordmark in a light gray color, set against a dark, textured triangular background that points downwards. The word "Sika" is followed by a registered trademark symbol (®).

Sika®

Sika Corporation

Past Meeting Summary

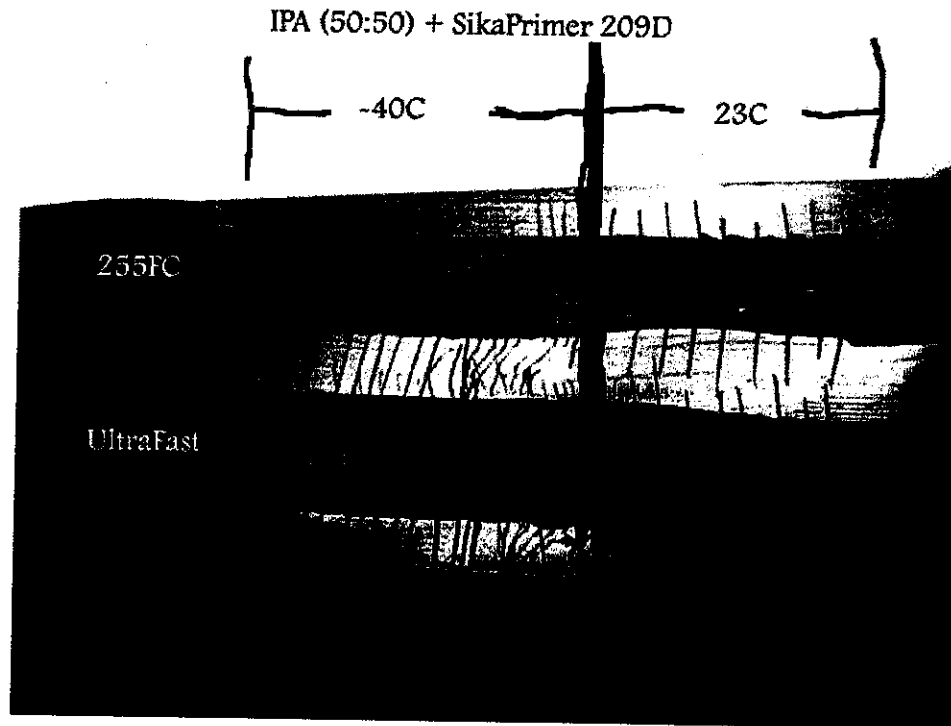
- SikaPrimer-209D Summary
- Volvo needs to review adhesion data before making process change.
- Review scope
- Action items



Adhesion Testing (cold)

SikaPrimer 209D adhesion test on Xenoy, cold bead adhesion

- No loss of adhesion when tested at -40C in bead adhesion (100% cohesive bond)
- With or without IPA wipe, excellent adhesion with both 255FC and Ultrafast when SikaPrimer 209D is utilized



Sika Corporation

Adhesion Testing (hot)

SikaPrimer 209D adhesion test on Xenoy, hot bead adhesion

- No loss of adhesion when tested at 70C in bead adhesion (100% cohesive bond)
- With or without IPA wipe, excellent adhesion with both 255FC and Ultrafast when SikaPrimer 209D is utilized



Sika Corporation

Adhesion Testing

SikaPrimer 209D Pretreatment Results to date:

- SikaPrimer-209D appears suitable for bonding Xenoy based on the test results from frames provided from Mack Molding.
 - SikaPrimer-209D pretreatment showed no loss of adhesion through 500 hr 80°C / 100%rh on NovaPoly.
 - Acceptable adhesion was confirmed after 7 day cure with or without IPA wipe + SikaPrimer 209D on Xenoy. No Sika Aktivator utilized. (NovaPoly sample to follow)
 - Cold Bead adhesion performed on Xenoy showed no adhesion loss at -40C test conditions. (NovaPoly sample to follow)
 - Hot Bead adhesion performed on Xenoy showed no adhesion loss at -70C test conditions. (NovaPoly sample to follow)
- Will complete full Volvo spec testing as soon as substrate gathered.



Sika Corporation

Volvo Specification Testing (lap shear)

- Substrates to be as called for in the Volvo specification:
 - Xenoy coupons only
 - *Confirm plaques

Conditions	# lap shears
Room temp	5
Cold	5
Hot	5
Soak	5
Cataplasma	5
Aged per STD 1027, 42 cycles	5
Total lap shears per configuration	60 plastic (Xenoy) 30 glass 30 SMC



Sika Corporation

Volvo Specification Testing (Cleavage)

- Cleavage Testing, ASTM 5041
- Coupons to be 2" x 6", Xenoy to Xenoy
- Coupon number per below

Specimen	Dimension	Number Coupons
Xenoy	2" x 6"	20

Volvo Specification Testing (Quick Knife)

- Question:

Does Volvo require environmental conditioning or is testing at the SAE 1907 standard temperature/humidity (23C/50%rh)?

Actions

- Obtain Substrate as follows:
 - 60 1" x 4" Xenoy coupons
 - 20 2" x 6" Xenoy coupons
 - 30 1" x 4" SMC coupons
 - 30 1" x 4" Fritted glass coupons
- Submit updated work instructions to Mack Molding/Volvo to include SikaPrimer-209D



Lafon Tim (othy)

From: Nutt Kevin
Sent: Tuesday, January 19, 2010 8:51 AM
To: Hsiao Ming-chu; Kane Michael; Williams Billy; Lafon Tim (othy); Meyer Dean; Ghantae Srikanth
Cc: Argou Evandro; Rutt Barry
Subject: RE: Questions about the warranty claims

Hi Ming,
Sorry, have been out of the office.

- 1) Glass falls out of the frame. adhesive fails to the plastic frame. Only one window assembly actually came free from the roof to date. That was attributed to an installation error compromising the bond line at NRV.
- 2) Yes and documented the process also. Mack molding claim they have. The plant has needed further guidance from me, beyond that given by the original releasing engineer.
- 3) Yes Sika proposed this adhesive as a good fit for Xenoy plastic. Not sure about documentation, would need to look into that deeper.

Regards,

Kevin..

Kevin Nutt
Lead Engineer
Cab Exterior
VOLVO 3P
Greensboro, NC.27104

Telephone: 336 393 3409
Telefax: 336 393 3003
kevin.nutt@volvo.com

From: Hsiao Ming-chu
Sent: Monday, January 18, 2010 10:45 AM
To: Kane Michael; Williams Billy; Lafon Tim (othy); Nutt Kevin; Meyer Dean; Ghantae Srikanth
Cc: Argou Evandro; Rutt Barry
Subject: Questions about the warranty claims
Importance: High

Hi all,

I have read the claim report and have several questions that I would like to have your help before I bring our legal in to talk to Sika and Mack Molding.

1. According to the report, the glass indeed fell out of frames, but I can't find any clear statement that the window frame fell out of the trucks. Can anyone please confirm if both the frame and the glass fell out?

8/16/2011

2. Has Sika ever recommended a proper process of applying the adhesive? If so, have both NRV and Mack Molding followed such a process?
3. Before we launched the new upper windows, did we request Sika to supply a specific adhesive or did we ask Sika's recommendation? Does anyone have any written documents to back up our statement?

Thank you for your help.

Best regards,

Ming

Ming-Chu Hsiao
Volvo 3P
Cab Exterior - North America
2402 Lehigh Parkway South
P. O. Box 1907
Allentown, PA 18105-1907
USA

Tel: +1-610-351-8778

Cell: +1-610-573-1680

Fax: +1-610-351-8989

E-mail: ming-chu.hsiao@volvo.com

Technical Services

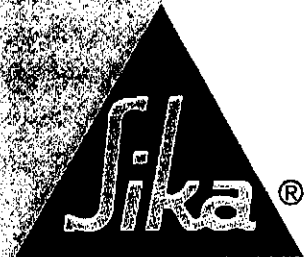
CONFIDENTIAL

Mack Molding / Volvo

Sleeper Window Investigation Status

Sika Corporation

01/22/10



Sika Corporation

Summary

- SikaPrimer-209D Summary, updated
- 209D applicator recommendations
- Process Considerations



Adhesion Testing (cold + hot)

SikaPrimer 209D adhesion test on Xenoy, cold and hot bead adhesion

- Bead adhesion complete on both Xenoy and Novapoly with excellent results when tested at -40C and 70C in bead adhesion. (1/18 update only included Xenoy)
 - No loss of adhesion when tested at -40C in bead adhesion (100% cohesive bond)
 - No loss of adhesion when tested at 70C in bead adhesion (100% cohesive bond)
- With or without IPA wipe, excellent adhesion with both 255FC and Ultrafast when SikaPrimer 209D is utilized
- Note that testing can not account for changes made to the substrate formulation. If changes are made to the substrate, the adhesion system should be evaluated to ensure that expected adhesion is observed



SikaPrimer 209D Application

SikaPrimer 209D:

- SikaPrimer-209D can be applied with daubers supplied by Pilkington (Sika to supply samples and contact information) or with a Designetics felt applicator, bottle, and docking station.
 - Designetics tip and system for SikaPrimer-209D should consist of:
32T tip + 20A plug + bottle + docking station
*do not use a flow restrictor with SikaPrimer-209D
- Coverage should be judged as a thin, continuous coating of SikaPrimer-209D on the surface
 - Target film build should be 0.2-2.0 mil dry film thickness
 - Wet usage varies considering waste and other processing considerations, but should be at or under 0.15 oz/ft²



Sika Corporation

Process Considerations

To maximize bonding :

- Follow the work instructions and PDS for products used for open time, general application considerations
- To ensure bond system integrity, a small sample of the product can be collected during a set number of units produced, then tested in house after 7 day cure to ensure bond strength and adhesion. Additionally, bead adhesion testing on frame material could be added at a set interval as part of the production process.
- Sika is open to further process specific parameters that Mack or Volvo suggest for controlling the process



Sika Corporation

Lafon Tim (othy)

From: Kane Michael
Sent: Monday, January 25, 2010 3:55 PM
To: Kane Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-chu; Akers Tony
Subject: w1004-Sleeper Window QJ

Attachments: Action List.xls

All, See today's actions attached.

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

Lafon Tim (othy)

From: Schlottmann Guenter
Sent: Tuesday, January 26, 2010 8:32 AM
To: Akers Tony; Kane Michael
Cc: Lafon Tim (othy); Rinaldo Anna-lena
Subject: FW: ARGUS SR Assigned to Your Group VTNA - Cab Repair / Paint - ARGUS SR#1-1379394271.
 See text.....GPS

From: no_email@argusapp.com [mailto:no_email@argusapp.com]
Sent: Monday, January 25, 2010 1:01 PM
To: Schlottmann Guenter
Subject: ARGUS SR Assigned to Your Group VTNA - Cab Repair / Paint - ARGUS SR#1-1379394271.

The following SR #1-1379394271 has been assigned to your SR Group.
 Please review the SR and update accordingly.

Chassis Series: N
 Chassis #: [REDACTED]
 VIN/Serial: 4V4NC9KK4AN [REDACTED]
 Model : VNL
 Model Label :
 Cust/Rep Dealer: SWEETEN TRUCK CENTER LC
 Cust/Rep dealer ID: 5257D
 BA/BU Dealer ID:
 Cust/Rep Dealer Country: UNITED STATES
 SR Group: VTNA - Cab Repair / Paint
 SR Owner:
 Key User: WILLIAM HAGA
 Prev. SR Group: NA - Truck - Technical Support
 SR Transfer Date: 1/26/2010 1:00:09 AM
 Case Duration: 0Day 0Hr 15Min

Summary:

Description: TRUCK CAME IN WITH THE UPPER GLASS BLOWN OUT OF IT WHILE DRIVING DOWN THE HIGHWAY. UPON INSPECTION THE UPPER WINDOW FRAME AND VENT ARE STILL AFFIXED TO PANEL BUT THE GLASS IS NO LONGER THERE. APPEARS THAT THE ADHESIVE FALLED AND GLASS FEEL OUT. PLEASE ADVISE ON HOW TO PROCEED.

Below are the links to the Argus production environment:

>> [Volvo Trucks North America, Mack Trucks Inc., MACK-COF - Login](#)

>> [Volvo Action Service - Global - Login](#)

>> [Volvo Penta, Volvo Parts North America, Any other Technical Front Office Users - Login](#)

Lafon Tim (othy)

From: Kane Michael
Sent: Tuesday, January 26, 2010 1:06 PM
To: Nutt Kevin
Cc: Komuves Francis; Hazlett Jim; Rinaldo Anna-lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-chu; Akers Tony
Subject: Warranty - wk1004
Attachments: Bonded Sleeper Windows - wk1004 - 2009 view.pdf

Kevin,

See attached, the latest warranty run on paid claims. So far the data still doesn't show any claims for trucks built after Sept, 2009.

Dean reported the following breakpt on the 21 day cure time....

"...Starting the 11th of Jan, 2010 Mack will have windows that have cured for 21 days and pressure test 5%. Follow Up. Can be tracked w/ "white label". Effective date of mfg on part label = 12/14/09"

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

From: Nutt Kevin
Sent: Tuesday, January 26, 2010 10:30 AM
To: Kane Michael
Cc: Meyer Dean; Les Martin; Brian Colton; Jack Katilius; Hsiao Ming-chu
Subject: RE: Sika Pricing

Mike,

Further to the subject below regarding 21 day cure time.

Please could you let us know if we have had any further spikes in claims, that may warrant us keeping the cure time before release to production at 21 days.

I would like to propose that this is reduced to two weeks max. But wanted to check with you first.

Jack,

Does two weeks help with this regard, considering we do have to protect for quality and claims.

Regards,

Kevin..

Kevin Nutt
Lead Engineer
Cab Exterior

8/16/2011

VOLVO 3P
Greensboro, NC.27104

Telephone: 336 393 3409
Telefax: 336 393 3003
kevin.nutt@volvo.com

From: Jack Katilius [mailto:JKatilius@mackmolding.com]
Sent: Monday, January 25, 2010 4:17 PM
To: Hsiao Ming-chu
Cc: Nutt Kevin; Meyer Dean; Les Martin; Brian Colton
Subject: RE: Sika Pricing

Ming,

I am sorry; I did not understand what you were requesting.

I am finishing a series of quotations on the window assembly which will propose alternate adhesives and alternate processes in addition to the Sika adhesive now being utilized. There have been new pieces of information coming in constantly as to which material has passed what test, and which material will require what equipment and what process changes will be required etc... These alternatives are summarized below.

1. Sika ultrafast adhesive, one component adhesive,(as current) adding the use of a Sika "primer - 209D" on the frame before the glass is adhesive assembled. Kevin Nutt will need to see and approve the performance data from this system before implementation.
2. Lord Adhesive #7542 C is a two component urethane product that requires a separate dispensing unit to utilize it with the current robotic equipment. We have this equipment in plant but need to adapt it to the current assembly set up. In addition to changing the dispensing equipment we will also have to change both the robotic fixtures and the dispensing mechanism since we will need to dispense the adhesive bead to the Frame instead of the Glass (as is done now) in order to eliminate the chance of squeeze out during assembly since this new adhesive material is Tan in color and will now be allowed to show either inside or outside of the assembly. This will also require the addition of a manually applied black cosmetic silicone bead between the outside edge of the glass and the frame to hide the tan structural adhesive.
This material has passed all of the required Volvo basic testing parameters and can be used so long as the process is properly adjusted but there will be some tooling and fixture costs associated with the transition.
3. Bostik adhesive #70-12 is also a single component system (like the Sika) and will be easier to implement "in process" than the two component Lord system. It supposedly requires no activator and no primer and may be able to be "dropped in" to our current robotic adhesive dispensing equipment with little or no change. The test data from Bostik was submitted to Volvo in 2006 and the material can be used if Bostik stands behind the 2006 test data submitted. We have a Bostik process team coming into our Statesville plant on Thursday this week to discuss sampling, opportunities, and the barriers to the process. We are hopeful that this would be the most cost effective solution with the minimum of equipment or process changes but we need to prove this out before we can seriously approach the solution.

I plan to have the quotation on #1 and #2 for you on Wednesday this week and #3 either Friday or early next week when we better understand the issues associated with Bostik.

In the meanwhile, we are developing a separate issue related to the continued use of the current Sika

material based on Volvo requirement that we hold assembled product for 21 days before we test and ship. This requirement was put in place at the end of 2009 to assure that only "fully cured" product left the plant. While we always thought this was extreme overkill, we implemented the requirement as requested. We are now getting "pull ins" from the NRV plant that we can not support because we do not have the excess inventory in 21 day curing loop. You will need to discuss this with both engineering and quality at Volvo to see if we can deviate around this requirement. We will be missing some of the pull in requests either this week or next so you may be hearing from the plant.

I will be in touch shortly with the above proposals. Please give me a call with questions!

Regards,

Jack Katilius
Mack Molding Company
704-878-9641
cell 864-360-7804

From: Hsiao Ming-chu [mailto:ming-chu.hsiao@volvo.com]
Sent: Monday, January 25, 2010 1:02 PM
To: Jack Katilius
Subject: RE: Sika Pricing
Importance: High

Hi Jack,

Thanks for the quote.

What is the mark-up for the the window assembly? I will greatly appreciate if you can advise me the final assembly price for 20582366 & 67? Thank you.

Best regards,

Ming

From: Jack Katilius [mailto:JKatilius@mackmolding.com]
Sent: Wednesday, January 20, 2010 2:26 PM
To: Hsiao Ming-chu
Subject: FW: Sika Pricing

Ming,
Here is the other half of the request you made on adhesives- this is the Sika pricing.

Jack Katilius
Mack Molding Company
704-878-9641
cell 864-360-7804

From: Jerry Wright [mailto:wright.jerry@sika-corp.com]

8/16/2011

Sent: Wednesday, January 20, 2010 9:51 AM
To: Steve L. Compton
Subject: Sika Pricing

Steve,

Attached is the current pricing for the Ultrafast and Aktivator and then I added the Sika Primer 209D. Let me know if you have any questions or concerns?

Thank you,

Jerry Wright
Area Manager Carolinas - GA
Transportation/A&C
(704) 814-6522 - Off
(704) 351-6525 - cell
wright.jerry@sika-corp.com
www.sikaindustry.com

Bonded Upper Side Windows

Report Details

<i>Option</i>	<i>Value</i>
Filter Name:	Bonded Upper Side Windows
Analysis Type:	Trend/Exposure
Reporting Variable:	Vehicle Assembly Month
Analysis Variable:	Claim Rate
Calculation Method:	Unadjusted
Apply Claim Submission Lag Adjustment:	No
Apply Usage Profiles:	No
Claims Per Unit to Include:	All
Maturity Value:	None
Include pre-delivery claims:	Yes
Minimum Sample Size Type:	None
Minimum Sample Size:	
Time In Service Values to Display	0 months
	1 month
	2 months
	3 months
	6 months
	9 months
	12 months
Display Gridlines:	Yes
Title:	Bonded Upper Side Windows
SubTitle:	
Footnote:	

Bonded Upper Side Windows

Filter Details

Bonded Upper Side Windows (Description: 20582366, 20582367) - Data Source: Volvo North America - Data Type: - Author Name: UT03873 - Modification Date: 02OCT09:14:36:52

Volvo - All (Description:) - Data Source: Volvo North America - Data Type: Products - Author Name: UT03873 - Modification Date: 08AUG08:10:20:31

Vehicle Make: 'VOLVO'

Bonded Upper Side Windows (Description: 20582366, 20582367) - Data Source: Volvo North America - Data Type: Claims - Author Name: UT03873 - Modification Date: 02OCT09:14:35:59

Debit Code: '10' '18'

Causal Part Number: '20582366' '20582367'

Total Claim Payment: (From:) 1

Total Claim Payment: (To:) 999999

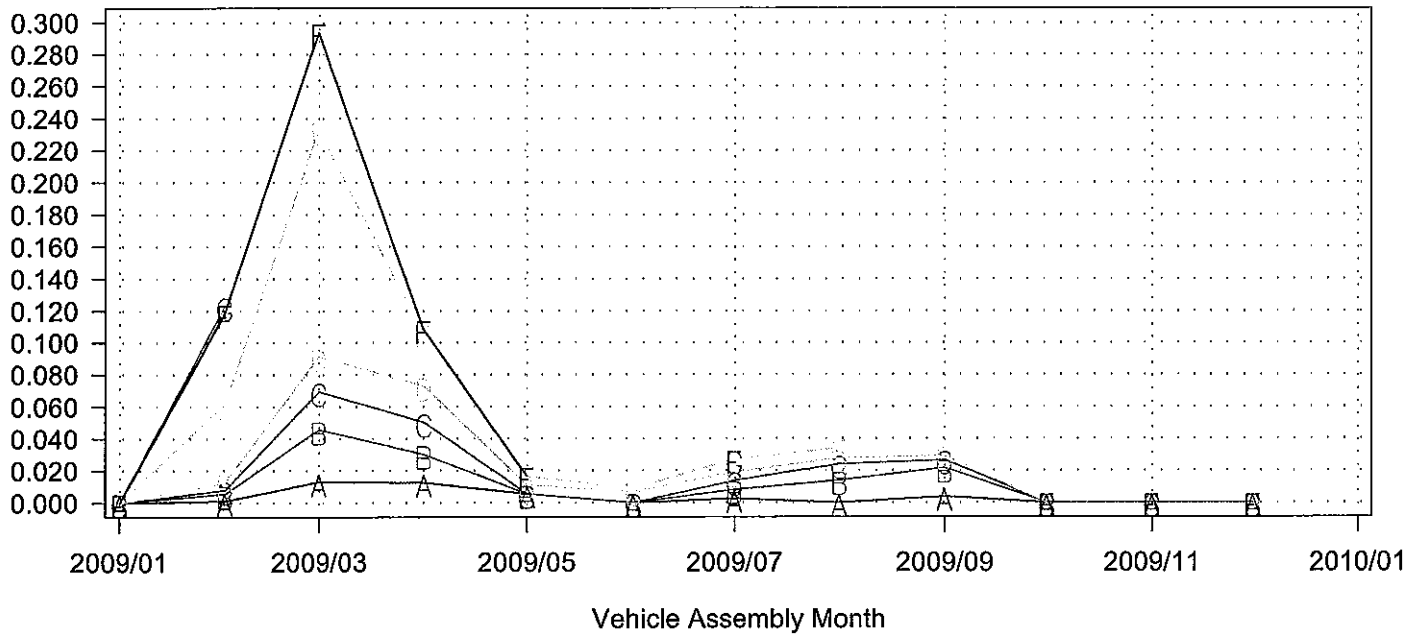
Additional subset criteria applied:

Vehicle Assembly Year = 2009

Bonded Upper Side Windows

Trend/Exposure - Vehicle Assembly Month

Unadjusted Claim Rate



Months in Service	A — A — A	0	B — B — B	1	C — C — C	2	D — D — D	3
	E — E — E	6	F — F — F	9	G — G — G	12		

Bonded Upper Side Windows

Trend/Exposure - Vehicle Assembly Month

Vehicle Assembly Month	Months In Service	Sample Size	Unadjusted Claim Rate	Unadjusted Total Claim Count	Maximum Age in Days	Average Age in Days
2009/01	0	859	0.000	0	431	253
2009/02	0	870	0.001	1	482	226
2009/03	0	459	0.013	6	313	224
2009/04	0	397	0.013	5	282	196
2009/05	0	361	0.006	2	257	181
2009/06	0	572	0.000	0	225	123
2009/07	0	368	0.003	1	881	123
2009/08	0	500	0.000	0	155	94
2009/09	0	785	0.004	3	127	72
2009/10	0	894	0.000	0	381	40
2009/11	0	780	0.000	0	382	13
2009/12	0	887	0.000	0	374	3
2009/01	1	859	0.000	0	431	253
2009/02	1	870	0.006	5	482	226
2009/03	1	459	0.046	21	313	224
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Bonded Upper Side Windows (Data as of 2010/01/23)
 Vehicle Assembly Year = 2009

R20L8J0SN - 26JAN10:11:27:27

Bonded Upper Side Windows

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R20L&J0SN - 26JAN10:11:27:27

Lafon Tim (othy)

From: Nutt Kevin
Sent: Tuesday, January 26, 2010 1:18 PM
To: Kane Michael
Cc: Komuves Francis; Hazlett Jim; Rinaldo Anna-lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-chu; Akers Tony
Subject: RE: Warranty - wk1004

Hi Mike,

Ok so we would be making a decision to shorten the 21 day cure time based on Mack Moldings 21 day testing static's to date.

To date I understand from Mack Molding, they have had no failure on this testing.

Opinions would be welcome.

regards,

Kevin..

Kevin Nutt
Lead Engineer
Cab Exterior
VOLVO 3P
Greensboro, NC.27104

Telephone: 336 393 3409
Telefax: 336 393 3003
kevin.nutt@volvo.com

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Br//

8/16/2011

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
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From: Nutt Kevin
Sent: Tuesday, January 26, 2010 10:30 AM
To: Kane Michael
Cc: Meyer Dean; Les Martin; Brian Colton; Jack Katilius; Hsiao Ming-chu
Subject: RE: Sika Pricing

Mike,
Further to the subject below regarding 21 day cure time.
Please could you let us know if we have had any further spikes in claims, that may warrant us keeping the cure time before release to production at 21 days.

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Regards,

Kevin..

Kevin Nutt
Lead Engineer
Cab Exterior
VOLVO 3P
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Telephone: 336 393 3409
Telefax: 336 393 3003
kevin.nutt@volvo.com

From: Jack Katilius [mailto:JKatilius@mackmolding.com]
Sent: Monday, January 25, 2010 4:17 PM
To: Hsiao Ming-chu
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information coming in constantly as to which material has passed what test, and which material will require what equipment and what process changes will be required etc... These alternatives are summarized below.

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2. Lord Adhesive #7542 C is a two component urethane product that requires a separate dispensing unit to utilize it with the current robotic equipment. We have this equipment in plant but need to adapt it to the current assembly set up. In addition to changing the dispensing equipment we will also have to change both the robotic fixtures and the dispensing mechanism since we will need to dispense the adhesive bead to the Frame instead of the Glass (as is done now) in order to eliminate the chance of squeeze out during assembly since this new adhesive material is Tan in color and will now be allowed to show either inside or outside of the assembly. This will also require the addition of a manually applied black cosmetic silicone bead between the outside edge of the glass and the frame to hide the tan structural adhesive.
This material has passed all of the required Volvo basic testing parameters and can be used so long as the process is properly adjusted but there will be some tooling and fixture costs associated with the transition.
3. Bostik adhesive #70-12 is also a single component system (like the Sika) and will be easier to implement "in process" than the two component Lord system. It supposedly requires no activator and no primer and may be able to be "dropped in" to our current robotic adhesive dispensing equipment with little or no change. The test data from Bostik was submitted to Volvo in 2006 and the material can be used if Bostik stands behind the 2006 test data submitted. We have a Bostik process team coming into our Statesville plant on Thursday this week to discuss sampling, opportunities, and the barriers to the process. We are hopeful that this would be the most cost effective solution with the minimum of equipment or process changes but we need to prove this out before we can seriously approach the solution.

I plan to have the quotation on #1 and #2 for you on Wednesday this week and #3 either Friday or early next week when we better understand the issues associated with Bostik.

In the meanwhile, we are developing a separate issue related to the continued use of the current Sika material based on Volvo requirement that we hold assembled product for 21 days before we test and ship. This requirement was put in place at the end of 2009 to assure that only "fully cured" product left the plant. While we always thought this was extreme overkill, we implemented the requirement as requested. We are now getting "pull ins" from the NRV plant that we can not support because we do not have the excess inventory in 21 day curing loop. You will need to discuss this with both engineering and quality at Volvo to see if we can deviate around this requirement. We will be missing some of the pull in requests either this week or next so you may be hearing from the plant.

I will be in touch shortly with the above proposals. Please give me a call with questions!

Regards,

Jack Katilius
Mack Molding Company
 704-878-9641
 cell 864-360-7804

From: Hsiao Ming-chu [mailto:ming-chu.hsiao@volvo.com]
Sent: Monday, January 25, 2010 1:02 PM
To: Jack Katilius
Subject: RE: Sika Pricing

Importance: High

Hi Jack,

Thanks for the quote.

What is the mark-up for the the window assembly? I will greatly appreciate if you can advise me the final assembly price for 20582366 & 67? Thank you.

Best regards,

Ming

From: Jack Katilius [mailto:JKatilius@mackmolding.com]

Sent: Wednesday, January 20, 2010 2:26 PM

To: Hsiao Ming-chu

Subject: FW: Sika Pricing

Ming,

Here is the other half of the request you made on adhesives- this is the Sika pricing.

Jack Katilius

Mack Molding Company

704-878-9641

cell 864-360-7804

From: Jerry Wright [mailto:wright.jerry@sika-corp.com]

Sent: Wednesday, January 20, 2010 9:51 AM

To: Steve L. Compton

Subject: Sika Pricing

Steve,

Attached is the current pricing for the Ultrafast and Aktivator and then I added the Sika Primer 209D. Let me know if you have any questions or concerns?

Thank you,

Jerry Wright

Area Manager Carolinas - GA

Transportation/A&C

(704) 814-6522 - Off

(704) 351-6525 - cell

wright.jerry@sika-corp.com

www.sikaindustry.com

Lafon Tim (othy)

From: Akers Tony
Sent: Wednesday, January 27, 2010 3:29 PM
To: Lafon Tim (othy)
Subject: Upper sleeper window info

Tim,

Per your request.....the current part numbers for the L5 upper sleeper windows are 20582366 and 20582367.

Usage of the parts began in Feb. 2009.

Tony Akers
Product Reliability Engineer
Volvo Trucks North America, NRV Plant
Phone: 540-674-7399
Fax: 540-674-2004
tony.akers@volvo.com

Lafon Tim (othy)

From: Meyer Dean
Sent: Wednesday, January 27, 2010 5:59 PM
To: Nutt Kevin; Kane Michael
Cc: Komuves Francis; Hazlett Jim; Rinaldo Anna-lena; Lafon Tim (othy); Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-chu; Akers Tony
Subject: RE: Warranty - wk1004

The 21 day cure time remains the same whether we ship windows or not. For testing purposes the decision was taken internally not to ship windows that had not been fully cured and then test after the 21 day time. Mack Molding has reported no failures since this has implemented in Dec. The question I will find out is how many windows have they built and what percentage has been tested? I have requested this and will provide the results as quick as possible.

Regards,

Dean Meyer
 Volvo 3P - SQD
 7900 National Service Road
 Greensboro, NC 27410

Office: 1.336.393.3860
 Fax: 1.336.393.2203
 Cell: 1.336.210.0952
 Email: dean.meyer@volvo.com

From: Nutt Kevin
Sent: Wednesday, January 27, 2010 4:39 PM
To: Kane Michael
Cc: Komuves Francis; Hazlett Jim; Rinaldo Anna-lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-chu; Akers Tony
Subject: RE: Warranty - wk1004

All the current testing that has been done for the 21 day cure mandate and been 100% good. No failures.

It is Mack that is Asking to reduce this time to be able to keep up with unexpected ramp up of orders. I believe dean would wish for them to keep to the 21 day cure time. In My view I believe that two weeks of curing is sufficient, bearing in mind they have improved the application of the Activator also.

On a windshield the green strength is achieved on a single component adhesive in approx two hours, allowing the driver to move on. This adhesive is one that is used in that kind of application. The 21 day cure In My view was implemented to asses if there was a short term ageing rejects going on between the frame and the adhesive. The testing to date has shown this is not the case.

In that view the risk level is low going to 14 days.

Regards,

8/16/2011

Kevin..

Kevin Nutt
Lead Engineer
Cab Exterior
VOLVO 3P
Greensboro, NC.27104

Telephone: 336 393 3409
Telefax: 336 393 3003
kevin.nutt@volvo.com

From: Kane Michael
Sent: Wednesday, January 27, 2010 4:23 PM
To: Nutt Kevin
Cc: Komuves Francis; Hazlett Jim; Rinaldo Anna-lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-chu; Akers Tony
Subject: RE: Warranty - wk1004

What does Sika say about shortening the cure time?
I would be apprehensive to shorten w/o their input and data to support.

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

From: Nutt Kevin
Sent: Tuesday, January 26, 2010 1:18 PM
To: Kane Michael
Cc: Komuves Francis; Hazlett Jim; Rinaldo Anna-lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-chu; Akers Tony
Subject: RE: Warranty - wk1004

Hi Mike,

Ok so we would be making a decision to shorten the 21 day cure time based on Mack Moldings 21 day testing static's to date.

To date I understand from Mack Molding, they have had no failure on this testing.

Opinions would be welcome.

8/16/2011

regards,

Kevin..

Kevin Nutt
Lead Engineer
Cab Exterior
VOLVO 3P
Greensboro, NC.27104

Telephone: 336 393 3409
Telefax: 336 393 3003
kevin.nutt@volvo.com

From: Kane Michael
Sent: Tuesday, January 26, 2010 1:06 PM
To: Nutt Kevin
Cc: Komuves Francis; Hazlett Jim; Rinaldo Anna-lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-chu; Akers Tony
Subject: Warranty - wk1004

Kevin,

See attached, the latest warranty run on paid claims. So far the data still doesn't show any claims for trucks built after Sept, 2009.

Dean reported the following breakpt on the 21 day cure time....

"...Starting the 11th of Jan, 2010 Mack will have windows that have cured for 21 days and pressure test 5%. Follow Up. Can be tracked w/ "white label". Effective date of mfg on part label = 12/14/09"

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

From: Nutt Kevin
Sent: Tuesday, January 26, 2010 10:30 AM
To: Kane Michael
Cc: Meyer Dean; Les Martin; Brian Colton; Jack Katilius; Hsiao Ming-chu
Subject: RE: Sika Pricing

Mike,

Further to the subject below regarding 21 day cure time.

Please could you let us know if we have had any further spikes in claims, that may warrant us keeping the cure time before release to production at 21 days.

I would like to propose that this is reduced to two weeks max. But wanted to check with you first.

Jack,

Does two weeks help with this regard, considering we do have to protect for quality and claims.

Regards,

Kevin..

Kevin Nutt
Lead Engineer
Cab Exterior
VOLVO 3P
Greensboro, NC.27104

Telephone: 336 393 3409
Telefax: 336 393 3003
kevin.nutt@volvo.com

From: Jack Katilius [mailto:JKatilius@mackmolding.com]
Sent: Monday, January 25, 2010 4:17 PM
To: Hsiao Ming-chu
Cc: Nutt Kevin; Meyer Dean; Les Martin; Brian Colton
Subject: RE: Sika Pricing

Ming,

I am sorry; I did not understand what you were requesting.

I am finishing a series of quotations on the window assembly which will propose alternate adhesives and alternate processes in addition to the Sika adhesive now being utilized. There have been new pieces of information coming in constantly as to which material has passed what test, and which material will require what equipment and what process changes will be required etc... These alternatives are summarized below.

1. Sika ultrafast adhesive, one component adhesive,(as current) adding the use of a Sika "primer -209D" on the frame before the glass is adhesive assembled. Kevin Nutt will need to see and approve the performance data from this system before implementation.
2. Lord Adhesive #7542 C is a two component urethane product that requires a separate dispensing unit to utilize it with the current robotic equipment. We have this equipment in plant but need to adapt it to the current assembly set up. In addition to changing the dispensing equipment we will also have to change both the robotic fixtures and the dispensing mechanism since we will need to dispense the adhesive bead to the Frame instead of the Glass (as is done now) in order to eliminate the chance of squeeze out during assembly since this new adhesive material is Tan in color and will now be allowed to show either inside or outside of the assembly. This will also require the addition of a manually applied black cosmetic silicone bead between the outside edge of the glass and the frame to hide the tan structural adhesive.
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In the meanwhile, we are developing a separate issue related to the continued use of the current Sika material based on Volvo requirement that we hold assembled product for 21 days before we test and ship. This requirement was put in place at the end of 2009 to assure that only "fully cured" product left the plant. While we always thought this was extreme overkill, we implemented the requirement as requested. We are now getting "pull ins" from the NRV plant that we can not support because we do not have the excess inventory in 21 day curing loop. You will need to discuss this with both engineering and quality at Volvo to see if we can deviate around this requirement. We will be missing some of the pull in requests either this week or next so you may be hearing from the plant.

I will be in touch shortly with the above proposals. Please give me a call with questions!

Regards,

Jack Katilius
Mack Molding Company
704-878-9641
cell 864-360-7804

From: Hsiao Ming-chu [mailto:ming-chu.hsiao@volvo.com]
Sent: Monday, January 25, 2010 1:02 PM
To: Jack Katilius
Subject: RE: Sika Pricing
Importance: High

Hi Jack,

Thanks for the quote.

What is the mark-up for the the window assembly? I will greatly appreciate if you can advise me the final assembly price for 20582366 & 67? Thank you.

Best regards,

Ming

From: Jack Katilius [mailto:JKatilius@mackmolding.com]
Sent: Wednesday, January 20, 2010 2:26 PM
To: Hsiao Ming-chu
Subject: FW: Sika Pricing

Ming,
Here is the other half of the request you made on adhesives- this is the Sika pricing.

Jack Katilius
Mack Molding Company
704-878-9641
cell 864-360-7804

From: Jerry Wright [mailto:wright.jerry@sika-corp.com]
Sent: Wednesday, January 20, 2010 9:51 AM
To: Steve L. Compton
Subject: Sika Pricing

Steve,
Attached is the current pricing for the Ultrafast and Aktivator and then I added the Sika Primer 209D. Let me know if you have any questions or concerns?

Thank you,

Jerry Wright
Area Manager Carolinas - GA
Transportation/A&C
(704) 814-6522 - Off
(704) 351-6525 - cell
wright.jerry@sika-corp.com
www.sikaindustry.com

Lafon Tim (othy)

From: Kane Michael

Sent: Monday, February 01, 2010 4:10 PM

To: Kane Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-chu; Akers Tony

Subject: w1005-Sleeper Window QJ

Attachments: Action List.xls

All, See today's actions attached.

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

Item:	Action	Who	Comments/Findings	Status	Due
3	Return to Lab with recommended solution for independent validation testing.	Nutt	Start age testing w/ Lyon on the Lord adhesive. We start w/ cataplastm test first and this age testing will be done after. Acceptible test results from a Lord cataplastm test. Sika has brought a primer alternative to Volvo. Sika to provide test results by Friday 1/15. Need update on test results, & decision to go with Lord or Sika. 1/25: Lord adhesive is 8 wk leadtime. So, decision is to go w/ Sika Primer (2-3wk leadtime).	Follow Up	1008
8	AM strategy	Schlottman	Awaiting responses to # 14 & #15	Open	
13	Criticality applied to window for bonding	Nutt	Will apply it to the new release.	Open	1004
14	Mack Molding to provide Scope of vehicles affected by failures and recommended repair procedures.	Lafon	Issue letter to Mack Molding for response	Open	1002
20	Update bulletin to install old ventilated window w/ a new ventilated window.	Mochrie	USA34631.pdf (844-003)	Open	1006
21	New agreed upon cure time period.	Meyer/Nutt	Decide during visit 2/2	Open	1005
23	Sample parts availability	Hsiao	Discuss at visit	Open	1006
24	Conditional PPAP on deviation.	Meyer	Timeplan at visit	Open	1006

Lafon Tim (othy)

From: Nutt Kevin

Sent: Tuesday, February 02, 2010 10:49 AM

To: Kane Michael; Komuves Francis; Hazlett Jim; Rinaldo Anna-lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao Ming-chu; Akers Tony

Subject: RE: w1005-Sleeper Window QJ

Good morning All.

The deviation is in place to start using the Sika Primer 209D in replacement of the Sika Aktivator on the PC-PBT Window Frames.

We have an implementation review at Mack Molding today for the 209D.

As follows is the release package information, to assist with the closure of this QJ.

D-14281-30
K-11362-21

Old part numbers (window assemblies) 20582366 LH. 20582367 RH.

New part numbers (window assemblies) 21512736 LH. 21512737 RH.

New part number (Primer 209D Sika) 21512738.

Part Price increase per window, inclusive of all additional assembly setup requirements. \$4.00 per window.

If you have any further questions please let me know.

Best regards,

Kevin..

Kevin Nutt
Lead Engineer
Cab Exterior
VOLVO 3P
Greensboro, NC.27104

Telephone: 336 393 3409
Telefax: 336 393 3003
kevin.nutt@volvo.com

From: Kane Michael

Sent: Monday, February 01, 2010 4:10 PM

To: Kane Michael; Komuves Francis; Nutt Kevin; Hazlett Jim; Rinaldo Anna-lena; Lafon Tim (othy); Meyer Dean; Schlottmann Guenter; Musgrove Russell; Mochrie Bruce; McCleery Shawn; Miller Ricky; Hsiao

8/16/2011

Ming-chu; Akers Tony

Subject: w1005-Sleeper Window QJ

All, See today's actions attached.

Br//

Michael Kane

Case Manager - Cab Engineering

Volvo 3P - North America

336-393-3236

336-501-3552 (mobile)

8/16/2011

Lafon Tim (othy)

From: Kane Michael
Sent: Monday, February 15, 2010 2:59 PM
To: Lafon Tim (othy)
Subject: FW: Mack Molding / Volvo Summary - Sleeper side window
Importance: High
Attachments: mack_volvo_summary.ppt

Tim, FYI...Sika fact finding report attached. Nothing more was formally received from them.

Br//

Michael Kane
Case Manager - Cab Engineering
Volvo 3P - North America
336-393-3236
336-501-3552 (mobile)

From: Meyer Dean
Sent: Wednesday, November 25, 2009 8:58 PM
To: Rutt Barry; Kane Michael; Schlottmann Guenter; Hsiao Ming-Chu; Hazlett Jim
Subject: FW: Mack Molding / Volvo Summary - Sleeper side window
Importance: High

All,

Attached is the report rec'd vfrom SIKA today. It does not really highlight anything obvious and a lot of the info has already been gathered and known . We should schedule a short internal meeting week of 11/30 and form our questions and actions going forward.

Kevin Nutt has rec'd a copy from SIKA as well.

Regards,

Dean Meyer
Volvo 3P - SQD
7900 National Service Road
Greensboro, NC 27410

Office: 1.336.393.3860
Fax: 1.336.393.2203
Cell: 1.336.210.0952
Email: dean.meyer@volvo.com

From: Jerry Wright [mailto:wright.jerry@sika-corp.com]

8/16/2011

Sent: Wednesday, November 25, 2009 1:09 PM
To: Nutt Kevin; Brian Colton; Meyer Dean
Subject: Mack Molding / Volvo Summary
Importance: High

To all,

Attached is the Technical summary from Paul Gross. If you would like to discuss any part of the Power Point please let us know when you can discuss? Please feel free to call or email Paul, Mike, or myself at any time.

Thank you,

Jerry Wright
Area Manager Carolinas - GA
Transportation/A&C
(704) 814-6522 - Off
(704) 351-6525 - cell
wright.jerry@sika-corp.com
www.sikaindustry.com

Lafon Tim (othy)

From: Hsiao Ming-chu
Sent: Monday, February 22, 2010 10:34 AM
To: Lafon Tim (othy)
Cc: Nutt Kevin; Meyer Dean; Kane Michael; Williams Billy
Subject: FW: Sika Volvo history

Hi Tim,

Please see the summary report from Sika regarding the upper window history issues. If you have any question, please feel free to contact Michael Ferraiolo at 610 328-5998 or via ferraiolo.mike@sika-corp.com.

Best regards,

Ming

From: Mike Ferraiolo [mailto:ferraiolo.mike@sika-corp.com]
Sent: Friday, February 19, 2010 3:31 PM
To: Hsiao Ming-chu
Subject: Sika Volvo history

CONFIDENTIAL

Summary

- Sika begins bonding Volvo skylights at NRV plant 1999- Sikaflex 255FC (Sika proper cleaner at the time 226)
- Sika recommends Sika Aktivator on skylight glass and SMC rood 2001- ongoing- No failures every reported
- Sika works with Volvo Truck on concepts of bonding- current and new application: bonding & glazing 1999- ongoing
- Sika works with Volvo engineering in 2004-2005 on Xenoy frame bonding
- Sika offers all lab testing in accordance with Sika standard testing methods (document provided to Volvo and Mack Molding in 2005)
- Volvo does not give specific specs for testing (Sika TSR method used- disclosed to Volvo and Mack Molding in 2005)- No issues expressed by either parties
- 2005 Sika provides full testing document with recommend procedures (Sika best practices working instructions)- **offers training** and audits as allowed by Mack Molding (always discussed in phone and sit down meetings)
- Volvo testing of the final bonded frame (not known to Sika)
- 2005 Sika visits Mack Molding, SC Corp office and reviews Sika core competences and Sika system for glass bonding
- 2006-2009- Sika and Mack Molding disagreements on proper bead size and overall process
- Note on positive visit in 2007

"Keith Hutchins" <khutchins@mackmolding.com>

To "Mike Ferraiolo" <ferraiolo.mike@sika-corp.com>

cc

03/07/2007 02:30 PM

Subject Sika Visit

8/16/2011



SAFETY DEFECT DETERMINATION REQUEST

TO: Dennis Slagle

FROM: Tim LaFon

DATE: February 25, 2010

SUBJECT: Upper Sleeper Side Windows

Investigation #: Y2010-01; Recall #: RVXX1001

ABSTRACT: On Volvo VN 670 and 780 model vehicles manufactured from February 9, 2009 through December 31, 2009, the upper sleeper side window glass may become loose and fall out.

NUMBER OF VEHICLES: Approximately 3,000 vehicles.

The NA Product Safety Committee of Volvo Trucks North America has reviewed the above investigation and recommends a determination of the existence of a safety related defect.

FINAL DETERMINATION:

Recommendation accepted.

Recommendation rejected for the reason noted on attached.

Signed: _____

Date: _____

Please return form to:
Tim LaFon
Manager, Regulatory Affairs
Corporate Center 2nd floor
Greensboro, NC
timothy.lafon@volvo.com

Lafon Tim (othy)

From: Lafon Tim (othy)
Sent: Wednesday, March 03, 2010 3:23 PM
To: Delia.Lopez@dot.gov
Cc: Nate.Seymour@dot.gov; Kelly.Schuler@dot.gov
Subject: New Volvo Safety Recall, upper sleeper windows
Importance: High
Attachments: 20100303151123605.pdf

Hello Delia,
Attached is a new voluntary safety recall on the Volvo product.

Thanks and Best Regards,
Tim LaFon



Volvo Trucks North America

March 8, 2010

**Subject: New Safety Recall
RVXX1001, Upper Bunk Windows**

Attention:

Associate Administrator for Enforcement
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Submitted via Email to Delia Lopez

The following information is submitted in accordance with the requirements of 49 CFR Part 573.6 as it applies to a defect relating to motor vehicle safety.

573.6(c)(1)

Volvo Trucks North America ("Volvo")
7900 National Service Rd.
Greensboro, NC 27409

573.6(c)(2)

Certain Volvo model vehicles manufactured from February 9, 2009 through February 15, 2010.

The selection of vehicles was based on the suspect component's part number.

Model Affected: VNL
Model Year: 2010, 2011

Component Manufacturer:

Mack Molding Company
10769 Asheville Highway
Inman, SC 29349



573.6(c) (3)

There are approximately three thousand five hundred twenty six (3,526) vehicles affected by the recall of which there are two thousand nine hundred ninety one (2,991) that were sold in the United States.

573.6(c)(4)

The percentage of the 3,526 vehicles expected to contain the defect is unknown.

573.6(c)(5)

The adhesive used between the glass and window frame may debond allowing the glass to come loose and possibly fall out.

573.6 (c)(6)

Chronology of principle events that were the basis for the determination:

- | | |
|----------|---|
| 10/13/09 | Investigation opened as a result of customer reports. |
| 10/29/09 | Met with supplier, plan initiated to determine root cause. |
| 11/7/10 | Process improvements made by supplier based on review of manufacturing process. |
| 11/25/09 | Initial report received from supplier on possible root cause, test proceeding. |
| 12/18/09 | Additional information received from supplier on root cause. |
| 1/12/10 | Testing completed, results published. |
| 2/16/10 | Investigation completed, scope identified. |
| 2/26/10 | Volvo determines that a safety related defect exists. |
| 3/3/10 | NHTSA notified that Volvo will initiate a voluntary safety recall |

There are a total of two hundred fourteen (214) warranty claims that may be related to the defect.



573.6(c)(7)
Not applicable

573.6(c)(8)
Volvo will initiate a voluntary owner notification, and recall all 3,526 vehicles.

The recall repair will consist of inspecting and replacing the window as required.

Reimbursement for cost incurred by the owner for "prenotification remedies" will be addressed on a case-by-case basis according to the "General Plan for Reimbursement of Pre-notification Remedies" which was published December 8th, 2004.

The number, which has been assigned to this recall by Volvo, is **RVXX1001**.

A Safety Recall Alert will be released to dealers on or before March 5, 2010, which informs the dealers of the recall. Owner letters are tentatively scheduled to be mailed on or before May 26, 2010.

An advance copy of the owner letter will be submitted to NHTSA for review and approval prior to release to the owners.

If there are any questions regarding this information, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim L. LaFon".

Tim L. LaFon
Manager, Regulatory Affairs
Volvo Trucks North America
P.O. Box 26115
Greensboro, NC 27409
timothy.lafon@volvo.com
(336) 393-2233

Lafon Tim (othy)

From: Delia.Lopez@dot.gov
Sent: Wednesday, March 03, 2010 3:30 PM
To: Lafon Tim (othy)
Subject: RE: New Volvo Safety Recall, upper sleeper windows

Thanks you will receive an acknowledgment next week.

From: Lafon Tim (othy) [mailto:timothy.lafon@volvo.com]
Sent: Wednesday, March 03, 2010 3:23 PM
To: Lopez, Delia (NHTSA)
Cc: Seymour, Nate (NHTSA); Schuler, Kelly (NHTSA)
Subject: New Volvo Safety Recall, upper sleeper windows
Importance: High

Hello Delia,
Attached is a new voluntary safety recall on the Volvo product.

Thanks and Best Regards,
Tim LaFon

Lafon Tim (othy)

From: Lafon Tim (othy)
Sent: Wednesday, March 03, 2010 3:49 PM
To: Lafon Tim (othy); Ahtia Pasi; Bachmeier Dave; Bickel Michael; Billie Joseph; Bird Charles; Blue Vanessa; Brumley Michael; Buchinsky Stephen; Cary Philip; Culver Ken (neth); Curri Mark; Day Steve (n); Gossler Chris; Hasting Ray; Holderfield Greg (ory); Keen Rick; Keener Debbie; Keesee Doug; Landis Gerald; Lindley Vince (nt); Lytton Dewey; 'Maliar Dennis'; Marsh Wes (ley); McCleery Shawn; McNamara Jim; Montgomery John; Narain David; Neal Frank (a); Oppe Maurice; Orsulak Joseph; Pouison Jerry; Rose Bob; Schlottmann Guenter; Sherbrick Victor; Smith Alan; Smith Debbie; Smith Harold; Walker Allen; Zuback Alexander; Neese Mark; Martin Robert; Marshall Rick; Campbell Archie; Tollis Angelo; Spradlin Warren; Pollock Kevin; Hones Gerard; Anderson Joseph; Decker John; Komuves Francis; Morel Wendy; Gioppo Jones; Hartzell David; Gordon Terry; Halas Jonathan; Turnbull Andy; Gose Janice; Bell Richard; Billings Terry; Bio Frank; Britt Martha; Broadmeadow Herb (ert); Brown Charles; Buick Bob; Coffron Bill; Conaghan Jack; Cook Lawrence; Davis Ken; Denny Jeff (rey); Edwards Bill; Fancher Jim; Feaster Selwyn (a); Friend Doug (las); Galea Joe; Gaudreau Nicole; Girard Carol; Gruber Seth; Gustafsson Gus; Hartung Trevin; Hensinger Scott; Hollinger Kurt; Hubbart Bill; Johnson Tom; 'Kraemer Michael'; Lambeth Ray; Lambrecht Paul; Lester Jeff (rey); Matteson Steve; Maxwell Pam (ela); McCormick Randy; Moore Gigi; Natal Silda; Parten Scott; Popham Richard; Reid David; Riley Ed (ward); Saxman Ed; Setliff Dennis; Shehan John; Simpson Rob; Smith Sue (a); Spence Peter; Tedder Russ (ell); Thomas William; Truta Mike; Walsh Philip; Weary Brent; Hones Gerard; Lamarche Donna; 'Hartigan Michael'; Campbell Archie; Mayer Mark; Shearer David; Weatherly Doug; Schaefer Skip; Kane Michael; Gose Janice; McMahan Carole; Hones Gerard; Petersen Pat
Cc: Besson Patrick (b); Carlsson Per; Collignon Patrick; Dawson Bill; Flaherty Kevin; Frisk Klas; Holmström Torbjörn (s); Jandrasits James; Janis Stan; Karlsson Stefan; Kohle Tommy; Mies John; Miller Jonathan; O'Keefe Gene; Oom Kenneth; Persson Bengt (i); Pickett Therence; Scharf Heino; Slagle Dennis; Wallström Sven; Walsh John; Quarter Dirk; Nilsson Carl; Hungria Carlos (r)
Subject: RE: Volvo Safety Recall Information, RVX1001 Upper Sleeper Window
Importance: High
Attachments: 20100303151123605.pdf

NEW Volvo Safety Recall, RVXX1001 Upper Sleeper Window

Colleagues,

I have just informed NHTSA and Transport Canada of this new safety recall. Since this information will be made public, it is likely that attorneys, insurance agencies, and/or the press could contact any of us; in those cases we should inform them to contact our communications department (i.e. John Walsh).

I have provided a brief summary along with the Information Report that was sent to NHTSA.

If you need further information, please feel free to give me a call.

Best Regards,
Tim LaFon
(336) 393-2233

Summary:

Description of Defect:

The adhesive used between the glass and window frame may debond allowing the glass to come loose and possibly fall out.

Models/ Model Years Affected:

VNL/ 2010 AND 2011

Vehicle Quantities:

Approximately 3,526 vehicles (2,991 US, 535 Canada)

Repair:

The recall repair will consist of inspection and replacement as required.

Release Schedule:

A Safety Recall Alert will be released to dealers on or before March 5, 2010, which informs the dealers of the recall. Owner letters are tentatively scheduled to be mailed on or before May 26, 2010.

Supplier/Part Numbers:

Mack Molding Corporation for the assembly, Sika for the adhesive/ 20582366 LH. 20582367 RH



2010030315112360
5.pdf (519 KB)...



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

1200 New Jersey Avenue SE
Washington, DC 20590

March 10, 2010

TIMOTHY LAFON
REGULATORY COMPLIANCE ADMINISTRATOR
MACK TRUCKS, INC
PO BOX 26115
GREENSBORO NC 27402

NVS-215dgl
10V-086

Subject: UPPER BUNK WINDOWS

DEAR MR. LAFON:

This letter serves to acknowledge Volvo Truck's notification to the National Highway Traffic Safety Administration (NHTSA) of a safety recall which will be conducted pursuant to Federal law for the vehicles listed below.

Please review the following information to ensure that it conforms to your records as this information is being made available to the public. If the information does not agree with your records, please contact us immediately to discuss your concerns.

Makes/Models/Model Years:
VOLVO/VNL/2010-2011

Mfg's Report Date: March 3, 2010

NHTSA Campaign Number: 10V-086

Components: VISIBILITY: POWER WINDOWS DEVICES AND CONTROLS

Potential Number of Units Affected: 3,526

Summary:

VOLVO TRUCKS IS RECALLING CERTAIN MODEL YEAR 2010-2011 VNL TRUCKS. THE ADHESIVE USED IN THE UPPER WINDOW IN THE BUNK AREA TO SECURE THE GLASS MAY DEBOND.

Consequence:

THIS COULD ALLOW THE GLASS TO COME LOOSE AND POSSIBLY FALL OUT INCREASING THE RISK OF A CRASH.

Remedy:

DEALERS WILL INSPECT AND REPLACE THE WINDOW AS REQUIRED FREE OF CHARGE. THE SAFETY RECALL IS EXPECTED TO BEGIN ON OR BEFORE MAY 26, 2010. OWNERS MAY CONTACT VOLVO TRUCKS AT 1-800-528-6586.

Notes:

VOLVO RECALL NO. RVXX1001. OWNERS MAY ALSO CONTACT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION'S VEHICLE SAFETY HOTLINE AT 1-888-327-4236 (TTY 1-800-424-9153), OR GO TO [HTTP://WWW.SAFERCAR.GOV](http://www.safercar.gov).

The information in your defect report appears to satisfy the requirements of 49 CFR 573.6.

Please provide the following additional information and be reminded of the following requirements:

You are required to submit a draft owner notification letter to this office no less than five days prior to mailing it to the customers. Also, copies of all notices, bulletins, dealer notifications, and other communications that relate to this recall, including a copy of the final owner notification letter and any subsequent owner follow-up notification letter(s), are required to be submitted to this office no later than 5 days after they are originally sent (if they are sent to more than one manufacturer, distributor, dealer, or purchaser/owner).

As stated in Part 573.7, submission of the first of six consecutive quarterly status reports is required within 30 days after the close of the calendar quarter in which the campaign was initiated. Thereafter, quarterly reports will be due on or before 30 days after close of the calendar quarter.

Your contact for this recall will be Delia Lopez who may be reached by phone at 202-366-9525, or by email at Delia.lopez@dot.gov, or through the office email at RMD.ODI@dot.gov. We look forward to working with you toward a successful completion of this recall campaign.

Sincerely,

A handwritten signature in black ink, appearing to be 'GHP', with a long horizontal flourish extending to the right.

George H. Person
Chief, Recall Management Division
Office of Defects Investigation
Enforcement

Lafon Tim (othy)

From: Mark Wheeler [wheeler.mark@sika-corp.com]
Sent: Thursday, March 11, 2010 8:29 AM
To: Lafon Tim (othy)
Cc: Nutt Kevin
Subject: Sika Primer 209 D Testing Results
Attachments: volvo_humidity_data_1_20.xls

Tim,

Per our conversation, I have attached the Sika Technical Report for the identification of use of Sika Primer 209 D. If I may be of further assistance, please do not hesitate to contact me.

Best regards,

Mark C. Wheeler
Eastern Area Manager
Transportation and Components Business Unit
Sika Corporation
Mobile 410.430.3332

2

NovaPoly: Bonded after 72 hr 60C exposure

2.a NovaPoly, treated with Sika Aktivator + SikaTack Ultrafast to OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	2.a.1	5	5	5	5	5	5
60C/100%rh	2.a.2	1	1	4	5	5	5
40C/100%rh	2.a.3	1	1	1	1	3	5
30C/100%rh	2.a.4	1	1	1	1	1	1

2.b NovaPoly, treated with Sika Aktivator + SikaTack Ultrafast to non-OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	2.b.1	5	5	5	5	5	5
60C/100%rh	2.b.2	1	1	1	5	5	5
40C/100%rh	2.b.3	1	1	1	1	3	5
30C/100%rh	2.b.4	1	1	1	1	1	1

2.c No Test to Mack Molding Glue Channel

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	2.c.1						
60C/100%rh	2.c.2						
40C/100%rh	2.c.3						
30C/100%rh	2.c.4						

2.d NovaPoly, treated with Sika Aktivator + Sikaflex-255FC to non-OE bond area of frame

Exposure		24 hr	48 hr	96 hr	168 hr	336 hr	504 hr
80C/100%rh	2.d.1	4	5	5	5	5	5
60C/100%rh	2.d.2	1	1	4	5	5	5
40C/100%rh	2.d.3	1	1	1	1	2	2
30C/100%rh	2.d.4	1	1	1	1	1	1

Lafon Tim (othy)

From: Lafon Tim (othy)
Sent: Friday, March 19, 2010 9:14 AM
To: wheeler.mark@sika-corp.com
Cc: Nutt Kevin; Gose Janice
Subject: FW: Upper Sleeper Window Recall
Importance: High

Hello Mark,

We need some assistance with the aftermarket repairs. We want to make sure that the correct material is used, as stated below, by our dealers when the repair is made. Also, I don't know whether this material is readily available in the aftermarket. Instruction and use is also a factor. My initial thought is that we need a kit with just enough material to do one vehicle and instructions on how to apply the material provided in the kit. It would be ideal if you have a kit available that can be ordered by Volvo's dealers.

We are looking to release this in early May and there are approximately 3,000 vehicles to do. Can you please give some thought to this and let me know whether you can offer a kit to support the recall? Also, other suggestions are most welcome.

Thanks and Best Regards,
 Tim

From: Nutt Kevin
Sent: Thursday, March 18, 2010 11:08 AM
To: Lafon Tim (othy); Kane Michael
Cc: Gose Janice; Komuves Francis; Miller Ricky
Subject: RE: Upper Sleeper Window Recall

Window Assemblies :- 21512736 / 21512727

50/50 Isopropanol / water mix to clean the bond flange on the frame (no Number)

Adhesive Primer for the window frame flange only:- 21512738

Adhesive :- 8083308

On the roof bond flange the existing adhesive is paired down to approx 1-1.5mm and the fresh adhesive is applied directly to the old.

The numbers I have offered here are Production part numbers, and may differ from those specified for after market.

BR,

Kevin..

Kevin Nutt
 Lead Engineer
 Cab Exterior
 VOLVO 3P
 Greensboro, NC.27104

8/16/2011

Telephone: 336 393 3409

Telefax: 336 393 3003

kevin.nutt@volvo.com

From: Lafon Tim (othy)

Sent: Thursday, March 18, 2010 10:01 AM

To: Nutt Kevin; Kane Michael

Cc: Gose Janice

Subject: Upper Sleeper Window Recall

Importance: High

Gentlemen,

I need a complete materials list for the aftermarket repairs. What I know thus far is that we will need the windows 21512736 LH. and 21512737 RH. What I don't know is what is required to install the windows, such as adhesive, clips etc.

Thank you and Best Regards,
Tim

8/16/2011

Lafon Tim (othy)

From: Mike Ferraiolo [ferraiolo.mike@sika-corp.com]
Sent: Sunday, April 18, 2010 10:52 PM
To: Lafon Tim (othy)
Subject: RE:work instruction Summary
Attachments: Volvo Repair of Xenoy Frame 4-10.doc

Tim.

Please note my draft summary to review.

Michael Ferraiolo
East Region Sales Manager
Sika Transportation & Components Business Unit
ferraiolo.mike@sika-corp.com
610 328-5998 Office
www.sikaindustry.com

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"Lafon Tim (othy)" <timothy.lafon@volvo.com>

To Mike Ferraiolo <ferraiolo.mike@sika-corp.com>

cc

04/15/2010 09:46 AM

Subject RE:work instruction

Hell Mike,

Attached is the work instruction that we spoke of. Can you please review this and respond back with any corrections/ changes?

Thanks and Best Regards,
Tim

[attachment "20100415094306503.pdf" deleted by Mike Ferraiolo/Sika-Corporation/US/SIKA]

8/16/2011

To: Tim Lafon **Cc:**
From: Mike Ferraiolo- Sika Eastern Regional Manager
Date: 4/15/10
Subject: Volvo Roof sidelight repairs

Volvo Truck NA- Greensboro, NC

Sika Corp USA was requested to participate in repair of to Volvo NA Truck's Xenoy frame failures at national dealer network –

- 3,000 trucks (6,000 frames) to be replaced

➤ **Sika actions:**

- Assist on proper Mack Molding and aftermarket/dealer working instructions
COMPLETED
- Review Volvo Corp's version of repair working instructions ONGOING
- Introduce Volvo to Sika's National aftermarket replacement partner
Belron/Safelite WEEKOF April 19th
- Sika to possible offer Sika AGR reps throughout NA to visit key dealer for repair
training- ONGOING
- Sika to prepare distribution of needed products
- Volvo and Sika meeting to launch program – WEEK OF APRIL 19th

➤ **Volvo actions:**

- Volvo provided aftermarket procedures- Sika to review and respond ASAP
- Meet with Belron/Safelite- ASAP





To: Parts Managers

Bulletin:
Issue Date:
Expiration:

PSM or PMC
March 22, 2010
April 23, 2010

From: Brian Tomko
Volvo Brand Manager
Phone: (336) 393-2599
brian.tomko@volvo.com

VOLVO
GENUINE
PARTS

Subject: **Upper side window – Scrap (20582366 and 20582367)**

Pgm # / Blanket PO:

It has been brought to Volvo's attention that some upper side windows provided are having problems with the adhesive used between the glass and window frame, which may debond, allowing the glass to come loose and possibly fall out. As a result, we ask that you review all upper side windows in your inventory using the instruction that follows. Upper side windows identified as per below should be rejected and scrapped. We apologize for this inconvenience.

Inspection Instructions:

Upper side windows with part numbers 20582366 and 20582367 that are dated 11-01-09 and earlier are to not be used and scrapped. Locate the date code on the white label and any upper side window with a date code of "**11-01-09 or earlier**" is to be scrapped (see attached picture for date code location and description). If there is **no white label date code** on the window it is also not to be used and scrapped.

The District Parts Manager must notify Lisa-Lewis Durica that the parts have been scrapped at the dealer location before the claim will be paid.

Claim Instructions (if necessary):

*All stock of upper side windows, part numbers 20582366 and 20582367 with a date code earlier than "11-01-09" or without a white label date code should be removed from inventory and scrapped by April, 23, 2010. **Upper side windows with a label and a date code later than 11-01-09 are good and should not be scrapped.***

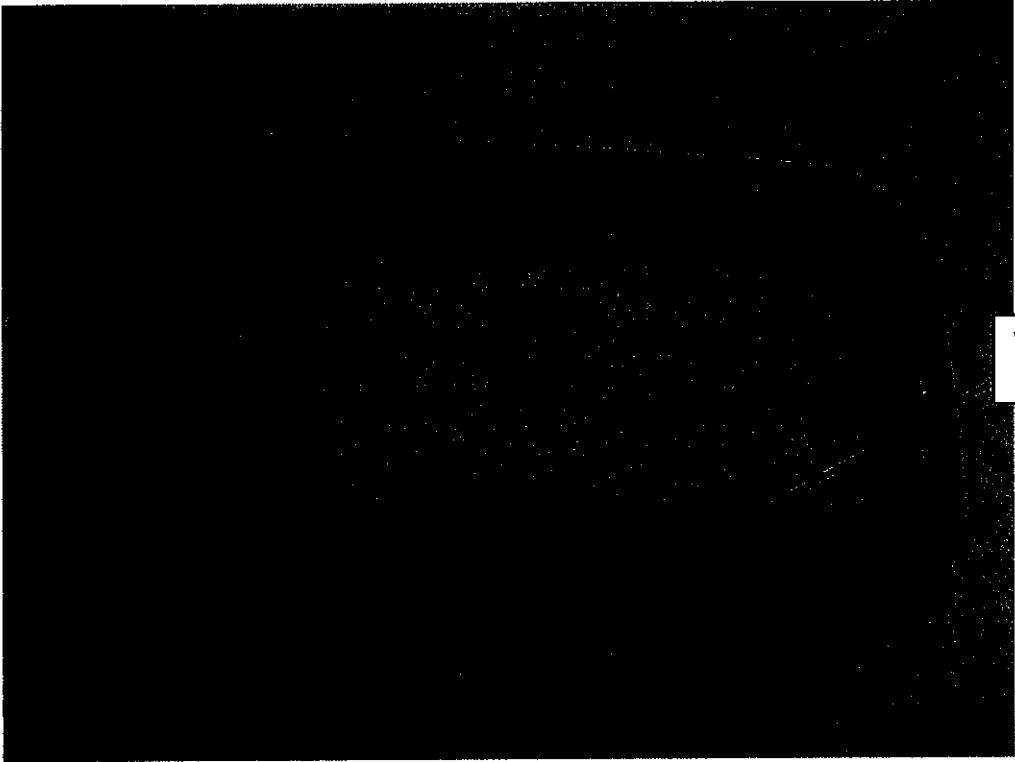
A "defective parts discrepancy claim" using reason code **62** and "**scrap**" in the comments section must be filed before **April 23, 2010** to receive credit for current dealer inventory. All defective upper side windows are to be scrapped.

You are also requested to notify associate and sub-dealers of this request. Lisa Lewis-Durica at 740-549-6449 is the PDC contact (lisa.lewis@volvo.com).

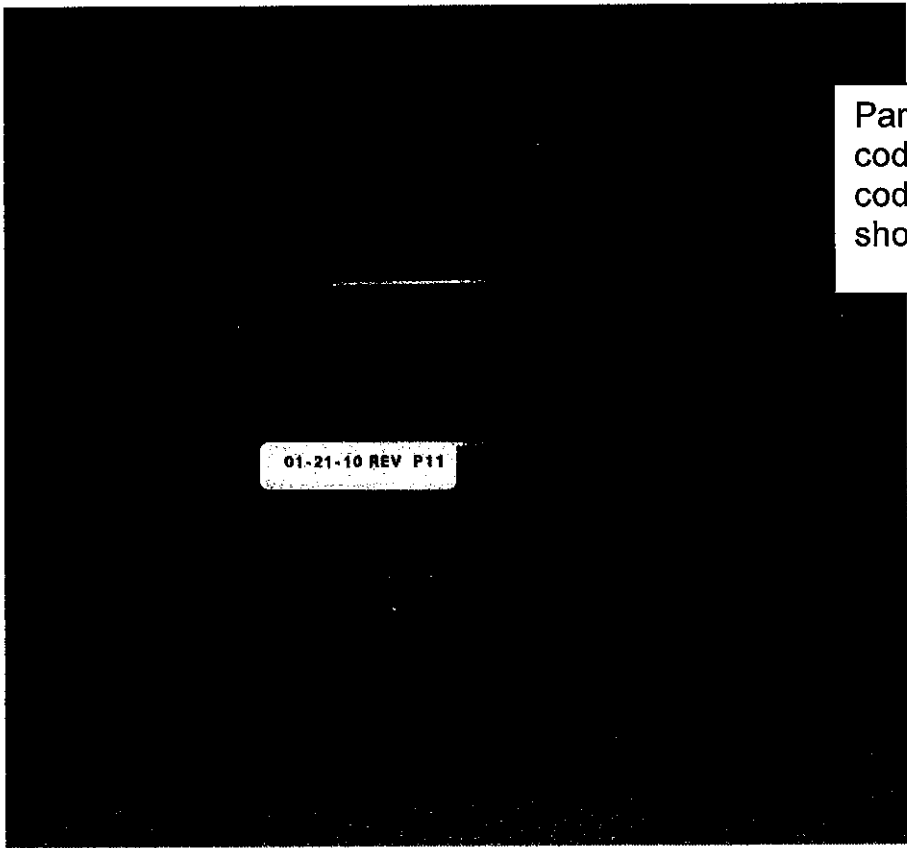
Instructions:

Refer to the Truck Dealer Portal

- <http://www.trucksdealerportal.com/tdp/dual-us/en-du/parts/partssupport/policyproceduremanual/volvopartsoperationsmanual/volvopartsoperationsmanual.htm>
- Defective Volvo Parts (Chapter 9-6)



White label date code



01-21-10 REV P11

Parts without a white label date code or with a white label date code of "11-01-09" or earlier should not be used and scrapped



273 Industrial Dr. ♦ Hillsdale, MI 49242 ♦ Phone: (517) 439-1485 ♦ Fax: (517) 439-1652

MACK MOLDING COMPANY

149 Water Tank Road
Statesville, NC 28677

ATTN: Brian Colton

Adhesion Promoter Thickness by Microscopical Examination of Cross Section

Test Materials: Customer Supplied and Prepared Window Frames (4) and Glass w/ Glue (1)

ACT Quote Number: AQT67426
ACT Project Number: AIN199968
Customer P.O. Number: P71151

Test Materials Received: 05/06/10

Prepared By: KWW
Date Prepared: 05/25/10
Logbook: KWW-1, p. 9

APPROVED BY:

Kevin Wendt
Technical Manager

Signed for and on behalf of
ACT Test Panels LLC

Page 1 of 17

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www.acttestpanels.com

LABORATORY TEST REPORT

ACT PROJECT AIN199968

Sample Descriptions:

Frame	Location	Description
1	1	Correct application
	2	Correct application
	3	Excessive application
	4	Excessive application
2	5	Adhesive failure - frame
3	6	Adhesive failure - frame
4	7	Adhesive failure - frame
	8	Adhesive failure - frame
Window Glass	9	Adhesive failure - window
	10	Adhesive failure - window

Evaluation #1: Adhesion Promoter Thickness by Microscopical Examination of Cross Section

Test Date: 05/17/10-05/25/10

Test Method: ASTM B 487-07

Number of Samples: 5 (Frames #1-4 and window glass)

Number of Locations: 10 (8 from frames and 2 from window glass)

Instrument: Nikon Optiphot Microscope (LEQP 0086)

Areas of Interest: Customer marked areas on glue channel (frames) and glued areas attached to window glass (see photographs)

Procedure: A portion of the sample is cut and cold mounted. The cross section mount is then prepared by suitable techniques of grinding and polishing. A representative thickness of the adhesion promoter at one location is measured with an optical microscope at 250X or 750X. If there are different thicknesses from side to side of the area of interest, then more than one measurement is taken.

mil: 0.001 Inch

LABORATORY TEST REPORT

ACT PROJECT AIN199968

Adhesion Promoter Thickness by Microscopical Examination of Cross Section Test Data:

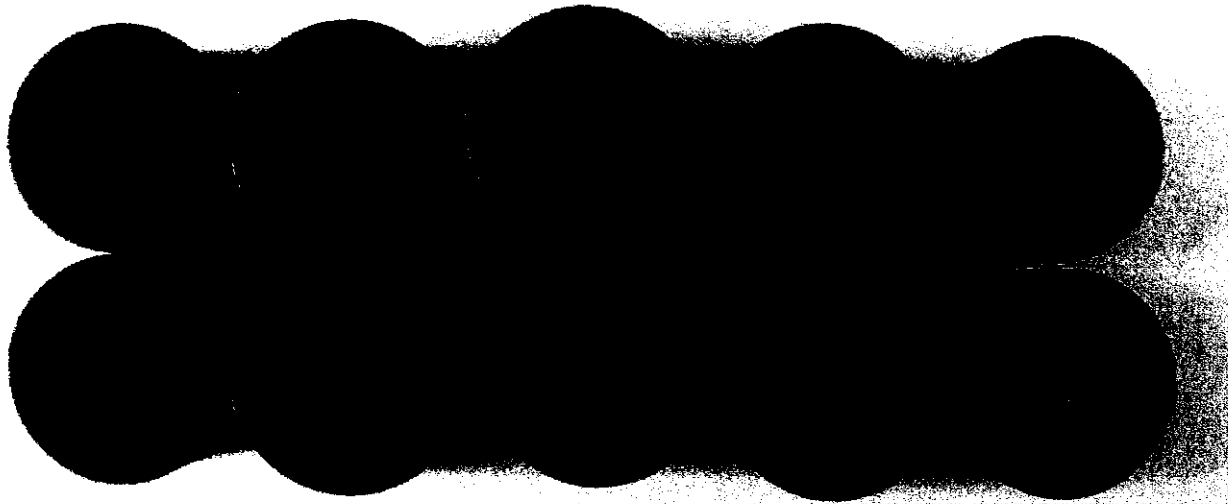
Frame	Location	Adhesion Promoter Thickness (mils)
1	1	Not detectable
	2	0.48
	3	0.53
	4-Side 1	0.49
	4-Side 2	0.04
2	5-Side 1	0.35
	5-Side 2	0.06
3	6-Side 1	Not detectable
	6-Side 2	0.02

Frame	Location	Adhesion Promoter Thickness (mils)
4	7	Not detectable
	8-Side 1	0.15
	8-Side 2	Not detectable
	8-Side 3	4.91*
	8-Side 4	Not detectable
Window	9	0.63
	10	Not detectable

* Possibility of glue included in measurement

Note: The resolving power for an optical microscope is ≥ 0.08 mils (2 μm), meaning measurements below 0.08 mils may not be accurate.

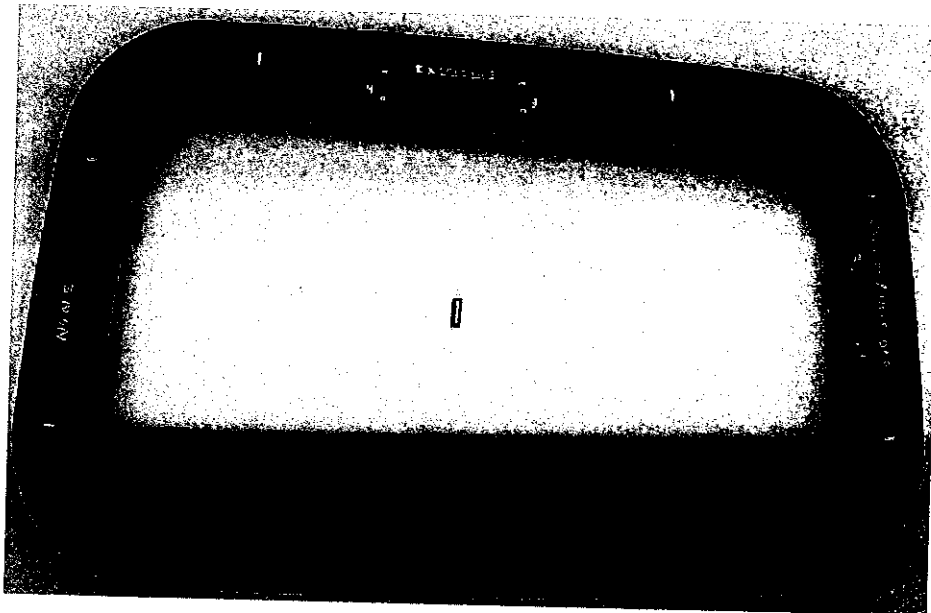
Photograph of Test Locations:



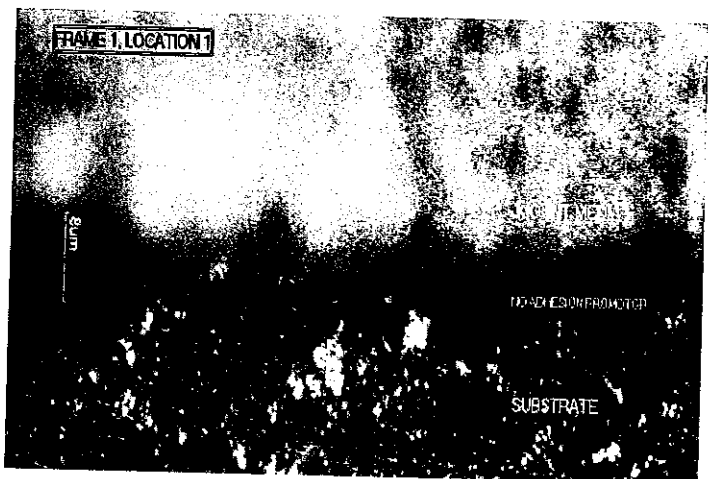
LABORATORY TEST REPORT

ACT PROJECT AINI99968

Photographs:



Frame 1



Location 1

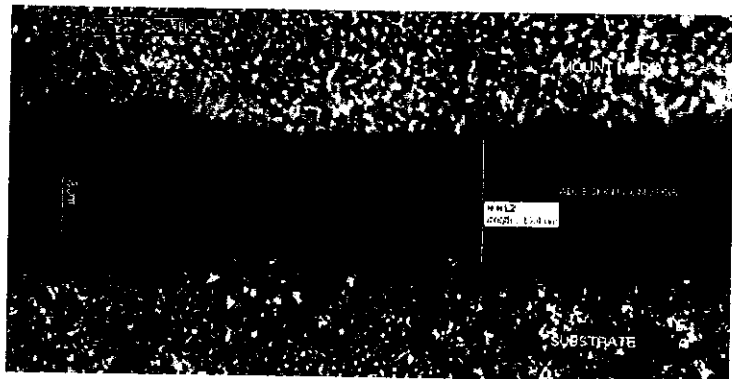
LABORATORY TEST REPORT

ACT PROJECT AIN199968

Photographs (cont.):



Location 2

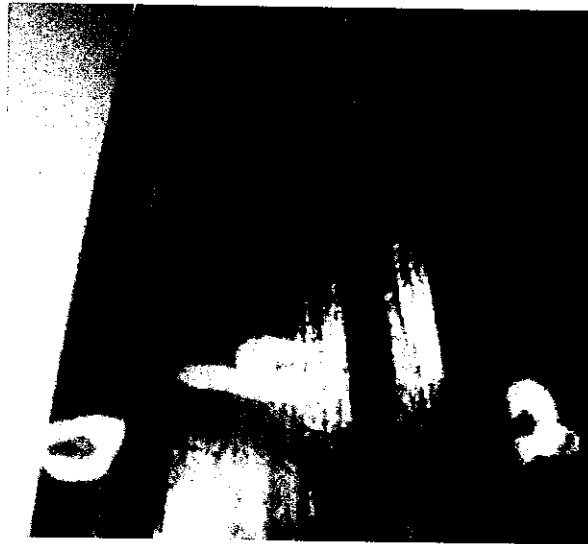


Location 3

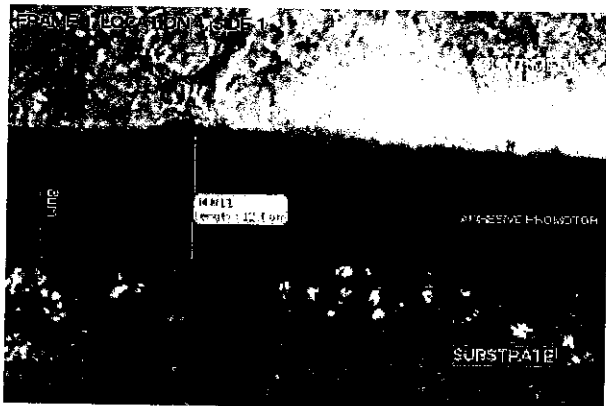
LABORATORY TEST REPORT

ACT PROJECT AIN199968

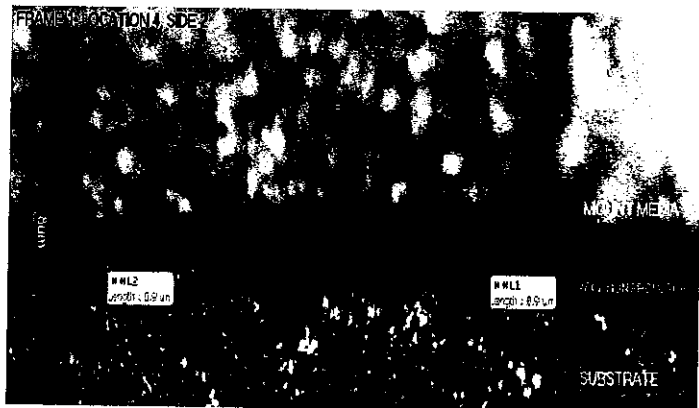
Photographs (cont.):



Location 4



Location 4 – Side 1

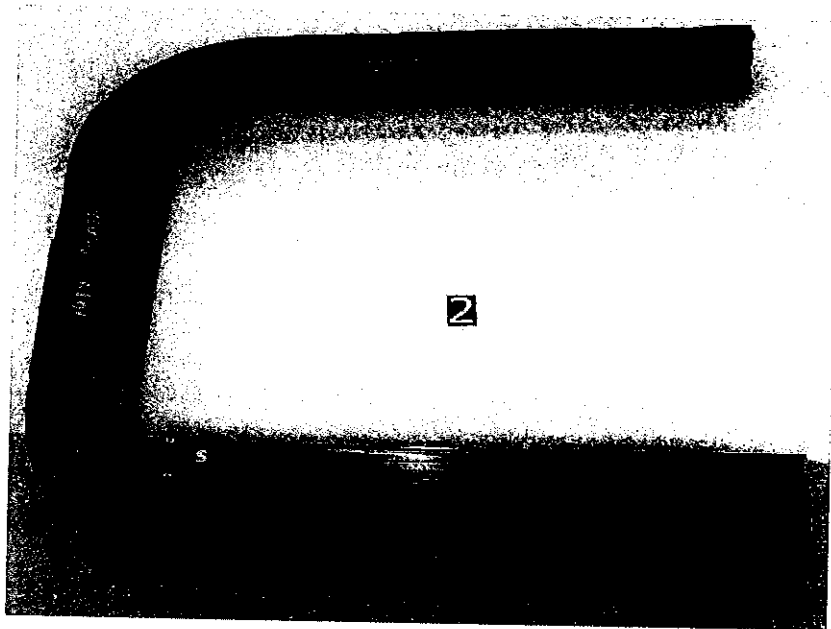


Location 4 – Side 2

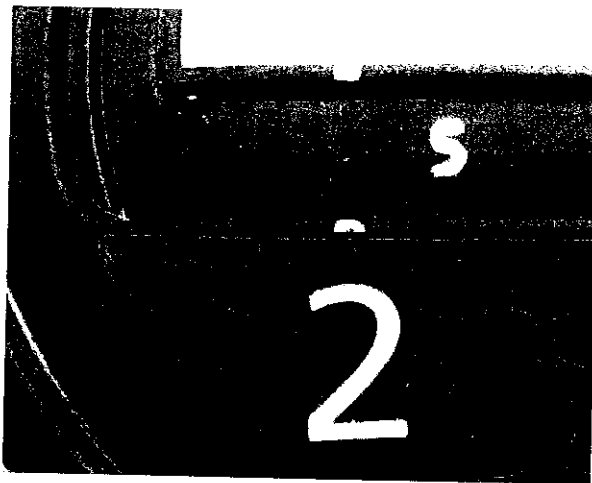
LABORATORY TEST REPORT

ACT PROJECT AIN199968

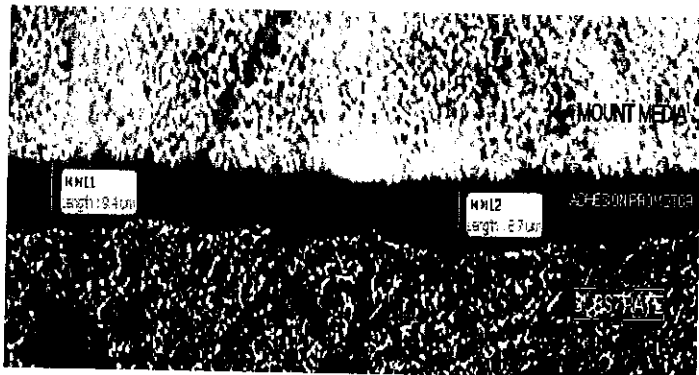
Photographs (cont.):



Frame 2



Location 5

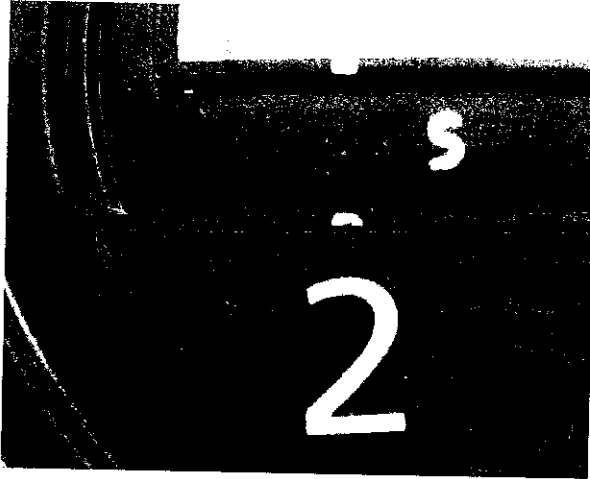


Location 5 – Side 1

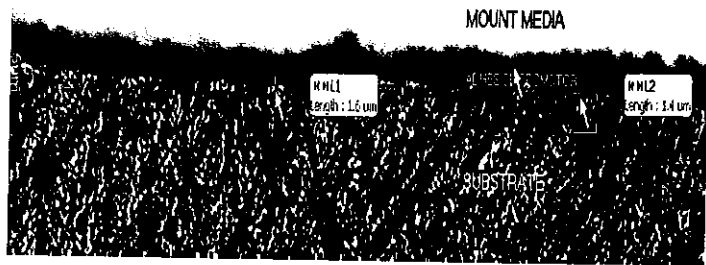
LABORATORY TEST REPORT

ACT PROJECT AINI99968

Photographs (cont.):



Location 5

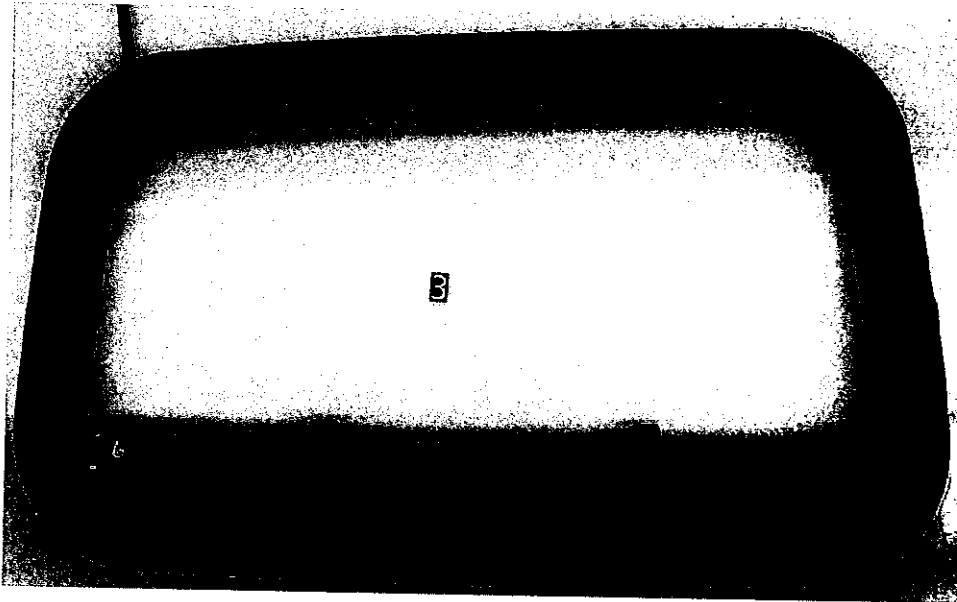


Location 5 – Side 2

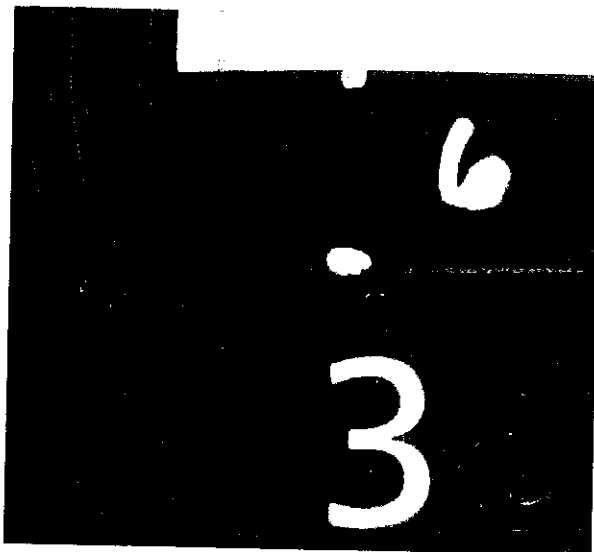
LABORATORY TEST REPORT

ACT PROJECT AIN199968

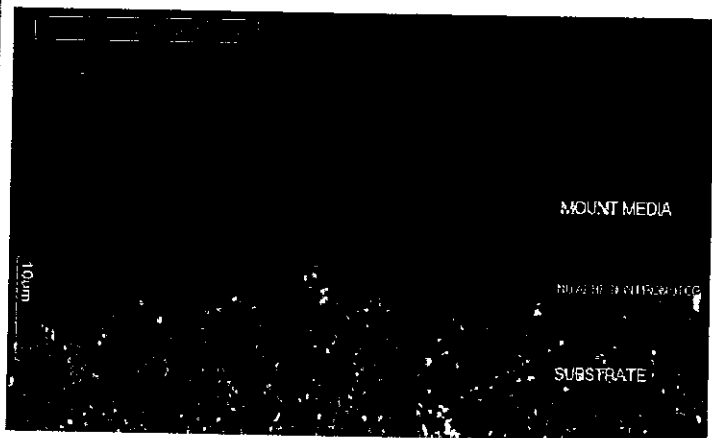
Photographs (cont.):



Frame 3



Location 6

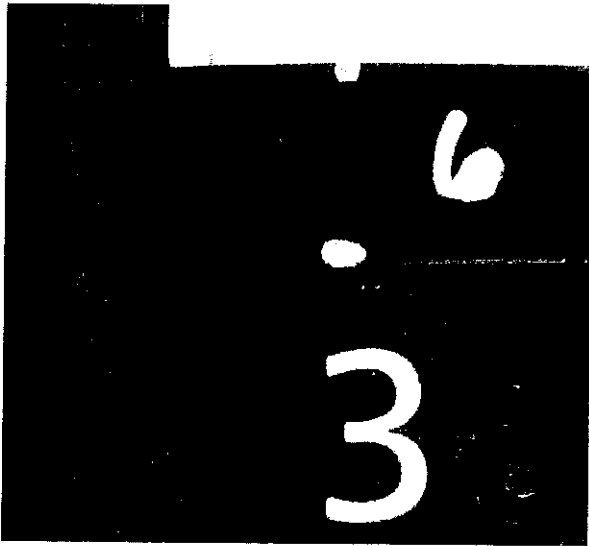


Location 6 – Side 1

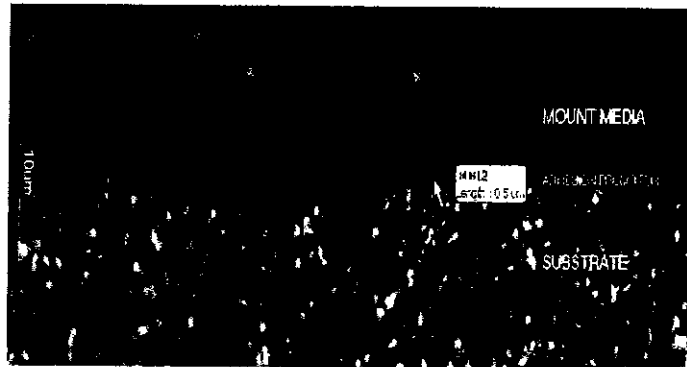
LABORATORY TEST REPORT

ACT PROJECT AIN199968

Photographs (cont.):



Location 6

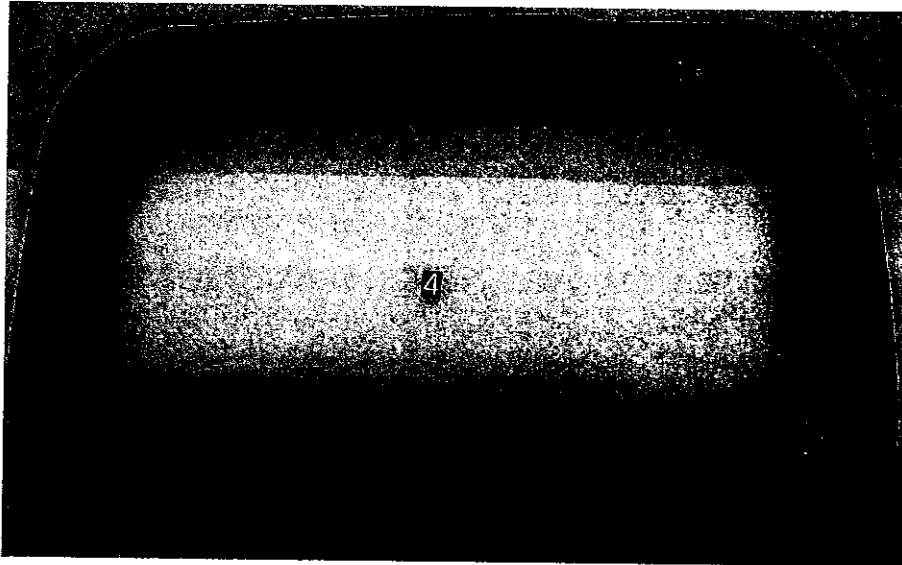


Location 6 – Side 2

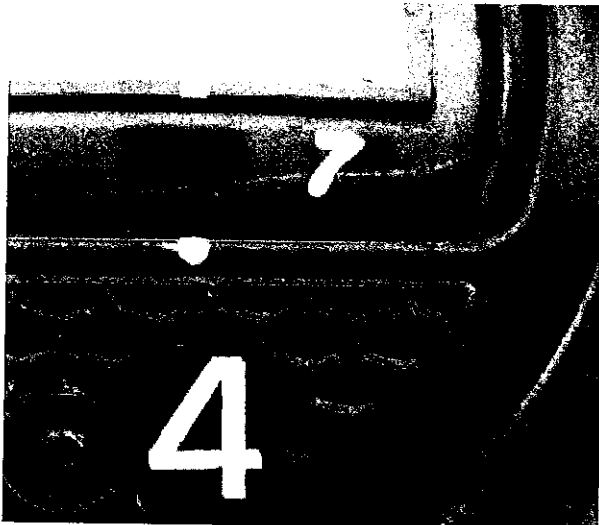
LABORATORY TEST REPORT

ACT PROJECT AIN199968

Photographs (cont.):



Frame 4

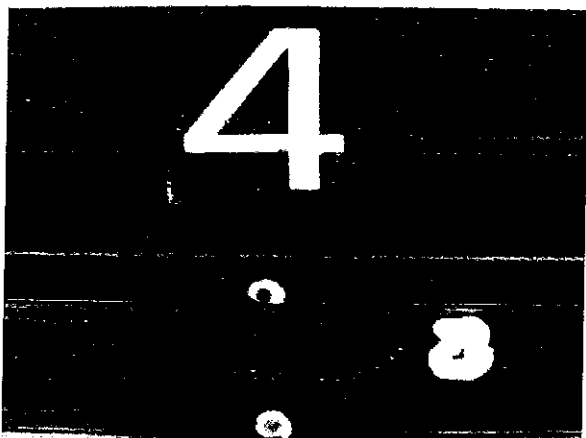


Location 7

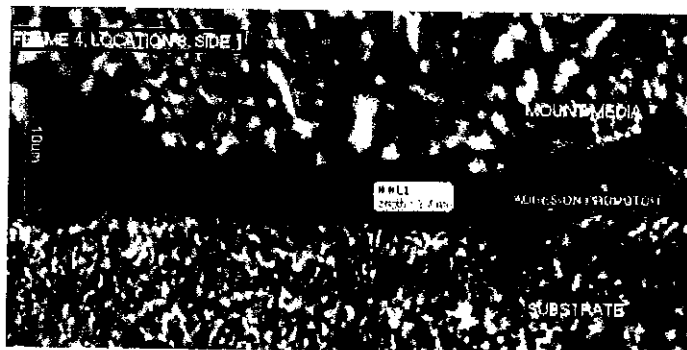
LABORATORY TEST REPORT

ACT PROJECT AIN199968

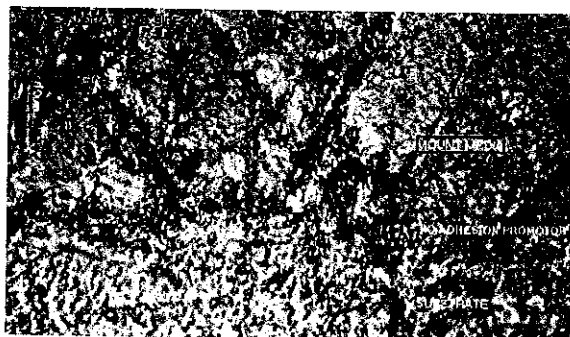
Photographs (cont.):



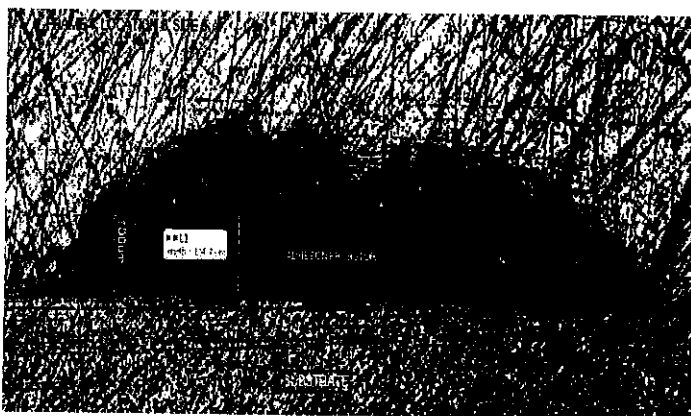
Location 8



Location 8 – Side 1



Location 8 – Side 2



Location 8 – Side 3

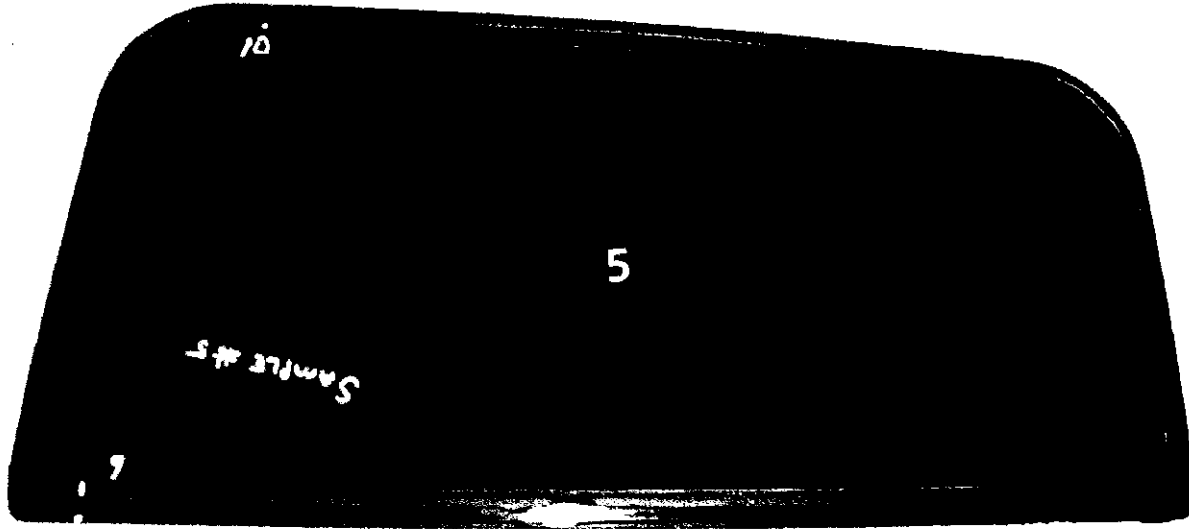


Location 8 – Side 4

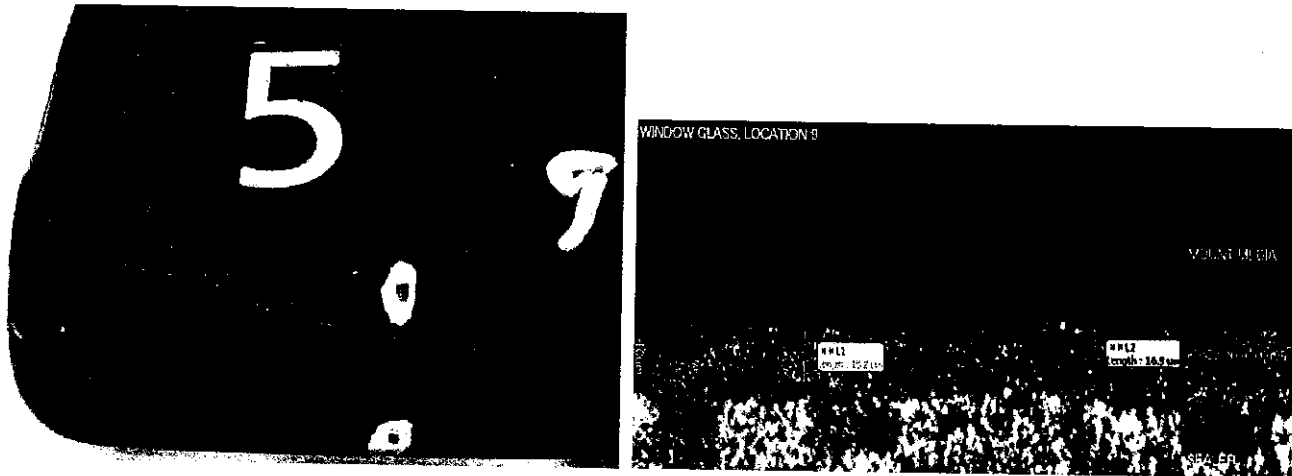
LABORATORY TEST REPORT

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Photographs (cont.):



Window

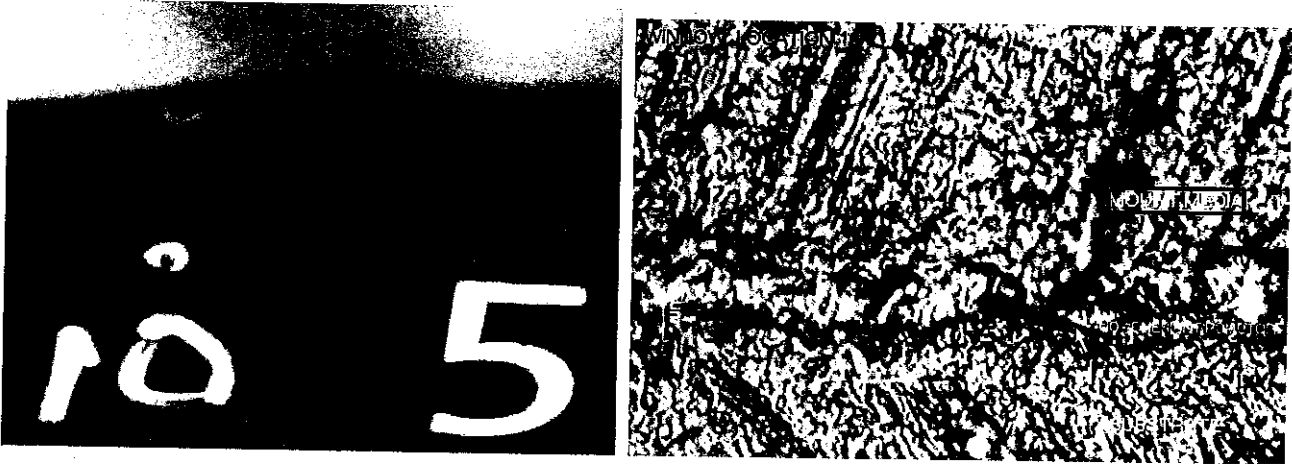


Location 9

LABORATORY TEST REPORT

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Photographs (cont.):



Location 10

LABORATORY TEST REPORT

ACT PROJECT AIN199968

TERMS AND CONDITIONS OF SALE

1. ACCEPTANCE:

All orders and sales contracts are subject to acceptance or rejection by Seller and are not binding on Seller unless and until so accepted. Acceptance of an order by Seller constitutes a complete and binding contract governed by the terms and conditions of sale appearing herein and by the laws of the State of Michigan. Acceptance is at all times subject to availability for delivery of the goods or services covered by each order, and to Seller prices for said goods and services in effect at the time of shipment, unless otherwise agreed in a separate Agreement signed by Buyer and Seller. Prices on the face hereof are those in effect on the date this Acknowledgment or Invoice was prepared.

2. END USE:

Determination of the suitability of the goods and services described on the face hereof for the use contemplated by Buyer or Buyer's customers for such goods, services, test methods or test results is the sole responsibility of Buyer or Buyer's customers, whichever the case maybe, and Seller shall have no responsibility in connection herewith. Buyer assumes all risk and liability for loss, damage, or injury to property of Buyer or others, arising out of the use of possession of the goods, services, test methods or test results furnished hereunder.

3. WARRANTY:

Seller warrants only that the goods or services supplied hereunder shall meet the description or specification stated herein. Seller makes no warranty, either expressed or implied, as to its findings, recommendations, test results or professional services, except that the report will be prepared in accordance with standard procedures as applicable to testing. Buyer or Buyer's customers' exclusive remedy and Seller's sole liability hereunder shall be limited to refund of the purchase price of or replacement of all goods supplied by Seller or services performed by Seller shown to be otherwise than as warranted and Seller shall in no case be liable otherwise or for any loss or damage, direct, incidental, or consequential, arising out of the use or the inability to use the goods supplied or services as results. It is the sole responsibility of the Buyer or the Buyer's customer, whichever the case may be, to determine the suitability of the goods supplied or services for the Buyer or Buyer's customers intended use. Said refund or replacement is conditional on Buyer giving Seller notice within ninety (90) days from the date of delivery by Seller, that said goods or services are otherwise than as warranted. Failure by Buyer to give said notice within said ninety (90) day period, shall constitute a waiver by Buyer of all claims hereunder with respect to said goods or services. If requested by Seller, Buyer shall promptly return to Seller's plant all unconsumed goods or results alleged by Buyer to be otherwise than as warranted and Buyer will pay freight thereon. **THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WRITTEN OR UNWRITTEN EXPRESSED OR IMPLIED WARRANTIES AND SELLER HEREBY EXPRESSLY DISCLAIMS ANY EXPRESSED OR IMPLIED WARRANTY AGAINST INFRINGEMENT OF MERCHANTABILITY, OR FITNESS FOR PURPOSE OF THE GOODS OR SERVICES SUPPLIED HEREUNDER, ALL SAID GOODS OR SERVICES BEING SUPPLIED BUYER "AS IS".**

4. PATENTS:

If any suit is instituted against Buyer for infringement of any United States Letters Patent alleging that the goods and services furnished hereunder or Seller's method of manufacturing the same infringe any such United States Letters Patent, Seller shall at its own expense defend and control such suit against such allegations only, and shall pay any award of damages assessed against Buyer in such suit to the extent only that the damages are awarded in connection specifically with said alleged infringement provided Buyer gives Seller prompt notice in writing of institution of any such suit and, to the full extent of Buyer's power to do so. Buyer permits Seller to defend and control same against such allegations. The foregoing fully expressed Buyer's exclusive remedy and Seller's sole liability with respect to infringement of any patent by the goods and services supplied hereunder and Seller **HEREBY EXPRESSLY DISCLAIMS ANY WRITTEN OR UNWRITTEN EXPRESSED OR IMPLIED WARRANTY AGAINST INFRINGEMENT** with respect to such goods and services in no case will Seller be liable to defend, or pay any award of damages assessed against Buyer in any suit or cause of action alleging that the use of the goods and services supplied hereunder infringes any patent. Buyer shall hold Seller harmless against any claim, loss, or expense arising out of Seller's compliance with any specifications furnished by Buyer with respect to the goods and services supplied hereunder.

5. TITLE AND RISK OF LOSS:

Title and risks of loss or delay of goods and services supplied hereunder shall pass to Buyer upon Seller's delivery thereof to carrier at shipping point.

6. ORDERS FOR INDEFINITE DELIVERY:

Orders with indefinite delivery dates are accepted upon the understanding that Seller shall have the right to fill said order as it sees fit in the course of its manufacturing schedules and to hold the goods and services for the Buyer's account at Buyer's expense and risk pending receipt of definite shipping instructions and, where required, of government authorization.

7. CHANGE OR CANCELLATION OF ORDER:

Sellers will give due consideration to any request of Buyer for modification or cancellation of his order or release against an order but the same may not be modified or cancelled without the written consent of Seller. The waiver of a breach by Buyer of any provision of the contract shall not constitute a waiver of any other breach by Buyer or of a subsequent breach of said provision by Buyer for the same or any other cause.

LABORATORY TEST REPORT

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8. CONTINGENCIES:

In the event of war, fire, flood, strike, labor trouble, accident, riot, act of government authority, act of God, or other contingencies beyond the control of the parties, interfering with the production, supply, transportation, or consumption of the goods and services covered by this order, or with the supply of any raw material used in connection therewith, quantities so affected may be eliminated from the contract without liability or delay of delivery, but the contract shall otherwise remain unaffected. Seller may during any period of shortage or delay of delivery due to any of said causes, prorate its supply of such goods and services among its customers under this and other orders and contracts in such manner as Seller may deem fair and practicable.

9. BUYER'S PROPERTY

Buyer will provide the required materials or parts for the services being purchased from the seller, at Buyer's expense to include the packaging, insurance and transportation, to the Seller's site. In the performance of the services, the Buyer agrees that the materials or parts would be consumed or would result in deterioration or destruction of materials or parts. Unless the Seller and Buyer have reached separate written agreement, any of the Buyer's materials or parts, after completion of the services, at the Seller's discretion, will be returned, within 30 days to the Buyer at the Buyer's expense to include handling, packaging, insurance, and transportation. Any hazardous materials that can not be legally transported by a commercial carrier will be disposed by the Seller at the Buyer's expense. Seller's liability for damage, loss or destruction of materials or parts not related to the performance of the services, but while in the possession of the Seller, will be limited to a maximum amount equal to the purchase price of services or the fair market value of the materials or parts which ever is less.

10. QUOTATIONS:

Unless otherwise specified, quotations are for information only and are not intended as an offer and are subject to change without notice in all respects, including prices, delivery dates, terms, quantities, or specifications.

11. TERMS OF PAYMENT:

Terms of payment shall be in United States dollars as stated on individual invoice. If the Buyer's credit is unsatisfactory to Seller the latter reserves the right to require payment either by a) Cash with the order b) Cash payment of sight draft against bill of lading, or c) Cash-on-Delivery (Under b and c above, Buyer, at Seller's option, may be charged all collection fees.) No future dating may be given on invoices. Invoices are payable in United States Currency Only. If the services performed requires more than one (1) month for completion, the seller will make monthly billings of the estimated percentage of the work completed each month.

12. TAXES:

Any tax or other government charge now or hereafter levied upon the production, sales, use or shipment of goods and services ordered or sold may, at Seller's option, be added to the purchase price.

13. FREIGHT:

Shipments within the adjoining United States will be made with freight collect except as may otherwise be specified by Seller. The most economical routing will be used at the discretion of Seller. Additional transportation costs incurred at Buyer's direction or resulting from his request will be at Buyer's expense. Freight charges on shipments beyond the adjoining United States will be as specified on the face hereof or in the price sheet for the goods and services. In the event of any general increase or any ruling or regulation affecting such rates resulting in increased freight costs, Seller may, at its option, increase its price to reflect such additional freight costs without advance notice.

14. RETURN OF GOODS AND SERVICES:

Goods and services sold by Seller may be returned for credit within six (6) months from the date of shipment of the goods and services if permission for such return is granted by Seller.

15. FAIR LABOR STANDARDS ACT:

Seller hereby certifies that the goods and services supplied hereunder to Buyer were produced in compliance with the requirements of the Fair Labor Standards Act, as amended, and of regulation and orders of the United States Department of Labor issued thereunder.

16. COMMENCEMENT OF SUIT:

An action for breach of this contract must be commenced within two (2) years after the cause of action has occurred.

17. ENTIRE AGREEMENT:

All of the terms and conditions represent the entire agreement between Seller and Buyer with respect to the sale of goods and services supplied hereunder and said agreement cannot be modified except by a new written contract signed by both Seller and Buyer covering the sale of said goods and services.

18. REGISTERED TRADEMARK INFORMATION:

This name is a registered trademark as described below.
Bondrite is a registered trademark of Parker + Amchem Henkel Corporation.
Chemfos is a registered trademark of Chemfil Corporation.
Ultrasmooth is a registered trademark of Armco, Inc.
Granodine is a registered trademark of Amchem Products, Inc.
Uniprime is a registered trademark of PPG Industries, Inc.
Nizn-Cote is a registered trademark of Thomas Steel Strip Corporation.
Zincrometal is a registered trademark of Metal Coatings International Corporation.
Surf-Bond is a registered trademark of Widger Chemical Incorporated.
Gardobond is a registered trademark of Chemetall Corporation



273 Industrial Dr. ♦ Hillsdale, MI 49242 ♦ Phone: (517) 439-1485 ♦ Fax: (517) 439-1652

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19. CODES OF UNIT MEASURE (UM):

L = POUND X = LOT G = GALLON T = LITRE E = EACH
K = KILOGRAM F = FOOT I = INCH M = METER C = CENTIMETER

20. NO TEST STANDARDS ESTABLISHED:

When standards do not exist for an application, ACT Test Panels LLC will use the methods and procedures specified herein, and makes no warranty except that the test results will be based upon full compliance with the specified methods and procedures agreed upon with your company.

21. SCHEDULE MODIFICATIONS:

The providing of goods or services is based upon an established schedule of events. If the customer delays an event that is their responsibility, and this results in additional time and materials expanded to complete the goods or services this could result in additional costs. It is agreed that these costs would be the responsibility of the customer.

22. ENDORSEMENTS:

Test reports contain only findings and results based on the specific test procedures and standards listed. They are not intended to constitute a recommendation, endorsement, or certification of the product or material tested.

23. REPRESENTATIVE SAMPLES:

The tests done on the requested and/or specified number of samples may or may not constitute a representative sampling.

24. ADVERTISING RESTRICTION:

ACT reports are rendered upon the condition that they are not to be reproduced wholly, or in part, for advertising and/or endorsement. Our signature or the use of our name without special permission, in writing, from an officer of the company is prohibited.

25. REPRODUCING RESTRICTION:

ACT Test Panels LLC reports may not be reproduced except in full, without written authorization from ACT Test Panels LLC

26. SCHEDULING:

Scheduling of goods and services will not be done until a purchase order and required materials are received from the customer. If materials do not arrive by the schedule date, the goods and services schedule may be delayed. The delay could result in a new schedule for the goods and services.

27. TERMS OF MATERIALS SHIPPED TO ACT:

All shipments of materials to ACT Test Panels LLC should be shipped prepaid and add. Freight charges for collect shipments will be billed to the customer.

28. TITLES:

The paragraph titles are for convenience only.



273 Industrial Dr. ♦ Hillsdale, MI 49242 ♦ Phone: (517) 439-1485 ♦ Fax: (517) 439-1652

MACK MOLDING COMPANY

149 Water Tank Road
Statesville, NC 28677

ATTN: Brian Colton

Adhesion Promoter Thickness by Microscopical Examination of Cross Section

Test Materials: Customer Supplied and Prepared Window Frames (4) and Glass w/ Glue (1)

ACT Quote Number: AQT67426
ACT Project Number: AIN199968
Customer P.O. Number: P71151

Test Materials Received: 05/06/10

Prepared By: KWW
Date Prepared: 05/25/10
Logbook: KWW-1, p. 9

APPROVED BY:

Kevin Wendt
Technical Manager

Signed for and on behalf of
ACT Test Panels LLC

Page 1 of 17

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www.acttestpanels.com

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Sample Descriptions:

Frame	Location	Description
1	1	Correct application
	2	Correct application
	3	Excessive application
	4	Excessive application
2	5	Adhesive failure - frame
3	6	Adhesive failure - frame
4	7	Adhesive failure - frame
	8	Adhesive failure - frame
Window Glass	9	Adhesive failure - window
	10	Adhesive failure - window

Evaluation #1: Adhesion Promoter Thickness by Microscopical Examination of Cross Section

Test Date: 05/17/10-05/25/10

Test Method: ASTM B 487-07

Number of Samples: 5 (Frames #1-4 and window glass)

Number of Locations: 10 (8 from frames and 2 from window glass)

Instrument: Nikon Optiphot Microscope (LEQP 0086)

Areas of Interest: Customer marked areas on glue channel (frames) and glued areas attached to window glass (see photographs)

Procedure: A portion of the sample is cut and cold mounted. The cross section mount is then prepared by suitable techniques of grinding and polishing. A representative thickness of the adhesion promoter at one location is measured with an optical microscope at 250X or 750X. If there are different thicknesses from side to side of the area of interest, then more than one measurement is taken.

mil: 0.001 Inch

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Adhesion Promoter Thickness by Microscopical Examination of Cross Section Test Data:

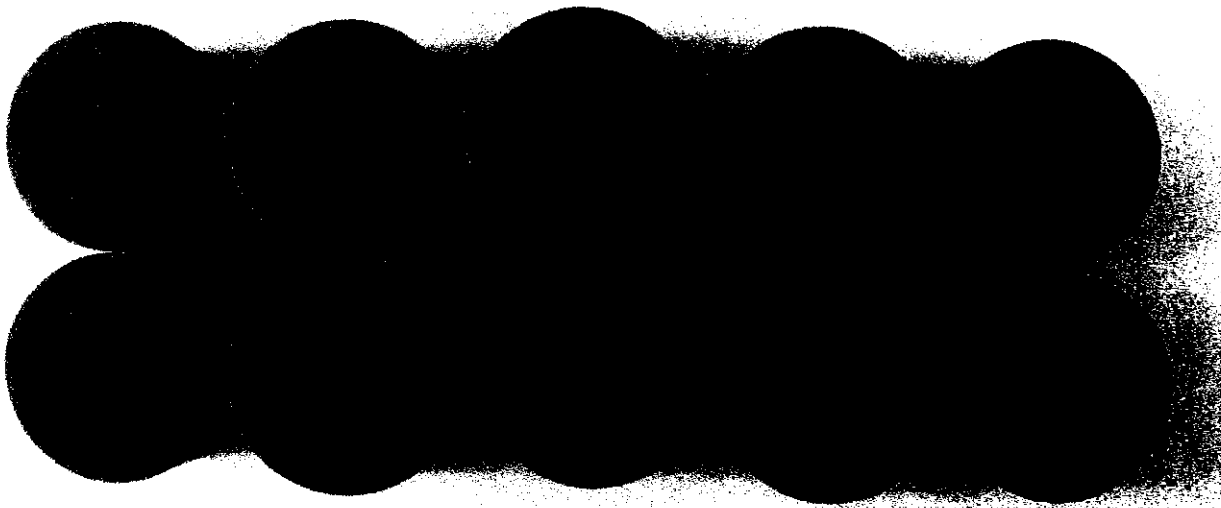
Frame	Location	Adhesion Promoter Thickness (mils)
1	1	Not detectable
	2	0.48
	3	0.53
	4-Side 1	0.49
	4-Side 2	0.04
2	5-Side 1	0.35
	5-Side 2	0.06
3	6-Side 1	Not detectable
	6-Side 2	0.02

Frame	Location	Adhesion Promoter Thickness (mils)
4	7	Not detectable
	8-Side 1	0.15
	8-Side 2	Not detectable
	8-Side 3	4.91*
	8-Side 4	Not detectable
Window	9	0.63
	10	Not detectable

* Possibility of glue included in measurement

Note: The resolving power for an optical microscope is ≥ 0.08 mils (2 μm), meaning measurements below 0.08 mils may not be accurate.

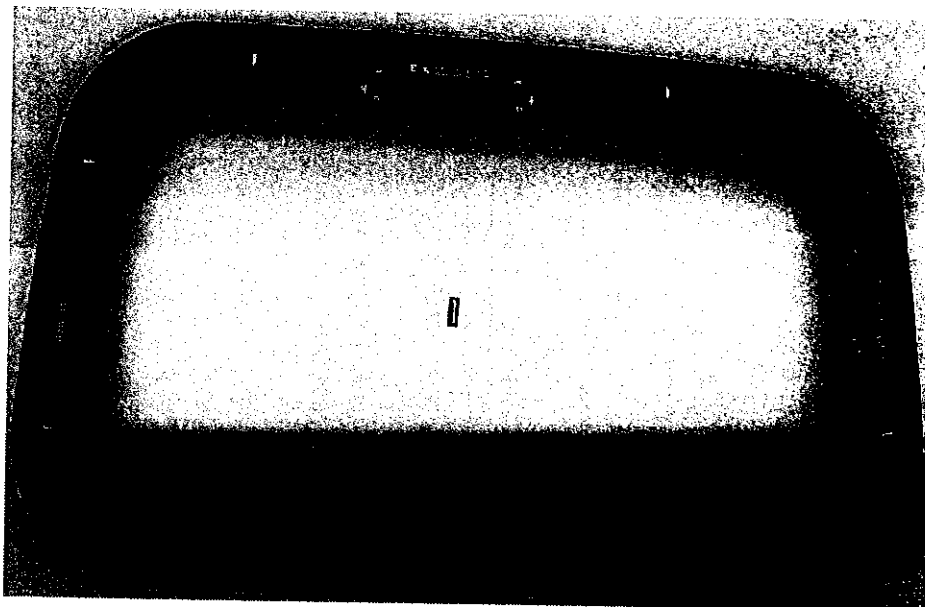
Photograph of Test Locations:



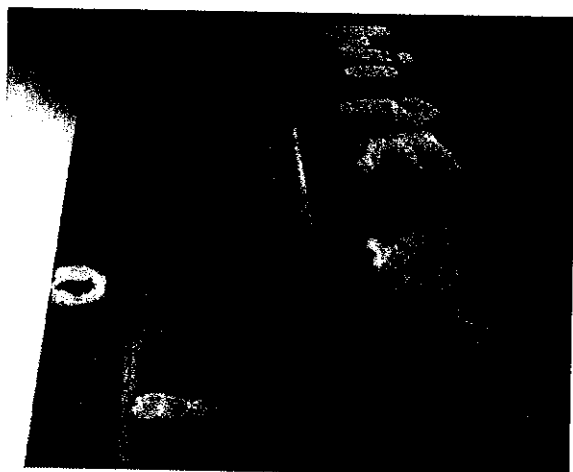
LABORATORY TEST REPORT

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Photographs:



Frame 1

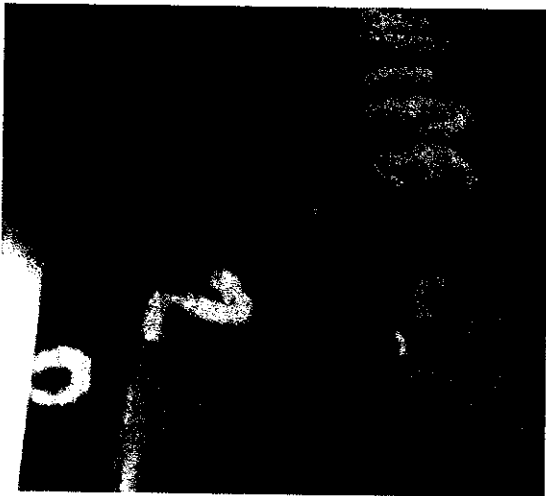


Location 1

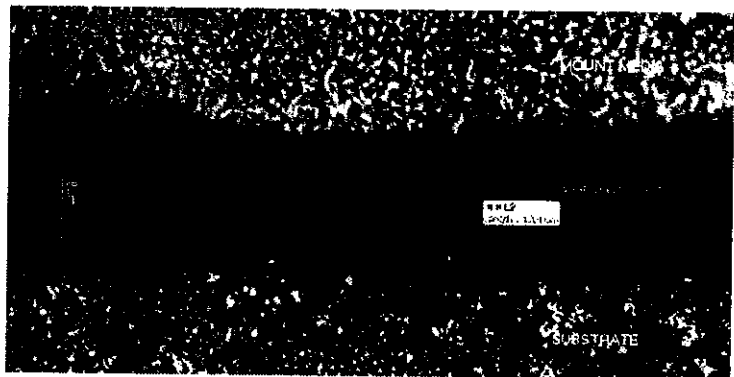
LABORATORY TEST REPORT

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Photographs (cont.):



Location 2

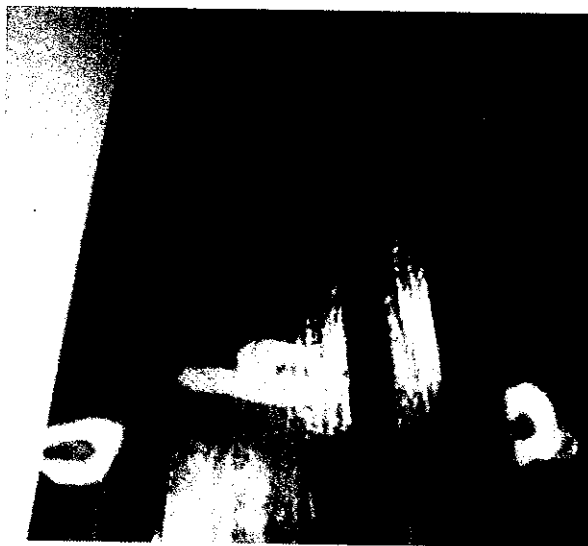


Location 3

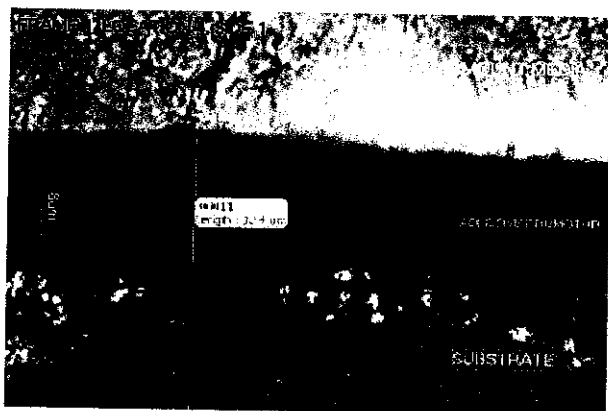
LABORATORY TEST REPORT

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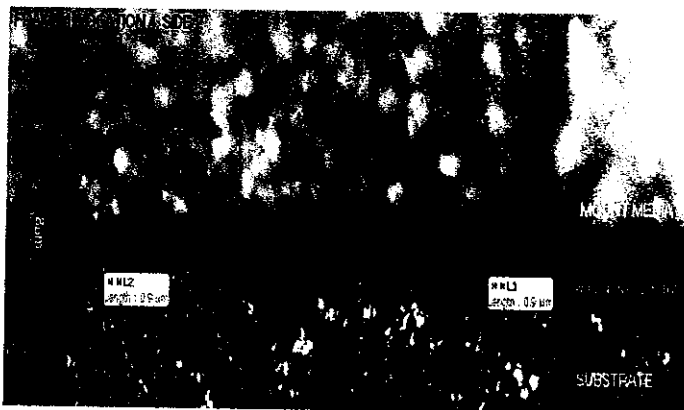
Photographs (cont.):



Location 4



Location 4 - Side 1

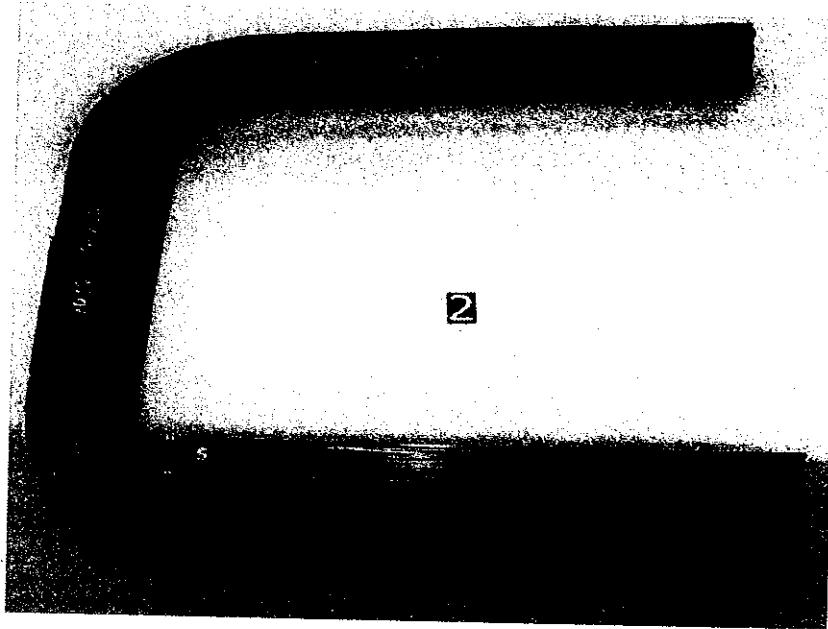


Location 4 - Side 2

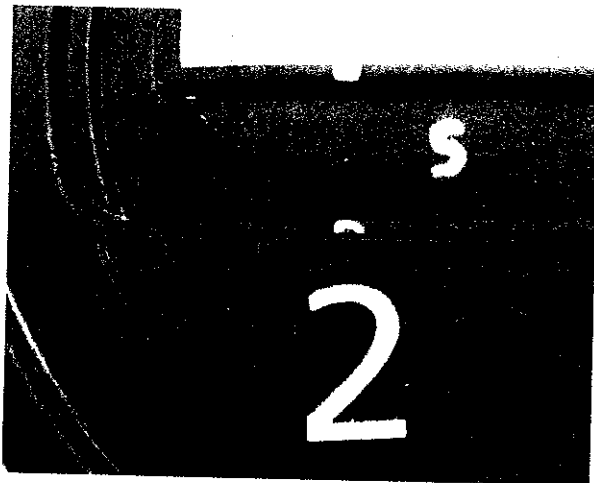
LABORATORY TEST REPORT

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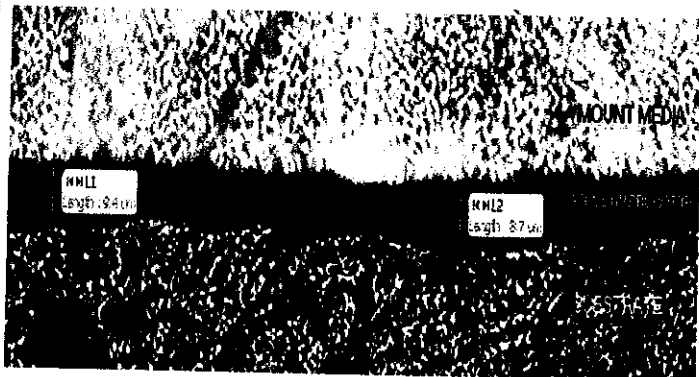
Photographs (cont.):



Frame 2



Location 5

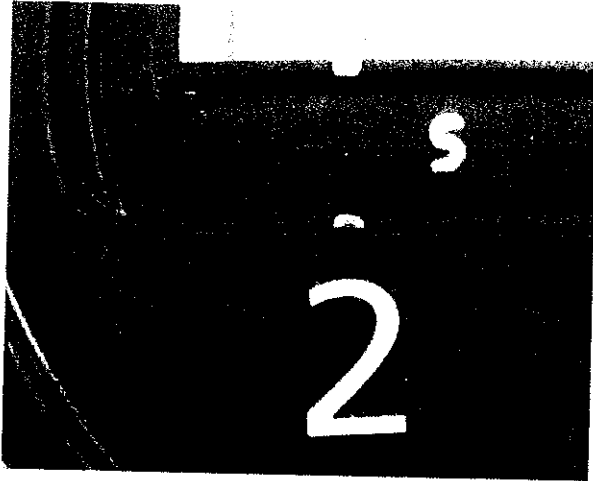


Location 5 - Side 1

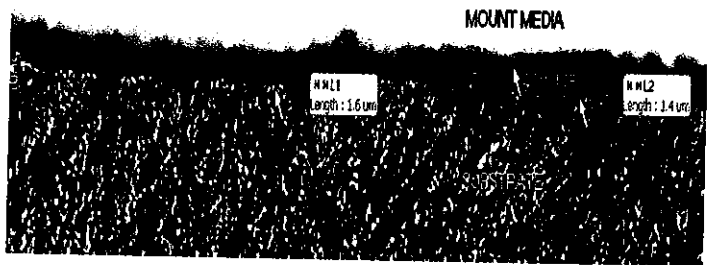
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Photographs (cont.):



Location 5

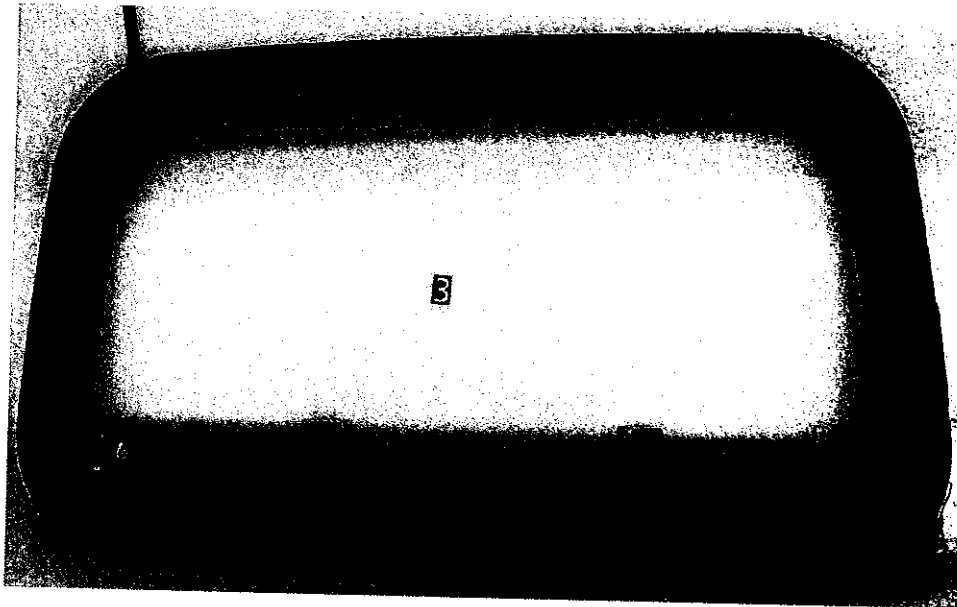


Location 5 – Side 2

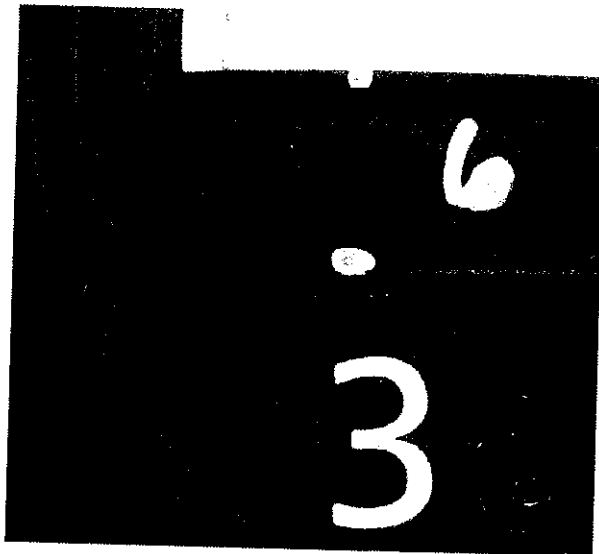
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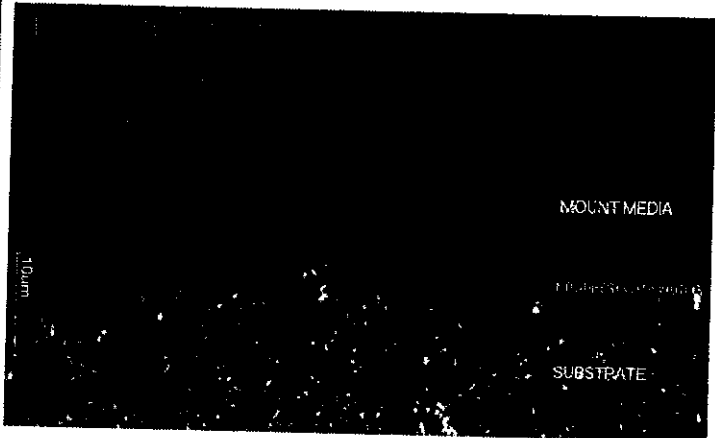
Photographs (cont.):



Frame 3



Location 6

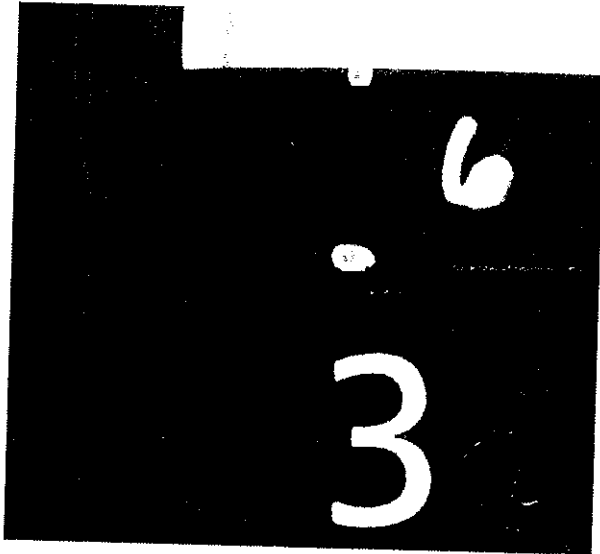


Location 6 – Side 1

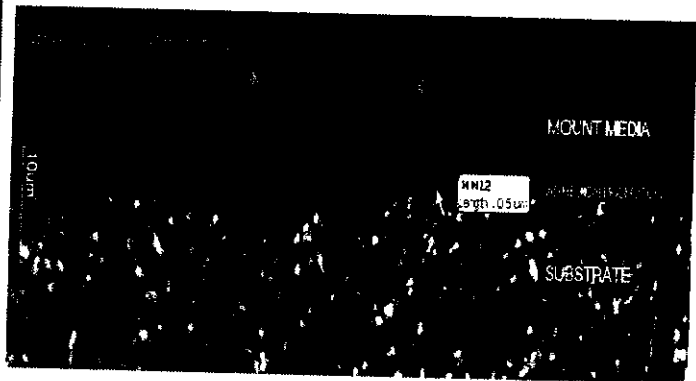
LABORATORY TEST REPORT

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Photographs (cont.):



Location 6



Location 6 – Side 2

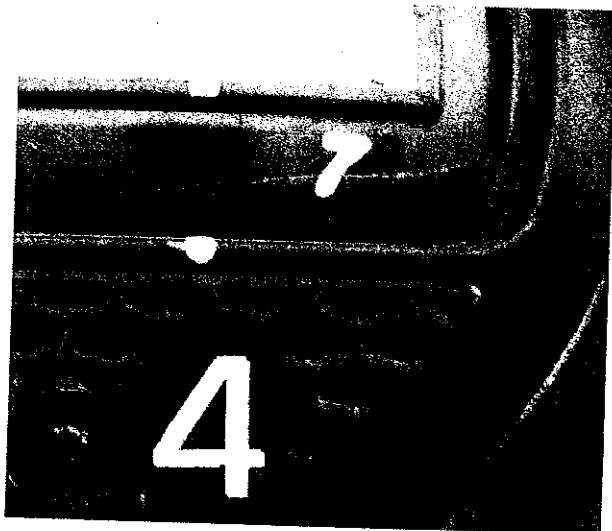
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Photographs (cont.):



Frame 4

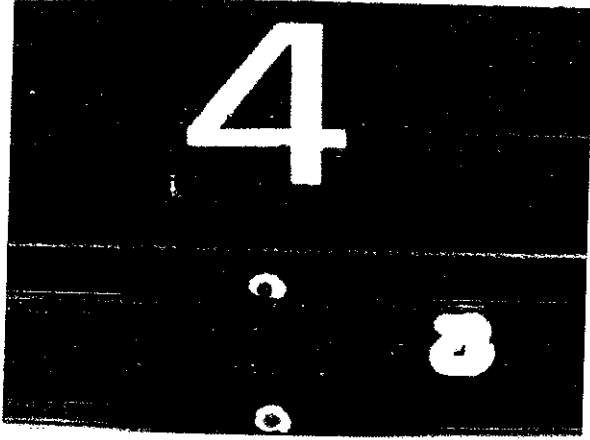


Location 7

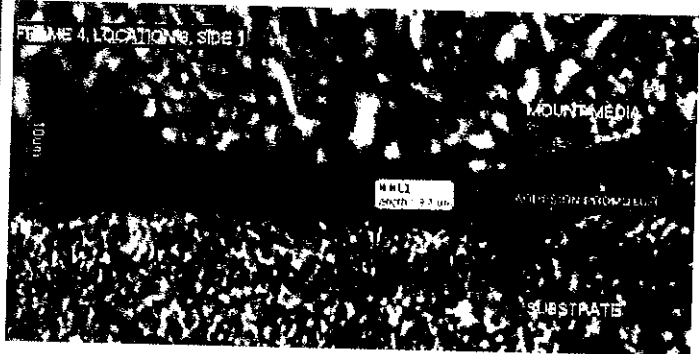
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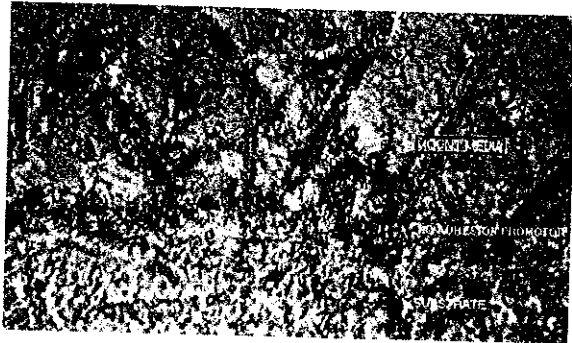
Photographs (cont.):



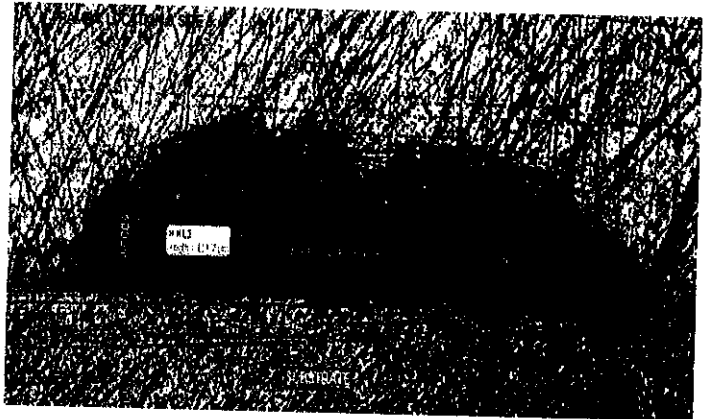
Location 8



Location 8 – Side 1



Location 8 – Side 2



Location 8 – Side 3

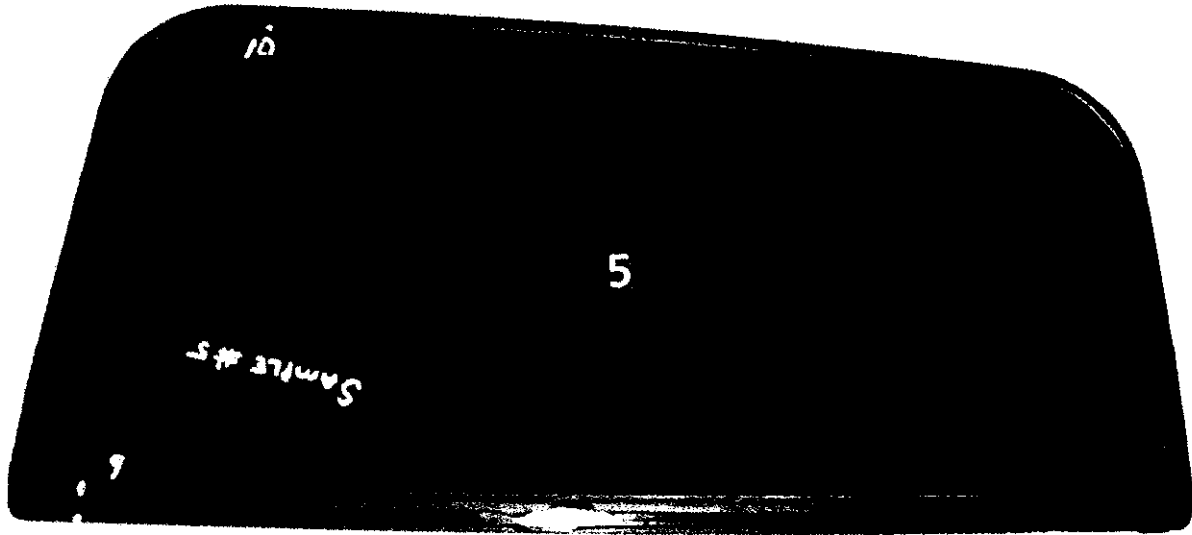


Location 8 – Side 4

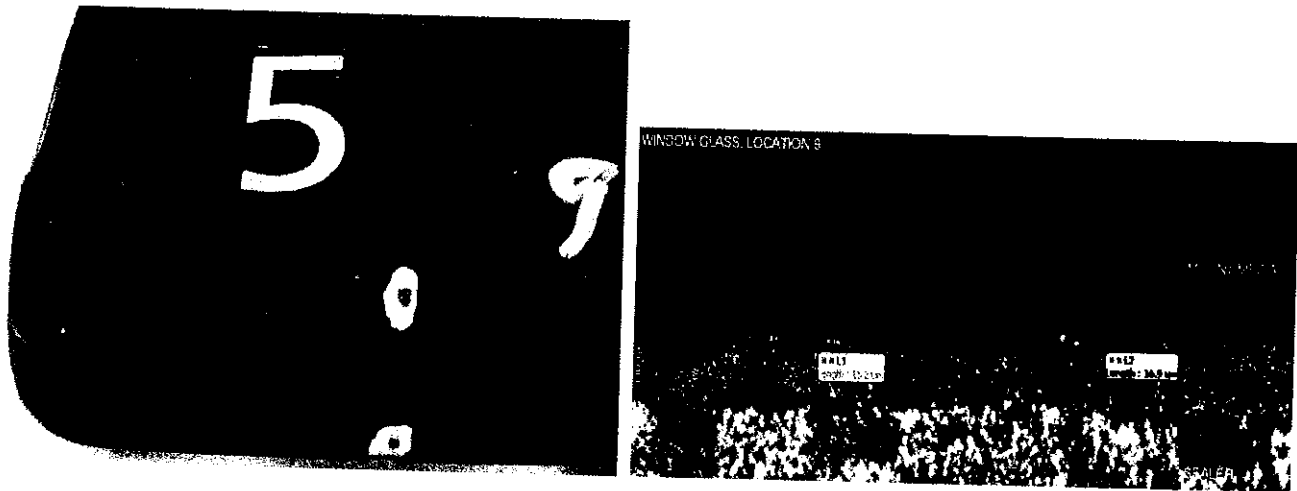
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Photographs (cont.):



Window



Location 9

LABORATORY TEST REPORT

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Photographs (cont.):



Location 10

LABORATORY TEST REPORT

ACT PROJECT AIN199968

TERMS AND CONDITIONS OF SALE

1. ACCEPTANCE:

All orders and sales contracts are subject to acceptance or rejection by Seller and are not binding on Seller unless and until so accepted. Acceptance of an order by Seller constitutes a complete and binding contract governed by the terms and conditions of sale appearing herein and by the laws of the State of Michigan. Acceptance is at all times subject to availability for delivery of the goods or services covered by each order, and to Seller prices for said goods and services in effect at the time of shipment, unless otherwise agreed in a separate Agreement signed by Buyer and Seller. Prices on the face hereof are those in effect on the date this Acknowledgment or Invoice was prepared.

2. END USE:

Determination of the suitability of the goods and services described on the face hereof for the use contemplated by Buyer or Buyer's customers for such goods, services, test methods or test results is the sole responsibility of Buyer or Buyer's customers, whichever the case maybe, and Seller shall have no responsibility in connection herewith. Buyer assumes all risk and liability for loss, damage, or injury to property of Buyer or others, arising out of the use of possession of the goods, services, test methods or test results furnished hereunder.

3. WARRANTY:

Seller warrants only that the goods or services supplied hereunder shall meet the description or specification stated herein. Seller makes no warranty, either expressed or implied, as to its findings, recommendations, test results or professional services, except that the report will be prepared in accordance with standard procedures as applicable to testing. Buyer or Buyer's customers' exclusive remedy and Seller's sole liability hereunder shall be limited to refund of the purchase price of or replacement of all goods supplied by Seller or services performed by Seller shown to be otherwise than as warranted and Seller shall in no case be liable otherwise or for any loss or damage, direct, incidental, or consequential, arising out of the use or the inability to use the goods supplied or services as results. It is the sole responsibility of the Buyer or the Buyer's customer, whichever the case may be, to determine the suitability of the goods supplied or services for the Buyer or Buyer's customers intended use. Said refund or replacement is conditional on Buyer giving Seller notice within ninety (90) days from the date of delivery by Seller, that said goods or services are otherwise than as warranted. Failure by Buyer to give said notice within said ninety (90) day period, shall constitute a waiver by Buyer of all claims hereunder with respect to said goods or services. If requested by Seller, Buyer shall promptly return to Seller's plant all unconsumed goods or results alleged by Buyer to be otherwise than as warranted and Buyer will pay freight thereon. **THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WRITTEN OR UNWRITTEN EXPRESSED OR IMPLIED WARRANTIES AND SELLER HEREBY EXPRESSLY DISCLAIMS ANY EXPRESSED OR IMPLIED WARRANTY AGAINST INFRINGEMENT OF MERCHANTABILITY, OR FITNESS FOR PURPOSE OF THE GOODS OR SERVICES SUPPLIED HEREUNDER, ALL SAID GOODS OR SERVICES BEING SUPPLIED BUYER "AS IS".**

4. PATENTS:

If any suit is instituted against Buyer for infringement of any United States Letters Patent alleging that the goods and services furnished hereunder or Seller's method of manufacturing the same infringe any such United States Letters Patent, Seller shall at its own expense defend and control such suit against such allegations only, and shall pay any award of damages assessed against Buyer in such suit to the extent only that the damages are awarded in connection specifically with said alleged infringement provided Buyer gives Seller prompt notice in writing of institution of any such suit and, to the full extent of Buyer's power to do so. Buyer permits Seller to defend and control same against such allegations. The foregoing fully expressed Buyer's exclusive remedy and Seller's sole liability with respect to infringement of any patent by the goods and services supplied hereunder and Seller HEREBY EXPRESSLY DISCLAIMS ANY WRITTEN OR UNWRITTEN EXPRESSED OR IMPLIED WARRANTY AGAINST INFRINGEMENT with respect to such goods and services in no case will Seller be liable to defend, or pay any award of damages assessed against Buyer in any suit or cause of action alleging that the use of the goods and services supplied hereunder infringes any patent. Buyer shall hold Seller harmless against any claim, loss, or expense arising out of Seller's compliance with any specifications furnished by Buyer with respect to the goods and services supplied hereunder.

5. TITLE AND RISK OF LOSS:

Title and risks of loss or delay of goods and services supplied hereunder shall pass to Buyer upon Seller's delivery thereof to carrier at shipping point.

6. ORDERS FOR INDEFINITE DELIVERY:

Orders with indefinite delivery dates are accepted upon the understanding that Seller shall have the right to fill said order as it sees fit in the course of its manufacturing schedules and to hold the goods and services for the Buyer's account at Buyer's expense and risk pending receipt of definite shipping instructions and, where required, of government authorization.

7. CHANGE OR CANCELLATION OF ORDER:

Sellers will give due consideration to any request of Buyer for modification or cancellation of his order or release against an order but the same may not be modified or cancelled without the written consent of Seller. The waiver of a breach by Buyer of any provision of the contract shall not constitute a waiver of any other breach by Buyer or of a subsequent breach of said provision by Buyer for the same or any other cause.

LABORATORY TEST REPORT

ACT PROJECT AIN199968

8. CONTINGENCIES:

In the event of war, fire, flood, strike, labor trouble, accident, riot, act of government authority, act of God, or other contingencies beyond the control of the parties, interfering with the production, supply, transportation, or consumption of the goods and services covered by this order, or with the supply of any raw material used in connection therewith, quantities so affected may be eliminated from the contract without liability or delay of delivery, but the contract shall otherwise remain unaffected. Seller may during any period of shortage or delay of delivery due to any of said causes, prorate its supply of such goods and services among its customers under this and other orders and contracts in such manner as Seller may deem fair and practicable.

9. BUYER'S PROPERTY

Buyer will provide the required materials or parts for the services being purchased from the seller, at Buyer's expense to include the packaging, insurance and transportation, to the Seller's site. In the performance of the services, the Buyer agrees that the materials or parts would be consumed or would result in deterioration or destruction of materials or parts. Unless the Seller and Buyer have reached separate written agreement, any of the Buyer's materials or parts, after completion of the services, at the Seller's discretion, will be returned, within 30 days to the Buyer at the Buyer's expense to include handling, packaging, insurance, and transportation. Any hazardous materials that can not be legally transported by a commercial carrier will be disposed by the Seller at the Buyer's expense. Seller's liability for damage, loss or destruction of materials or parts not related to the performance of the services, but while in the possession of the Seller, will be limited to a maximum amount equal to the purchase price of services or the fair market value of the materials or parts which ever is less.

10. QUOTATIONS:

Unless otherwise specified, quotations are for information only and are not intended as an offer and are subject to change without notice in all respects, including prices, delivery dates, terms, quantities, or specifications.

11. TERMS OF PAYMENT:

Terms of payment shall be in United States dollars as stated on individual invoice. If the Buyer's credit is unsatisfactory to Seller the latter reserves the right to require payment either by a) Cash with the order b) Cash payment of sight draft against bill of lading, or c) Cash-on-Delivery (Under b and c above, Buyer, at Seller's option, may be charged all collection fees.) No future dating may be given on invoices. Invoices are payable in United States Currency Only. If the services performed requires more than one (1) month for completion, the seller will make monthly billings of the estimated percentage of the work completed each month.

12. TAXES:

Any tax or other government charge now or hereafter levied upon the production, sales, use or shipment of goods and services ordered or sold may, at Seller's option, be added to the purchase price.

13. FREIGHT:

Shipments within the adjoining United States will be made with freight collect except as may otherwise be specified by Seller. The most economical routing will be used at the discretion of Seller. Additional transportation costs incurred at Buyer's direction or resulting from his request will be at Buyer's expense. Freight charges on shipments beyond the adjoining United States will be as specified on the face hereof or in the price sheet for the goods and services. In the event of any general increase or any ruling or regulation affecting such rates resulting in increased freight costs, Seller may, at its option, increase its price to reflect such additional freight costs without advance notice.

14. RETURN OF GOODS AND SERVICES:

Goods and services sold by Seller may be returned for credit within six (6) months from the date of shipment of the goods and services if permission for such return is granted by Seller.

15. FAIR LABOR STANDARDS ACT:

Seller hereby certifies that the goods and services supplied hereunder to Buyer were produced in compliance with the requirements of the Fair Labor Standards Act, as amended, and of regulation and orders of the United States Department of Labor issued thereunder.

16. COMMENCEMENT OF SUIT:

An action for breach of this contract must be commenced within two (2) years after the cause of action has occurred.

17. ENTIRE AGREEMENT:

All of the terms and conditions represent the entire agreement between Seller and Buyer with respect to the sale of goods and services supplied hereunder and said agreement cannot be modified except by a new written contract signed by both Seller and Buyer covering the sale of said goods and services.

18. REGISTERED TRADEMARK INFORMATION:

- This name is a registered trademark as described below.
- Bondrite is a registered trademark of Parker + Amchem Henkel Corporation.
- Chemfos is a registered trademark of Chemfil Corporation.
- Ultrasmooth is a registered trademark of Armco, Inc.
- Granodine is a registered trademark of Amchem Products, Inc.
- Uniprime is a registered trademark of PPG Industries, Inc.
- Nizn-Cote is a registered trademark of Thomas Steel Strip Corporation.
- Zincrometal is a registered trademark of Metal Coatings International Corporation.
- Surf-Bond is a registered trademark of Widger Chemical Incorporated.
- Gardobond is a registered trademark of Chemetall Corporation



273 Industrial Dr. ♦ Hillsdale, MI 49242 ♦ Phone: (517) 439-1485 ♦ Fax: (517) 439-1652

LABORATORY TEST REPORT

ACT PROJECT AIN199968

19. CODES OF UNIT MEASURE (UM):

L = POUND X = LOT G = GALLON T = LITRE E = EACH
K = KILOGRAM F = FOOT I = INCH M = METER C = CENTIMETER

20. NO TEST STANDARDS ESTABLISHED:

When standards do not exist for an application, ACT Test Panels LLC will use the methods and procedures specified herein, and makes no warranty except that the test results will be based upon full compliance with the specified methods and procedures agreed upon with your company.

21. SCHEDULE MODIFICATIONS:

The providing of goods or services is based upon an established schedule of events. If the customer delays an event that is their responsibility, and this results in additional time and materials expanded to complete the goods or services this could result in additional costs. It is agreed that these costs would be the responsibility of the customer.

22. ENDORSEMENTS:

Test reports contain only findings and results based on the specific test procedures and standards listed. They are not intended to constitute a recommendation, endorsement, or certification of the product or material tested.

23. REPRESENTATIVE SAMPLES:

The tests done on the requested and/or specified number of samples may or may not constitute a representative sampling.

24. ADVERTISING RESTRICTION:

ACT reports are rendered upon the condition that they are not to be reproduced wholly, or in part, for advertising and/or endorsement. Our signature or the use of our name without special permission, in writing, from an officer of the company is prohibited.

25. REPRODUCING RESTRICTION:

ACT Test Panels LLC reports may not be reproduced except in full, without written authorization from ACT Test Panels LLC

26. SCHEDULING:

Scheduling of goods and services will not be done until a purchase order and required materials are received from the customer. If materials do not arrive by the schedule date, the goods and services schedule may be delayed. The delay could result in a new schedule for the goods and services.

27. TERMS OF MATERIALS SHIPPED TO ACT:

All shipments of materials to ACT Test Panels LLC should be shipped prepaid and add. Freight charges for collect shipments will be billed to the customer.

28. TITLES:

The paragraph titles are for convenience only.



Safety Recall ALERT

Date: March 5, 2010 (Revised counts) **Number:** SRA-V10-01
To: All U.S. & Canadian Distributors
Attention: Service Manager, Warranty Manager, Parts Manager, Dealer Principal
From: Regulatory Affairs Department
Subject: Safety Recall, RVXX1001, Upper Bunk Windows

Safety Recall Summary:

On certain Volvo VNL model vehicles manufactured from February 9, 2009 through February 15, 2010, the adhesive used between the glass and window frame may de-bond allowing the glass to come loose and possibly fall out.

The number of vehicles affected is approximately 3,000 (2,678 US and 322 Canada) (Revised counts).

Dealer's Responsibility:

The National Traffic and Motor Vehicle Safety Act and Canadian Motor Vehicle Safety Act requires dealers to ensure that all new and used vehicles are free of safety defects and comply with all relevant safety standards at the time of delivery to the consumer.

Dealers should make their personnel aware of the safety recall. In the event that a dealer has a vehicle included in the safety recall in their inventory to be sold, the condition must be corrected before releasing it to a customer.

Release Schedule:

- Repair Instructions are tentatively scheduled for release no later than May 19, 2010.
- Vehicle list will be posted on the Trucks Dealer Portal on or before March 8, 2010.
- Owner Notices are scheduled to be mailed on or before May 26, 2010.

Questions:

Contact the Regulatory Affairs Department at vtna.regulatoryaffairs@volvo.com if you have questions.



Volvo Trucks North America, Inc.
Greensboro, NC USA

Safety Recall Trucks

Date	Group.	No.	Page
05.10	RVXX1001		1(8)

Sleeper Side Ventilator
Window Failure

VN670 VN780

On Volvo VN 670 and 780 model vehicles manufactured from February 9, 2009 through December 31, 2009, the upper sleeper side window glass may become loose and then fall out of the vehicle.

Important Note: Given the nature of the repair, Volvo recommends that the repair be subletted to a professional glass installer. Volvo and Sika have negotiated a standard price for these repairs with Safelite^(R) Auto Glass, a nationally recognized glass installer. Safelite can be contacted at (888) 800-4527 in the US, or their sister company, Belron Canada at (905) 669-7716. If the repair is subletted, the labor expense is to be filled under "other" in the warranty claim with a copy of the invoice from the glass installer.

Required Parts

Qty	Part Number	Description
1	21512736	Ventilator Window LH
1	21512737	Ventilator Window RH
1	VWK-5021	Adhesive Kit

For convenience, a kit (supplier part number VWK-5021) is available. The kit contains 1 can of Sika 209D primer, 2 cartridges of Sikaflex 255-FC adhesive and 4 Sika activator pads. The contents of this kit will address two windows or one vehicle, with the exception of the primer which is enough to do ten windows or five vehicles. Larger quantities of the individual materials (i.e. primer, adhesive, and activator) are also available.

The kit may be purchased through Industrial Supply Solutions Inc., a distribution facility for Sika brand product, or in individual material larger quantities from either Industrial Supply Solutions or your local Sika distributor.



Kit ordering information:

Industrial Supply Solutions Inc.
804 Julian Rd. Salisbury, NC 28147
Phone: (800) 849-9116
Fax: (704) 636-2093
Email: ssobataka@issimro.com
Alternate phone # if afterhours: (704) 647-1719

Important Notes:

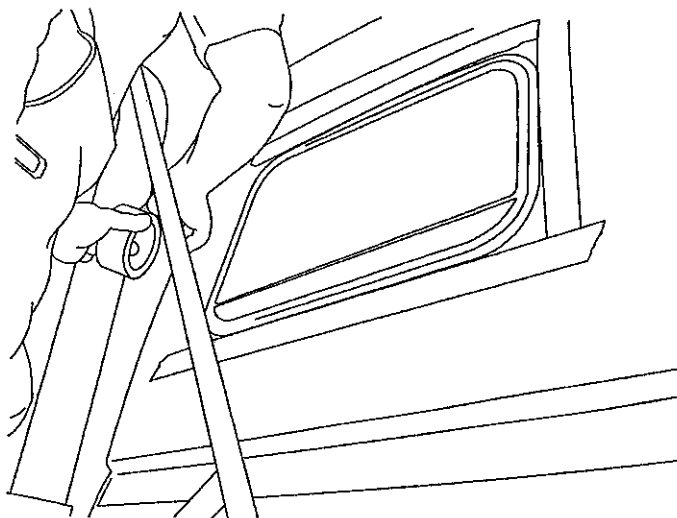
- Ground Transportation will be the primary means of distribution; material is not conducive to distribution by air. Please plan accordingly.
- MSDS Sheets will be provided with each shipment; these must be reviewed with the appropriate people within your organization and the precautions as specified must be adhered to.
- The materials listed above (i.e. Sika 209D primer, Sikaflex 255-FC adhesive, and Sika Aktivator) must be used for the repair! For technical support contact Sika at 800-688-7542.

Repair Procedure

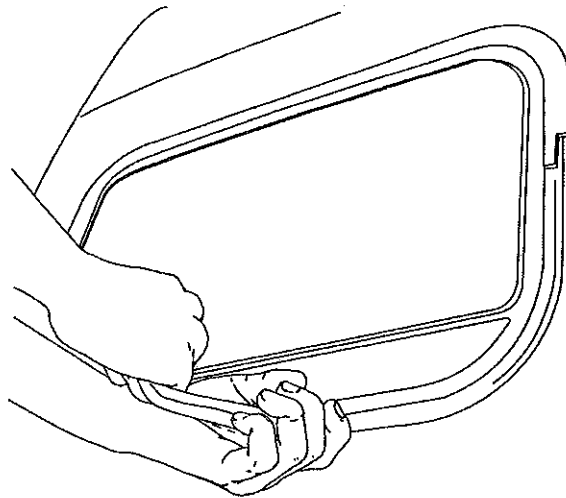
 DANGER	
Scaffolding or other suitable work platform must be used when performing this procedure. Failure to do so may result in a fall causing serious injury or death.	The adhesive may cause skin and eye irritation. Prolonged or repeated contact with skin may cause an allergic reaction/sensitization. It may cause respiratory sensitization and respiratory tract irritation.
 WARNING	
The cleaner is flammable and has a flash point of 56° F (14° C). Avoid breathing vapor. Use only with adequate ventilation. Avoid contact with eyes, skin or clothing. May cause dizziness, headache or other central nervous system effects. Use chemical resistant gloves and use of safety goggles recommended. Wash thoroughly after handling.	Gloves and safety glasses should be worn when removing the glass. Failure to do so could result in personal injury from broken glass.

NOTE: Illustrations are used for reference only and may differ slightly from the actual vehicle being serviced. However, key components addressed in this information are represented as accurately as possible.

1. To protect the vehicles finish, tape off the body surface surrounding the window opening with auto grade tape.

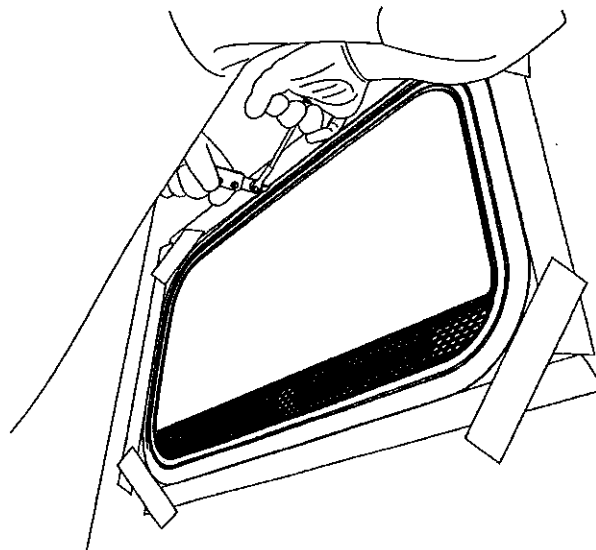


- Using a cold knife, carefully cut the rubber molding surrounding the window. Make a small initial cut and then peel back the rubber by hand, separating it from the window.
Special tools: J-24402-A



- Using the cold knife (half inch blade) or auto glass power tool carefully cut through the window bonding. When the bonding is cut all the way around the window, gentle pull outward and remove the window assembly.
Special tools: J-24402-A

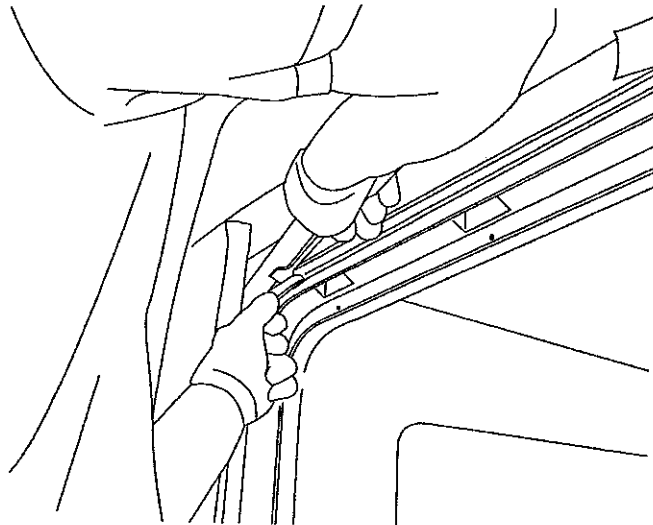
W8003826



W8003833

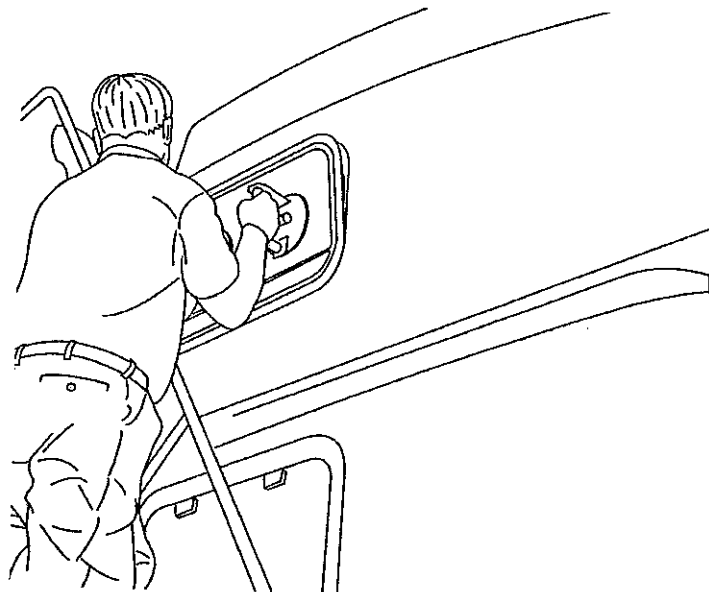
4. Pull on the adhesive left on the window opening to check for good bonding. If the excess sealant peels free easily, then clean the pinch weld area down to the painted surface and apply Sika Aktivator to the SMC flange area of to be bonded with a clean rag or dauber. Immediately wipe off the flange with another clean dry rag, turning frequently to ensure the rag is wiping off excess Sika Aktivator.
Note: Drying time minimum 10 minutes, maximum 2 hours. If the two hour maximum is exceeded, repeat Aktivator application.

If good bonding exists with the excess adhesive then strip excess sealer from the window frame using a cold knife and/or scrapers. Leave 2 - 3 mm (0.1 in.) of old adhesive, to act as the base for the new adhesive to window opening bonding.



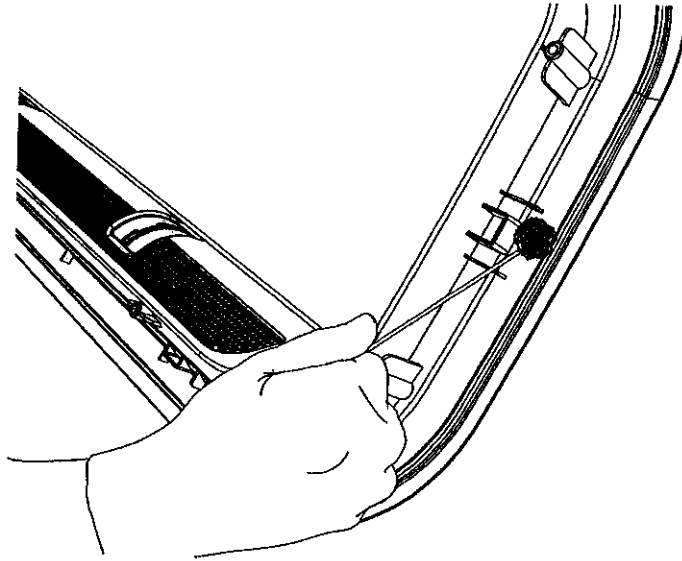
5. Using suction cups, dry fit the window to ensure proper fit.
Special tools: J-2189-32

NOTE: Do Not completely seat the window or the clip will lock into place. If this happens the window will not come out without damaging the retainer clips.



6. Slowly and gently peel back the masking tape from the surrounding window opening surfaces. Care must be exercised to preserve the vehicles finish. W8003829
7. Using a 50:50 mixture of isopropyl alcohol and water, clean the new window frame to prepare the surface. Allow at least 2 minutes dry time before proceeding.

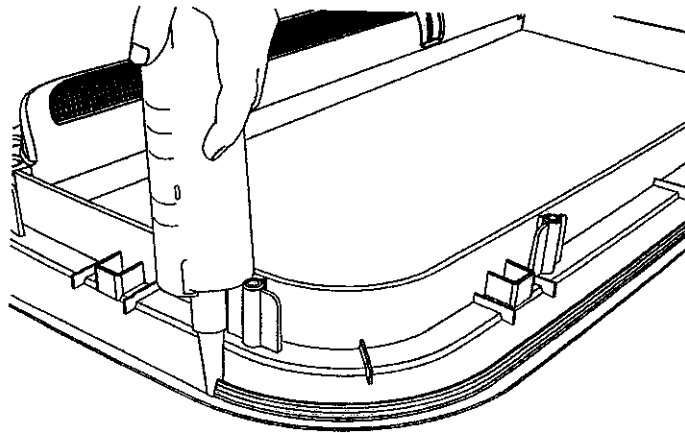
8. Apply 209D primer around the entire new window frame sealing surface. Allow 10 minutes flash time after application of the 209D primer.



9. Using a caulk gun, apply a continuous V shaped bead of Sika 255-FC adhesive. Starting at the bottom center of the window, the bead should be centered in the new window sealing surface and should measure 15 ± 3 mm (0.6 in.) high by 8 ± 2 mm (0.3 in.) wide.

W8003831

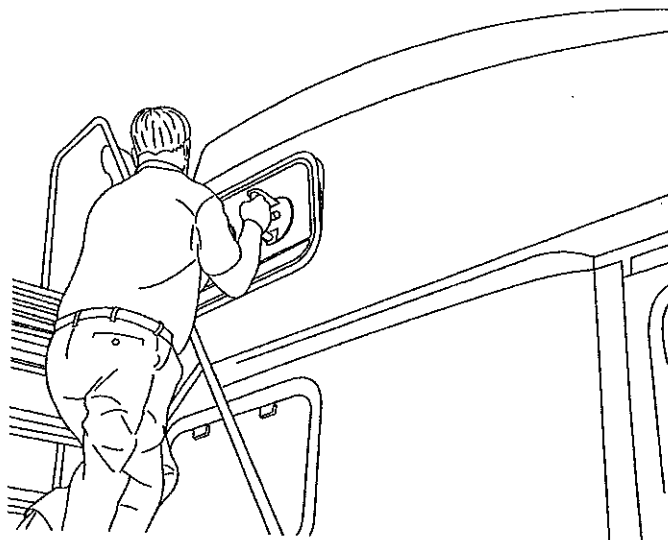
NOTE: Sika 255-FC is the required adhesive for proper adhesion and sealing.



W8003830

10. With the suction cups attached, carefully position the window in the opening and install the window. Apply pressure inward on the window until it snaps into place.
Special tools: J-2189-32

NOTE: If the vehicle must be moved before the adhesive has had time to cure, be sure to secure the window in place with auto grade tape.



11. Clean and water test the glass.

W8003829

12. Allow at least 2 hours for the adhesive to cure before returning the vehicle to service.

Reimbursement

This repair is covered by an authorized Safety Recall campaign. Reimbursement is obtained through the normal claim handling process.	
Claim Type (used only when uploading from the Dealer Bus. Sys.)	R
Recall Status	
Vehicle repaired per instructions	2-Modified per instructions
Labor Code	
Primary Labor Code	84423-0-02 - 2.0 hr. Time allowed to replace 2 widows per recall RVXX1001
Time to take charge of vehicle and determine campaign status	17003-0-01 - 0.3 hr.
Causal Part	20582366
Parts Disposition	Scrap Local
Authorization No.	RVXX1001

Take-charge time is not included in the labor code for this operation. Take charge may be eligible, but can only be used once per vehicle repair visit. If the vehicle is having other warranty repairs performed, take-charge should be charged to the warranty repair, otherwise take-charge can be charged to this Safety Recall campaign.

NOTE: Dealers are to perform Safety Recall Campaigns on all subject vehicles at no charge to the vehicle owner regardless of mileage, age of vehicle or ownership (original purchaser or subsequent purchasers). Whenever vehicles are subject to a safety recall are brought to your dealership for service, or taken into your dealership vehicle inventory, it is strongly recommended that every effort be made to perform the recall correction before the vehicle is sold or released to the owner.

**SAFETY RECALL RVXX1001
MAY 2010**

DEAR VOLVO TRUCK OWNER:

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

Volvo Trucks North America has decided that a defect which relates to motor vehicle safety exists in certain Volvo vehicles.

SAFETY DEFECT: There exists the potential that the adhesive used between the glass and window frame may debond.

SAFETY RISK: If this occurs, the glass may come loose and then fall out and possibly result in a vehicle crash.

PRECAUTIONS YOU CAN TAKE: There are no precautions you can take other than having your vehicle repaired by a Volvo Parts and Service Center.

TIME REQUIRED FOR THE REPAIR: The labor time required to inspect your vehicle is approximately two hours.

WHAT YOU SHOULD DO: You should contact the nearest Volvo Parts and Service Center and make an appointment. The window will be replaced at no charge to you. All Volvo Parts and Service Centers have been sent a bulletin covering all the details required to perform the safety recall.

You can locate the closest Volvo Parts and Service Center by going on line to <http://www.volvo.com/trucks/na/en-us/dealers/> and selecting "Dealer Locator" or by calling our toll-free number: (800) 528-6586.

NOTICE REGARDING LEASED VEHICLES: If you are a Lessor of vehicles subject to this Notice, you have an obligation under Federal Law to provide a copy of this Notice to all Lessees within 10 days of your receipt of this Notice. Further, you must maintain a record, which identifies the Lessee(s) to whom you send a copy of this letter, the date you send this letter, and the Vehicle Identification Number(s) of the vehicle(s) that you have leased to that lessee. For purposes of this Notice, the term Lessor means: a person or entity that is the owner, as reflected on the vehicle's title, of any five or more leased vehicles (as defined in CFR Section 577.4), as of the date of notification by the manufacturer of the existence of a safety-related defect or non-compliance with a Federal Motor Vehicle Safety Standard in one or more of the leased motor vehicles.

**OWNER RECALL
RESPONSE CARD:**

The enclosed "Notice of Vehicle Recall" identifies your vehicle. If you no longer own the vehicle, please help us update our records by completing the "Vehicle Disposition Record" portion of the enclosed postage-free Notice of Mandatory Safety Campaign card and mailing it back to us.

**ASSISTANCE/
COMPLAINTS:**

If you need assistance, please contact:

Volvo Trucks North America
Regulatory Affairs Department,
P.O. Box 26115
Greensboro, NC 27402-6115
vtna.regulatoryaffairs@volvo.com

You may also submit complaints to the Administrator of the National Highway Traffic Safety Administration (1200 New Jersey Avenue, S.E., Washington DC 20590 or call the toll-free Auto Safety Hot Line at 1-888-327-4236 (TTY: 1-800-424-9153), or go to <http://www.safercar.gov>.

**PRE NOTIFICATION
REMEDIES:**

If you have previously paid for repairs as a result of this issue, you may be entitled to recovery of those expenses.

Submit copies of all documentation supporting your claim according to the rules specified in the "General Plan for Reimbursement of Pre-notification Remedies" provided in this mailing.

We regret any inconvenience this may cause to your operation, but hope you will appreciate our sincere efforts to demonstrate Volvo's commitment to provide our customers with the best possible product.

VOLVO TRUCKS NORTH AMERICA

Vehicle Safety Recall Quarterly Report Information¹

Required per 49 CFR Part 573.7

Report Date: July 15, 2011

Calendar Quarter: QUARTER 2 – 2011

Safety Recall Quarterly Report from April 1, 2011 through June 30, 2011

Manufacturer: VOLVO TRUCKS NORTH AMERICA

Report Author: Gerard Hones Phone: (336) 393-2404

Recall Subject: Sleeper Windows

1. NHTSA Safety Recall Campaign Number: 10V-086

Also, for completeness, if your company has assigned a code number to this campaign, please provide your code: RVXX1001

2. (a) The date notification to purchasers began: 6/7/2010

(b) The date notification of purchasers was completed: 6/7/2010

3. The Total Number of Vehicles Involved: 2,678

The total number of vehicles involved in the subject campaign (including all items sold or distributed to purchasers, dealers, distributors, and similar entities beyond the immediate control of the manufacturer/importer).

4. (a) Total Number Inspected & Remedied: 2,048

Total number of vehicles which were inspected and/or otherwise repaired or remedied.

(b) Total Number Inspected & NOT REQUIRING REMEDY: 0

Total number of vehicles involved in the recall and inspected, but determined to NOT REQUIRE REMEDIAL or recall repair work.

5. Vehicles Determined to be Unreachable

Total Number Exported: 0

Total Number Stolen: 0

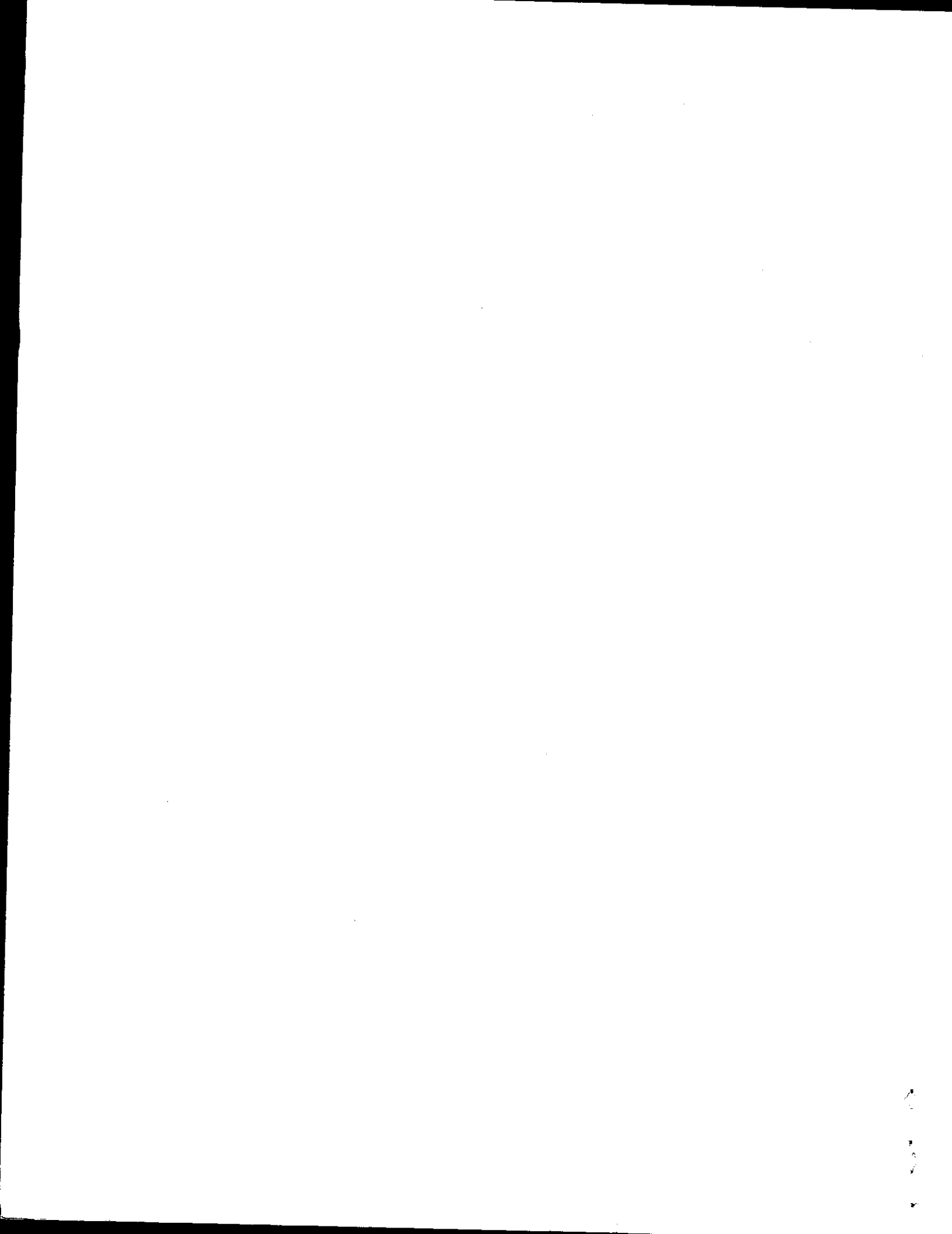
Total Number Scrapped: 0

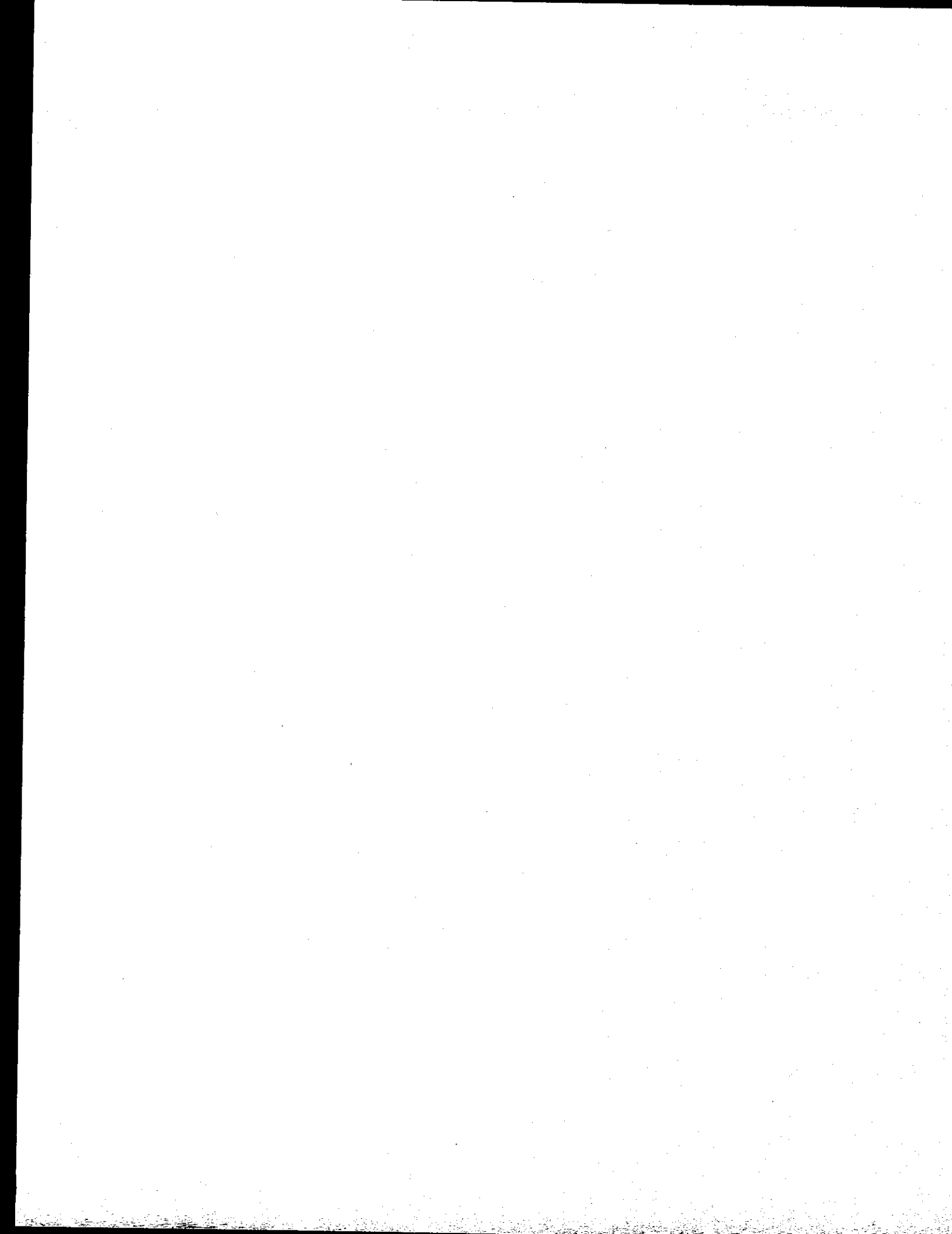
Total Number Unable to Notify: 0

Total Number Otherwise Unreachable: 0

Describe Other: _____

¹Any Questions please contact Mrs. Kelly Schuler or Mr. George Person at (202) 366-5227 or by FAX at (202) 366-7882.





V2010-04

SAFETY DEFECT DETERMINATION REQUEST

TO: Bill Dawson
Kenneth Oom
Roger Johnston
Ken Culver

DATE: July 20, 2010

FROM: Tim L. LaFon

SUBJECT: Safety Defect Investigation
Upper Bunk Windows
Investigation V2010-04
CONFIDENTIAL!

CC: Per Carlsson
John Mies
John Walsh
Patrick Besson
Therence Pickett

Gentlemen,
For your review and consideration,

On Volvo VN 670 and 780 model vehicles manufactured from March 1, 2008 through February 9, 2009, the bottom track that attaches to the arms used to open and close the window may de-bond, which results in the glass coming loose at the bottom. If this occurs and is left untreated, the upper window hinges may fail and allow the glass to fall out of the window frame.

The total number of vehicles that are affected is approximately 5,060.

The repair will consist of inspecting and repairing or replacing the windows as required.

I have included additional information on page 4 of this document.

I ask that you please take the attached "Committee Member Position" form and check the appropriate box, date, sign, and return it to me by **Monday, July 26, 2010.**

If you have any questions concerning the investigation please give me a call at (336) 393-2233.

Best Regards,
Tim



INVESTIGATION #: V2010-04
RECALL #: RVXX1004

SAFETY DEFECT INVESTIGATION

1. **TITLE:** Upper Bunk Windows
2. **SUBMITTED BY:** NHTSA
3. **STATUS:** Investigation
4. **EXPOSURE:** 5,060 vehicles
5. **PROBLEM SUMMARY:** On Volvo VN 670 and 780 model vehicles manufactured from March 1, 2008 through February 9, 2009, the bottom track that attaches to the arms used to open and close the window may de-bond, which results in the glass coming loose at the bottom. If this occurs and is left untreated, the upper window hinges may fail and allow the glass to fall out of the window frame.
6. **VEHICLE DISPOSITION:**
 - **PRODUCTION:** Not affected.
 - **CUSTOMER VEHICLES:** All affected vehicles are to be addressed by inspecting and repairing or replacing as required.
7. **CHRONOLOGY:**

5/10	Investigation opened as a result of inquiry from NHTSA on scope of previously released recall RVXX1001.
7/19/10	Information submitted to Product Safety Committee for review and recommendation.



SAFETY DEFECT
COMMITTEE MEMBER POSITION FORM

INVESTIGATION NO.: V2010-04

SAFETY RECALL NO.: RVXX1004

TITLE: Upper Bunk Windows

COMMITTEE MEMBER/DESIGNATE POSITION:

- Recommends submitting the determination request
- Do not recommend submitting the determination request
- Request additional information
- Inconclusive findings continue investigation

COMMITTEE MEMBER/DESIGNATE NAME (PRINT): _____

COMMITTEE MEMBER/DESIGNATE SIGNATURE: _____

DATE: _____

Please return form by: Monday July 26, 2010

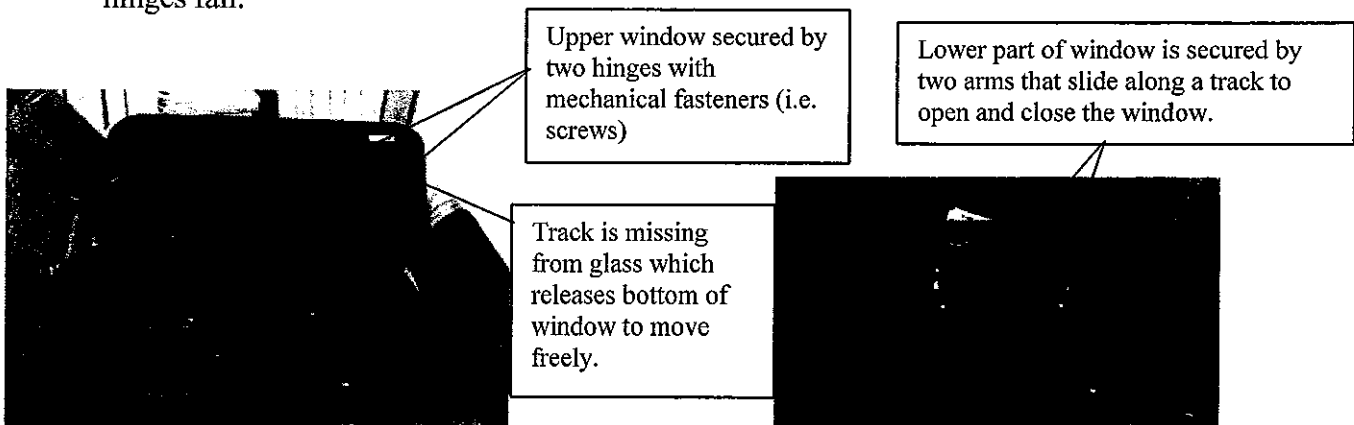
To: Tim L. LaFon
Manager, Regulatory Affairs
Corporate Center 2nd floor
Greensboro, NC
timothy.lafon@volvo.com

Additional Information:

- QJ 844-13 issued in 2009 as a result of rpts from the field and production. Information supplied by supplier quality at the time suggested issue limited to vehicles produced in September through November 2008. Root cause supplied by supplier suggested cause was improper priming of glass or track; however, no definitive dates were supplied.
- Review of warranty information suggests problem may have started in Mar-Apr 2008,

	# built for period	# rpts	Fell out	track	other	% failure rate total	% fell out per total
Feb-08	409	0	0	0	0	0.00	0.00
Mar-08	74	2	0	0	2	2.70	0.00
Apr-08	1043	102	24	20	58	9.78	2.30
May-08	488	45	11	7	27	9.22	2.25
Jun-08	510	58	10	8	40	11.37	1.96
Jul-08	356	33	9	8	16	9.27	2.53
Aug-08	367	30	12	9	9	8.17	3.27
Sep-08	587	18	7	5	6	3.07	1.19
Oct-08	475	36	15	10	11	7.58	3.16
Nov-08	446	4	1	0	3	0.90	0.22
Dec-08	359	3	1	0	2	0.84	0.28
Jan-09	355	2	0	1	1	0.56	0.00

- Recommend initiation of safety recall to inspect and to replace as required for the period of March 2008 through February 2009. The start date selected is based on the warranty information as shown above and the end date is based on the date we stopped using this style of upper bunk window. (Note the new style upper bunk window is also subject to a safety recall that was released earlier this year, RVXX1001).
- This is the third safety recall involving upper bunk windows. The first one was initiated back in 2003, with two additional recalls this year.
- The manufacturer is Taylor Made and the part numbers in question are 8078613 and 8078614.
- Failure mode is bottom track that attaches to hand crank arms comes loose thus allowing glass to be loose at the bottom, which can possibly result in separation if the window hinges fail.





North American Trucks



SAFETY DEFECT DETERMINATION REQUEST

TO: Dennis Slagle

FROM: Tim LaFon

DATE: July 26, 2010

SUBJECT: Upper Bunk Windows

Investigation #: 2010-04; Recall #: Volvo- RVXX1004

ABSTRACT: On Volvo VN 670 and 780 model vehicles manufactured from March 1, 2008 through February 9, 2009, the bottom track that attaches to the arms used to open and close the window may de-bond, which results in the glass coming loose at the bottom. If this occurs and is left untreated, the upper window hinges may fail and allow the glass to fall out of the window frame.

NUMBER OF VEHICLES: 5,060

The NA Product Safety Committee has reviewed the above investigation and recommends a determination of the existence of a safety-related defect.

FINAL DETERMINATION:

Recommendation accepted.

Recommendation rejected for the reason noted on attached.

Signed:  Date: 7-27-10

Please return form to:
Tim LaFon
Manager, Regulatory Affairs
Corporate Center 2nd floor
Greensboro, NC
timothy.lafon@volvo.com



July 28, 2010

Mr. Brian Castleman
Director Industrial Glass Systems
Taylor Made Glass Systems
407 N. Maple St.
Payne, OH 45880

Re: Upper Window Recall, Part numbers 8078613 and 8078614

Dear Brian:

As we discussed today, Volvo will release a safety recall on the upper bunk windows provided by Taylor Made. The scope is 5,188 vehicles with a period of March 1, 2008 through February 6, 2009.

This decision was based on review of relevant materials and an inquiry from NHTSA who had also received reports and seen an uptick in warranty claims for the windows. For the period in question, there were ninety reports of window glass falling out.

The documents (see attached) will be sent to NHTSA and Transport Canada on Friday July 30th and will be made public shortly thereafter on the government websites.

Since this defect is associated with the manufacturing process, we expect Taylor Made to reimburse Volvo for all expense associated with the recall. I will forward you a copy of the estimated cost as soon as I have it prepared.

Additionally, we must decide how to repair the vehicles. My preference would be for Taylor Made to provide a kit that can be used. The other alternative would be to use the window that is currently used by Volvo in production and the aftermarket, which is not manufactured by Taylor Made. This decision will be based primarily on timing; we are bound by Federal Law to repair the vehicles within a reasonable time and pursue all available means to repair the vehicles. I will look to you and Taylor Made for a decision on whether you can support the recall by providing material within the required frame (i.e. 60 days or less).

I understand that this is a lot to digest and expect that you and Taylor Made may have additional questions. Therefore, please feel free to give me a call at any time.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim LaFon".

Tim LaFon
Manager, Regulatory Affairs
Phone: (336) 393-2233
Cell : (336) 457-2263
Fax: (336) 393-2444
Email: timothy.lafon@volvo.com

Cc: Ming-Chu Hsiao, William Johnston, Jonathan Halas, Janice Gose, and Terry Gordon

Lafon Tim (othy)

From: Lafon Tim (othy)
Sent: Thursday, July 29, 2010 12:38 PM
To: Aguirre Manuel; Ahtia Pasi; Anderson Joseph; Bachmeier Dave; Barnhardt Steve; Bickel Michael; Billie Joseph; Billings Terry; Bio Frank; Bird Charles; Björnsne Jenny; Blue Vanessa; Britt Martha; Broadmeadow Herb (ert); Brown Charles; Brumley Michael; Buchinsky Stephen; Buick Bob; Campbell Archie; Cary Philip; Coffron Bill; Conaghan Jack; Cook Lawrence; Davis Ken; Davis Tamara; Day Steve (n); Denny Jeff (rey); Edwards Bill; Fancher Jim; Feaster Selwyn (a); Friend Doug (las); Galea Joe; Gaudreau Nicole; Gioppo Jones; Girard Carol; Gose Janice; Gossler Chris; Gruber Seth; Halas Jonathan; Hartung Trevin; Hasting Ray; Hensinger Scott; Holder Leslie; Holderfield Greg (ory); Hollinger Kurt; Hones Gerard; Hubbart Bill; Hylton JR; Johnson Tom; Kane Michael; Keen Rick; Keener Debbie; Keesee Doug; Komuves Francis; Lafon Tim (othy); Lamarche Donna; Lambeth Ray; Lambrecht Paul; Landis Gerald; Lester Jeff (rey); Lindley Vince (nt); Lytton Dewey; Mann Chris; Marsh Wes (ley); Marshall Rick; Matteson Steve; Maxwell Pam (ela); Mayer Mark; McCleery Shawn; McCormick Randy; McMahan Carole; Mochrie Bruce; Montgomery John; Moore Gigi; Morel Wendy; Narain David; Natal Silda; Neal Frank (a); Neese Mark; Oppe Maurice; Orsulak Joseph; Osborne Libby; Parten Scott; Petersen Pat; Pollock Kevin; Popham Richard; Poulson Jerry; Riley Ed (ward); Rodriguez Jaime; Rose Bob; Saxman Ed; Schaefer Skip; Schlottmann Guenter; Setliff Dennis; Shearer David; Shehan John; Simpson Rob; Smith Debbie; Smith Harold; Smith Sue (a); Spence Peter; Tedder Russ (ell); Thomas William; Tollis Angelo; Truta Mike; Turnbull Andy; Vansteen May; Walker Allen; Walsh Philip; Weary Brent; Weatherly Doug; Zody Jeffrey; Zuback Alexander
Cc: Astrom Lars; Avenstam Marcus; Besson Patrick (b); Carlsson Per; Collignon Patrick; Covey David; Culver Ken (neth); Curri Mark; Dawson Bill; Dunford Pat; Flaherty Kevin; Gustafson Riber; Holmström Torbjörn (s); Hungria Carlos (r); Jandrasits James; Janis Stan; Johansson Christer; Karlsson Stefan; Kohle Tommy; Lundegard Jan (jlu); Mies John; Miller Jonathan; Mullin Paul; Nilsson Carl; Oom Kenneth; Persson Bengt (i); Pickett Therence; Querter Dirk; Roy Stephen; Scharf Heino; Sholl Dennis; Slagle Dennis; Traub Jo; Wallström Sven; Walsh John; Watson Wade; White Tom; Wikforss Mårten
Subject: FW: Volvo Safety Recall Information, RVXX1004 Upper Sleeper Window
Importance: High
Attachments: RVXX1004 NHTSA NOTICE.pdf

NEW Volvo Safety Recall, RVXX1004 Upper Sleeper Window

This is to provide you with advance notice of a new safety recall that will be released to the US and Canadian authorities on Friday, July 30 2010. The information will be made public when posted to the agency's websites, which will most likely occur next week. Since this information will be made public, it is likely that attorneys, insurance agencies, and/or media could contact any of us. In those cases you should inform them to contact our communications department if the question originates from the media (i.e. John Walsh) or Tim LaFon (Regulatory Affairs) for non-media.

I have provided a brief summary along with the Information Report that was sent to the National Highway Traffic Safety Administration (NHTSA).

If you need further information, please feel free to give me a call.

Best Regards,
Tim LaFon
(336) 393-2233

Summary:

Description of Condition:

The bottom track that attaches to the arms used to open and close the window may de-bond, which results in the glass coming loose at the bottom. If this occurs and is left untreated, the upper window hinges may fail and allow the glass to fall out of the window frame.

Models/ Model Years Affected:

2009 and 2010 VN 670 and 780 models

Vehicle Quantities:

Approximately 5,188 vehicles (3,984 US, 1,174 Canada, 28 Mexico, and 2 Export)

Repair:

The repair will consist of an inspection using a tool designed to check the adhesion between the window glass and bottom track. The window glass assembly will be replaced if separation occurs.

Release Schedule:

Owner letters are tentatively scheduled to be mailed on or before October 4, 2010.

Supplier/Part Numbers:

Taylor Made 8078613 and 8078614



RVXX1004 NHTSA
NOTICE.pdf (124...

Lafon Tim (othy)

From: Lafon Tim (othy)
Sent: Thursday, July 29, 2010 4:58 PM
To: Al Petit
Cc: Halas Jonathan
Subject: RE: Volvo Recall notification
Attachments: 20100729164428098.pdf; working file.xls

Hi Al,

As discussed, I will wait to Tuesday to submit the documents to the government. I have attached a working file that shows the warranty claims and the 8D rpt that I referred to.

Please let me know if you have any questions.

Best Regards,
Tim

From: Al Petit [mailto:apetit@taylormadesystems.com]
Sent: Thursday, July 29, 2010 3:43 PM
To: Lafon Tim (othy)
Subject: Volvo Recall notification
Importance: High

Tim,

I left voice mails for you on both your office and cell numbers.

Please contact me as soon as possible so that we might discuss the recall information that was sent to our Mr. Brian Castleman. At least one item of urgency is that you are referencing the wrong company.

Thank you for your prompt attention to this matter.

Allan J. Petit
President
Taylor Made Systems
Taylor Made Group, LLC
93 South Blvd.
Gloversville, NY 12078
Office: 518-773-9372
Cell: 518-469-9012
apetit@taylormadesystems.com

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To rejection report: dated: 3/10/2009
 Page: 1 of pages: 1

Supplier no: 66656 Part number: 8078613 & 8078614
 Supplier name: Taylor Made Systems Part name: Upper and Lower Truck Cab Window
 Attention: Mike Harkey Issuer at Volvo: Kevin Nutt
 Rejected qty acc to Volvo: Various Non-conforming qty after investigation: Various
 Sequence no:

Analysis going on / Problem description: Various issues with the upper and lower Volvo truck sleeper cab windows. Some reports say some windows are falling out of cab, others are coming apart were the track is bonded to the glass.	Responsible 8D Team: Brian Castleman, Mike Harkey, Mike Vadney, Ryan Lengerich, and Mark Preuss	
	Planned date: 3/10/2009	
Are other part numbers affected? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> XX <input type="checkbox"/> What part numbers?	Achieved date	
Temporary action: The product that is subsequently produced is tested to pull strength of 40 lbs at 100%. Logs are kept of all tested manufactured product since the date we were approved for production on January 6, 2009. In addition a small green dot is placed on each frame to show that it was pulled tested and passed. Process sheets are kept in the work center, which specifically identify methods and procedures for all aspects of the bonding process.	Responsible: Ryan Lengerich Paula Wagner Shawna Strange Ken Graber	Step 1
	Planned date: 1/6/2009	
Markings on delivered OK parts: Small green dot placed on the frame of each unit.	Responsible: Paula Wagner	
	Planned date: 1/6/2009	
Dispatch date for first delivered OK parts: 1/6/2009	Achieved date	
Actions on pieces in stock / pipeline: How many defect parts were found? Unknown Warranties parts have been returned to Kendallville, In.	Responsible: Mike Harkey	
	Planned date:	
Do you deliver this part number to other Volvo Group plants? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> XX <input type="checkbox"/> If yes, to which ones?	Achieved date	
Have you informed them? Yes <input type="checkbox"/> No <input type="checkbox"/>		
Root cause: Improper priming of glass or track which in turn cause failures in the field.	Responsible Mark Preuss	
	Achieved date	
Definitive solution and actions: All Volvo product has been moved to Kendallville, Indiana. This should address failures in the field that was manufacture in the Springfield, Tennessee Plant. Kendallville started production of these units on 1/6/2009 and no failures have been reported from this plant. Procedures in place to preclude legacy issues already in the field. Testing and Validation will continue on all current products.	Responsible Ryan Lengerich Paula Wagner Shawna Strange Ken Graber	
	Achieved date	
Solution verified: To be determined	Responsible	
	Achieved date	
Remarks:	Responsible	

Responsible at supplier Signature: Mike Harkey

Name (block letters)
 Teleph.: 260-347-1368 ext 236 Telefax: 260-347-4618 E-mail: mharkey@taylormarine.com
 Date: 3/10/2009 Replaces 8D report dated:

Lafon Tim (othy)

From: Lafon Tim (othy)
Sent: Tuesday, August 03, 2010 11:06 AM
To: Delia.Lopez@dot.gov
Cc: Nate.Seymour@dot.gov; Hones Gerard
Subject: FW: New Safety Recall Upper Bunk Windows

Importance: High

Attachments: 20100803102851536.pdf



2010080310285153
6.pdf (502 KB)...

Hello Delia,
Attached is a new safety recall.

Please let me know if you have any questions.

Best Regards,
Tim

-----Original Message-----

From: Tim Lafon [mailto:timothy.lafon@volvo.com]
Sent: Tuesday, August 03, 2010 10:29 AM
To: Lafon Tim (othy)
Subject:

This E-mail was sent from "RNPF9FE2" (Aficio MP C5000).

Scan Date: 08.03.2010 10:28:51 (-0400)



Volvo Trucks North America

August 3, 2010

**Subject: New Safety Recall
RVXX1004, Upper Bunk Windows**

Attention:

Associate Administrator for Enforcement
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Submitted via Email to Delia Lopez

The following information is submitted in accordance with the requirements of 49 CFR Part 573.6 as it applies to a defect relating to motor vehicle safety.

573.6(c)(1)

Volvo Trucks North America ("Volvo")
7900 National Service Rd.
Greensboro, NC 27409

573.6(c)(2)

Certain Volvo model vehicles manufactured from March 1, 2008 through February 6, 2009.

The selection of vehicles was based on the suspect component's part number.

Model Affected: VN 670 and 780 models
Model Year: 2009, 2010

Component Manufacturer:

Water Bonnet Manufacturing, Inc.
800 Water Bonnet Blvd.
Springfield, TN 37172



573.6(c) (3)

There are approximately three thousand nine hundred eighty four (3,984) vehicles sold in the United States affected by the recall.

573.6(c)(4)

The percentage of the 3,984 vehicles expected to contain the defect is unknown.

573.6(c)(5)

The bottom track that attaches to the arms used to open and close the window may de-bond, which results in the glass coming loose at the bottom. If this occurs and is left untreated, the upper window hinges may fail and allow the glass to fall out of the window frame.

573.6 (c)(6)

Chronology of principle events that were the basis for the determination:

- | | |
|---------|---|
| 5/10 | NHTSA notifies Volvo regarding reports of windows failing on vehicles not included in RVXX1001. Volvo opens an investigation. |
| 7/19/10 | Investigation complete. Information sent to Volvo's Product Safety Committee for consideration. |
| 7/27/10 | Volvo determines that a safety related defect exists. |
| 8/3/10 | NHTSA notified that Volvo will initiate a voluntary safety recall |

There are a total of ninety (90) warranty claims that may be related to the defect.

573.6(c)(7)

Not applicable

573.6(c)(8)

Volvo will initiate a voluntary owner notification, and recall all 3,984 vehicles.

The recall repair will consist of inspection and repair as required.

Reimbursement for cost incurred by the owner for "prenotification remedies" will be addressed on a case-by-case basis according to the "General Plan for Reimbursement of Pre-notification Remedies" which was published December 8th, 2004.

The number, which has been assigned to this recall by Volvo, is **RVXX1004**.



A Safety Recall Alert will be released to dealers on or before August 6, 2010, which informs the dealers of the recall. Owner letters are tentatively scheduled to be mailed on or before October 4, 2010.

An advance copy of the owner letter will be submitted to NHTSA for review and approval prior to release to the owners.

If there are any questions regarding this information, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim L. LaFon", with a long horizontal flourish extending to the right.

Tim L. LaFon
Manager, Regulatory Affairs
Volvo Trucks North America
P.O. Box 26115
Greensboro, NC 27409
timothy.lafon@volvo.com
(336) 393-2233



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

1200 New Jersey Avenue SE
Washington, DC 20590

August 5, 2010

TIMOTHY LAFON
MANAGER, REGULATORY AFFAIRS
VOLVO TRUCKS NORTH AMERICA
PO BOX 26115
GREENSBORO NC 27402

NVS-215dgl
10V-359

Subject: UPPER BUNK WINDOWS

DEAR MR. LAFON:

This letter serves to acknowledge Volvo Truck's notification to the National Highway Traffic Safety Administration (NHTSA) of a safety recall which will be conducted pursuant to Federal law for the vehicles listed below.

Please review the following information to ensure that it conforms to your records as this information is being made available to the public. If the information does not agree with your records, please contact us immediately to discuss your concerns.

Makes/Models/Model Years:
VOLVO/VN/2009-2010

Mfg's Report Date: August 3, 2010

NHTSA Campaign Number: 10V-359

Components: VISIBILITY GLASS, SIDE REAR

Potential Number of Units Affected: 3,984

Summary:

VOLVO TRUCKS IS RECALLING CERTAIN MODEL YEAR 2009-2010 VN TRUCKS MANUFACTURED FROM MARCH 1, 2008 THROUGH FEBRUARY 6, 2009. THE BOTTOM TRACK THAT ATTACHES TO THE ARMS USED TO OPEN AND CLOSE THE WINDOW MAY DE-BOND, WHICH RESULTS IN THE GLASS COMING LOOSE AT THE BOTTOM.

Consequence:

THE UPPER WINDOW HINGES MAY FAIL AND ALLOW THE GLASS TO FALL OUT OF THE WINDOW FRAME CREATING A ROAD HAZARD AND INCREASING THE RISK OF A CRASH.

Remedy:

DEALERS WILL INSPECT AND REPAIR AS REQUIRED FREE OF CHARGE. THE SAFETY RECALL IS EXPECTED TO BEGIN ON OR BEFORE OCTOBER 4, 2010. OWNERS MAY CONTACT VOLVO TRUCKS AT 1-800-528-6586.

Notes:

VOLVO RECALL NO. RVXX1004. OWNERS MAY ALSO CONTACT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION'S VEHICLE SAFETY HOTLINE AT 1-888-327-4236 (TTY 1-800-424-9153), OR GO TO [HTTP://WWW.SAFERCAR.GOV](http://www.safercar.gov).

The information in your defect report appears to satisfy the requirements of 49 CFR 573.6.

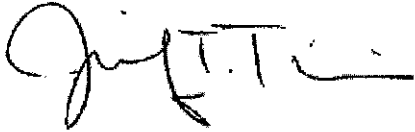
Please provide the following additional information and be reminded of the following requirements:

You are required to submit a draft owner notification letter to this office no less than five days prior to mailing it to the customers. Also, copies of all notices, bulletins, dealer notifications, and other communications that relate to this recall, including a copy of the final owner notification letter and any subsequent owner follow-up notification letter(s), are required to be submitted to this office no later than 5 days after they are originally sent (if they are sent to more than one manufacturer, distributor, dealer, or purchaser/owner).

As stated in Part 573.7, submission of the first of six consecutive quarterly status reports is required within 30 days after the close of the calendar quarter in which the campaign was initiated. Thereafter, quarterly reports will be due on or before 30 days after close of the calendar quarter.

Your contact for this recall will be Delia Lopez who may be reached by phone at 202-366-9525, or by email at Delia.lopez@dot.gov, or through the office email at RMD.ODI@dot.gov. We look forward to working with you toward a successful completion of this recall campaign.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer Timian". The signature is fluid and cursive, with the first name being more prominent.

Jennifer Timian
Acting Chief, Recall Management Division
Office of Defects Investigation
Enforcement



Safety Recall ALERT

Date: August 6, 2010 **Number:** SRA-V10-03
To: All U.S. & Canadian Distributors
Attention: Service Manager, Warranty Manager, Parts Manager, Dealer Principal
From: Regulatory Affairs Department
Subject: Safety Recall, RVXX1004, Upper Bunk Windows

Safety Recall Summary:

On certain Volvo model vehicles manufactured from March 1, 2008 through February 6, 2009, the bottom track that attaches to the arms used to open and close the window may de-bond, which results in the glass coming loose at the bottom. If this occurs and is left untreated, the upper window hinges may fail and allow the glass to fall out of the window frame.

The number of vehicles affected is approximately 5,188 (3,984 US, 1,174 Canada and 30 Export).

Dealer's Responsibility:

The National Traffic and Motor Vehicle Safety Act and Canadian Motor Vehicle Safety Act requires dealers to ensure that all new and used vehicles are free of safety defects and comply with all relevant safety standards at the time of delivery to the consumer.

Dealers should make their personnel aware of the safety recall. In the event that a dealer has a vehicle included in the safety recall in their inventory to be sold, the condition must be corrected before releasing it to a customer.

Release Schedule:

- Repair Instructions are tentatively scheduled for release no later than September 27, 2010.
- Vehicle list will be posted on the Trucks Dealer Portal on or before August 6, 2010.
- Owner Notices are scheduled to be mailed on or before October 4, 2010.

Questions:

Contact the Regulatory Affairs Department at ytna.regulatoryaffairs@volvo.com if you have questions.



Taylor Made
GLASS SYSTEMS™

Taylor Made Glass Systems
Taylor Made Glass Ohio, LLC
1101 Stonebraker Drive
Kendallville, IN 46755

Phone: 260-347-1368 ext. 227
Mobile: 260-466-5225
Fax: 260-347-4618
e-mail: bcastleman@taylormadeglass.com

Via Regular Mail and Electronic Mail
(timothy.lafon@volvo.com)

September 3rd, 2010

Tim L. LaFon
Manager; Regulatory Affairs
Volvo Trucks North America
PO Box 26115
Greensboro, NC 27409

Re: New Safety Recall
RVXX1004, Upper Bunk Windows

Dear Mr LaFon,

I am writing in response to your August 24th letter concerning the Safety Recall RVXX1004 and the additional information relayed during a telephone conversation last week with Dennis Flint and Andy Jobbins. Taylor Made has added comments in italicized lettering.

On behalf of Volvo Trucks North America ("Volvo"), I offer responses to your comments/questions expressed in letters of August 2nd and August 5th.

1. *"Taylor Made Glass Ohio, LLC. ("TMGO") does not agree that defective product was supplied, as it relates to part number 8078613 807614, to Volvo Trucks North America (Volvo)."*

Volvo's response: Volvo disagrees with TMGO's position. The presence of an 8D report initiated by Taylor Made (see attached) and corrective action taken is evidence in and of itself that a defect existed. Additionally, the substantial increase in warranty claims and reports of windows falling out further supports a defect existed (see attached).

Furthermore, TMGO supplied no evidence to substantiate their position that defective product was not supplied.

*TMGO's response on behalf of itself and Water Bonnet:
Initially, it should be noted that Water Bonnet did not initiate the 8D report filing. Volvo's filing of a form 8D does not establish that there was a defect or that Water Bonnet is responsible for the defect if there was one, or whether the recall of the magnitude proposed is necessary. The 8D report does not conclude that*

there was an issue that would necessitate a recall back to the beginning of the 2008 year. The response was based on a potential issue with the priming process that occurred in the month of September 2008 at the Springfield facility. I have attached e-mails (from January 2009) from William Johnston isolating the potential issues related to the upper bunk windows from September to November of 2008.

While Water Bonnet did warranty the windows that failed prior to the 1 year 100,000 mile warranty period during the 2008/2009 period, Water Bonnet was not aware that windows "fell out" as noted in the data supplied on September 2nd. This information suggests an additional failure mode that potentially allows the window in some form to fall off of the Volvo truck. This brings up a number of questions that we would appreciate answers for:

- Is the operator allowed to drive the truck with the upper windows open?*
- When the Water Bonnet upper windows were reported to have fallen out what was the failure mode?*
- What components actually fell out? The entire frame or the glass and hinges?*

There is a big difference between a nuisance failure of the track de-bonding and a potential safety hazard as suggested by your correspondence. We are seeking a clarification of the nature and extent of the failure so that we can analyze potential solutions.

By way of background, the window sets at issue were supplied by Water Bonnet to Volvo under the brand name "Transwind", using a design of Transwind dating back to 2003 (the 2003 Design"). Attached is a copy of the drawings and specifications for the upper window with the 2003 Design. There was a recall on this window in 2003 which was addressed by Volvo and Water Bonnet. After the recall, but before its acquisition by Taylor Made Group, Inc. (see the more detailed description at item 2), Water Bonnet proposed an alternate design to be supplied by Mack Moldings (the "2005 Design"). The 2005 Design was declined by Volvo, which instructed Water Bonnet to continue supplying based on the 2003 Design. At roughly the same time, Volvo began to make purchases using many of the aspects of the 2005 Design directly from Mack Moldings. If the failures are related to design, it is believed that Water Bonnet's responsibility for failure is severely limited by Volvo's instruction to continue supplying using the 2003 Design. If the failure is related to a manufacturing defect, in the absence of any further information, Water Bonnet believes that its obligations are limited to (1) product produced during the period September through November, 2008, or about 60 sets of windows and (2) Volvo's failure to inform Water Bonnet of the failures on a more timely basis so that Water Bonnet could have analyzed the situation and perhaps proposed a fix that would have resolved the problem.

- 2. "There is not a business entity named Taylor Made. Water Bonnet Manufacturing, Inc. ("Water Bonnet") manufactured the upper windows and is an affiliate of TMGO.*

Volvo's response: This statement was associated with a draft copy of the government report that was sent to you for review. You responded back that Water

Bonnet Manufacturing, Inc. of 800 Water Bonnet Blvd., Springfield TN 37172 was the manufacturer of the component in question. At your request and advisement, I put this in the government report thus replacing Taylor Made.

Volvo has reviewed relevant orders for the product, which all state the supplier as Taylor Made Glass Systems of Springfield TN. As a result of these finding, we are very concerned that the information supplied to the government (i.e. Water Bonnet as the manufacturer) may be false. Accordingly, we ask that TMGO provide proof to substantiate that the manufacturer (i.e. supplier) of the component for the period in question (March 1, 2008 through February 6,2009) was indeed Water Bonnet as previously reported by TMGO.

TMGO's response on behalf of itself and Water Bonnet:

Please be assured that Volvo did not supply inaccurate information to the government based on Water Bonnet's comments. The information provided to the Government was correct. On March 9, 2006, Taylor Made Group, Inc. bought all of the outstanding shares of capital stock of Water Bonnet MFG, Inc. ("Water Bonnet") from L.C. Norman. The first page of Stock Purchase Agreement is attached.

The relationship between Mack Trucks Inc., Volvo Trucks North American Inc. ("Volvo") and Water Bonnet MFG, Inc. substantially preceded the acquisition of all of the common stock of Water Bonnet MFG, Inc. by Taylor Made Group Inc.

As part of the transaction, Water Bonnet leased the Springfield, Tennessee facility from Norman Investment Property, Inc., which had been formed by Mr. Norman for that purpose. A copy of the Memorandum of Lease, commencing March 8, 2006 and ending March 7, 2011, as filed in the Office of the Register of Robertson County, Tennessee is attached. As can be seen from reviewing the Memorandum of Lease, Water Bonnet continues to lease the Tennessee facility from Mr. Norman's company.

When the stock of Water Bonnet was acquired, Water Bonnet continued to use the Tennessee facility for manufacturing purposes from March 9, 2006 through March, 2009. During that period of time, the parts which are the subject of the recall were manufactured at the Tennessee facility by Water Bonnet. The employees of Water Bonnet in March of 2006, including those at the Tennessee facility, continued as employees of Water Bonnet after the stock acquisition. Manufacturing operations at the Tennessee facility have now ceased.

Water Bonnet continues as an existing company, although it was changed from a corporation to a limited liability company in October, 2009. I am attaching a copy of a good standing certificate from the State of Delaware which confirms this status.

The window sets which were manufactured by Water Bonnet in Tennessee employed a design retained by Volvo after a previous recall, despite a proposed redesign submitted by Water Bonnet. According to the records, the proposed redesign was submitted during a meeting between Water Bonnet and Volvo

personnel in 2005. The existing design thus pre-dated the acquisition of the stock of Water Bonnet. (Prints are attached). Water Bonnet has confirmed that all of the window sets at issue were manufactured in Tennessee. Purchase orders may reference Taylor Made Glass Systems or a name other than Water Bonnet simply because all of the affiliates of Taylor Made Systems were implementing use of a MAPICS business systems platform.

3. We would like to formally request all records, in whatever form they exist, including electronic records, relating to the recall. Initially, we are requesting all correspondence between Volvo and NHSTA relating to the recall.

Volvo's response: See attached documents/ correspondence between Volvo and NHTSA.

TMGO's response on behalf of itself and Water Bonnet:
The correspondence supplied by Volvo appears to be final communications after the investigation was complete. Water Bonnet is interested in the information that the NHTSA provided as evidence that convinced Volvo to further investigate Water Bonnets window and the actual result of the investigation that ultimately made Volvo conclude that a recall of this magnitude was necessary. Was the recall of the Water Bonnet window linked to the recall of the Mack Molding window?

4. Without conceding that either Water Bonnet or TMGO has any liability associated with the component supply or replacement/testing labor for administering a recall, TMGO can supply upper window replacement components to aid Volvo.

Volvo's response: Volvo appreciates TMGO supporting us by providing parts. Volvo does want to communicate to TMGO, that we are not afforded much time to start the repairs. The typical time frame is approximately 60 days. If TMGO is unable to provide parts within this time frame, we will have no other option than to pursue other solutions to address the safety defect.

TMGO's letter of August 19th indicates that TMGO will not honor the purchase orders placed by Volvo for replacement parts, Volvo will have to pursue other options to address the vehicles. Other solutions will result in more cost to Volvo and therefore TMGO, when reimbursing Volvo for the expense of the recall.

TMGO's response on behalf of itself and Water Bonnet:
Without conceding liability associated with the recall, to show good faith and support for Volvo the repair part orders have been entered and raw materials have been ordered.

5. It should be understood that neither Water Bonnet nor TMGO accepts any financial responsibility for the recall that is being initiated by Volvo.

Volvo's response: We expect supplier's to support Volvo financially when products supplied have manufacturing defects resulting in field actions. We do believe in

providing an opportunity to our suppliers to present information if they believe that they are not responsible. Therefore, Volvo will not charge TMGO for expenses until an opportunity is given to TMGO to present their position. What has been provided thus far does not relieve TMGO from its responsibility.

*TMGO's response on behalf of itself and Water Bonnet:
We respectfully request more information regarding the issues that were documented by the NHSTA to support the decision to make the recall.*

In the August 5th letter, you suggest that the Supplier Warranty Agreement that existed between Water Bonnet Manufacturing Inc. and Volvo Trucks North America, Inc. signed in June and July of 2005 would be considered a framework agreement as defined in Volvo's General Purchasing Conditions. Volvo disagrees with TMGO's position that the Supplier Warranty Agreement is a "Framework Agreement" as defined in the General Purchasing Conditions. Furthermore, the parts in question were purchased from Taylor Made Glass Systems as stated on the Purchase Order. TMGO has not provided any information to substantiate their position that the components in question were manufactured or sold by Water Bonnet Manufacturing, Inc. Volvo's position remains the same as previously communicated; the Volvo General Purchasing Conditions included with the Purchase Order would apply.

In summary, Volvo has responsibility to repair the vehicles involved in the safety recall within the timely manner. Volvo hopes that Taylor Made will support us by honoring the purchase orders that have been submitted for parts to repair the vehicles. Volvo needs a positive answer (i.e. agreement to supply required parts) by September 1st, 2010, otherwise Volvo will have to pursue and use other available solutions to remedy the vehicles.

Volvo agrees to not take action to recovery money for the recall expense until Taylor Made is afforded an opportunity to provide facts to support their position "that they are not responsible for the defect". Volvo will allow one month (no later than October 1st) for TMGO to collect and present facts to support their position. I am available for discussions any week in September with the exception of the week of September 6. Please let me know what days work best for you.

*TMGO's response on behalf of itself and Water Bonnet:
The relationship between Volvo and Water Bonnet had been reduced to writing in a "Supplier Warranty Agreement", a copy of which is attached. Under that agreement, the warranty for O.E. parts is reduced to one (1) year or 100,000 miles, a negotiated reduction from the previous warranty period of three (3) years or 350,000 miles. Although Volvo and representatives from Taylor Made Group, Inc. and its affiliates were in the process of negotiating a new supplier agreement in 2007, no successor agreement was ever entered into, and the standard invoice, which includes "Volvo's General Purchasing Conditions", does not amend the Supplier Warranty Agreement. In fact, it preserves it at Sections 3.4 and 2.7. Section 3.4 of Volvo's General Purchasing Conditions provides that*

"A Purchase Agreement includes these General Purchase Conditions and also, to the extent that they are issued, the following documents:

Framework Agreement (which shall prevail over these General Purchasing Agreement)."

Section 2.7 of Volvo's General Purchasing Agreement provides the definition of a "Framework Agreement". It states:

"Framework Agreement" is an agreement that AB Volvo or an AB Volvo Subsidiary and the Supplier may have entered into which main objective is to form the basis for supply to AB Volvo Subsidiaries."

Notwithstanding Water Bonnet's willingness to discuss a resolution of this matter, the defect being claimed by Volvo would fall outside the obligations contained in the applicable Supplier Warranty Agreement.

Water Bonnet has been and will continue to work in good faith to do what is deemed appropriate in terms of issues that may have existed with product that was manufactured by it. I would request a face to face meeting during the week of September 20. Please let me know which days are convenient for you.

Yours sincerely,



Brian Castleman
Director of Industrial Systems

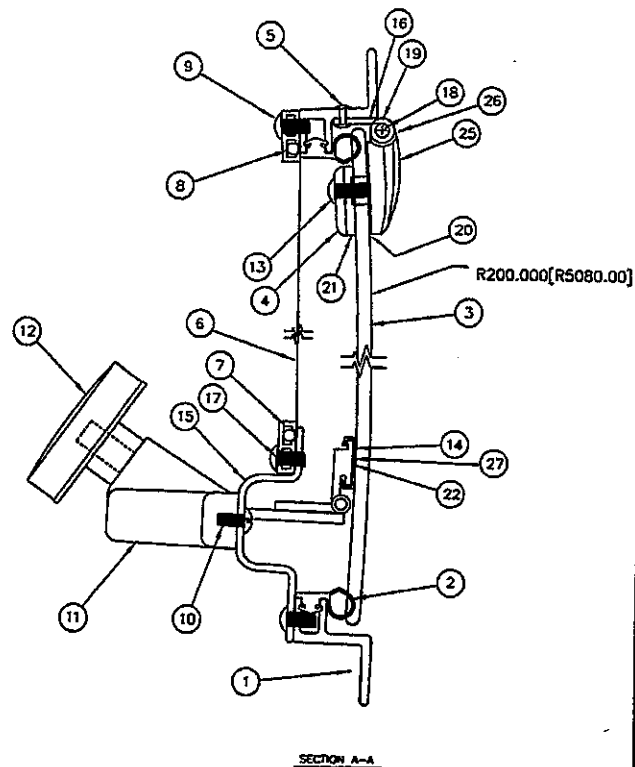
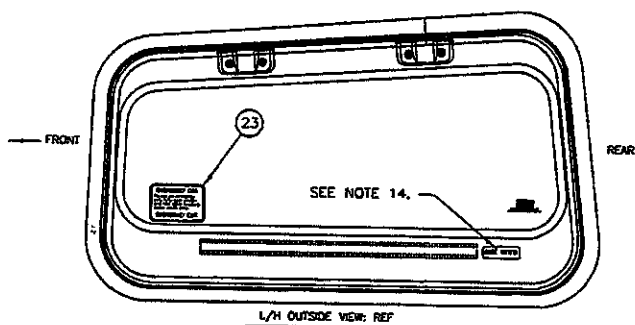
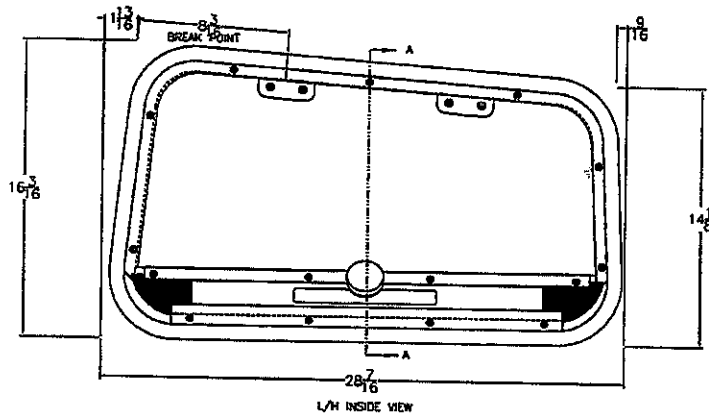
Enclosures

cc: Dennis Flint, Chairman and CEO
Andy Jobbins, President and COO

A Member of the Taylor Made Group

Taylor★Made® is a trademark or registered trademark of Taylor Made Group, LLC in the United States and in other countries.
Taylor Made Glass Systems™ is a trademark of Taylor Made Glass Ohio, LLC in the United States and in other countries.

REVISION	DATE	BY	DESCRIPTION
1.	1/22/78	J.C.	PART NUMBER BARRS WAS ADDED.
2.	8/18/78	KAL	SHIFTED BREAK POINT LOCATION FROM CENTER OF FRAME TO CORNER BY INCREASE PARTS SIZE, CHANGE BAR METAL, TO CREATION FLEX BLACK.
3.	8/18/78	KAL	CREATE "C" REVISION CHANGE ASSEMBLY OF CRANK TO DOWN POINT, AND CHANGE PARTS 0827-B AND 0824-B TO 11/16" SIZE TO CORN 0.22 X 3/16" SIZE (SEE DRAWING PL. NO. 0823D-11 1/4" FL3 HINGE), AND BRCS PL. INSD TO 0820-B (W/DR HING).
4.	10/28/78	C.D.C.	SOLE CHANGER IN ALUM FROM .385 TO .395, BPTIC BAR FROM 3/16 TO 3/32 FOR GLASS PART #
5.	8/18/78	KAL	CHANGE D REVISION 1 ADD REVISION CHANGE 2087 ALUMINUM TRACK TO 2587 BLACK PRESSED, RELEASE LEARN BRCS.
6.	02/21/83	KAL	REMOVE PART FROM CROSS SECTION AND PLACE LIST # 15. PART # 0823B-11 HINGE PL. 1/4"



QTY	PART NUMBER	DESCRIPTION	MATERIAL	UNIT
1	02704655	SHOCK STOP	PLASTIC	1
2	26082729	WASHER 1/8" HNG	DELFIN	2
2	25082516-A	HINGE NYLON 3	DELFIN	2
2	2404657	END CAP FOAM	FOAM	2
1	23082520	LEFT LABEL VOLVO	PLASTIC	1
1	22082525-B	UREthane STEEL	URETHANE	1
2	2104654	CRK HNG INSIDE	RUBBER	2
2	2004656	CRK HNG OUTSIDE	RUBBER	2
2	1909215	3" STEEL HINGE	S. STEEL	2
2	1808253	PH HNG 3	S. STEEL	2
2	1708249-B	SHCS 8 X 3/8 BLK B POINT	S. STEEL	2
1	0604273	SHAPLEX	ADHESIVE	1
1	1525837	CRANK MTL CORL	T-35 AL	1
1	1425807	TRK BLK 15	ALUMINUM	1
1	1308250	# 8 X 3/8 TRP SCREW	S. STEEL	1
4	1208252	# 8 X 3/8 TRP SCREW	S. STEEL	4
1	1109200	CRNK VOLVO BLK	ALUMINUM	1
2	1009200	# 8 X 3/8 TRP SCREW	S. STEEL	2
11	908249-B	SHCS 8 X 3/8 BLK B POINT	S. STEEL	11
1	804433	SPR NG	NYL	1
1	702526	SCREEN FRM BLK	NYL	1
1	605601	SCRN F.G. GRAY	FABRIC	1
4	508229	RWELT162/168 (M.A.X.344	S. STEEL	4
2	4082516-B	HINGE NYLON 3	DELFIN	2
1	319832	GLASS 1/4"	NSK GLS	1
1	319915	GLASS 1/4"	NSK GLS	1
1	204632	SEAL 6.8x 7.0"	RUBBER	1
1	125831	VT FRAME	T-35 AL	1
L/H P/N	DESCRIPTION	MATERIAL	QTY	


- NOTES:
1. MATERIAL FRAME - AL T-35.
 2. FINISH - CREATION FLEX BLACK
 3. GLASS - 4 MM TINTED GREY WITH 18% LIGHT TRANSMISSION
 4. DWG. NAME LMS1772 [MSCH]
 5. WATER TIGHTNESS AS PER VOLVO STD. 5911.7.
 6. ALL SCREWS COATED WITH RED LOC-TITE ON THREADS.
 7. USE URETHANE FOR SLIDER TRACK ADHESIVE (ESSEX P/N U-418).
 8. ESSEX P/N U-413 IS REQUIRED TO BE APPLIED TO THE FLAT SURFACE OF THE SLIDER TRACK.
 9. REFER TO PRINT NUMBER 90398 FOR HINGE SPECIFICATIONS.
 10. REFER TO DOCUMENT # LM - 220346 FOR FIRE TEST REQ.
 11. INNER AND OUTER BREAK POINT LOCATION WILL HAVE BLACK SHAPLEX - 252 ADHESIVE BOND
 12. CENTER VULCANIZED SEAL SEAM ON BOTTOM OF FRAME WITH SURFACE OF FRAME.
 13. GLASS SURFACE TO BE FLUSH, OR BELOW FLUSH WITH SURFACE OF FRAME.
 14. LOCATION OF JULIAN STICKER VIEWED FROM OUTSIDE OF WINDOW IS AT LOWER LEFT CORNER IN FRONT OF SLIDE TRACK.
 15. SLIDER TRACK ATTACHES TO GLASS IS TO BE BLACK ANODIZED.

VOLVO CREATION FLEX BLACK	8078613 8078614	1983-84 1985-86 1987-88 1989-90	1991-92 1993-94 1995-96 1997-98	1999-00 2001-02 2003-04 2005-06	2007-08 2009-10 2011-12 2013-14	2015-16 2017-18 2019-20 2021-22
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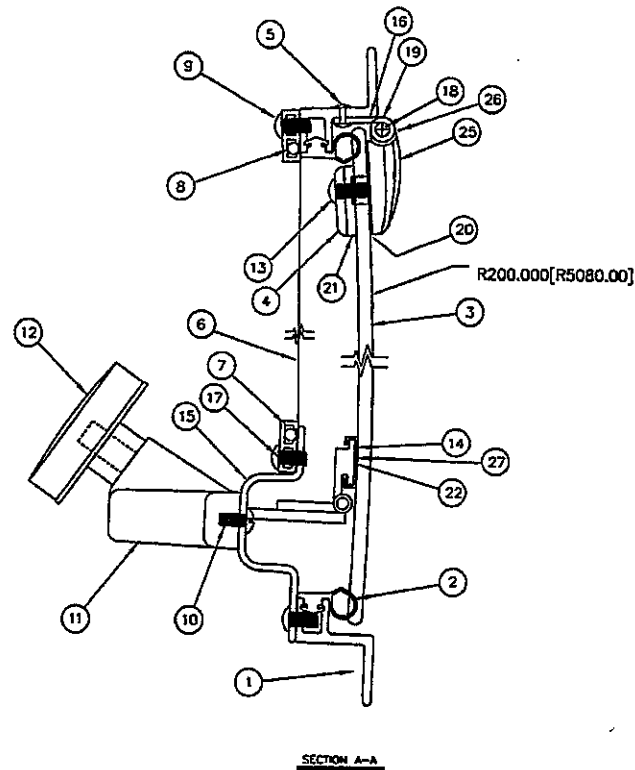
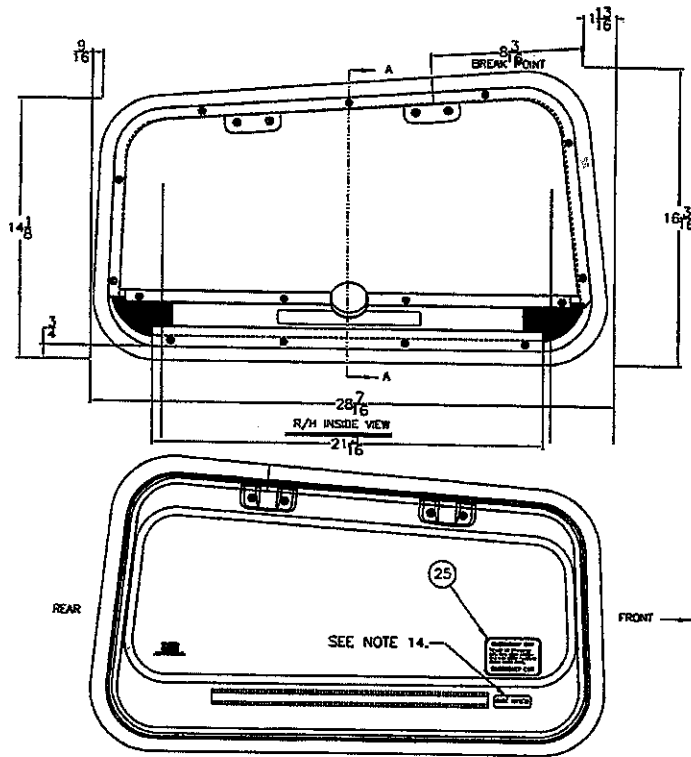
BLOW-UP OF
TITLE
LH
BLOCK

27	04655	SHOE STOP	PLASTIC	1
26	08979	WASHER 1/8" HNG	DELTRIN	2
25	09516-A	HINGE NYLON 3"	DELTRIN	2
24	04657	END CAP FOAM	FOAM	2
23	09520	EXIT LABEL VOLVO	PLASTIC	1
22	04254-5	URETHANE STEEL	URETHANE	1
21	04654	GSK HNG INSIDE	RUBBER	2
20	04656	GSK HNG OUTSIDE	RUBBER	2
19	09515	3" STEEL HINGE	S. STEEL	2
18	09513	PIN HNG 3"	S. STEEL	2
17	08549-B	SMS 8 X .5 BLK B POINT	S. STEEL	4
16	04673	SIKAFLEX	ADHESIVE	1
15	25837	CRANK MTL CHNL	T-55 AL	1
14	25807	TRK BLK 15"	ALUMINUM	1
13	09690	# 8 X 3/8" THP SCREW	S. STEEL	4
12	09302-P	KNOB AL / 09300	NYLON	1
11	09300	CRNK VOLVO BLK	ALUMINUM	1
10	09690	# 8 X 3/8" THP SCREW	S. STEEL	2
9	08549-B	SMS 8 X .5 BLK B POINT	S. STEEL	11
8	04537	SPLINE	VINYL	1
7	25286	SCREEN FRM BLK	T-42 AL	1
6	05601	SCRN F.G. GREY	FABRIC	1
5	08329	RIVET.182/.188 DIA.X.344	S. STEEL	4
4	09516-B	HINGE NYLON 3"	DELTRIN	2
3	79932	GLASS, R/H	TMP. GLS	1
3	79915	GLASS, L/H	TMP. GLS	1
2	04652	SEAL, BULB 70"	RUBBER	1
1	25831	VT FRAME	T-55 AL	1
I/N	P/N	DESCRIPTION	MATERIAL	QTY.

PARTS LIST

TOLERANCES UNLESS OTHERWISE SPECIFIED DEC. FRAT. ANG. ± .06 ± 1/16 ± .05			USAGE DATA VOLVO 8078613 8078614		THESE DRAWINGS & SPECIFICATIONS ARE THE EXCLUSIVE PROPERTY OF TRANSWIND INC., ISSUED IN STRICT CONFIDENCE & SHALL NOT, WITHOUT THE PRIOR WRITTEN PERMISSION OF TRANSWIND INC. BE REPRODUCED, COPIED, OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT THE MANUFACTURE OF ARTICLES FOR TRANSWIND INC.			 P.O. Box 549 800 Water Bonnet Blvd Springfield Tn 37172 (615) 384-6170
COLOR/FINISH CREATION FLEX BLACK					DWG. APP/P.E.: TITLE: UPPER WINDOW			
			SCALE: 1:1 CAD		REVISION : 5.			
			REV. BY: N/A		DNG. #: 606/607-1772-D			
			SEE REVISION SHEET 2 FOR PAST AND PRESENT DRAWING CHANGES.		DRAWN BY-NAME-DATE KPHOPKINS 01/07/03 CHK'D. BY-NAME-DATE			

REVISION	DATE	BY	DESCRIPTION
1.	1/22/78	A.C.	PART NUMBER CHECK SHEET ADDED.
2.	5/16/78	R.A.	SHIFTED BREAK POINT LOCATION FROM CENTER OF FRAME TO CORNER OF WINDOW PARTS USE, CHANGE FROM METAL TO CREATION FLEX BLACK.
3.	5/16/78	R.A.	CREATE "C" HINGE ASSEMBLY OF CHINE TO OTHER HINGE, AND CHANGE PARTS 0823-2 AND 1024 TO 1/4" X 1/4" SCREW TO 0823-11 1/4" FLT HINGE, AND 0823-11 1/4" FLT HINGE, AND 0823-11 1/4" FLT HINGE, AND 0823-11 1/4" FLT HINGE.
4.	10/24/78	C.O.L.	HOLE DIMENSION IN GLASS FROM .365 TO .404, SLIDER BEAM FROM .311 TO .351 FOR GLASS PART #
5.	11/15/83	R.A.	CREATE "D" HINGE; ADD NOTES CHANGE 2080 ALUMINUM TRACK TO 2080T BLACK ANODIZED, RESILIENT BEARING BRONZE.
6.	02/19/83	R.A.	REMOVE PART FROM CHASSIS SECTION AND PARTS LIST # 15, PART # 0823-11 1/4" FLT HINGE



NOTES:

1. MATERIAL FRAME - AL T-55.
2. FINISH - CREATION FLEX BLACK
3. GLASS - 4 MM TINTED GREY WITH 10% LIGHT TRANSMISSION
4. DWG. NAME LWS1772 [ASSEM]
5. WATER TIGHTNESS AS PER VOLVO STD. 5911.7.
6. ALL SCREWS COATED WITH RED LOC-TITE ON THREADS.
7. USE URETHANE FOR SLIDER TRACK ADHESIVE (ESSEX P/N U-418).
8. ESSEX P/N U-413 IS REQUIRED TO BE APPLIED TO THE FLAT SURFACE OF THE SLIDER TRACK.
9. REFER TO PRINT NUMBER 90398 FOR HINGE SPECIFICATIONS.
10. REFER TO DOCUMENT # LM - 220346 FOR FIRE TEST REQ.
11. INNER AND OUTER BREAK POINT LOCATION WILL HAVE BLACK SWAFLEX - 252 ADHESIVE BOND
12. CENTER VULCANIZED SEAL SEAM ON BOTTOM $\frac{1}{2}$ OF FRAME.
13. GLASS SURFACE TO BE FLUSH, OR BELOW FLUSH WITH SURFACE OF FRAME.
14. LOCATION OF JULIAN STICKER VIEWED FROM OUTSIDE OF WINDOW IS AT LOWER LEFT CORNER IN FRONT OF SLIDE TRACK.
15. SLIDER TRACK ATTACHES TO GLASS IS TO BE BLACK ANODIZED.

R/H OUTSIDE VIEW; REF

SECTION A-A

QTY	P/N	DESCRIPTION	MATERIAL	QTY
22	04655	SHOCK STOP	PLASTIC	1
20	08979	WASHER 1/8" HING	DELORIN	2
20	08216-A	HINGE NYLON 3"	DELORIN	2
24	04657	END CAP FOAM	FOAM	2
21	05320	LEFT LATCH YOKE	PLASTIC	1
22	04254-5	URETHANE STEEL	URETHANE STEEL	1
21	04654	GASK HING INSIDE	RUBBER	2
20	04656	GASK HING OUTSIDE	RUBBER	2
19	09315	"S" STEEL HING	S. STEEL	2
18	09313	PIN HING "S"	S. STEEL	2
17	08549-B	GNS B X 3/8 BLK B POINT	S. STEEL	4
16	04673	SWAFLEX	ADHESIVE	1
15	75837	GRANK 4011 CHINE	T-55 AL	1
14	75837	TRK BEK 15	ALUMINUM	1
13	09380	R 3 X 3/8 TRP SCREW	S. STEEL	4
12	09302-P	WINDG AL 7 DR300	NYLON	1
11	09300	DRNK VOLVO BLK	ALUMINUM	1
10	09690	# 8 X 3/8 TRP SCREW	S. STEEL	2
9	08249-B	GNS B X 3/8 BLK B POINT	S. STEEL	11
8	04537	SPRING	NYLON	1
7	25285	SCREEN FRM BLK	T-55 AL	1
6	05200	SCRN F.G. GRAY	FABRIC	1
5	08129	ROVET 1/8" / 1/8" DIA X .344	S. STEEL	4
4	08116-B	HINGE NYLON 3"	DELORIN	2
3	78512	GLASS, R/H	TEMP. GLS	1
2	79975	GLASS, L/H	TEMP. GLS	1
2	04652	SEAL BULB 70"	RUBBER	1
1	25531	WT FRAME	T-55 AL	1


REV	DATE	BY	DESCRIPTION
1	1/22/78	A.C.	INITIAL RELEASE
2	5/16/78	R.A.	CREATION FLEX BLACK

VOLVO	8078513	8078514
11 CAD	11/27/83	5.
11/27/83	11/27/83	11/27/83
11/27/83	11/27/83	11/27/83

BLOW-UP OF
TITLE BLOCK
RH

27	04655	SHOE STOP	PLASTIC	1
26	08979	WASHER 1/8" HNG	DELRIN	2
25	09516-A	HINGE NYLON 3"	DELRIN	2
24	04657	END CAP FOAM	FOAM	2
23	09520	EXIT LABEL VOLVO	PLASTIC	1
22	04254-5	URETHANE STEEL	URETHANE	1
21	04654	GSK HNG INSIDE	RUBBER	2
20	04656	GSK HNG OUTSIDE	RUBBER	2
19	09515	3" STEEL HINGE	S. STEEL	2
18	09513	PIN HNG 3"	S. STEEL	2
17	08549-B	SMS 8 X .5 BLK B POINT	S. STEEL	4
16	04673	SIKAFLEX	ADHESIVE	1
15	25837	CRANK MTL CHNL	T-55 AL	1
14	25807	TRK BLK 15"	ALUMINUM	1
13	09690	# 8 X 3/8" THP SCREW	S. STEEL	4
12	09302-P	KNOB AL / 09300	NYLON	1
11	09300	CRNK VOLVO BLK	ALUMINUM	1
10	09690	# 8 X 3/8" THP SCREW	S. STEEL	2
9	08549-B	SMS 8 X .5 BLK B POINT	S. STEEL	11
8	04537	SPLINE	VINYL	1
7	25286	SCREEN FRM BLK	T-42 AL	1
6	05601	SCRN F.G. GREY	FABRIC	1
5	08329	RIVET.182/.188 DIA.X.344	S. STEEL	4
4	09516-B	HINGE NYLON 3"	DELRIN	2
3	79932	GLASS, R/H	TMP. GLS	1
3	79915	GLASS, L/H	TMP. GLS	1
2	04652	SEAL, BULB 70"	RUBBER	1
1	25831	VT FRAME	T-55 AL	1
I/N	P/N	DESCRIPTION	MATERIAL	QTY.

PARTS LIST

TOLERANCES UNLESS OTHERWISE SPECIFIED DEC. FRAT. ANG. ± .06 ± 1/16 ± .05 COLOR/FINISH CREATION FLEX BLACK	USAGE DATA VOLVO 8078613 8078614	THESE DRAWINGS & SPECIFICATIONS ARE THE EXCLUSIVE PROPERTY OF TRANSWIND INC., ISSUED IN STRICT CONFIDENCE & SHALL NOT, WITHOUT THE PRIOR WRITTEN PERMISSION OF TRANSWIND INC. BE REPRODUCED, COPIED, OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT THE MANUFACTURE OF ARTICLES FOR TRANSWIND INC.		 P.O. Box 549 800 Water Bonnet Blvd Springfield Tn 37172 (615) 384-6170
		DWG. APP/P.E. SCALE: 1:1 CAD REV. BY: N/A SEE REVISION SHEET 2. FOR PAST AND PRESENT DRAWING CHANGES.	TITLE: UPPER WINDOW DWG. #: 606/607-1772-D DRAWN BY-NAME-DATE KPHOPKINS 01/07/03 CHK'D. BY-NAME-DATE	

Mike Harkey

From: Johnston William [william.johnston@volvo.com]
Sent: Monday, January 12, 2009 9:54 PM
To: John Baran; Mike Harkey; Brian Castleman; Dee Blake
Cc: Hsiao Ming-Chu; Rutt Barry; Nutt Kevin; Kane Michael; Rankin Michael; Grubb Daniel; Schlottmann Guenter; Padden William; Cox Duane
Subject: RE: URGENT - VOLVO Sleeper Window defects

Hello,

Today, We review some of the windows at NRV and I held discussions with many of the folks on this email and on our assembly line. The preliminary finding is the suspect date range is Sept through November, 2008, but this has to be confirmed with additional information from the field engineers.

Based on what I understand right now, there are enough field complaints and claims that TMS will need to build more windows to be prepared to replace approximately 40 to 60 pairs of the upper bunk windows (60 is on the high side, but it is just a preliminary estimate). These will be needed for field replacements and we want to be sure there are enough to cover the claims with product readily available. The safety issue has been raised on this issue (and rightfully so). Therefore quick response is needed. Our customers are concerned these windows will fly out going down the road if these become detached, potentially causing damage.

The main purpose of this memo is to request you verify your raw material inventory and get more aluminum extrusion on order (if necessary) since it has the longest lead time. I am not totally familiar with the Volvo process for working through this with a supplier, but I know additional windows will be needed. Mike Rankin will be able to give us more direction as he gathers information from the recent field complaints.

Mike Rankin at NRV will be working with you on this field claim.

Please advise on your inventory and lead time for the extrusion if more will be needed. Mike or I will give you more information as I get it.

Regards,

Bill Johnston

From: Johnston William
Sent: Friday, January 09, 2009 3:45 PM
To: John Baran; Mike Harkey; Brian Castleman
Cc: Hsiao Ming-Chu; Rutt Barry; Nutt Kevin; Kane Michael; Rankin Michael; Grubb Daniel (daniel.grubb@volvo.com); Schlottmann Guenter; Padden William
Subject: URGENT - VOLVO Sleeper Window defects

Hello Gentlemen,

8/27/2010

We have a field issue with the crank mechanisms de-bonding from the glass on Volvo truck sleeper units at customers. The complaints are for the upper windows, but this could easily be related to both upper and lower windows because these share a common bonding process. I called John Baron to discuss this earlier so I am following this up with an email because immediate action is required.

As you know there have been 3 rejects for 5 windows at NRV since September. I have now received complaints from 2 of our Regional Sales Engineers this week. I do not have the number of trucks, frequency of occurrence or serial numbers yet, but these are being collected. They are claiming both customers are concerned with safety because the windows could become detached and fly off.

I need you to take immediate action to contain any potential defects at your plants. Inspect 100% of all upper and lower windows to insure the mechanisms are bonded securely. I will go to NRV on Monday to review inventory at the plant. Based on my sampling, you may need to inspect inventory at NRV and at our Volvo Parts Warehouses. Make sure you record all lot numbers for the certified inspected parts.

When I get more information I will set up a conference call with our teams to discuss next week.

Best Regards,

Bill Johnston

Volvo Trucks North America

3P SQD Engineer

P.O. Box 26115

7900 National Service Road

Greensboro, NC 27402-6115

Phone: 336-393-4515

Cell: 336-549-8645

Fax: 336-393-2203

Email: william.johnston@volvo.com



Volvo Trucks North America, Inc.
Greensboro, NC USA

Safety Recall Trucks

Date	Group.	No.	Page
11.10	RVXX1004		1(4)

Sleeper Side Ventilator
Window Failure

SAFETY RECALL INFORMATION:

Volvo Trucks North America (Volvo), has decided that a defect relating to motor vehicle safety exists in certain Volvo, VNL/VT model Vehicles.

The sleeper section upper side window glass may de-bond from the window opening slide track mechanism.

If the window is open and this event occurs the window could separate from the window frame and become a hazard to other vehicles and/or persons.

VEHICLES AFFECTED:

Certain VNL/VT model vehicles manufactured by Volvo between 03/01/2008 and 02/06/2009.

VEHICLE IDENTIFICATION NUMBERS (VIN):

There are 5,188 vehicles affected by this recall.

Required Parts

1 - 85105373 Window Glass Assembly LH

and/or

1 - 85105374 Window Glass Assembly RH

Repair Procedure

DANGER

Before working on a vehicle, set the parking brake, place the transmission in neutral, and block the wheels. Failure to do so can result in unexpected vehicle movement and can cause serious personal injury or death.

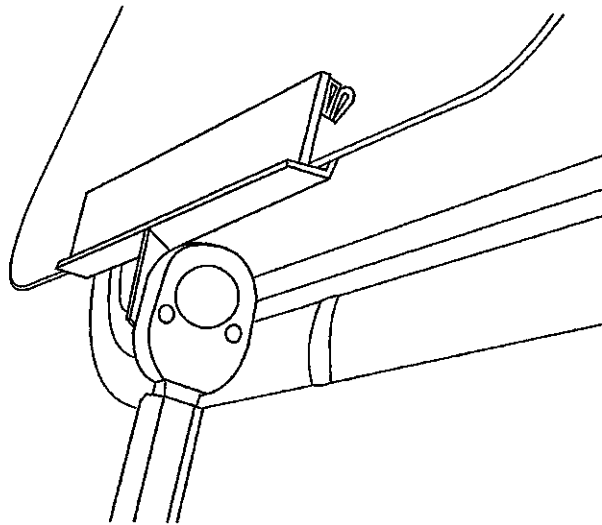
DANGER

Scaffolding or other suitable work platform must be used when performing this procedure. Failure to do so may result a a fall causing serious injury or death.

WARNING

Always wear appropriate eye protection to prevent the risk of eye injury due to contact with debris.

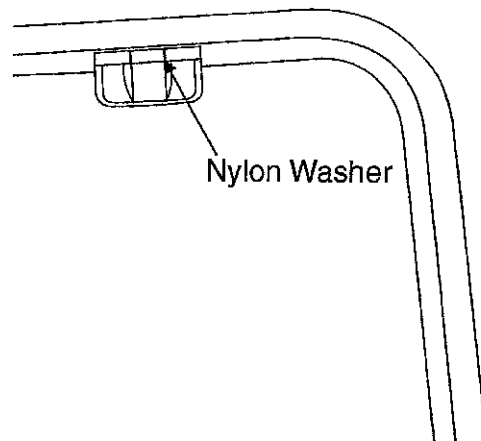
Inspection



1. Open the cab side upper window. From outside the cab install the tool (85129124) to the window glass as shown W8003357 above. Apply 20 ft-lb of torque (**Do Not exceed this torque spec as it may damage the window**) to the tool, if the glass separates from the slide track the window must be replaced (replace a failed window glass before inspecting the other side). If no separation occurs, no further repair is required.

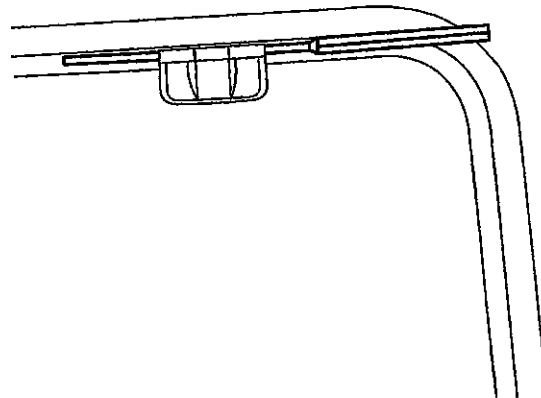
IMPORTANT NOTE: This tool was distributed to all dealer in 2003. This tool can be purchased from Volvo Parts, the part number is 85129124.

Repair



1. Before removing the hinge pins note the location of the nylon washers, one washer is used per hinge it may be installed on either side of the hinges fixed barrel. This washer is for alignment of the glass in the frame, failure to reinstall the washer in the correct location may cause sealing issues with the window.

W8003358



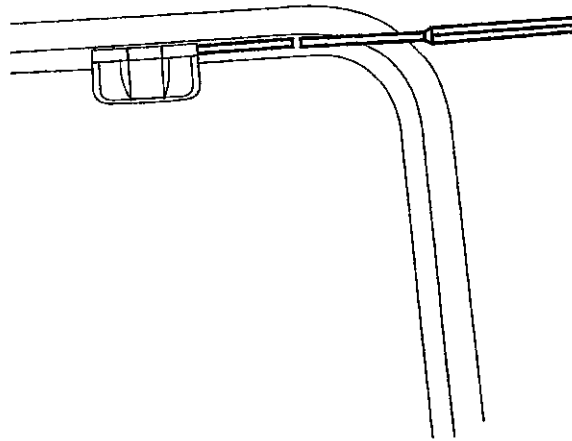
2. Using a punch and dead blow hammer carefully drive the hinge pins out of the hinge. Be careful not to lose the nylon washer.

W8003359

NOTE: Be careful not to strike the glass with the hammer. Tempered glass will shatter with this type of impact.

3. With the hinge pins removed, allow the glass to lean away from the cab. Slide the glass off the glide shoes, do not lose the nylon spacer strip.
4. Slide the first glide shoe into the glass track, then insert the nylon spacer strip and the second glide shoe.

NOTE: Failure to reinstall the nylon spacer strip will allow the window to open to far over center and may damage the operating mechanism.



WB003360

5. Reinstall the hinge pins and nylon washers.
6. Check for proper operation of the window crank mechanism.

Reimbursement

This repair is covered by an authorized Safety Recall campaign. Reimbursement is obtained through the normal claim handling process.	
Claim Type (used only when uploading from the Dealer Bus. Sys.)	R
Recall Status	
Vehicle inspected, repair not needed	1-Inspected, Ok
Vehicle repaired per instructions	2-Modified per instructions
Labor Code	
Inspection	84424-0-01 - 0.3 hr., Time allowed to inspect two windows
Primary Labor Code	84424-0-02 - 0.6 hr., Time allowed to inspect two windows and replace one window per recall RVXX1004.
Primary Labor Code	84424-0-03 - 0.9 hr., Time allowed to inspect two windows and replace two windows per recall RVXX1004.
Time to take charge of vehicle and determine campaign status	17003-0-01 - 0.3 hr.
Causal Part	85105373
Parts Disposition	Scrap local
Authorization No.	RVXX1004

Take-charge time is not included in the labor code for this operation. Take charge may be eligible, but can only be used once per vehicle repair visit. If the vehicle is having other warranty repairs performed, take-charge should be charged to the warranty repair, otherwise take-charge can be charged to this Safety Recall campaign.

NOTE: Dealers are to perform Safety Recall Campaigns on all subject vehicles at no charge to the vehicle owner regardless of mileage, age of vehicle or ownership (original purchaser or subsequent purchasers). Whenever vehicles are subject to a safety recall are brought to your dealership for service, or taken into your dealership vehicle inventory, it is strongly recommended that every effort be made to perform the recall correction before the vehicle is sold or released to the owner.

SAFETY RECALL NOTICE

VOLVO

**SAFETY RECALL RVXX1004
NOVEMBER 2010**

DEAR VOLVO TRUCK OWNER:

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

Volvo Trucks North America has decided that a defect which relates to motor vehicle safety exists in certain Volvo vehicles.

SAFETY DEFECT: The bottom track that attaches to the arms used to open and close the window may de-bond, which results in the glass coming loose at the bottom.

SAFETY RISK: If this occurs and is left untreated, the upper window hinges may fail and allow the glass to fall out and possibly result in a vehicle crash.

PRECAUTIONS YOU CAN TAKE: There are no precautions you can take other than having your vehicle repaired by a Volvo Parts and Service Center.

TIME REQUIRED FOR THE REPAIR: The labor time required to inspect and repair your vehicle if required is approximately one hour.

WHAT YOU SHOULD DO: You should contact the nearest Volvo Parts and Service Center and make an appointment. The window will be replaced at no charge to you. All Volvo Parts and Service Centers have been sent a bulletin covering all the details required to perform the safety recall.

You can locate the closest Volvo Parts and Service Center by going on line to <http://www.volvo.com/trucks/na/en-us/dealers/> and selecting "Dealer Locator" or by calling our toll-free number: (800) 528-6586.

NOTICE REGARDING LEASED VEHICLES: If you are a Lessor of vehicles subject to this Notice, you have an obligation under Federal Law to provide a copy of this Notice to all Lessees within 10 days of your receipt of this Notice. Further, you must maintain a record, which identifies the Lessee(s) to whom you send a copy of this letter, the date you send this letter, and the Vehicle Identification Number(s) of the vehicle(s) that you have leased to that lessee. For purposes of this Notice, the term Lessor means: a person or entity that is the owner, as reflected on the vehicle's title, of any five or more leased vehicles (as defined in CFR Section 577.4), as of the date of notification by the manufacturer of the existence of a safety-related defect or non-compliance with a Federal Motor Vehicle Safety Standard in one or more of the leased motor vehicles.

**OWNER RECALL
RESPONSE CARD:**

The enclosed "Notice of Vehicle Recall" identifies your vehicle. If you no longer own the vehicle, please help us update our records by completing the "Vehicle Disposition Record" portion of the enclosed postage-free Notice of Mandatory Safety Campaign card and mailing it back to us.

**ASSISTANCE/
COMPLAINTS:**

If you need assistance, please contact:

Volvo Trucks North America
Regulatory Affairs Department,
P.O. Box 26115
Greensboro, NC 27402-6115
vtna.regulatoryaffairs@volvo.com

You may also submit complaints to the Administrator of the National Highway Traffic Safety Administration (1200 New Jersey Avenue, S.E., Washington DC 20590 or call the toll-free Auto Safety Hot Line at 1-888-327-4236 (TTY: 1-800-424-9153), or go to <http://www.safercar.gov>.

**PRE NOTIFICATION
REMEDIES:**

If you have previously paid for repairs as a result of this issue, you may be entitled to recovery of those expenses.

Submit copies of all documentation supporting your claim according to the rules specified in the "General Plan for Reimbursement of Pre-notification Remedies" provided in this mailing.

We regret any inconvenience this may cause to your operation, but hope you will appreciate our sincere efforts to demonstrate Volvo's commitment to provide our customers with the best possible product.

VOLVO TRUCKS NORTH AMERICA

General Plan for Reimbursement of Pre-Notification Remedies

Volvo Trucks North America Inc. will administer this plan through its Corporate Regulatory Compliance Department.

The provisions of this plan set forth the procedures to be followed for reimbursing owners (claimants) for the costs associated with repairs performed prior to notification of a recall, to remedy safety defects and non-compliances.

Required Information:

If the claimant's Volvo vehicle is affected by a recall campaign and the claimant had the problem corrected at their own expense prior to receiving notification of the recall, Volvo Trucks North America will reimburse the claimant by check for the reasonable amount paid for the appropriate pre-remedy repairs (i.e. the cost of parts, labor, taxes and disposal fees) in accordance with the provisions set forth in this document. In order to process each claim, the claimant **MUST** submit the following documentation to support the request to the Regulatory Compliance Department as specified in the section titled "*Contact Information*":

- Claimant's name, mailing address, and telephone number; and,
- The recall number, title, and description; and,
- The complete 17 digit Vehicle Identification Number (V.I.N.); and,
- A notarized statement by the claimant that the pre-notification repair addressed the defect specified in the owner notification letter; and,
- A copy of the repair invoice or receipt for the repairs.
 - The invoice / receipt must provide the VIN, total amount paid (i.e. total amount of reimbursement requested by the claimant), and include a breakdown of the parts, labor, and other costs.

Limitation of Claims

Volvo Trucks North America will consider all claims, but may deny all or part of the claim for any of the following reasons:

- The vehicle was not part of the recall;
- The repairs were performed more than one (1) year prior to the date, that Volvo Trucks North America notified the National Highway Traffic Safety Administration or Transport Canada, that a safety related defect or non-compliance exists;
- The repairs were performed more than 10 calendar days after the last mailing of the initial customer notification letter, pertaining to the recall;
- The vehicle was still covered by warranty or extended warranty on the date of repair which would have provided a free repair;
- If the receipt / invoice is not itemized by parts & labor;
- If the repair did not address the safety defect or non-compliance that led to the recall;
- If the repair was not reasonably necessary to correct the safety defect or non-compliance that led to the recall;
- If the claim is fraudulent;
- If the repair was not of the same type (repair, replacement, and refund) as the recall remedy;
- If adequate documentation as described above is not submitted to the appropriate address specified in this plan in the section titled "*Contact Information*".

Contact Information

Submit copies of all documentation supporting your claim to:

Volvo Trucks North America Inc.
Regulatory Compliance Department
Attn: Regulatory Compliance Administrator
P.O. Box 26115
Greensboro, NC 27402-6115

Claims will be processed within 60 days of receipt



Volvo Trucks North America

December 8, 2010

**Subject: New Safety Recall
RVXX1004, Upper Bunk Windows
NHTSA Recall Number, 10V-359
Revised 573 report¹**

Attention:

Associate Administrator for Enforcement
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Submitted via Email to Delia Lopez

The following information is submitted in accordance with the requirements of 49 CFR Part 573.6 as it applies to a defect relating to motor vehicle safety.

573.6(c)(1)

Volvo Trucks North America ("Volvo")
7900 National Service Rd.
Greensboro, NC 27409

573.6(c)(2)

Certain Volvo model vehicles manufactured from March 1, 2008 through February 6, 2009.

The selection of vehicles was based on the suspect component's part number.

Model Affected: VNL, VT 670 and 780 models
Model Year: 2009, 2010

Component Manufacturer:

Water Bonnet Manufacturing, Inc.
800 Water Bonnet Blvd.
Springfield, TN 37172

¹ – Revised copy to include VT models and correct owner notification dates. Revisions are in bold and initialized.



573.6(c) (3)

There are approximately three thousand nine hundred eighty four (3,984) vehicles sold in the United States affected by the recall.

573.6(c)(4)

The percentage of the 3,984 vehicles expected to contain the defect is unknown.

573.6(c)(5)

The bottom track that attaches to the arms used to open and close the window may de-bond, which results in the glass coming loose at the bottom. If this occurs and is left untreated, the upper window hinges may fail and allow the glass to fall out of the window frame.

573.6 (c)(6)

Chronology of principle events that were the basis for the determination:

- | | |
|---------|---|
| 5/10 | NHTSA notifies Volvo regarding reports of windows failing on vehicles not included in RVXX1001. Volvo opens an investigation. |
| 7/19/10 | Investigation complete. Information sent to Volvo's Product Safety Committee for consideration. |
| 7/27/10 | Volvo determines that a safety related defect exists. |
| 8/3/10 | NHTSA notified that Volvo will initiate a voluntary safety recall |
| 12/8/10 | <i>Revised 573 report sent to NHTSA.</i> |

There are a total of ninety (90) warranty claims that may be related to the defect.

573.6(c)(7)

Not applicable

573.6(c)(8)

Volvo will initiate a voluntary owner notification, and recall all 3,984 vehicles.

The recall repair will consist of inspection and repair as required.

Reimbursement for cost incurred by the owner for "prenotification remedies" will be addressed on a case-by-case basis according to the "General Plan for Reimbursement of Pre-notification Remedies" which was published December 8th, 2004.



The number, which has been assigned to this recall by Volvo, is **RVXX1004**.

Owner letters were mailed on December 1, 2010.

If there are any questions regarding this information, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim L. LaFon", with a long horizontal line extending to the right.

Tim L. LaFon
Manager, Regulatory Affairs
Volvo Trucks North America
P.O. Box 26115
Greensboro, NC 27409
timothy.lafon@volvo.com
(336) 393-2233

Vehicle Safety Recall Quarterly Report Information¹

Required per 49 CFR Part 573.7

Report Date: July 15, 2011

Calendar Quarter: QUARTER 2 – 2011

Safety Recall Quarterly Report from April 1, 2011 through June 30, 2011

Manufacturer: VOLVO TRUCKS NORTH AMERICA

Report Author: Gerard Hones Phone: (336) 393-2404

Recall Subject: Sleeper Windows

1. NHTSA Safety Recall Campaign Number: 10V-359

Also, for completeness, if your company has assigned a code number to this campaign, please provide your code: RVXX1004

2. (a) The date notification to purchasers began: 12/2/2010

(b) The date notification of purchasers was completed: 12/2/2010

3. The Total Number of Vehicles Involved: 3,984

The total number of vehicles involved in the subject campaign (including all items sold or distributed to purchasers, dealers, distributors, and similar entities beyond the immediate control of the manufacturer/importer).

4. (a) Total Number Inspected & Remedied: 1,807

Total number of vehicles which were inspected and/or otherwise repaired or remedied.

(b) Total Number Inspected & NOT REQUIRING REMEDY: 0

Total number of vehicles involved in the recall and inspected, but determined to NOT REQUIRE REMEDIAL or recall repair work.

5. Vehicles Determined to be Unreachable

Total Number Exported: 0

Total Number Stolen: 0

Total Number Scrapped: 0

Total Number Unable to Notify: 0

Total Number Otherwise Unreachable: 0

Describe Other: _____

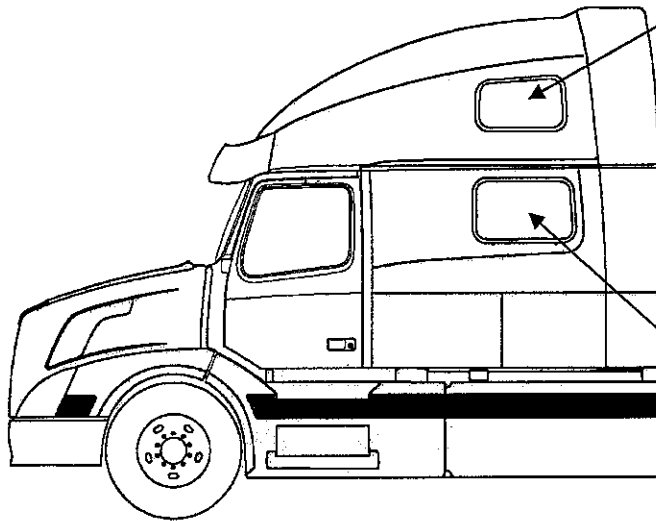
¹Any Questions please contact Mrs. Kelly Schuler or Mr. George Person at (202) 366-5227 or by FAX at (202) 366-7882.

RESPONSE TO QUESTION
NO. 10

Response to Question 10.

Upper Sleeper Window (L4 and L5) :

- (Weatherstrip Design, Bonded Track) 8078613, 8078614 (1996 - 2009w06)
- (Bonded PMR Design) 20582366, 20582367 (2009w07– 2010w19)
- (Bonded QJ new Adhesive Design) 21512736, 21512737 (2010w20 – 2011w13)
- (Bonded QPMR to add Fasteners) 82708889, 82709958 (2011w14 – Present)



Lower Sleeper Window (L5):

All P/Ns (Weatherstrip Design w/ Bonded Hinge Track):

- 8078615, 8078616 (1996 - 2006w36)
- 20995451, 20995453 (2006w37 - 2007w06)
- 21025116, 21025118 (2007w07 – Present)

Response to Question 10.

Additional information				a. The date or approximate date on which the modification or change was incorporated into vehicle production	b. A detailed description of the modification or change	c. The reason(s) for the modification or change	d. How the modification impacts aging/durability of the window installation
Part number	Location	Models used on	Superseded				
8078613	Driver side upper	VNL and VT models with cab size designators of L4 and L5	n/a	1996, Inception of the VN product line	n/a	n/a	n/a
8078614	Passenger side upper	VNL and VT models with cab size designators of L4 and L5	n/a	1996, Inception of the VN product line	n/a	n/a	n/a
20582368	Driver side upper	VNL and VT models with cab size designators of L4 and L5	8078613	2/9/2009	New upper window design released. Design provided vent in window frame, which replaced a design where you could get out the window.	Reduced cost	Change eliminated one of the 3 modes, window left open when which may result in hinges fail
20582367	Passenger side upper	VNL and VT models with cab size designators of L4 and L5	8078614	2/9/2009	New upper window design released. Design provided vent in window frame, which replaced a design where you could get out the window.	Reduced cost	Change eliminated one of the 3 modes, window left open when which may result in hinges fail
21512736	Driver side upper	VNL model with cab size designators of L4 and L5	20582368	5/17/2010	Changed from using activator to primer	Quality Issue	addressed the safety related de were conducting the investigati different solutions which includ primer instead of activator. We primer solution yields a better o performance; therefore we impl
21512737	Passenger side upper	VNL model with cab size designators of L4 and L5	20582367	5/17/2010	Changed from using activator to primer	Quality Issue	addressed the safety related de were conducting the investigati different solutions which includ primer instead of activator. We primer solution yields a better o performance; therefore we impl
82708889	Driver side upper	VNL model with cab size designators of L4 and L5	21512736	5/4/2011	Added two mechanical fasteners as a redundant measure.	Product Improvement	Redundant measure
82709958	Passenger side upper	VNL model with cab size designators of L4 and L5	21512737	5/4/2011	Added two mechanical fasteners as a redundant measure.	Product Improvement	Redundant measure
8078615	Driver side lower	VNL and VT models with cab size designators of L5	n/a	1996, Inception of the VN product line	n/a	n/a	n/a
8078616	Passenger side lower	VNL and VT models with cab size designators of L5	n/a	1996, Inception of the VN product line	n/a	n/a	n/a
20995451	Driver side lower	VNL and VT models with cab size designators of L5	8078615	9/11/2006	Seal and window frame profiles optimized. Added feather features to the seal to increase the number of	Product Improvement	n/a
20995453	Passenger side lower	VNL and VT models with cab size designators of L5	8078616	9/11/2006	Seal and window frame profiles optimized. Added feather features to the seal to increase the number of	Product Improvement	n/a
21025116	Driver side lower	VNL and VT models with cab size designators of L5	20995451	2/12/2007	Welded joint windows implemented to address water leaks	Product Improvement	n/a
21025118	Passenger side lower	VNL and VT models with cab size designators of L5	20995453	2/12/2007	Welded joint windows implemented to address water leaks	Product Improvement	n/a

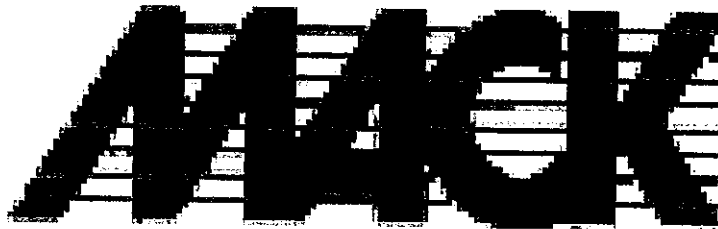
RESPONSE TO QUESTION
NO. 14

Response to Question 14

Part number	Supplier's Name	Supplier Address	Supplier Contact Information
8078613	Water Bonnet Manufacturing, Inc.	800 Water Bonnet Blvd, Springfield TN 37172	Brian Castleman, Phone: 260-347-1368 ext. 227
8078614	Water Bonnet Manufacturing, Inc.	800 Water Bonnet Blvd, Springfield TN 37172	Brian Castleman, Phone: 260-347-1368 ext. 227
20582366	Mack Molding Company	10769 Asheville Highway, Inman, SC 29349	Jack Katilius, Phone :704-878-9641
20582367	Mack Molding Company	10769 Asheville Highway, Inman, SC 29349	Jack Katilius, Phone :704-878-9641
21512736	Mack Molding Company	10769 Asheville Highway, Inman, SC 29349	Jack Katilius, Phone :704-878-9641
21512737	Mack Molding Company	10769 Asheville Highway, Inman, SC 29349	Jack Katilius, Phone :704-878-9641
82708889	Mack Molding Company	10769 Asheville Highway, Inman, SC 29349	Jack Katilius, Phone :704-878-9641
82709958	Mack Molding Company	10769 Asheville Highway, Inman, SC 29349	Jack Katilius, Phone :704-878-9641
8078615	Water Bonnet Manufacturing, Inc.	800 Water Bonnet Blvd, Springfield TN 37172	Brian Castleman, Phone: 260-347-1368 ext. 227
8078616	Water Bonnet Manufacturing, Inc.	800 Water Bonnet Blvd, Springfield TN 37172	Brian Castleman, Phone: 260-347-1368 ext. 227
20995451	Water Bonnet Manufacturing, Inc.	800 Water Bonnet Blvd, Springfield TN 37172	Brian Castleman, Phone: 260-347-1368 ext. 227
20995453	Water Bonnet Manufacturing, Inc.	800 Water Bonnet Blvd, Springfield TN 37172	Brian Castleman, Phone: 260-347-1368 ext. 227
21025116	Water Bonnet Manufacturing, Inc.	800 Water Bonnet Blvd, Springfield TN 37172	Brian Castleman, Phone: 260-347-1368 ext. 227
21025118	Water Bonnet Manufacturing, Inc.	800 Water Bonnet Blvd, Springfield TN 37172	Brian Castleman, Phone: 260-347-1368 ext. 227

Working Instructions

Direct Glazing



Contents

1. Validation Worksheet
2. Fundamentals of Using Sikaflex
3. Substrate Preparation (Xenoy)
4. Glass Preparation (Note Glass Cleaner)
5. SikaTack Ultrafast Application



Working Instructions – Mack Molding

March 22, 2007

Part 1 – Validation Worksheet

Substrates:	Flange:	GE Xenoy
	Glass:	Ceramic Frit
TSR Evaluation:	Yes / No	<u>TSR #:</u> ARID-6R5PYX Additional testing ongoing
Glass w/ Frit:	Supplied by:	Guardian Glass
	Glass Thickness:	
	Frit Material:	Johnson Matthey 2T55M050 / IR601 frit)
	Light Transmission:	Passed <0.01 UV light transmission
	Frit Pattern:	
	Longest Dimension of Glass:	2'
TSR Frit Evaluation:	Yes / No	<u>TSR #:</u> Yes
Adhesive:	Supplied by:	Sika Corporation
	Materials:	SikafTack Ultrafast® Sika®Aktivator Sika Glass Cleaner
	Adhesion Verification:	See Sika Bonding Guidelines
Joint Dimension:	Adhesive Thickness:	4 mm minimum
	Adhesive Width:	8-10 mm minimum
	Expansion Joint:	3 mm minimum no backfill
	Flange Recess:	Glass thickness plus Adhesive thickness
	Flange Return:	15 mm minimum, will vary based on expansion joint and adhesive width
	Spacer Dimension:	Built in offsets in frame assembly
Application:	Guidelines:	See Sika Working Instructions
	Personnel:	Refer to Sika Certification



INDUSTRY

Working Instructions – Mack Molding

March 22, 2007

Part 2 – Fundamentals Of Using SIKAFLEX®

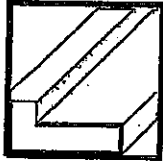
DO's	DON'Ts
Apply SIKAFLEX® on a clean and dry surface	Don't apply SIKAFLEX® on a dirty, wet surface
Use Mineral spirit to clean excess SIKAFLEX®	Don't use SIKAFLEX® cleaner 226 or Aktivator to remove excess SIKAFLEX®
Apply SIKAFLEX® Adhesive using a triangular bead	Don't apply SIKAFLEX® Adhesive using a round bead. It does not properly wet the surface.
Apply a continuous and homogeneous bead of SIKAFLEX®.	
Follow working instructions for adhesive joint dimensions.	Don't squeeze out too much material from the joint.
Apply SIKAFLEX® at a temperature above 40°F and below 120°F	Don't apply SIKAFLEX® under freezing conditions or above 120°F.
While curing, avoid contact between SIKAFLEX® and uncured SILICONE, EPOXY, ACRYLIC, or MS types adhesives.	Don't use SILICONE, EPOXY, MS, or ACRYLIC adhesive in conjunction with SIKAFLEX® unless approved by Sika.
While curing, avoid contact between SIKAFLEX® and ALCOHOL containing products.	Don't use ALCOHOL to clean, smooth, remove SIKAFLEX® material.
Allow enough time for setting	Don't move or load parts immediately
Allow sufficient humidity for curing	Don't use SIKAFLEX® in a confined environment
Use clean and well maintained dispensing equipment	Don't use inferior, unapproved dispense equipment.

Working Instructions – Mack Molding

March 22, 2007

Part 3 –Substrate Preparation (Xenoy flange)

3.a.



Apply Sika® Aktivator using a wipe-on / wipe-off method. Wipe-on Sika® Aktivator using a clean lint free cloth or towelette. Wipe in one direction only and turn cloth or towelette at each corner to prevent re-contamination. Using a dry portion of the clean lint free cloth or towelette, and again wiping in one direction only, wipe-off Sika® Aktivator ensuring a uniform thin film of adhesion promoter.

An approved foam tipped refillable dispenser may be used to apply Sika® Aktivator provided that the tip is changed often to avoid contaminating the substrate. Care must be taken to ensure that open product is utilized within one week to ensure proper performance.

3.b.



Drying Time: Minimum 10 minutes.

With testing verification and ambient temperature and substrate temperature at >65°F, 5 minute dry time is acceptable.

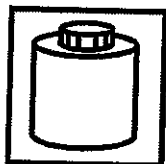
The adhesive application must occur within a two hour period or Sika® Aktivator must be re-applied.

Working Instructions – Mack Molding

March 22, 2007

Part 4 – Glass Preparation

4.a.



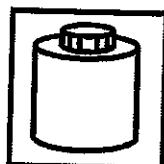
Apply Sika® Glass Cleaner using a spray on / wipe-off method. Wipe in one direction only and turn cloth or towelette at each corner to prevent re-contamination. Using a dry portion of the clean lint free cloth or towelette.

4.b.



Drying Time: Minimum 1 minute or until flashed.

4.c.



Apply Sika® Aktivator using a wipe-on / wipe-off method. Wipe-on Sika® Aktivator using a clean lint free cloth or towelette. Wipe in one direction only and turn cloth or towelette at each corner to prevent re-contamination. Using a dry portion of the clean lint free cloth or towelette, and again wiping in one direction only, wipe-off Sika® Aktivator ensuring a uniform thin film of adhesion promoter.

An approved foam tipped refillable dispenser may be used to apply Sika® Aktivator provided that the tip is changed often to avoid contaminating the substrate. Care must be taken to ensure that open product is utilized within one week to ensure proper performance.

4.d.



Drying Time: Minimum 10 minutes.

With testing verification and ambient temperature and substrate temperature at >65°F, 5 minute dry time is acceptable.

The adhesive application must occur within a two hour period or Sika® Aktivator must be re-applied.

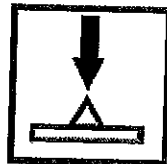
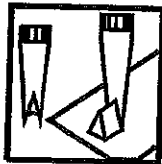
Working Instructions – Mack Molding

March 22, 2007



Part 5 – SikaTack Ultrafast® Application

5.a.



Using a V-notch bead, apply a **continuous bead** of SikaTack Ultrafast® to the bonding surface. To ensure a uniform triangular bead, the nozzle tip should be positioned at a 90° angle to the substrate. V-bead should be a minimum **7mm wide by 8mm tall** to ensure proper compressed dimensions.

5.b.



Mate the glass to the substrate within 10 minutes of adhesive application. If 10 minutes is exceeded, the adhesive may not be able to develop a good final bond to the substrate and the adhesive bead will be difficult to compress into place.

5.c.



Avoid non-uniform stresses on the finished assembly. Final cure time is dependent on ambient temperature and humidity conditions. Finished frames should not be subjected to non-uniform stresses for 6 hours after assembly. Contact Sika before any changes occur to the production process.

Warranty

Sika warrants its products to be free of manufacturing defects and that they meet Sika's current published physical properties when applied in accordance with Sika's directions and tested in accordance with ASTM and Sika standards. There are no other warranties by Sika of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Sika Corporation shall not be liable for damages of any sort, including remote or consequential damages, resulting from any claimed breach of any warranty whether expressed or implied, including any warranty of merchantability or fitness for a particular purpose or from any other cause whatsoever. Sika shall also not be responsible for use of this product in a manner to infringe on any patent held by others.

Engineering Release Notice (ERN)	Location	Change Description	A = Added D = Deleted	W = Was	Document Release Status
D-13487-27	ALL PAGES	SIKATAK ULTRAFASST WAS SIKATAK 255FC			RELEASED
				Date	Modification Count
				2007-03-28	

Contents

1. Validation Worksheet
2. Fundamentals of Using SIKATAK
3. Substrate Preparation (Xenoy)
4. Glass Preparation
5. Sikatack Ultrafast

RECEIVED

APR 18 2007

1. Validation Worksheet

Substrates:

Flange:

GE Xenoy

Glass:

Ceramic Frit

Adhesive:

Materials:

Sikatack Ultrafast

Sika®Aktivator

Joint Dimension:

Adhesion Verification:

See Sika Bonding Guidelines

Adhesive Thickness:

3 mm minimum

Adhesive Width:

12 mm minimum

**ENGINEERING
CONFIDENTIAL**

**CONTROLLED
DOCUMENT**

2. Fundamentals of Using SIKATAK®

DO's	DON'Ts
Apply SIKATAK® on a clean and dry surface	Don't apply SIKATAK® on a dirty, wet surface
Use Mineral spirit to clean excess SIKATAK®	Don't use SIKATAK cleaner 226 or Aktivator to remove excess SIKATAK®
Apply SIKATAK® Adhesive using a triangular bead	Don't apply SIKATAK® Adhesive using a round bead. It does not properly wet the surface.
Apply a continuous and homogeneous bead of SIKATAK®.	
Follow working instructions for adhesive joint dimensions.	Don't squeeze out too much material from the joint.
Apply SIKATAK® at a temperature above 40°F and below 120°F	Don't apply SIKATAK® under freezing conditions or above 120°F.
While curing, avoid contact between SIKATAK® and uncured SILICONE, EPOXY, ACRYLIC, or MS type of adhesives.	Don't use SILICONE, EPOXY, MS, or ACRYLIC adhesive in conjunction with SIKATAK® unless approved by Sika.
While curing, avoid contact between SIKATAK® and ALCOHOL containing products.	Don't use ALCOHOL to clean, smooth, remove SIKATAK® material.
Use clean and well maintained dispensing equipment	Don't use inferior, unapproved dispense equipment.

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Document Title

**INSTALLATION REQUIREMT
WINDOW GLASS BONDING
L4H4/L5H4**

Document Type

TECHNICAL REGULATION

Owner Domain: Document Prefix

VOLVO

Volvo Trucks North America
Volvo Group North America, Inc.

Document No

20865828

Issue Index

02

Volume No

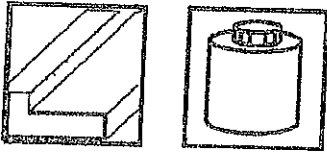
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3. Substrate Preparation (Xenoy flange)

3.a.



Apply Sika® Aktivator using a wipe-on / wipe-off method. Wipe-on Sika® Aktivator using a clean lint free cloth or towelette. Wipe in one direction only. Using a dry portion of the clean lint free cloth or towelette, and again wiping in one direction only, wipe-off Sika® Aktivator ensuring a uniform thin film of adhesion promoter.

An approved foam tipped refillable dispenser may be used to apply Sika® Aktivator provided that the tip is changed often to avoid contaminating the substrate. Care must be taken to ensure that open product is utilized within one week to ensure proper performance.

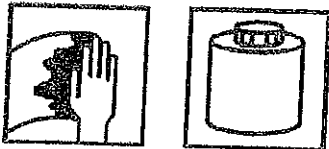
3.b.



Drying Time: Minimum 120 minutes in fixture.
The adhesive application must occur within a two hour period or Sika® Aktivator must be re-applied.

4. Glass Preparation

4.a.



Apply Sika® Aktivator using a wipe-on / wipe-off method. Wipe-on Sika® Aktivator using a clean lint free cloth or towelette. Wipe in one direction only. Using a dry portion of the clean lint free cloth or towelette, and again wiping in one direction only, wipe-off Sika® Aktivator ensuring a uniform thin film of adhesion promoter.

An approved foam tipped refillable dispenser may be used to apply Sika® Aktivator provided that the tip is changed often to avoid contaminating the substrate. Care must be taken to ensure that open product is utilized within one week to ensure proper performance.

4.b.



Drying Time: Minimum 10 minutes.
With testing verification and ambient temperature and substrate temperature at >65°F, 5 minute dry time is acceptable.
The adhesive application must occur within a two hour period or Sika® Aktivator must be re-applied.

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TECHNICAL REGULATION

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5. SIKATAK®- Ultrafast Application

5.a.



Using a V-notch bead, apply a continuous bead of Sikatak to the bonding surface. To ensure a uniform triangular bead, the nozzle tip should be positioned at a 90° angle to the substrate. V-bead should be a minimum 8mm wide by 10mm tall to ensure proper compressed dimensions.

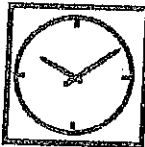
If a round bead is to be used, Sika suggests a 3/8" minimum round bead. This bead will gap fill and compress the same as a 8mm by 10mm triangular bead. However, note that the volume dispensed will be more than the stated triangular bead. Care should be taken to ensure squeeze out does not take place in an unwanted location.

5.b.



Mate the glass to the substrate within 10 minutes of adhesive application. If 10 minutes is exceeded, the adhesive may not be able to develop a good final bond to the substrate and the adhesive bead will be difficult to compress into place.

5.c.



Avoid non-uniform stresses on the finished assembly. Final cure time is dependent on ambient temperature and humidity conditions. Finished frames should not be subjected to non-uniform stresses for 2 hours after assembly. Contact Sika before any changes occur to the production process.

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INSTALLATION REQUIREMENT

Document Type

TECHNICAL REGULATION

Document No

20865828

Issue Index

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Volume No

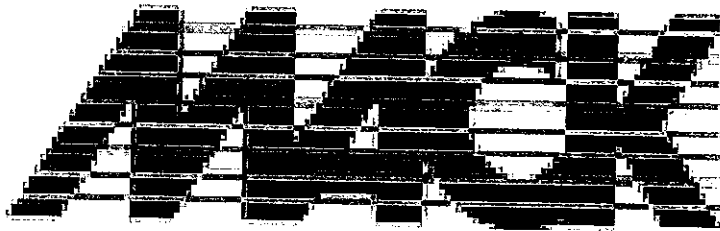
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Working Instructions

Direct Glazing



Contents

1. Validation Worksheet
2. Fundamentals of Using Sikaflex
3. Substrate Preparation (Xenoy)
4. Glass Preparation (Note Glass Cleaner)
5. SikaTack Ultrafast Application

Working Instructions – Mack Molding

Updated 1/15/10



Part 1 – Validation Worksheet

Substrates:	Flange:	GE Xenoy
	Glass:	Ceramic Frit
TSR Evaluation:	Yes / No	<u>TSR #:</u> ARID-6R5PYX Additional testing ongoing
Glass w/ Frit:	Supplied by:	Guardian Glass
	Glass Thickness:	
	Frit Material:	Johnson Matthey 2T55M050 / IR601 frit)
	Light Transmission:	Passed <0.01 UV light transmission
	Frit Pattern:	
	Longest Dimension of Glass:	2'
TSR Frit Evaluation:	Yes / No	<u>TSR #:</u> Yes
Adhesive:	Supplied by:	Sika Corporation
	Materials:	SikaTack Ultrafast® Sika®Aktivator Non-Anti Static Glass Cleaner SikaPrimer-209 D IPA (50:50)
Joint Dimension:	Adhesion Verification:	See Sika Bonding Guidelines
	Adhesive Thickness:	4 mm minimum
	Adhesive Width:	8-10 mm minimum
	Expansion Joint:	3 mm minimum no backfill
	Flange Recess:	Glass thickness plus Adhesive thickness
	Flange Return:	15 mm minimum, will vary based on expansion joint and adhesive width
	Spacer Dimension:	Built in offsets in frame assembly
Application:	Guidelines:	See Sika Working Instructions
	Personnel:	Refer to Sika Certification



INDUSTRY

Working Instructions – Mack Molding

Updated 1/15/10

Part 2 – Fundamentals Of Using SIKAFLEX®

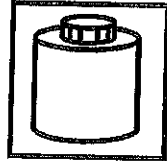
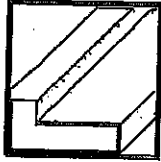
DO's	DON'Ts
Apply SIKAFLEX® on a clean and dry surface	Don't apply SIKAFLEX® on a dirty, wet surface
Use Mineral spirit to clean excess SIKAFLEX®	Don't use SIKAFLEX® cleaner 226 or Aktivator to remove excess SIKAFLEX®
Apply SIKAFLEX® Adhesive using a triangular bead	Don't apply SIKAFLEX® Adhesive using a round bead. It does not properly wet the surface.
Apply a continuous and homogeneous bead of SIKAFLEX®.	
Follow working instructions for adhesive joint dimensions.	Don't squeeze out too much material from the joint.
Apply SIKAFLEX® at a temperature above 40°F and below 120°F	Don't apply SIKAFLEX® under freezing conditions or above 120°F.
While curing, avoid contact between SIKAFLEX® and uncured SILICONE, EPOXY, ACRYLIC, or MS types adhesives.	Don't use SILICONE, EPOXY, MS, or ACRYLIC adhesive in conjunction with SIKAFLEX® unless approved by Sika.
While curing, avoid contact between SIKAFLEX® and ALCOHOL containing products.	Don't use ALCOHOL to clean, smooth, remove SIKAFLEX® material.
Allow enough time for setting	Don't move or load parts immediately
Allow sufficient humidity for curing	Don't use SIKAFLEX® in a confined environment
Use clean and well maintained dispensing equipment	Don't use inferior, unapproved dispense equipment.

Working Instructions – Mack Molding

Updated 1/15/10

Part 3 –Substrate Preparation (Xenoy flange)

3.a.

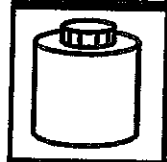
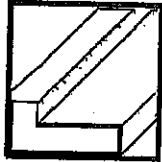


Clean bond area by wiping with IPA (isopropyl alcohol) using a clean lint free towelette. Wipe in one direction only and turn cloth or towelette at each corner to prevent re-contamination. If contamination appears on the towelette, repeat until towelette remains clean to view.

Allow IPA to flash for 5 minutes before continuing.



3.b.



Apply a continuous coat of SikaPrimer-209D with a dauber.

Primer should be applied with a continuous motion in one direction. Do not "paint" the bond areas with back and forth strokes.

Dauber should not be re-inserted into the primer can after initial saturation or contamination of the primer can could occur. Care should be used to ensure primer does not pool on the surface.

Do not double coat the primer.

Drying Time: Minimum 10 minutes.

Temperature of the parts and primer must be greater than 40F.



The adhesive application must occur within a two hour period.

Working Instructions – Mack Molding

Updated 1/15/10

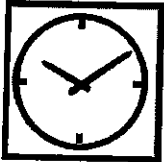
Part 4 – Glass Preparation

4.a.



Apply non-anti static Glass Cleaner using a spray on / wipe-off method. Wipe in one direction only and turn cloth or towelette at each corner to prevent re-contamination. Using a dry portion of the clean lint free cloth or towelette.

4.b.



Drying Time: Minimum 1 minute or until flashed.

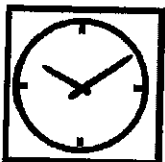
4.c.



Apply Sika® Aktivator using a wipe-on / wipe-off method. Wipe-on Sika® Aktivator using a clean lint free cloth or towelette. Wipe in one direction only and turn cloth or towelette at each corner to prevent re-contamination. Using a dry portion of the clean lint free cloth or towelette, and again wiping in one direction only, wipe-off Sika® Aktivator ensuring a uniform thin film of adhesion promoter.

An approved foam tipped refillable dispenser may be used to apply Sika® Aktivator provided that the tip is changed often to avoid contaminating the substrate. Care must be taken to ensure that open product is utilized within one week to ensure proper performance.

4.d.



Drying Time: Minimum 10 minutes.

With testing verification and ambient temperature and substrate temperature at >65°F, 5 minute dry time is acceptable.

The adhesive application must occur within a two hour period or Sika® Aktivator must be re-applied.

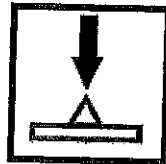
Working Instructions – Mack Molding

Updated 1/15/10



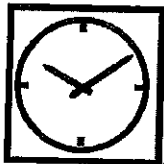
Part 5 – SikaTack Ultrafast® Application

5.a.



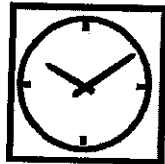
Using a V-notch bead, apply a **continuous bead** of SikaTack Ultrafast® to the bonding surface. To ensure a uniform triangular bead, the nozzle tip should be positioned at a 90° angle to the substrate. V-bead should be a minimum **7mm wide by 8mm tall** to ensure proper compressed dimensions.

5.b.



Mate the glass to the substrate within 10 minutes of adhesive application. If 10 minutes is exceeded, the adhesive may not be able to develop a good final bond to the substrate and the adhesive bead will be difficult to compress into place.

5.c.



Avoid non-uniform stresses on the finished assembly. Final cure time is dependent on ambient temperature and humidity conditions. Finished frames should not be subjected to non-uniform stresses for 6 hours after assembly. Contact Sika before any changes occur to the production process.

Warranty

Sika warrants its products to be free of manufacturing defects and that they meet Sika's current published physical properties when applied in accordance with Sika's directions and tested in accordance with ASTM and Sika standards. There are no other warranties by Sika of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Sika Corporation shall not be liable for damages of any sort, including remote or consequential damages, resulting from any claimed breach of any warranty whether expressed or implied, including any warranty of merchantability or fitness for a particular purpose or from any other cause whatsoever. Sika shall also not be responsible for use of this product in a manner to infringe on any patent held by others.