	<p><b>Skill Module Number:</b> <span style="border: 1px solid black; padding: 2px 10px;">3-3</span></p> <p><b>Subject:</b> Manually Closing the Vario Roof</p>
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Objective:

At the conclusion of this module, you will be able to:

- Manually close the Vario roof

Vehicle and tools required:

- R230 Vehicle with all windows fully open and rollover bar down
- Small plastic wedge, 6mm Allen wrench and fender covers
- Electrical lead kit (DC # 220 589 00 99 00)

Required material:

Instructions:

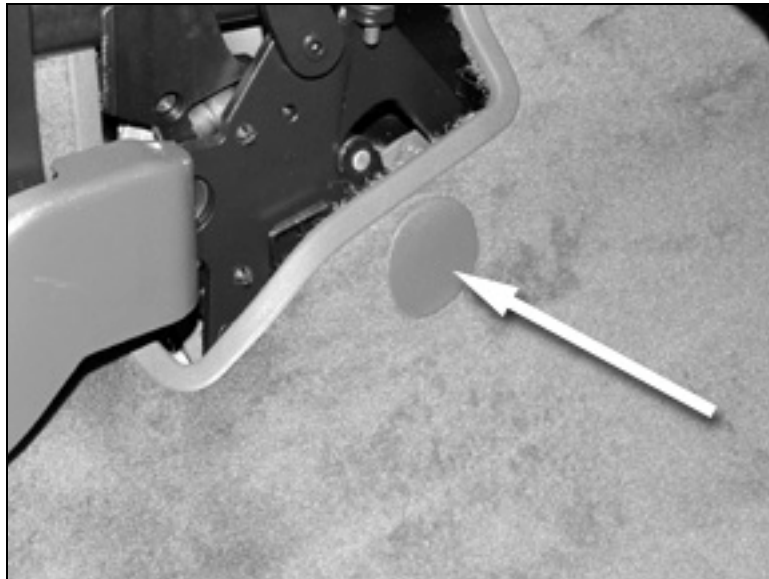
1. Follow the instructions and answer the questions.
2. Ask your instructor if assistance is needed.
3. Stop at Instructor checkpoints for sign-off.

1. Open the trunk lid and press the load assist (easy pack) switch to move the roof into the load assist position. Place fender covers on the rear quarter panels.
2. Open the luggage partition cover and remove the spare tire cover.

**WARNING!**

**By opening the luggage partition cover you will be locking out the load assist (easy pack) function from allowing the roof to return to the stowed position. Failure to do so may result in the roof returning to the stowed position unexpectedly, thus resulting in injury.**

3. Use a plastic wedge to remove the covers (right and left sides) that allow access to the tubular frame locks.



4. Using a 6mm Allen wrench, unlock the tubular frame locks.

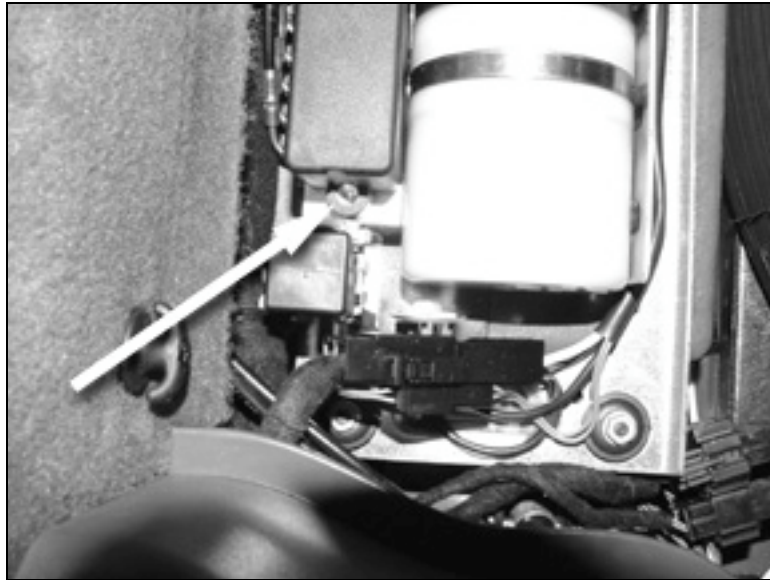
**NOTE: By unlocking the tubular frame, the load assist (easy pack) will be “locked-out”, so it’s safe to close the luggage partition cover.**

5. Close the luggage partition cover.

**WARNING!**

**In the step you will be performing next, you will be releasing pressure from the hydraulic cylinders that hold the load assist feature in place. Be sure to position yourself out of the way to avoid the top from hitting you.**

6. Use a 6mm Allen wrench to release pressure (loosen ¼ turn counterclockwise) from the RVC hydraulic unit. The roof will return to the stowed position.



7. Retighten the pressure release screw on the RVC hydraulic unit.
8. With the aid of a second person, raise the tubular frame up and towards the rear to extend the trunk lid into the service position.



**WARNING!**

During the step you are about to perform be cautious to avoid collisions with other components as well as your body parts.

Instructor check point \_\_\_\_\_

9. With the aid of a second person place your hands on the back of the C-pillar and lift the roof to the load assist (easy pack) position. The load assist (easy pack) position is reached when the flap on the rear hat shelf is folded in half.



10. At this point, readjust your hand to firmly pull up on the bottom of the C-pillar. You **MUST** keep upward pressure in this area during the entire raising process. Failure to do so will cause the rear hat shelf and rear window to contact as well as the roof will not line up with the locks in the crossmember (windshield header) and may cause damage to the roof or weather stripping.



11. With the roof in the load assist (easy pack) position, the roof can now be moved slowly forward. Move the roof until it makes contact with the crossmember (windshield header).
12. Unclip the cover in the roof paneling and use a 6mm Allen wrench to unlock the Vario roof locks. **Clockwise to unlock.**



13. With the roof locks unlocked, move the roof forward to insert the right and left lock mounts into the crossmember (windshield header) and lock the Vario roof. **Counterclockwise to lock.**

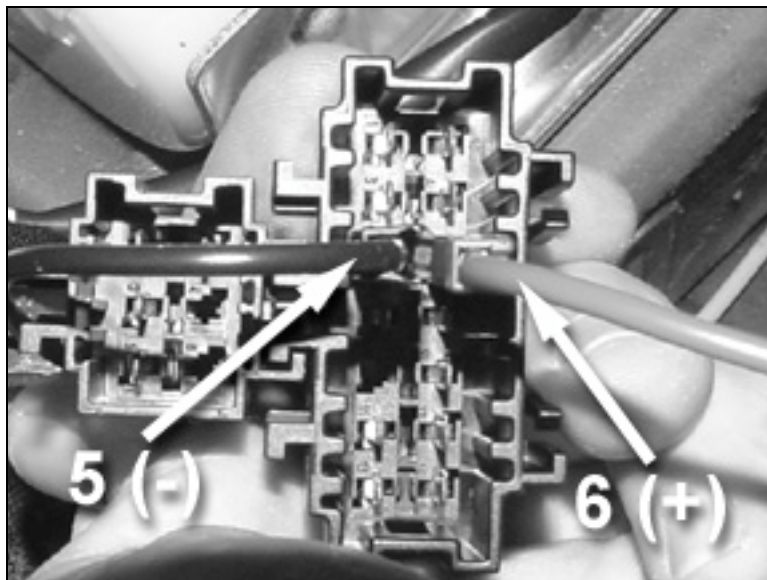
**NOTE:** You may have to move the roof back slightly to do the previous step. If you do, be sure to apply pressure to the bottom of both C-pillars when moving the roof back. Failure to do so will result in the roof not lining up properly.

14. Check to see if the right and left C-pillar is locked by pushing down on the top of the C-pillar, then pulling up. If there is no movement, the C-pillar is locked.

**Instructor check point \_\_\_\_\_**

**Note:** The next step is to close the side flaps. This can be done using SDS, however we're going to cover a procedure that can be used during a road-side service call.

15. Open the luggage partition cover and disconnect the trunk lid separation point connector (X8/4).
16. Insert electrical leads ( 2.8 mm female spade connectors # 10) to pins 5 and 6. Pin 5 = negative, Pin 6 = positive.



17. Carefully press down on the top of the trunk lid to close the trunk to the latch. Failure to do so will cause damage to the side flaps because they will come into contact with the 7-joint hinge.

**WARNING!**

**In the next step you will be closing the side flaps. The flaps close very quickly. Be sure to stay clear of the side flaps when they are closing.**

18. Close the side flaps by providing battery voltage to the electrical leads you connected in step 16. Side flap actuation (open/close) is determined by voltage polarity. Next, remove the fender covers.
19. With the aid of a second person, carefully press the trunk lid toward the front of the vehicle. The front of the trunk lid will not close all the way because it is resting on the tubular frame locks.
20. Open the trunk lid using the “blade key”.
21. Remove the electrical leads and reconnect connector (X8/4).
22. Use a 6mm Allen wrench to lock the tubular frame locks.
23. Replace the clip covers for accessing the tubular frame locks.
24. Replace the spare tire cover.
25. Close the luggage partition cover.
26. Close the trunk lid.

If you have noticed any parts that need to be replaced on this vehicle, please inform your instructor now.

**Instructor check point** \_\_\_\_\_