



Technical Journal

TITLE:
BLIS fault tracing

REF NO: TJ 25788.1.3	ISSUING DEPARTMENT: Technical Service	CAR MARKET: United States and Canada	
PARTNER: 3 US 7510 Volvo Car USA		ISSUE DATE: 2017-10-16	STATUS DATE: 2017-10-23
FUNC GROUP: 8462	FUNC DESC: Electrical outside mirrors, compl	Page 1 of 27	

“Right first time in Time”

Attachment

File Name	File Size
134-135-136-124.pdf	0.2876 MB
156 water egress.pdf	0.1225 MB
533-156-275.pdf	0.2665 MB
542.pdf	0.2610 MB
544-545.pdf	0.2104 MB
TJ 21232 BLIS Functionality and Diagnostic Guide.pdf	0.1098 MB
TJ 24108 .pdf	0.1225 MB

Vehicle Type

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
124							2007-2012		0000150-09999999	0-0
134							2011-2012		0000150-99999999	0-0
135							2008-2010		0000150-99999999	0-0
136							2008-2012		0000150-99999999	0-0
156							2010-2012		0000150-99999999	0-0
275							2003-2012		0000150-99999999	0-0
533							2007-2012		0000150-99999999	0-0
542							2006-2012		0000150-99999999	0-0
544							2004-2011		0000150-99999999	0-0
545							2004-2011		0000150-99999999	0-0



CSC Customer Symptom Codes

Code	Description
XR	Blind spot information system (BLIS)/Does not work
2V	Technician information/Software/Vehicle communication/Not for warranty use

VST Operation Number

VST Operation Number	Description
98311-2	Wire harness modification
99400-2	General check/adjust

DTC Diagnostic Trouble Codes

Control Module	Code	Fault Type
DDM	B118C04	Intermittent
CEM	4F41	Intermittent
CEM	4F42	Intermittent
CEM	4F43	Intermittent
CEM	4F44	Intermittent
CEM	4F45	Intermittent
CEM	4F47	Intermittent
CEM	4F46	Intermittent
CEM	4F48	Intermittent
DDM	B118C04	Intermittent
DDM	B118C11	Intermittent
DDM	B118D11	Intermittent
PDM	B118C11	Intermittent
PDM	B118D11	Intermittent
PDM	B118D04	Intermittent
PDM	B118C04	Intermittent
DDM	B118D04	Intermittent

Rows beginning with * are modified

Note! If using a printed copy of this Technical Journal, first check for the latest online version.

Text

DESCRIPTION:

*TJ updated only for op codes

**The contents of this TJ does not necessarily contain any new fault tracing information. Its intention is to combine all fault tracing in TIE to a one source document.



BLIS SERVICE REQUIRED message may appear in the DIM at times and for a number of reasons. The first and most common fault is a software bug or a module within the system in need of an update. The second likely fault is usually related to a mechanical issue such as loose or contaminated connection within the system.

The first step is to confirm the fault then proceed with the normal fault tracing procedures as listed in VIDA. Which includes but is not limited to checking all connections for corrosion and positive locking also be sure any involved modules*(PDM/DDM/CEM)* have the latest software.

See attachments in this document for inspection procedures for certain connections (be sure to match instructions with the vehicle you are working on).

Note: When addressing any BLIS issues on XC60's be sure to follow the 156 water egress PDF in addition to the connector inspection and adjustment.

SERVICE:

See attached

VEHICLE REPORT:

N/A

This Technical Journal has 7 attachments accessible in TIE.

Volvo Car Customer Service		
	TJ Instruction	
	No25788	
		Date January 2012 Issue 01
Title	BLIS fault tracing.	

Affected vehicles

Year	Model
2007-	V70(08-)
2007-	XC70(08-)
2007-	S80(07-)
2011	S60(11-)

Material

Material	Quantity	Part No.
Universal oil	1	1161657*
Cable tie	1	983748
Tape	100 mm	1161777**

* Part of the standard for Consumables/Chemicals.

** Included in Squeak repair kit – 1161844.

1.

Note! Some variation in the illustrations may occur, but the essential information is always correct

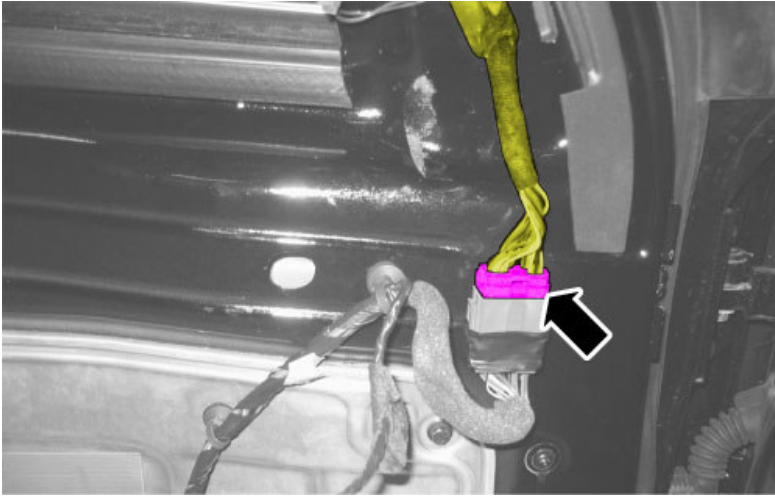
Removal

All vehicles

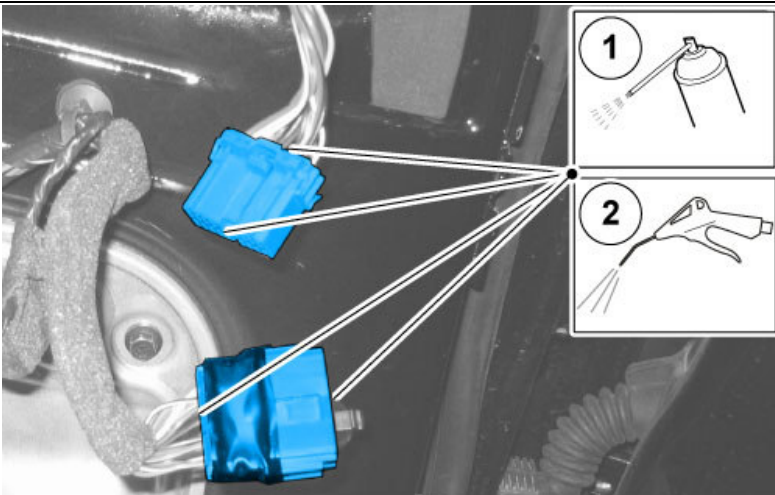
2.

Remove the front door panels according to VIDA
Removal, replacement and installation
Body and interior
Interior
Upholstery for wall/door, side, rear shelf, luggage rack

3.

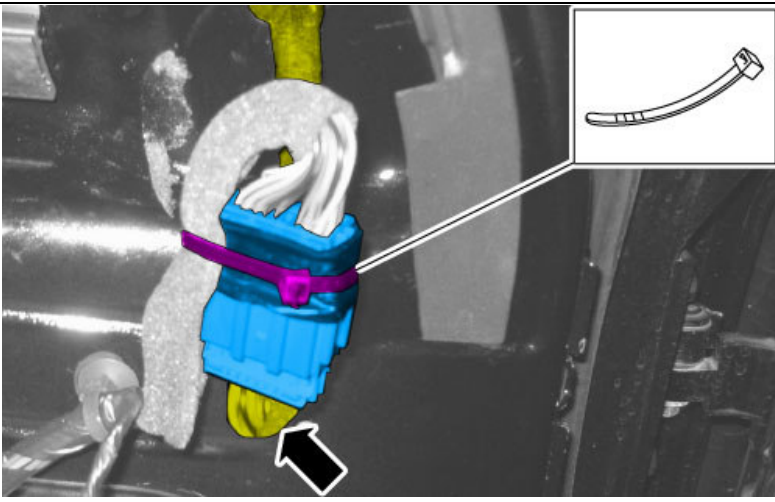


4.

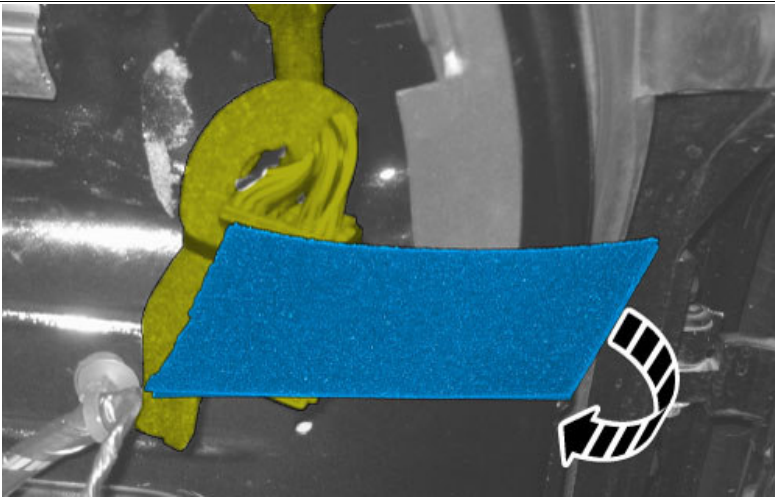


Use: Universal oil, 1161657

5.



Caution! Ensure that the cable from the rear view mirror enters the connector from underneath.

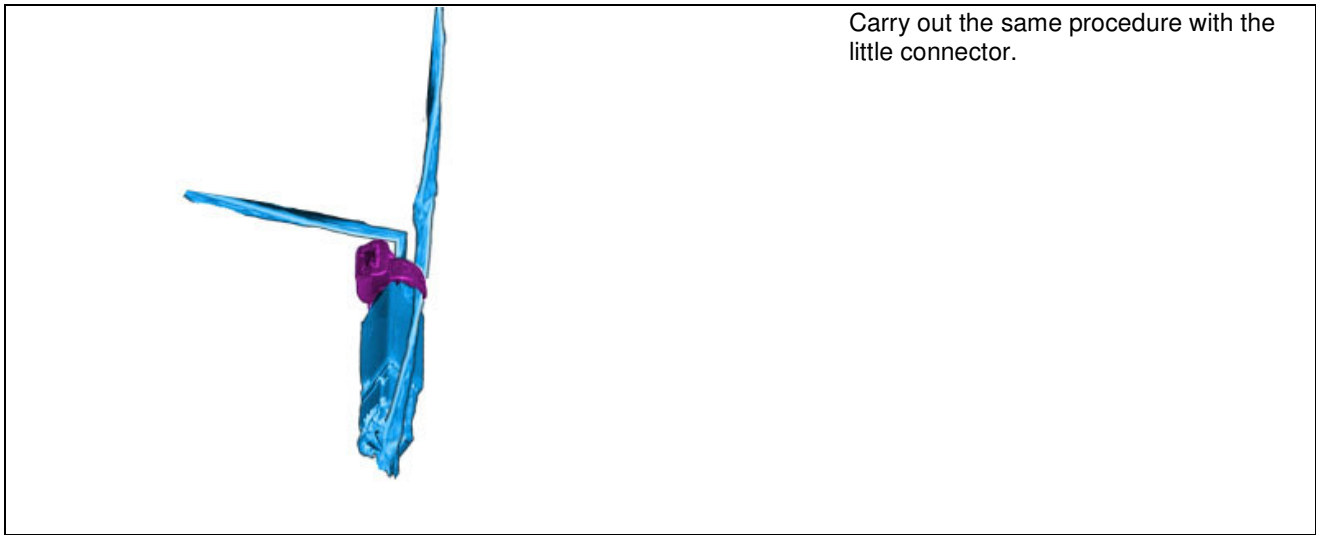


Use tape.

6.

Vehicles with Blind Spot Information System (BLIS)

7.



Carry out the same procedure with the little connector.

Installation

All vehicles

8.

To install, reverse the removal procedure.

Volvo Car Customer Service		
		RTJ Instruction
		No.24108
		March 2011 Issue 01
Title	Message in DIM "BLIS Service Required".	

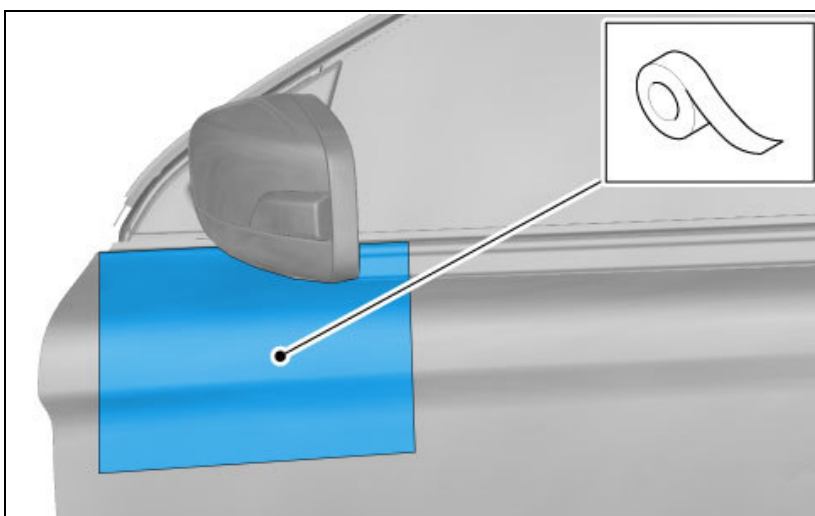
Material	Quantity	Part No.
Electrical tape	***	9511028

*****NOTE:** 1 FULL ROLL OF TAPE IS NOT REQUIRED FOR EACH REPAIR. Part number is listed for reference only.

1 ROLL OF TAPE WILL COMPLETE APPROXIMATELY 25 VEHICLES.

Note! Some variation in the illustrations may occur, but the essential information is always correct

1.



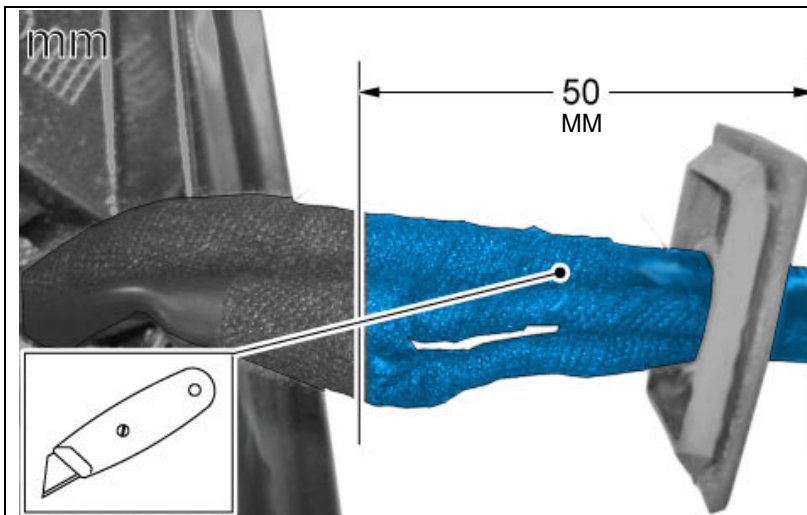
Caution! Protect the paint

VOLVO

2.

Loosen the rear view mirrors
according to:
Removal, replacement and
installation
8. Body and interior
84. Exterior trim, glass, seals

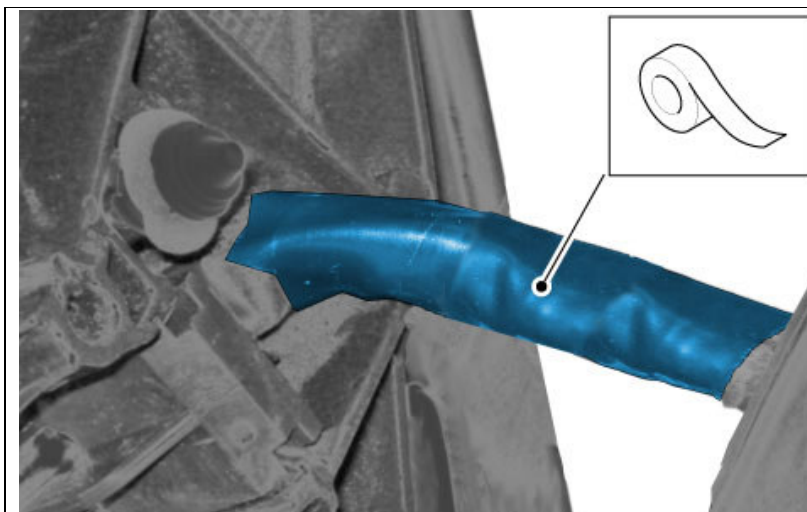
3.



Caution! Do not damage any
cables

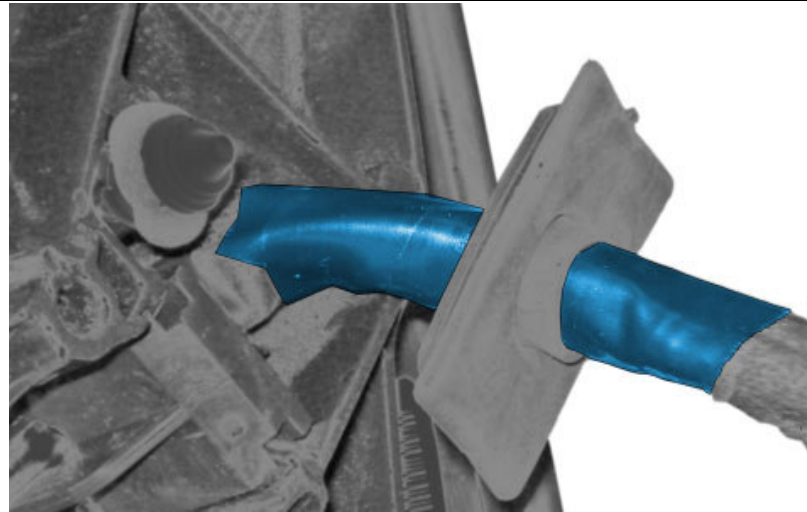
Remove the felt tape from the
marked area.

4.



Use: Insulating tape, **9511 028**

5.



6.

To install, reverse the removal procedure.

Volvo Car Customer Service		
	TJ Instruction	
	No25788	
		Date January 2012 Issue 01
Title	BLIS fault tracing.	

Year	Model
2007-	C30
2009-	XC60
2003-	XC90

Affected vehicles

Material

Material	Quantity	Part No.
Cable harness	1	31298460
Universal oil	1	1161657*
Cable tie	1	983748

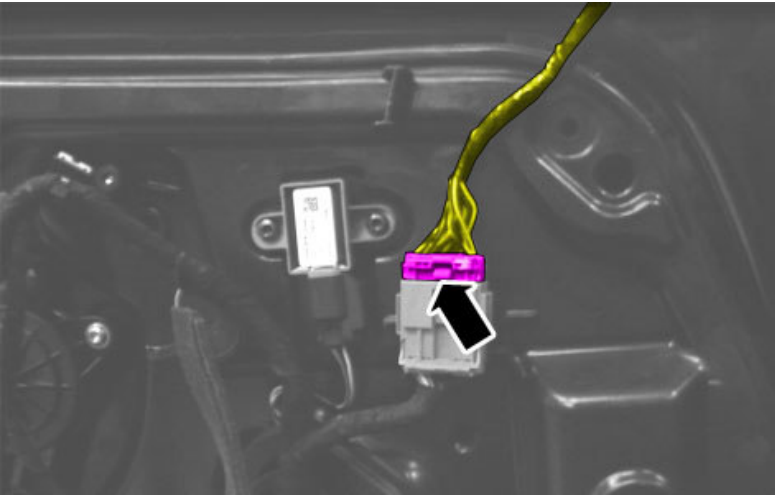
* Part of the standard for Consumables/Chemicals.

Removal

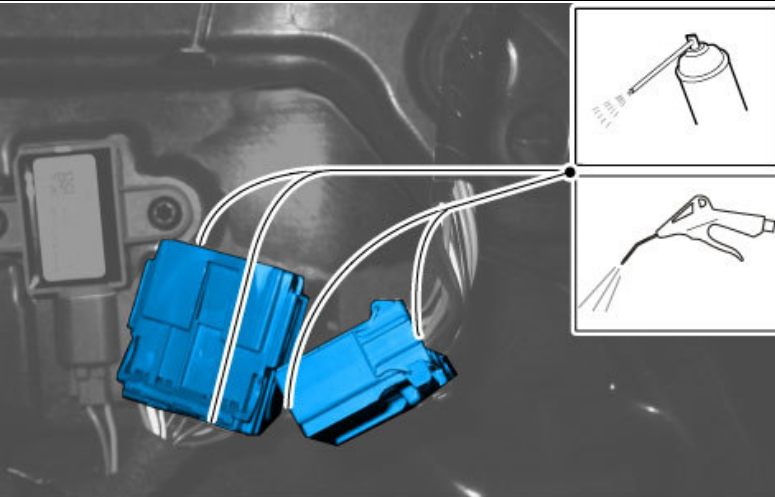
All vehicles

	<div>1.</div> <div>Remove the front door panels according to: Removal, replacement and installation Body and interior Interior Upholstery for wall/door, side, rear shelf, luggage rack</div>
--	---

2.

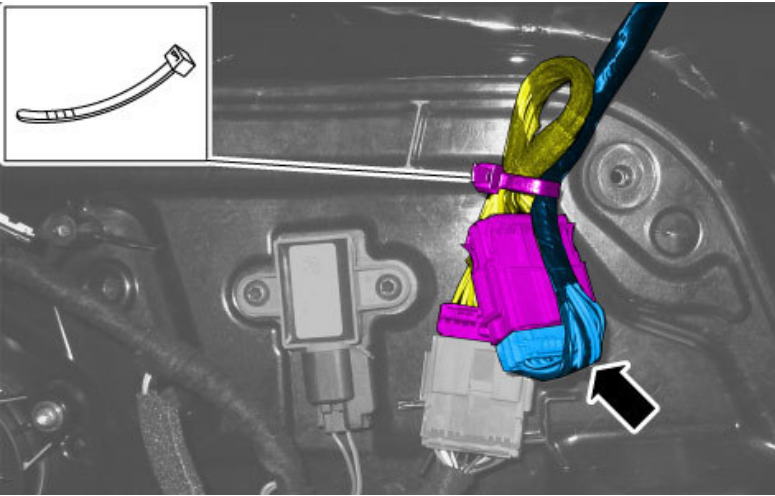


3.



Use: Universal oil, 1161657

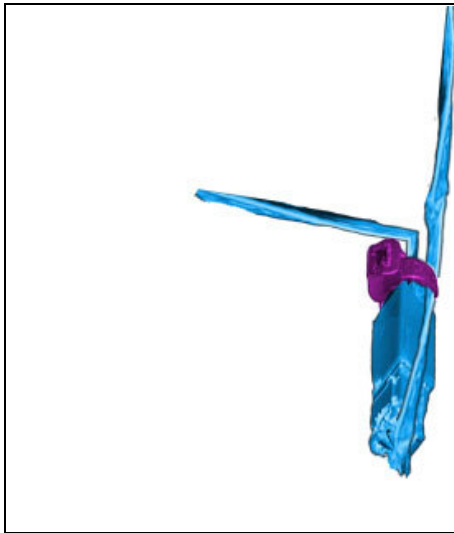
4.



Install the adapter cable

Caution! Ensure that the cable from the rear view mirror enters the connector from underneath.

5.



Carry out the same procedure with the little connector.

Installation

All vehicles

6.

To install, reverse the removal procedure.

Volvo Car Customer Service			
		TJ Instruction	
		No25788	
			Date January 2012 Issue 01
Title	BLIS fault tracing.		

Affected vehicles

Year	Model
2006-	C70 (06-)

Material

Material	Quantity	Part No.
Universal oil	1	1161657*
Cable tie	1	983748

* Part of the standard for Consumables/Chemicals.

Removal

All vehicles

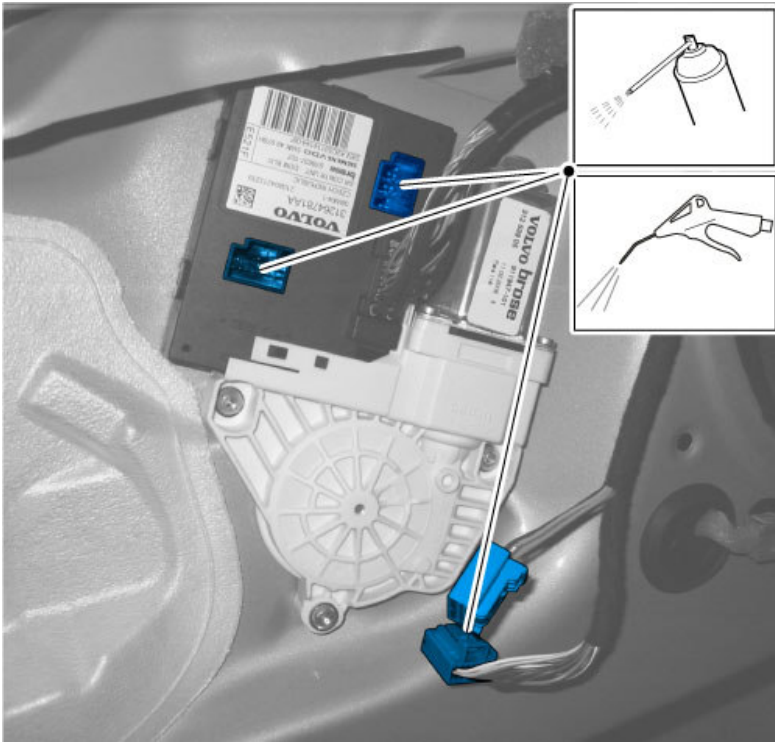
1.

Remove the door panels according to

Removal, replacement and installation
Body and interior
Interior
Upholstery for wall/door, side, rear shelf,
luggage rack

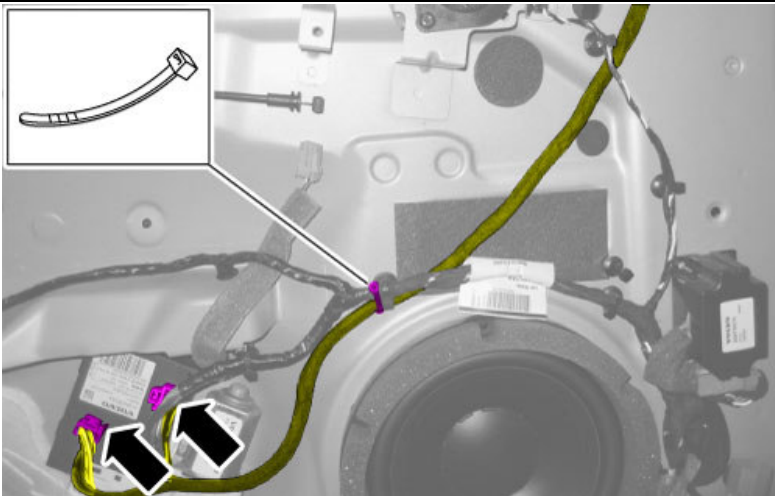
2.

3.



Use: Universal oil, 1161657

4.



Caution! Ensure that the cable from the rear view mirror enters the connector from underneath.

**Vehicles with Blind Spot
Information System (BLIS)**

5.



Carry out the same procedure with the
little connector.

Installation

All vehicles

6.

To install, reverse the removal procedure.

Volvo Car Customer Service		
	TJ Instruction	
	No25788	
		Date January 2012 Issue 01
Title	BLIS fault tracing.	

Affected vehicles

Year	Model
2004-	S40 (04-)
2004-	V50

Material

Material	Quantity	Part No.
Universal oil	1	1161657*
Cable tie	1	983748

* Part of the standard for Consumables/Chemicals.

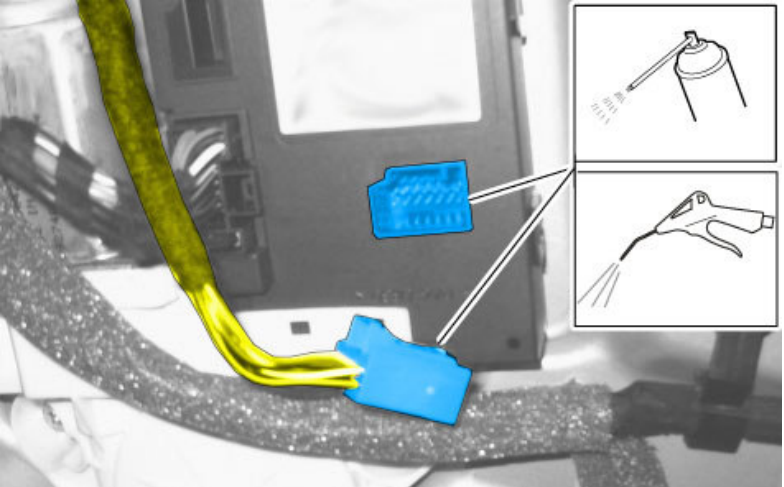
Removal

All vehicles

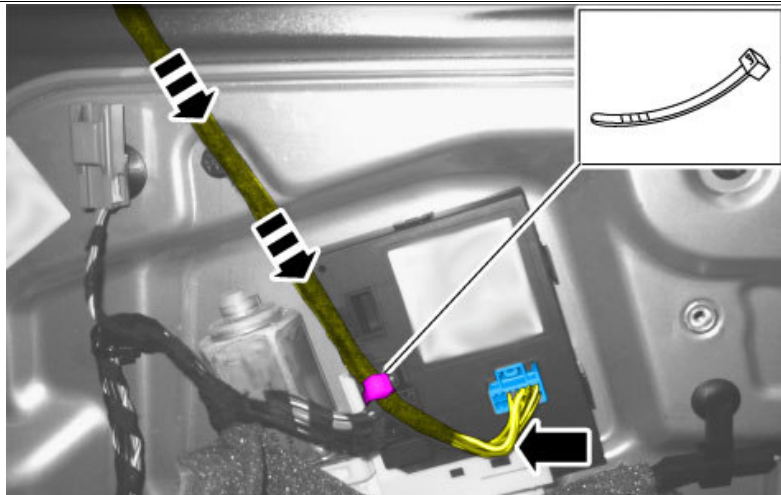
1.

	<p>Remove the door panels according to</p> <p>Removal, replacement and installation Body and interior Interior Upholstery for wall/door, side, rear shelf, luggage rack</p>
--	---

2.

	<p>Use: Universal oil, 1161657</p>
---	---

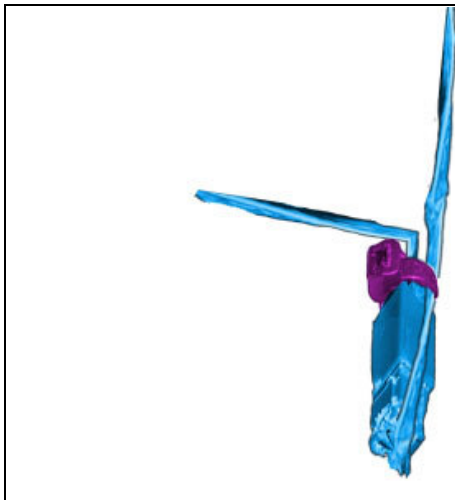
3.



Caution! Ensure that the cable from the rear view mirror enters the connector from underneath.

Vehicles with Blind Spot Information System (BLIS)

4.



Carry out the same procedure with the little connector.

Installation

All vehicles

5.

To install, reverse the removal procedure.



Retailer Technical Journal 21232

BLIS Functionality and Diagnostic Guide

Date 7-27-2009

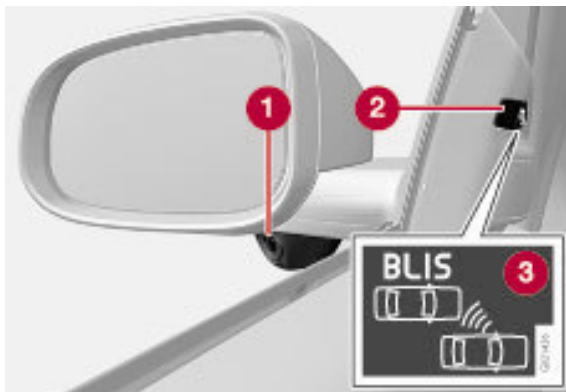
Volvo Cars of North America, LLC
Technical Engineering

Reference: VIDA, TIE

Note! If using a printed copy of this Retailer Technical Journal, first check for the latest online version.

This document is applicable to all Vehicles equipped with the Blind Spot Information System (BLIS).

BLIS is an information system that's designed to alert the driver of another vehicle possibly in the "blind spot". BLIS is intended mainly as a driver aid for dense traffic on multi-lane highway driving. When another vehicle enters the detection area, such as the BLIS equipped vehicle is passing or being passed by another, the driver will get a continuous light from one of the two indicators (LED's) while an object is being detected. The purpose of this indication is to alert the driver of the possibility of another vehicle in the detection area and for them to check prior to taking action.



- 1 = BLIS camera
- 2 = BLIS indicator (LED)
- 3 = BLIS symbol

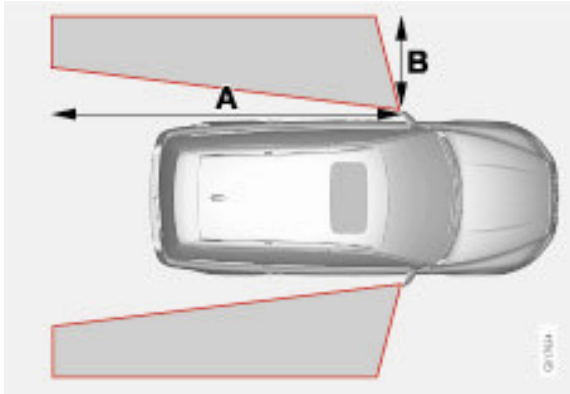
System limitations:

- BLIS does not work in sharp curves.
- BLIS does not function when the vehicle is backing up
- If you are towing a wide trailer, this may prevent the BLIS cameras from detecting other vehicles in adjacent lanes.
- BLIS does not react to cyclists or mopeds.
- BLIS is designed to alert the driver of vehicles driving alongside going in the same direction.
- The BLIS cameras have the same limitations as the human eye. In other words, their "vision is impaired" by adverse weather conditions such as heavy snowfall/rain, dense fog, etc.

Functional description

Detection area

The picture below shows the critical area that may not be seen in the outer rear view mirrors which also is the area where BLIS, is designed to at minimum, detect other vehicles.



A = approximately 31 ft. (9,5 m)

B = approximately 10 ft. (3,0 m)

Day/Night mode

In daylight the system reacts to the shape of the surrounding vehicles. The system is designed to help detect motor vehicles such as cars, trucks, buses and motorcycles.

In darkness the system reacts to the headlamps of surrounding vehicles. If the headlamps of surrounding vehicles are not switched on then the system does not detect the vehicles. This means for example that the system does not react to a trailer without headlamps which is towed behind another vehicle

When is BLIS operational

The system is "default on" (set to be on each time the vehicle is started). At vehicle speeds of 6 mph (10 km/h) and above the system will indicate another vehicle in the blind spot.

The system is designed to indicate another vehicle in the blind spot if:

- you pass another vehicle at a speed of up to 6 mph (10 km/h) faster than the other vehicle.
- another vehicle passes you travelling up to 43 mph (70 km/h) faster than you are travelling.



It is possible to stop the BLIS indications to the driver by selecting the "BLIS OFF/ON button".

When BLIS "OFF" is selected the LED in the button goes out and a text message is shown on the Driver Information Module (DIM).

IMPORTANT NOTE: this only turns off the communication to the driver, the system is still be operating in the background.

If there is a need to reset the system you need to turn the engine off and restart.

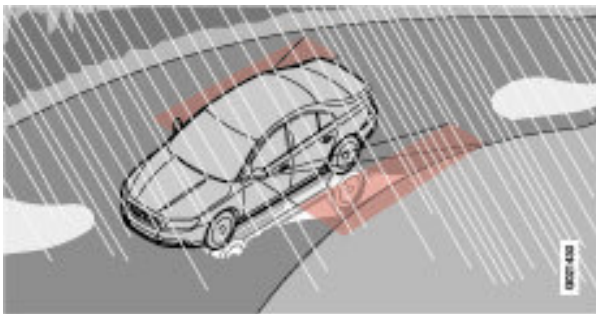
Technical description

BLIS is a camera based system; the camera's take 25 pictures per second and compares them to a pre-determined algorithm (step-by-step problem-solving procedure) based on picture size/shape and delta (changes in) velocity.

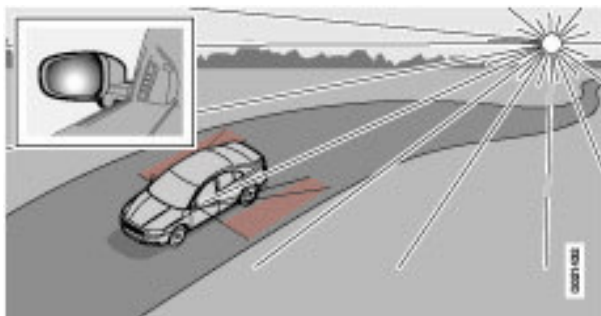
False indications

The system detection algorithm is designed to read sharp contoured shapes that are in the detection area (cars, busses, trucks, motorcycles). Light reflections and shadows can trigger warnings since the camera can't always distinguish these from real objects. Advise the customer the system is operating as intended. Inform the customer why and how the continuous light from one of the two indicators (LED's) is present and that BLIS is an information system.

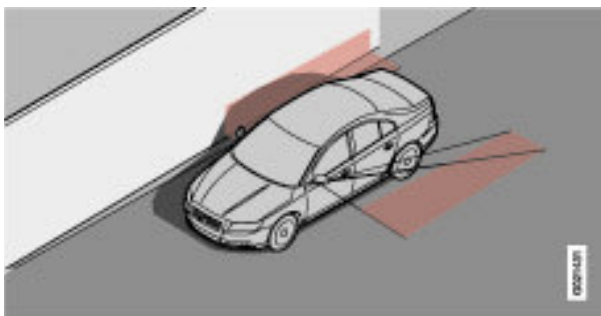
Here are some examples of situations where the BLIS indicator lamp may illuminate even if there is no other vehicle within the blind spot.



Reflections from shiny wet road surface or puddle.



Low sun shining into the camera.



Own shadow on large light smooth surface, e.g. noise barrier or concrete road surface.

Decreased system functionality / Messages in DIM

The BLIS system has a self diagnostic system to inform the driver about potential decreased system functionality. The diagnostic system software (SW) is included in the camera module units and the LH - RH cameras operate independently of each other. If either one of the camera's meet the criteria for decreased functionality the driver will be informed via flashing LED indicators and/or DIM message.

In addition to the "OFF/ON" indications there are **three** possible DIM messages to the driver:

1. BLIS Reduced function

This message informs the driver that the light conditions for either of the cameras is reduced and that the camera may not detect all objects due to low contrast conditions. The camera resets itself when the environment has returned to "normal". The "counters" in the diagnostic algorithms are reset to zero automatically when the light conditions are back to normal or an object with the headlamps on (night mode) is entering the BLIS detection area. The DIM message is removed automatically. Each of the cameras will continuously monitor the images and reset themselves when considered normal.

Examples of conditions that may give "Reduced function" message in DIM:

1. During dusk/dawn due to low light (most common cause of "reduced function").
2. Driving in complete darkness for longer than 10 minutes (safety reason since the cameras can not decide whether they are blocked or that there is no objects to detect).
3. Heavy rain or snow due to low light
4. Moisture on the Lens
5. Thin layer of dirt caused by dust, salt, etc
6. Strong light that saturates the image in a way that objects can not be recognized

What to do?

- Verify outside conditions noting amount of sunlight, weather, driving direction (North, South, East, West), time of day.
- Ensure the lens is clean: Clean with a soft cloth or a damp sponge. Clean the lenses carefully so that they are not scratched.
- Check the function of the lens defroster: The heater is active in temperatures below 82°F (28°C). You should be able to feel the heater with your finger; the area around the chrome ring/lens should be "warm to the touch", or use ice spray (PN 1161731) spray on the lens and see if the ice melts.

If the system does not reset, turn the engine off and restart.

AGAIN NOTE! The BLIS system will not be reset by selecting the OFF/ON button. This will only stop/start the LED indication to the driver. The system will still work under the same conditions in the background.

Inform the customer that the system is OK. The message is to inform the driver of the actual status of the system in the current driving conditions.

2. Camera blocked

When the camera has been reporting "Reduced function" in excess of 10 minutes without change the system shifts over to the "Camera Blocked" message in the DIM, and will be displayed together with a constant flashing from the BLIS LED's. This is the BLIS systems way to inform the driver that the BLIS system can't work under the current driving conditions.

Examples of conditions that may give Camera Blocked message in DIM

- During dawn / dusk - Low sun, it's dark on one side of the car and bright on the other.
- Heavy rain or snow - The camera gets blocked.
- Moisture on the Lens

What to do?

- Verify outside conditions noting amount of sunlight, weather, driving direction (North, South, East, West), time of day.
- Ensure the lens is clean - Clean with a soft cloth or a damp sponge. Clean the lenses carefully so that they are not scratched.
- Check the function of the lens defroster: The heater is active in temperatures below 82°F (28°C). You should be able to feel the heater with your finger; the area around the chrome ring/lens should be "warm to the touch", or use ice spray (PN 1161731) spray on the lens and see if the ice melts.

If the system does not reset, turn the engine off and restart.

AGAIN NOTE! The BLIS system will not be reset by selecting the OFF/ON button. This will only stop/start the LED indication to the driver. The system will still work under the same conditions in the background.

Inform the customer that the system is OK. The message is to inform the driver of the actual status of the system in the current driving conditions.

3. BLIS Service Required

"BLIS Service Required" message in the DIM informs the driver that there can be an internal failure within the system. i.e. communication internally within the camera, between the cameras and car communication system or a short circuit of one of the indicator LED's. This means that there is a risk that the camera may not correctly identify another vehicle in the detection area or being able to inform the driver.

What to do?

- Check the function of the lens defroster: The heater is active in temperatures below 82°F (28°C). You should be able to feel the heater with your finger; the area around the chrome ring/lens should be "warm to the touch", or use ice spray (PN 1161731) spray on the lens and see if the ice melts.
- Check for any relevant Retailer Technical Journals and follow the instructions
- Read out fault codes and consult the CSC symptom based fault tracing in VIDA; take appropriate action.
- Reset the system and see if the message returns, if the message returns; replace the mirror.

VOLVO for life,
Volvo Cars of North America, LLC
Technical Engineering

Volvo Car Customer Service		
		RTJ Instruction
		No.24108
		March 2011 Issue 01
Title	Message in DIM "BLIS Service Required".	

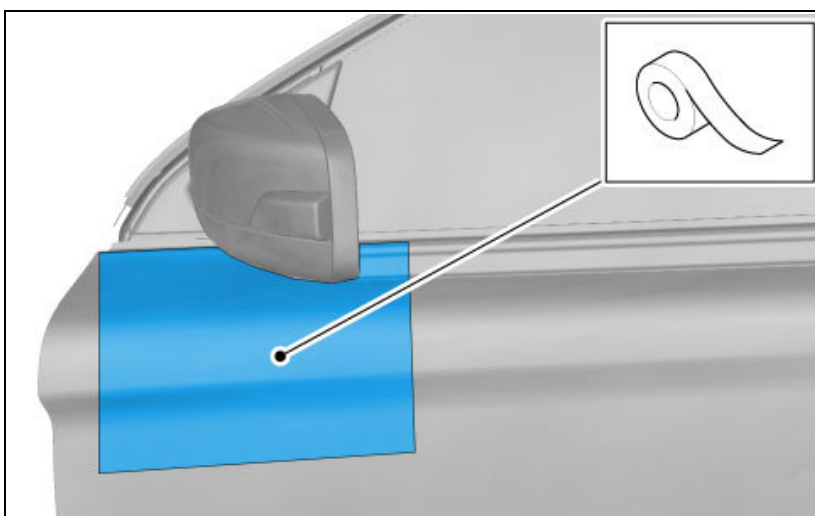
Material	Quantity	Part No.
Electrical tape	***	9511028

*****NOTE:** 1 FULL ROLL OF TAPE IS NOT REQUIRED FOR EACH REPAIR. Part number is listed for reference only.

1 ROLL OF TAPE WILL COMPLETE APPROXIMATELY 25 VEHICLES.

Note! Some variation in the illustrations may occur, but the essential information is always correct

1.



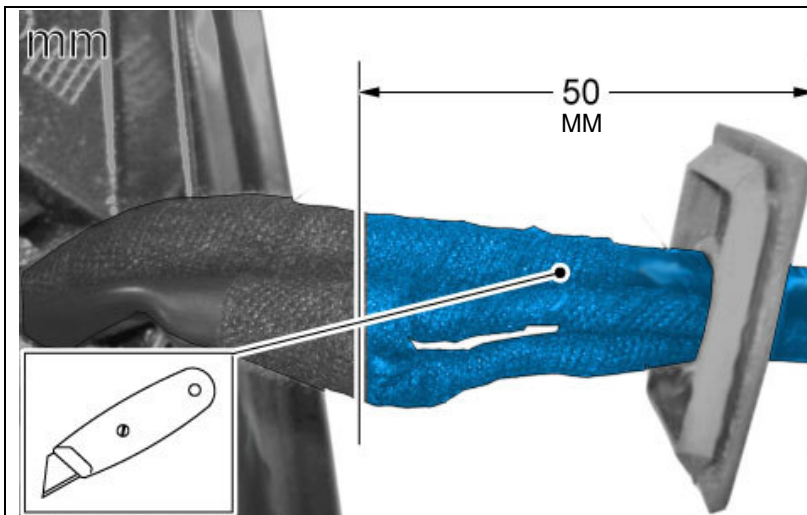
Caution! Protect the paint

VOLVO

2.

Loosen the rear view mirrors according to:
Removal, replacement and installation
8. Body and interior
84. Exterior trim, glass, seals

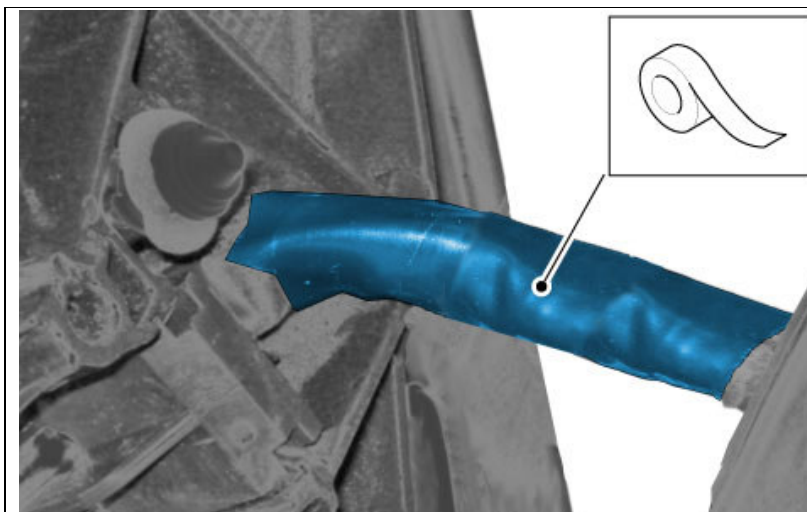
3.



Caution! Do not damage any cables

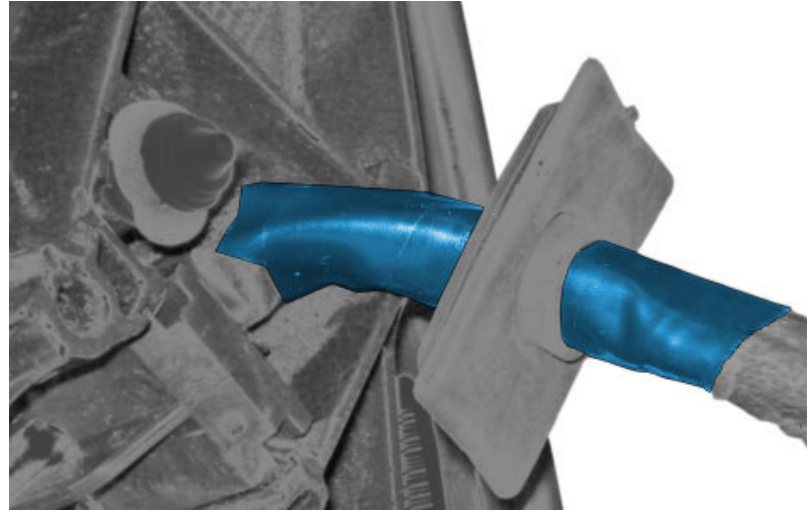
Remove the felt tape from the marked area.

4.



Use: Insulating tape, **9511 028**

5.



6.

To install, reverse the removal procedure.