

# VOLVO SUNROOF CASE STUDY: 2007 V50 WAGON WITH SUNROOF STUCK IN THE 80 PERCENT CLOSED POSITION

The driver of this 2007 Volvo V50 brought the car into the shop with the sunroof stuck in the partially opened position.

The customer stated they used the sunroof on a regular basis and it was working normally up until last week when the driver attempted to close it and was unable to do so, leaving the sunroof partially open.

The service adviser was told by the customer right before the sunroof broke it had been opening and closing slower. It was after that the sunroof stopped short of closing fully, forcing the customer to seek repair as the sunroof would no longer move back or forth.

During the technician's initial inspection of the car he found that when he activated the sunroof switch the motor would run but the sunroof glass would not move in any direction.

The service adviser got authorization from the customer to drop down the headliner to access the sunroof motor and inspect the sunroof cables and guides.

Because in most cases, if the motor is running and the sunroof glass is not moving on a Volvo, it can be caused by a stripped drive gear on the sunroof motor or stripped or broken sunroof cables.

In the case of this Volvo, it was a different story.

The technician removed the sun visors and the main dome light assembly that also houses the sunroof switch.

He then removed the trim seal around the sunroof opening. This allowed him access to the sunroof motor assembly mounting screws.

He removed the 3 screws and disconnected the motor's wire connector.

When the technician pulled the motor from the cable track, the drive gear dropped out in two pieces.

The sunroof motor drive gear had split in half; this is not a common problem in Volvos.

So why did the gear break?

The cables looked undamaged and intact so it must have been caused by something jammed in the sunroof's tracks, right?

But to examine the sunroof's tracks and hardware the tech will have to put the glass in the vent, or at least the closed position, to access the four screws that hold the glass in place.

With the motor removed, the technician was able to push the glass backwards to the fully open position so he could inspect the tracks.

In the case of this

Volvo, there was no sign of damage or debris in the sunroof tracks, so the technician manually closed the sunroof and was able to remove the four screws that hold the glass to the track assemblies.

After the glass was removed, the technician was able to closely inspect the sunroof mechanisms, he was also able to move the left and right cables back and forth to check for binding.

The cables moved smoothly and the tracks were fairly clear of debris except for the right side track which had some ground up rock chips lying in the channel.

The technician cleaned out the debris and lubed the tracks and hardware and then lined up the cables and guides into the vent position and reinstalled the glass.

The technician then installed the new sunroof motor assembly and reassembled the headliner and dome light assembly.

The technician then ran the sunroof through its paces, all ran well, so why did the gear snap?

Well, after interviewing the customer the technician found out that the customer regularly drives down a gravel road with the sunroof in the vent position.

So the theory is that a small rock popped into the sunroof rails and, when the customer tried to close the sticking sunroof multiple times, pop snap bang.

The moral of this story is to expect the unexpected. In this business you will see something new every day. ●

