



# Technical Journal

TITLE:

Front seat heater, function control

<b>REF NO:</b> TJ 33617.2.0	<b>ISSUING DEPARTMENT:</b> Technical Service	<b>CAR MARKET:</b> United States and Canada	
<b>PARTNER:</b> 3 US 7510 Volvo Car USA		<b>ISSUE DATE:</b> 2020-01-03	<b>STATUS DATE:</b> 2020-01-07
<b>FUNC GROUP:</b> 8527	<b>FUNC DESC:</b> Electrical heating	Page 1 of 8	

“Right first time in Time”

## Attachment

File Name	File Size
TJ 33617.pdf	2.2159 MB

## Vehicle Type

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
224							2019-9999		0000001-9999999	201835-999952
225							2019-9999		0000001-0999999	201838-999952
227							2019-9999		0000001-0999999	201846-999952
234							2017-9999		0000350-0999999	201617-999952
235							2017-9999		0000160-0999999	201624-999952
236							2017-9999		0000098-0999999	201646-999952
238							2018-9999		0000161-0999999	201646-999952
246							2018-9999		0000389-0999999	201717-999952
256							2016-9999		0000561-0999999	201505-999952

## CSC Customer Symptom Codes

Code	Description
UW	Front seat/Seat heating does not work or too hot

## VST Operation Number

VST Operation Number	Description
98714-2	Heater pad front seat fault trace acc. to TJ33617



## **DTC** Diagnostic Trouble Codes

Rows beginning with \* are modified

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

## **Text**

### **DESCRIPTION:**

\* Method and text in this TJ are reworked.

If front seat heating does not work, check seat heating elements by measuring according to instruction under Service.

We can see from controls of replaced heating elements, that many are replaced even though they are not broken.

Note! If there is any DTC set indicating LIN communication issue between CCM and SHM, then fault trace that first. Fault trace according to VIDA.

### **SERVICE:**

Measure according to attached instruction.

When measuring the heating elements according to the instruction the measurement values shall be read when the voltage feed is on.

On an OK car the voltage is approx 5V (approx 4.7-5V), it varies with the battery voltage (Ubat).

### Description how SHM operates:

The seat heating is operated by SHM switching on and off the voltage feed to cushion and backrest heating elements, which are connected in series.

The switching intensity is approx. a few times per 2 minutes.

The dutycycle between how long time the voltage feed is on vs off varies depending on the seat temperature and temp setting.

When seat is cold the voltage feed is longer time turned on than off.

When seat is warm the voltage feed is longer time turned off than on.

### *Warranty claim info:*

*To get warranty claim accepted for a job described in this TJ, please use the attached VST OP number.*

### **VEHICLE REPORT:**

Yes, please submit a Vehicle Report if the service solution described in this TJ has no effect. Use concern area "Vehicle Report" and sub concern area "Support not needed", use function group 8527.

**To view TJ attachment continue to next page. This TJ has one attachment.**



## Volvo Car Customer Service

TJ Instruction VCC-512761-1

<b>Title</b>	Front seat heater	<b>Page</b>	1 ( 6 )
<b>Action</b>	Product fix	<b>Operation number:</b>	98714-2

<b>Issue</b>	<b>Date</b>	<b>Reason</b>
1	2018-06	First issue

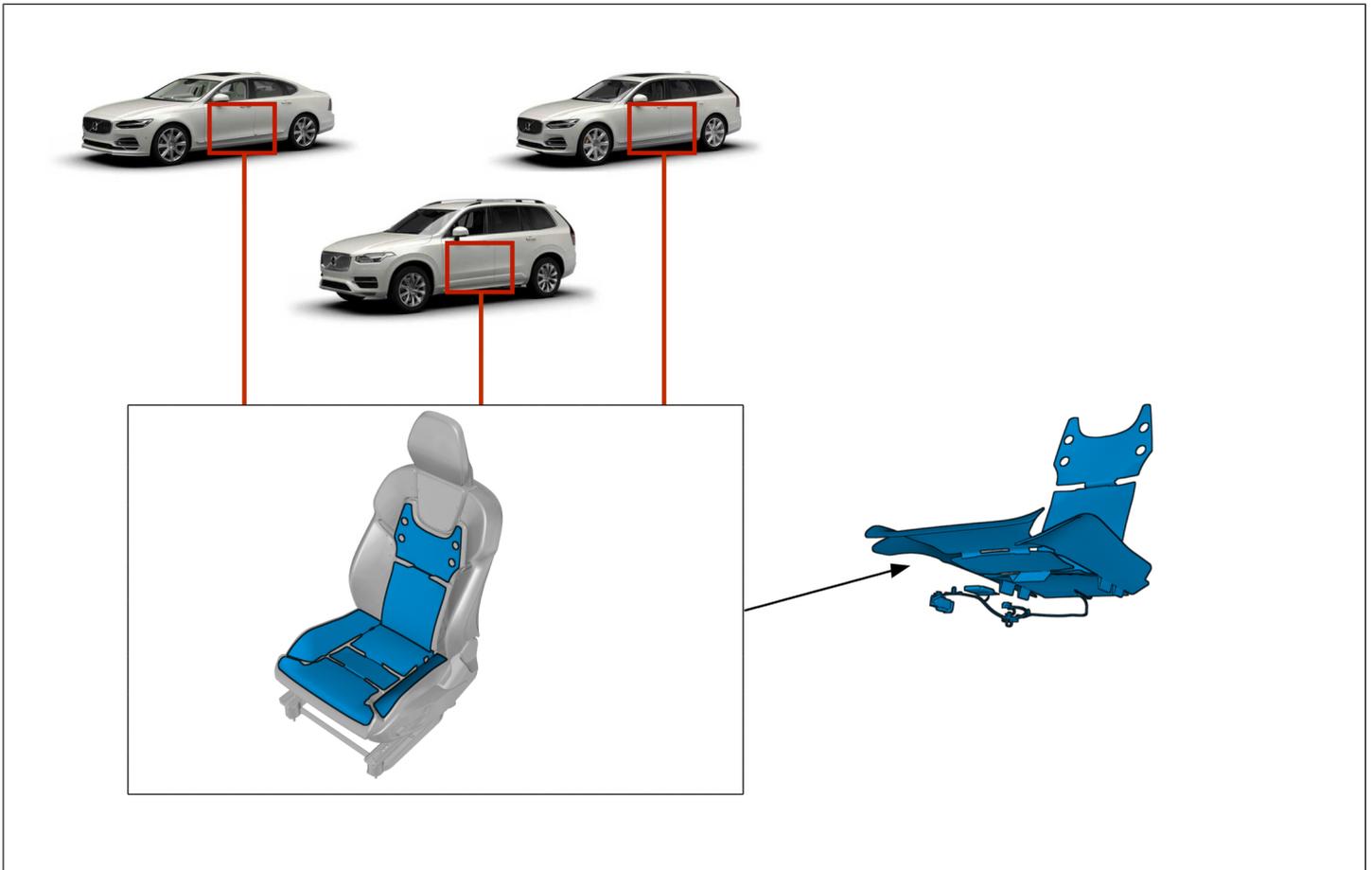
### Affected vehicles

<b>Model year</b>	<b>Model</b>
2017	S90 (17-)
2018, 2019	S90L
2017, 2018, 2019	V90 (17-)
2017, 2018, 2019	V90 Cross Country
2018, 2019	XC60 (18-)
2016, 2017, 2018, 2019	XC90 (16-)

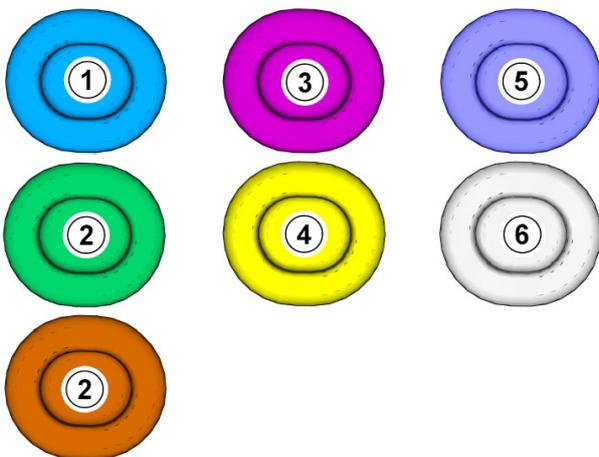
### Special tools

<b>Description</b>	<b>Part No.</b>
MULTIMETER (DIGITAL)	951 0060

**Removal**

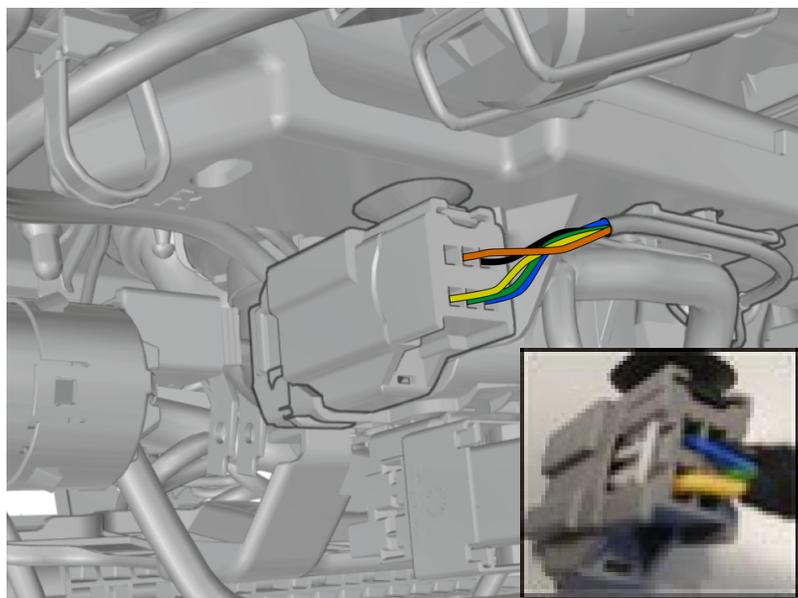
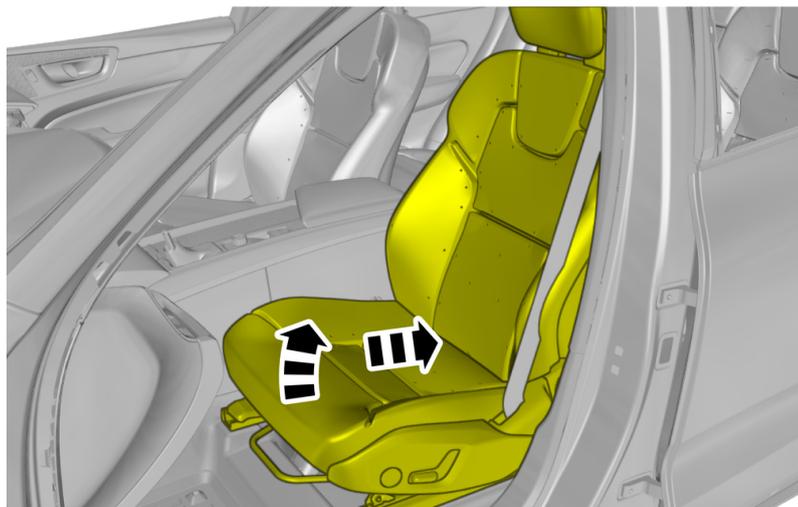


**Color symbols**



**Note! This colour chart displays (in colour print and electronic version) the importance of the different colours used in the images of the method steps.**

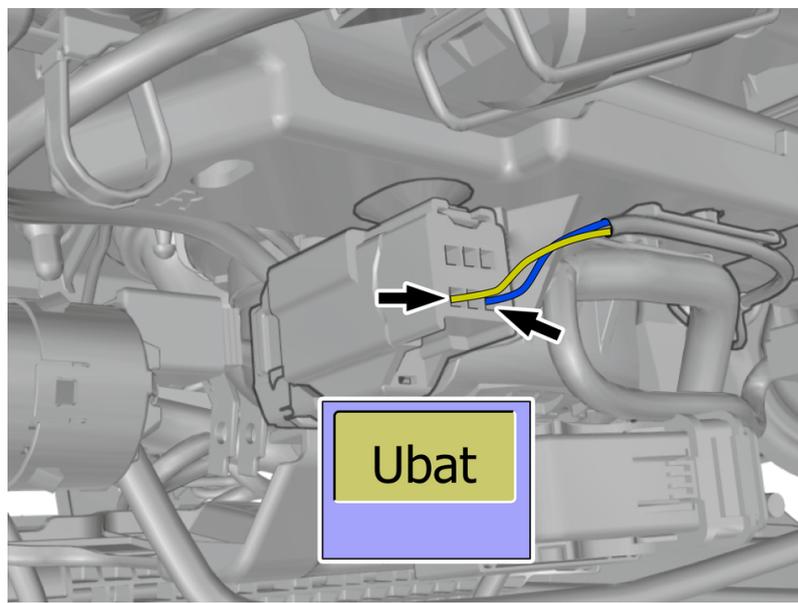
- 1 . Used for focused component, the component with which you will do something.
- 2 . Used as extra colors when you need to show or differentiate additional parts.
- 3 . Used for attachments that are to be removed/installed. May be screws, clips, connectors, etc.
- 4 . Used when the component is not fully removed from the vehicle but only hung to the side.
- 5 . Used for standard tools and special tools.
- 6 . Used as background color for vehicle components.



**Caution!** Make sure that the connector is connected.

**Note!** Orientation view

**Note!** The appearance of connectors may vary depending on the vehicle equipment level. However the colours of the cables, always match.

**Check**

Check the voltage. Start the engine

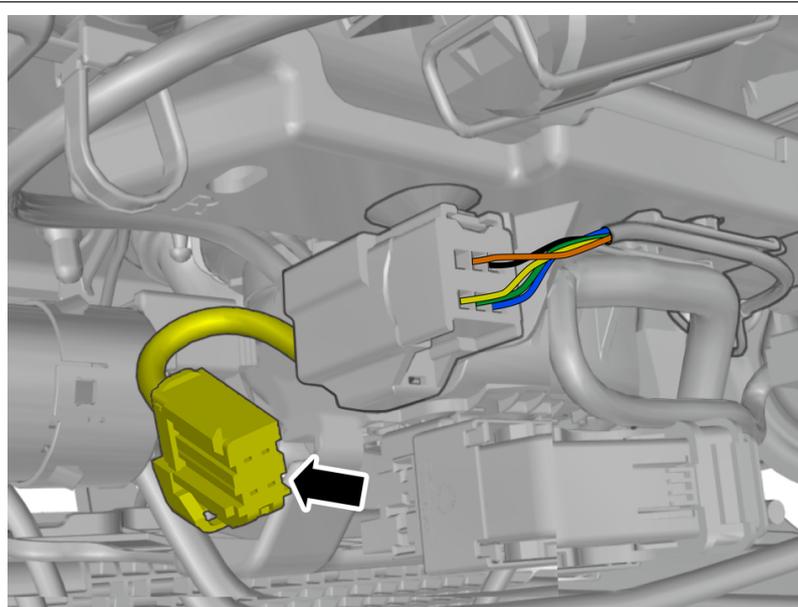
Special Tool: T9510060, MULTIMETER (DIGITAL)

Check the value.

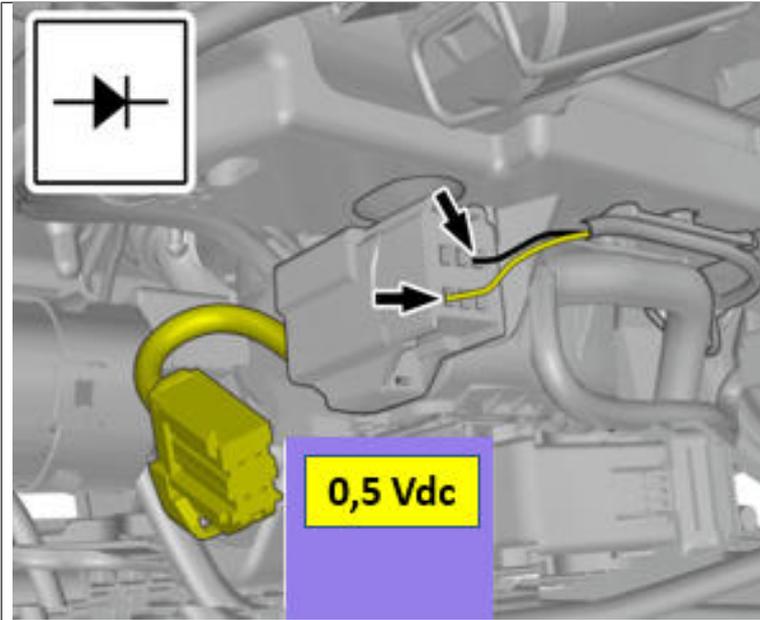
YE = Yellow

BU = Blue

If the measurement results give normal values, continue to the section Checks, below.

**Check**

Disconnect the connector.



Check the control unit.

Special Tool: T9510060, MULTIMETER (DIGITAL)

Set multimeter for diode measurement.

**Connect red probe to the terminals black cable.**  
**Connect black probe to the terminals yellow cable.**

Check the value.

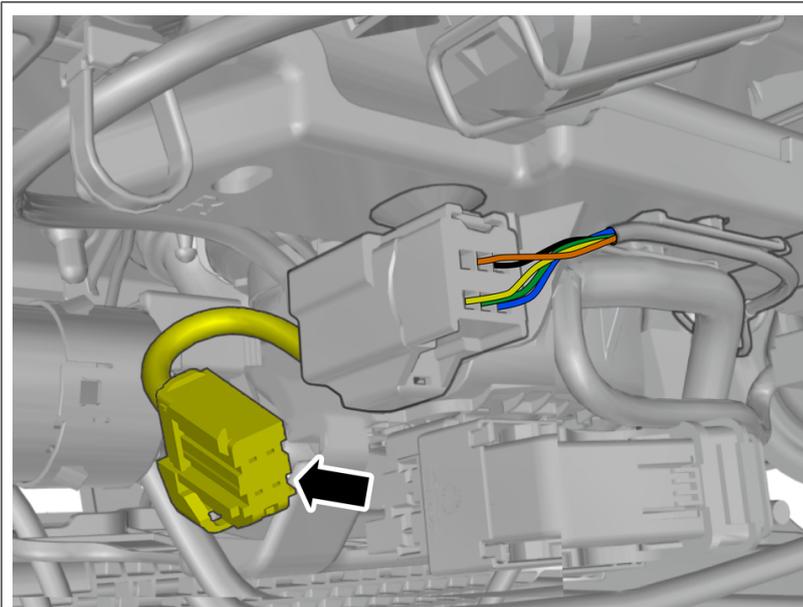
YE = Yellow

BK = Black

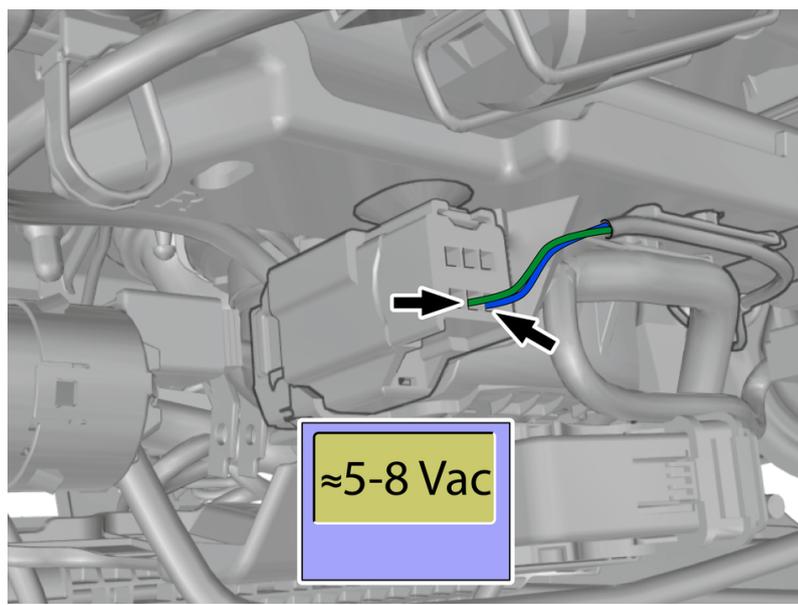
If the measurement results give normal values, continue to the section Checks, below.

If the result of the checking procedure is not OK, the component must be replaced with a new component.

### Check



Connect the connector.



Check the LIN communication.  
Start the engine.

Special Tool: T9510060, MULTIMETER (DIGITAL)

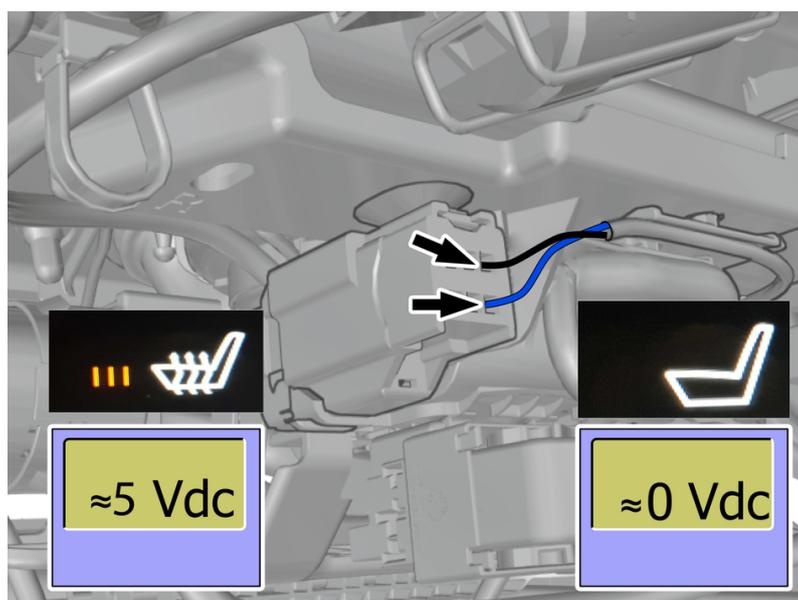
Set multimeter for VAC measurement.  
Check the value.

GN = Green

BU = Blue

If the measurement results give normal values,  
continue to the section Checks, below.

### Check



Check the heating coil.

Start the engine.

Set the switch for the heating element for the seat on max.

Special Tool: T9510060, MULTIMETER (DIGITAL)

Set multimeter for VDC measurement.  
Check the value. Measure for a minimum of 1 minute.

**Connect red probe to the terminals black cable.**

**Connect black probe to the terminals blue cable.**

Correct heaters: The voltage shall normally be 5V (DC) when the heating is active and 0 V (DC) when the heating is off.

Incorrect value of heating element backrest cushion:

Always 7V

Incorrect value of heating element cushion: Always 0 V (DC).

BU = Blue

BK = Black

If the result of the checking procedure is not OK,  
the component must be replaced with a new component.

### Installation

To install, reverse the removal procedure.