

## SECTION 501-20B: Supplemental Restraint System REMOVAL AND INSTALLATION

2002 Lincoln LS Workshop Manual  
[Procedure revision date: 02/27/2004](#)

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### Clockspring

#### Removal



**WARNING:** Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.



**WARNING:** Carry a live air bag module with the air bag and trim cover pointed away from your body. This will reduce the risk of injury in the event of an accidental deployment.



**WARNING:** Do not set a live air bag module down with the trim cover face down. This will reduce the risk of injury in the event of an accidental deployment.



**WARNING:** After deployment, the air bag surface can contain deposits of sodium hydroxide, a product of the gas generant combustion that is irritating to the skin. Wash your hands with soap and water afterwards.



**WARNING:** Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.



**WARNING:** Air bag modules with discolored or damaged trim covers must be replaced, not repainted.



**WARNING:** To reduce the risk of personal injury, do not use any memory saver devices.

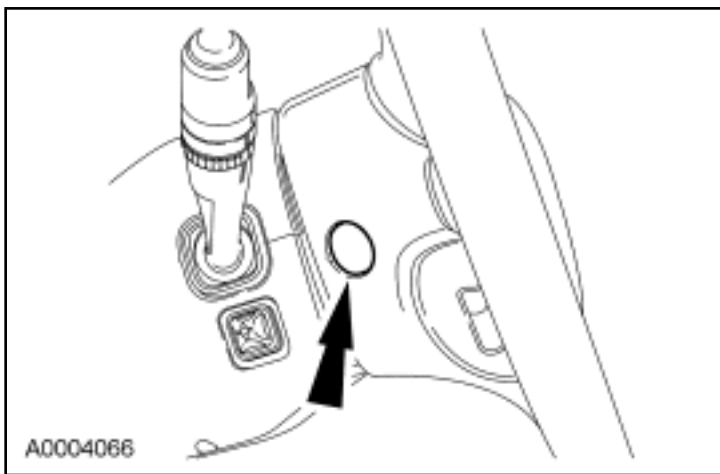
**NOTE:** The air bag warning lamp illuminates when the RCM fuse is removed and the ignition switch is ON. This is normal operation and does not indicate a supplemental restraint system (SRS) fault.

**NOTE:** The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

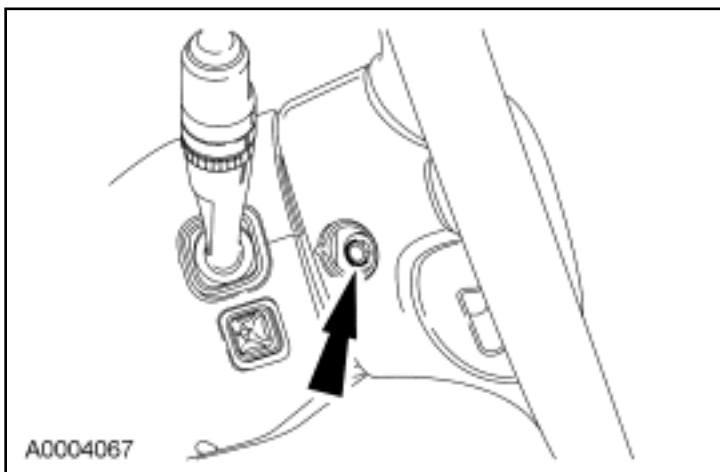
**NOTE:** A repair is made by installing a new part only. If the new part does not correct the condition, install the original part and perform the diagnostic procedure again.

## All vehicles

1. Depower the system. For additional information, refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
2. Remove the two steering wheel back cover plugs.

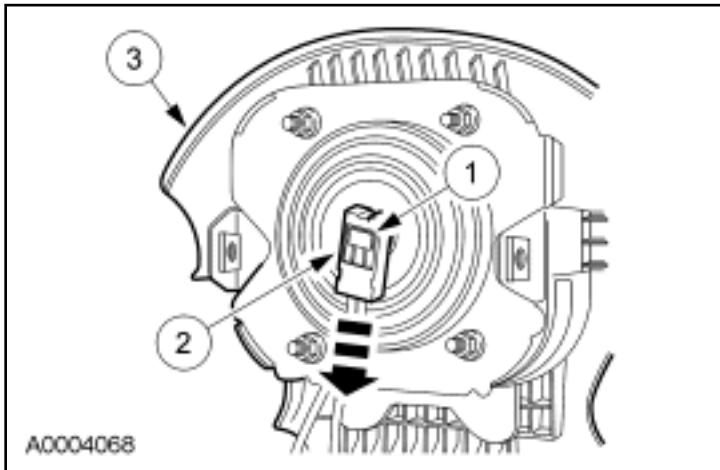


3. Remove the two driver air bag module bolts.

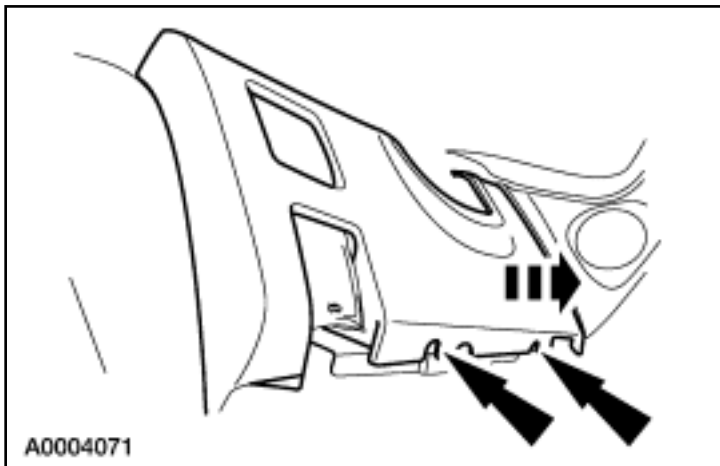


4. Remove the driver air bag module.
  1. Slide and disengage the driver air bag module electrical connector locking clip.
  2. Depressing the locking tabs, disconnect the driver air bag module electrical connector.

3. Remove the driver air bag module.

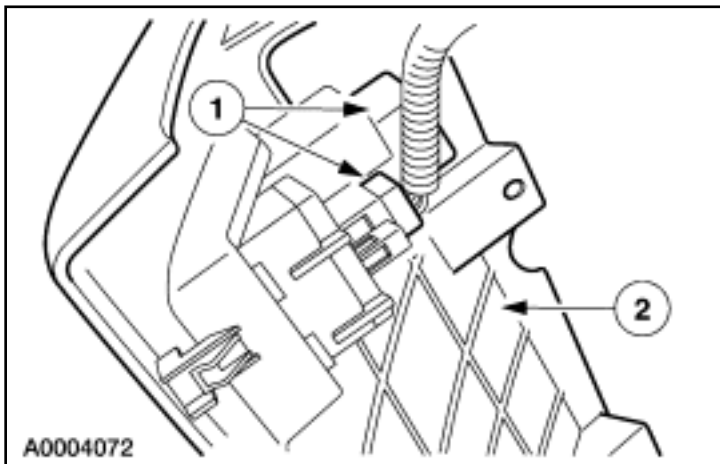


5. Remove the two screws and pull out on the lower steering column opening finish panel enough to access the electrical connectors.

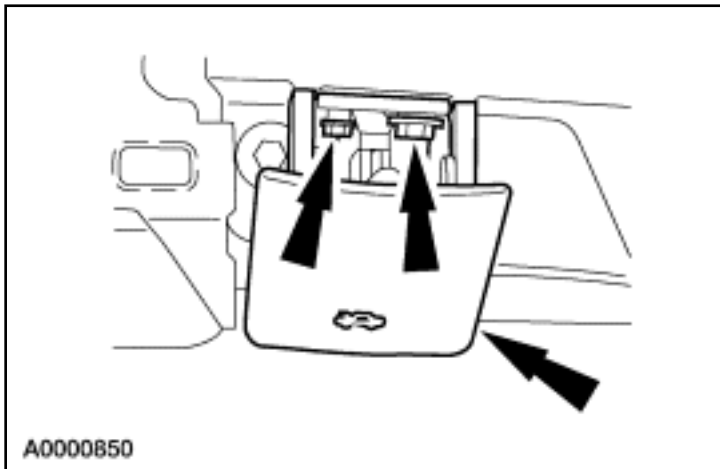


6. Remove the lower steering column opening finish panel.

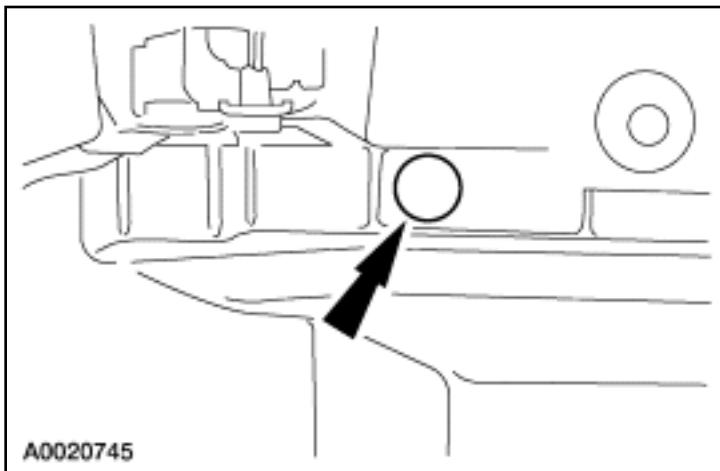
1. Disconnect the electrical connectors.
2. Remove the lower steering column opening finish panel.



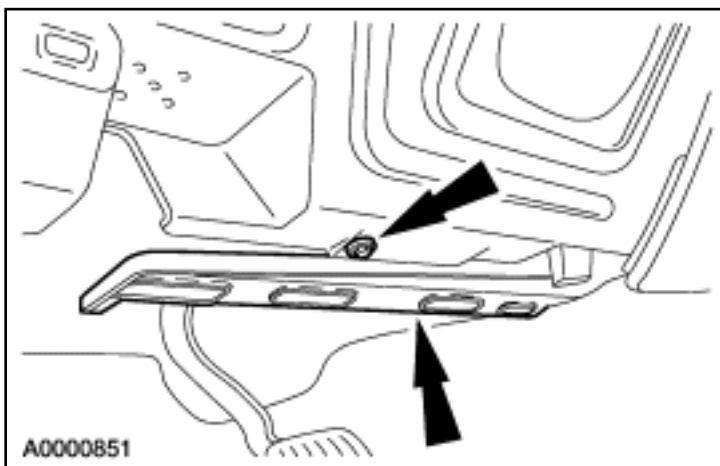
7. Remove the screws. Separate the hood latch release cable and handle assembly from the steering column opening reinforcement.



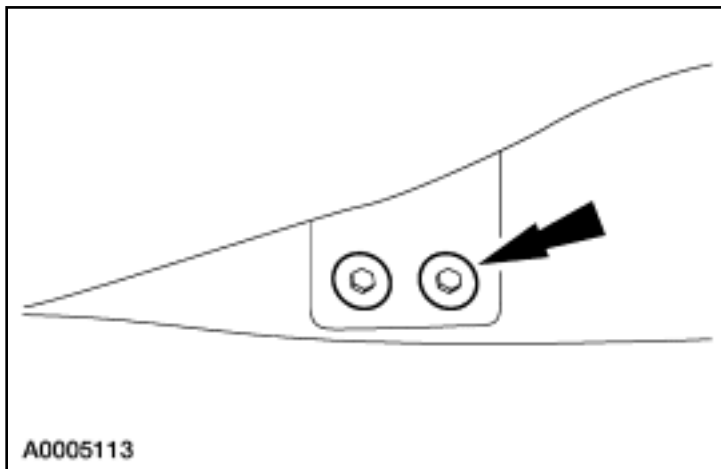
8. Remove the two pin-type retainers and RH instrument panel insulator.
  - Disconnect the courtesy lamp.



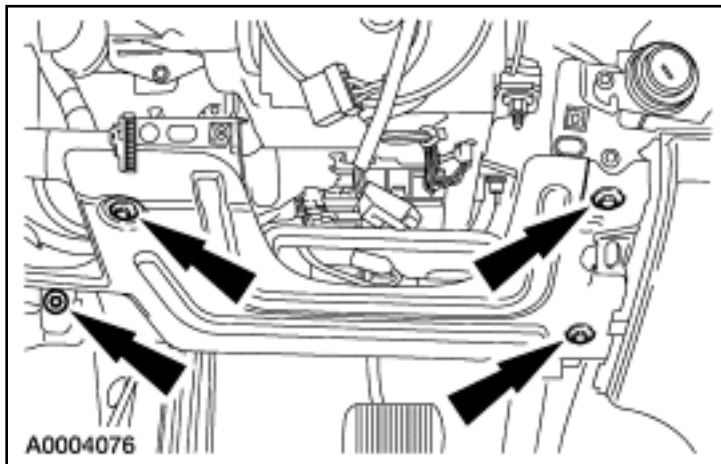
9. Remove the screw and the heater duct.



10. Loosen the two driver-side instrument panel tunnel brace bolts.
  - Position the carpet aside to gain access to the bolts.



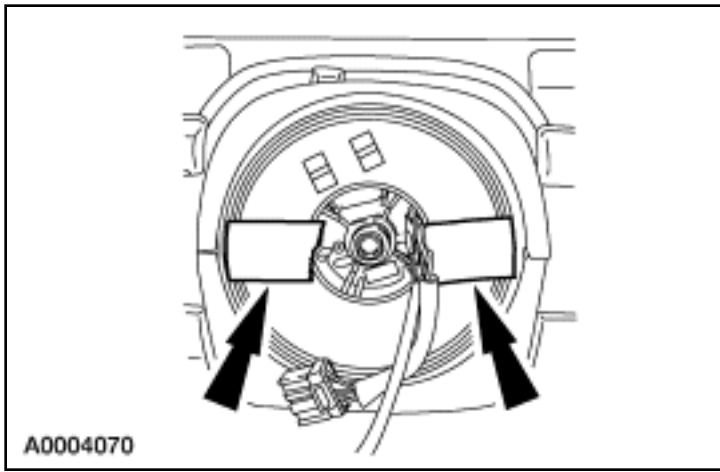
11. Remove the screws and the steering column opening reinforcement.



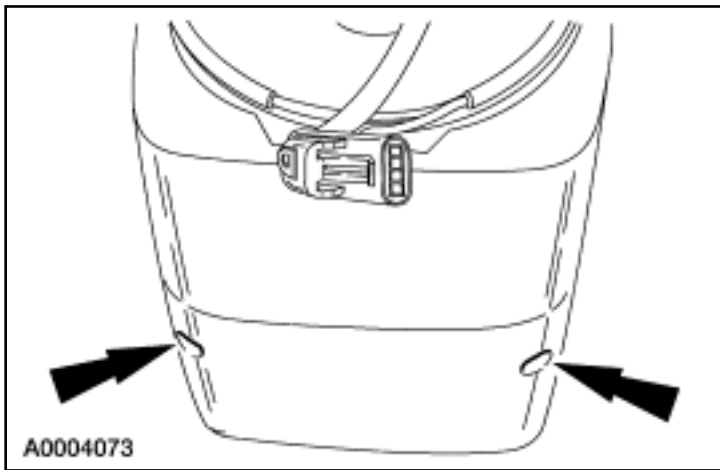
12. **NOTE:** Make sure the wheels are in the straight-ahead position.

Remove the steering wheel. For additional information, refer to [Section 211-04](#).

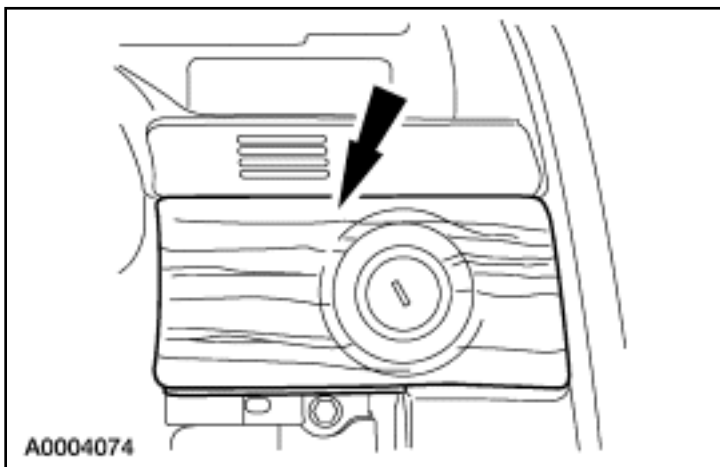
13. Apply two strips of masking tape across the clockspring to prevent accidental rotation when the clockspring is removed.



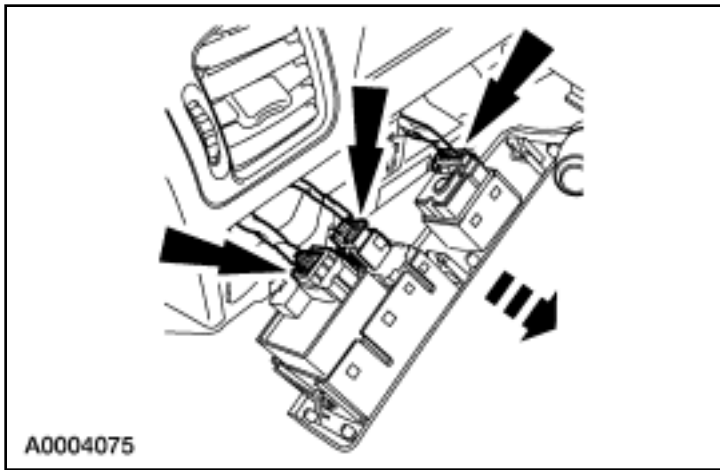
14. Remove the two screws and the lower steering column shroud.



15. Pull out and remove the ignition switch finish panel.

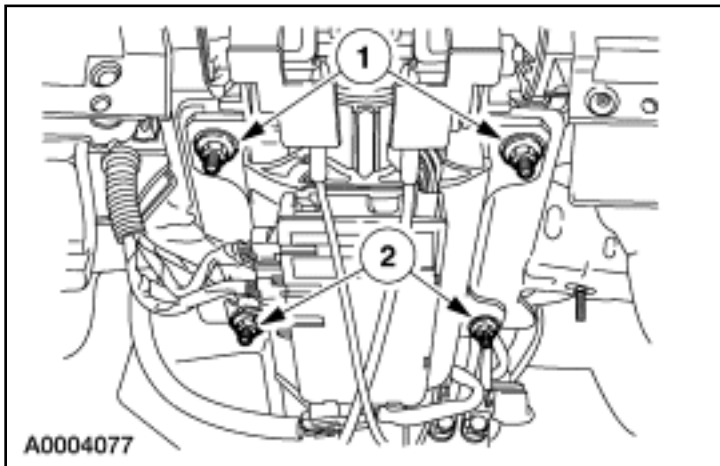


16. Remove the headlight switch finish panel by pulling out on it enough to disconnect the electrical connectors and remove it.

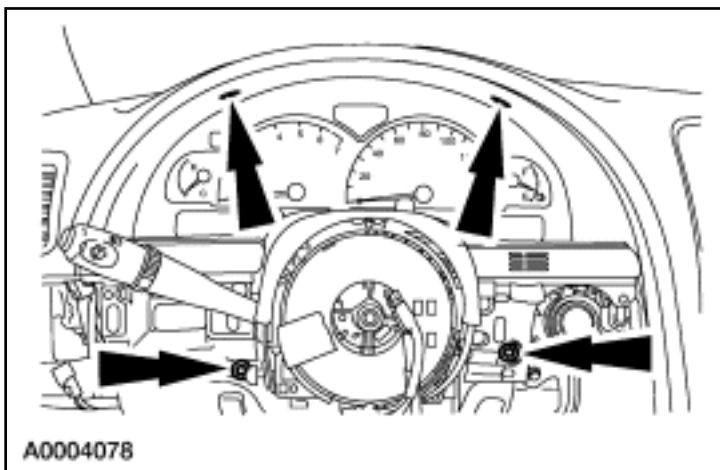


17. Lower the steering column.

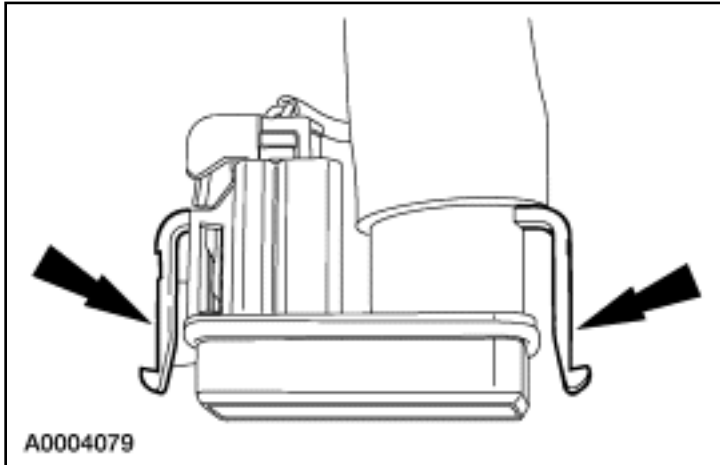
1. Remove the two steering column retaining nuts.
2. Loosen the two steering column retaining nuts enough to pivot the steering column and remove the instrument cluster finish panel.



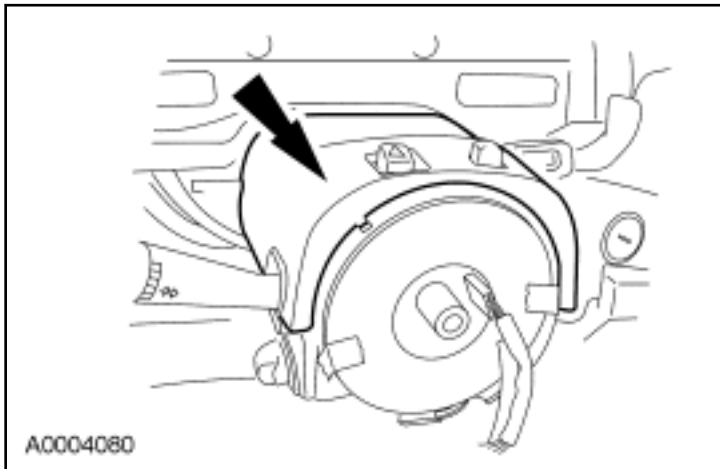
18. Remove the screws and the instrument cluster finish panel enough to access the automatic temperature control sensor assembly.



19. Separate the automatic temperature control sensor assembly from the instrument cluster finish panel by pushing in and releasing the tabs.



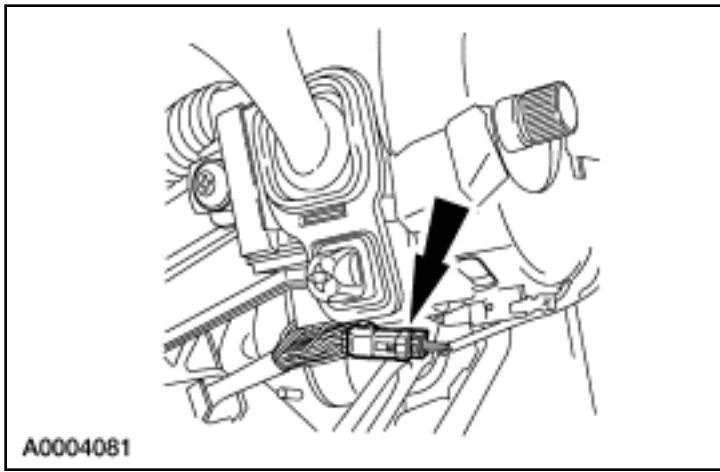
20. Remove the instrument cluster finish panel.
21. Remove the upper steering column shroud.



## **Vehicles with hands free microphone**

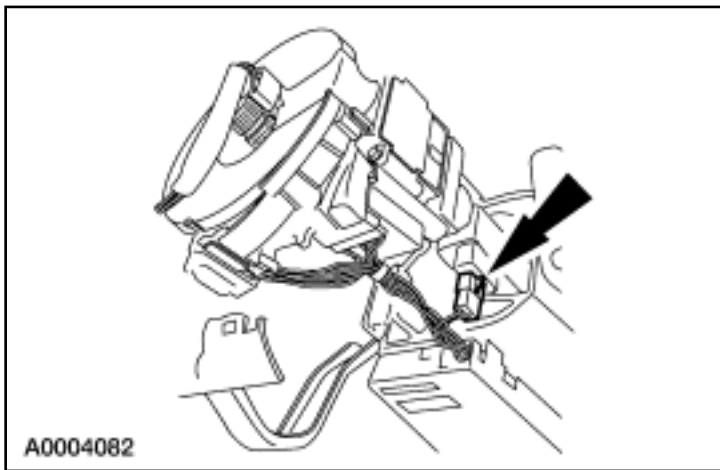
22. Disconnect the microphone electrical connector.



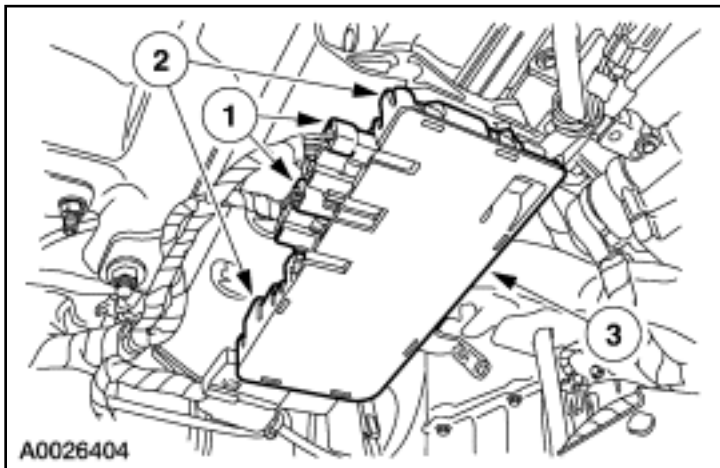


## All vehicles

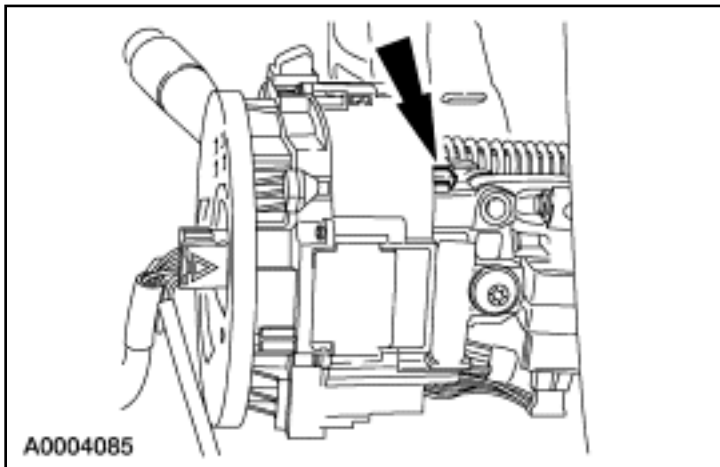
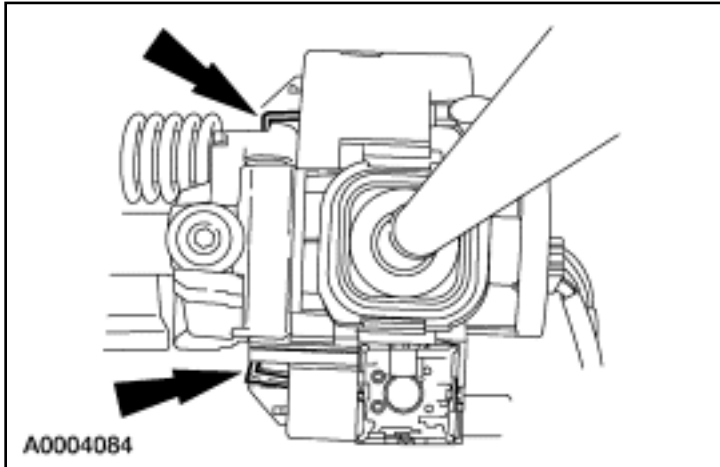
23. Disconnect the steering column position sensor electrical connector.



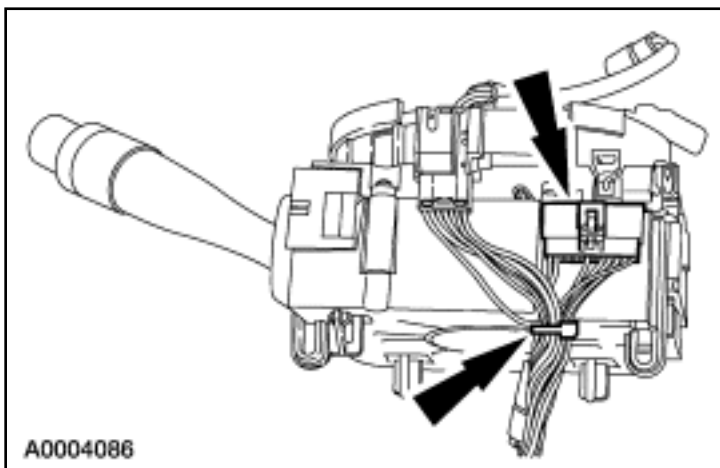
24. Separate the clockspring electrical connector assembly from the steering column.
  1. Disconnect the remaining clockspring electrical connectors.
  2. Release the four clockspring connector assembly retaining clips (two shown).
  3. Separate the clockspring electrical connector assembly from the steering column.



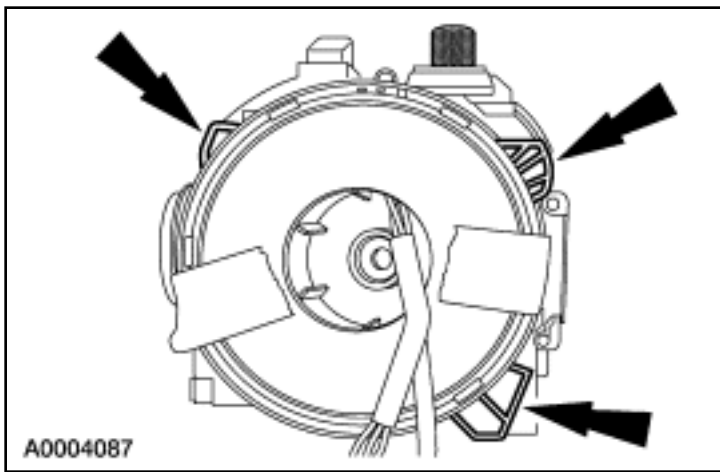
25. Releasing the three clips, remove the clockspring with the multi-function switch.



26. Cut the tie strap. Disconnect the electrical connector.



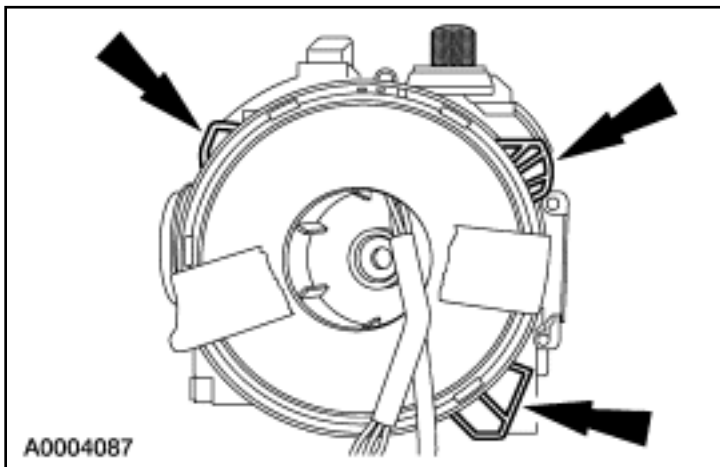
27. Releasing the tabs, separate the clockspring from the multi-function switch.



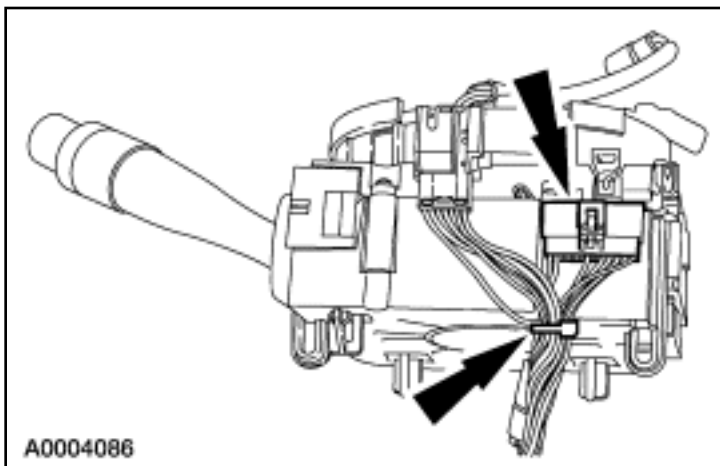
## Installation

### All vehicles

1. Align the clockspring to the multi-function switch and attach the two, engaging the retaining tabs.



2. Connect the electrical connector. Install a new tie strap to secure the wire harness.

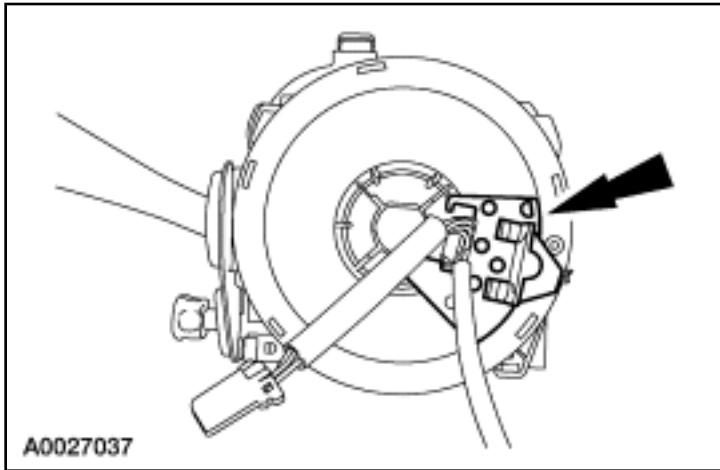


## Vehicles receiving a new clockspring


3. **NOTE:** A new clockspring is supplied in a centralized position and held there with a key.

Remove the key from the clockspring, holding the rotor in its centralized position.

- Do not allow the clockspring rotor to turn from this position.



## Vehicles needing clockspring recentering

4.  **WARNING:** Incorrect centralization may result in premature component failure. If in doubt when centralizing the clockspring, repeat the centralizing procedure. Failure to follow this instruction may result in personal injury.




**CAUTION:** Make sure the road wheels are in the straight ahead position.

**NOTE:** If a clockspring has rotated out of center, follow through with this step.

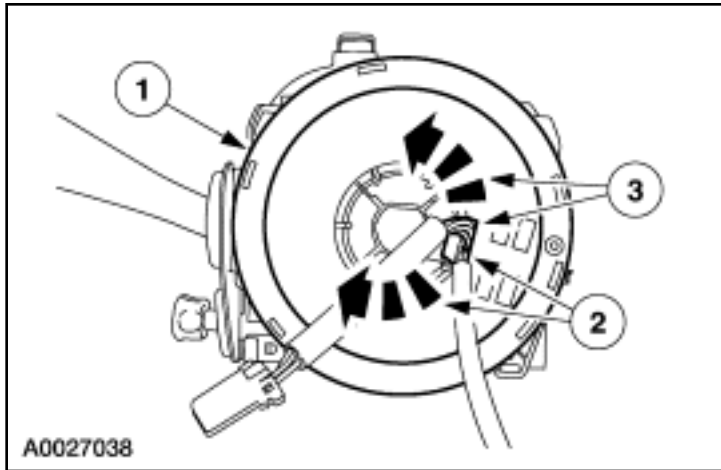
Centralize the clockspring.

1. Hold the clockspring outer housing stationary.

2.  **CAUTION:** Overturning will destroy the clockspring. The internal ribbon wire acts as the stop and can be broken from its internal connection.

While turning the rotor clockwise, carefully feel for the ribbon wire to run out of length, and a slight resistance is felt. Stop turning at this point.

3. Turn the rotor counterclockwise 2-1/2 turns. This is the center point of the clockspring.
  - Do not allow the rotor to turn from this position.



## Vehicle repairs reusing the same clockspring

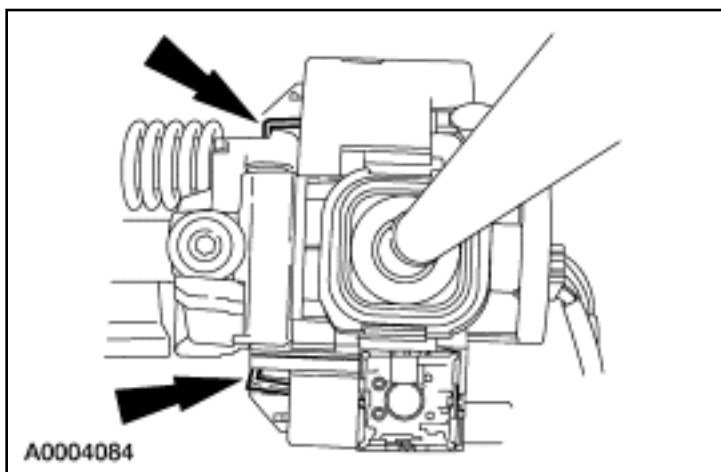
5. **NOTE:** When the tape is removed, do not allow the clockspring to turn.

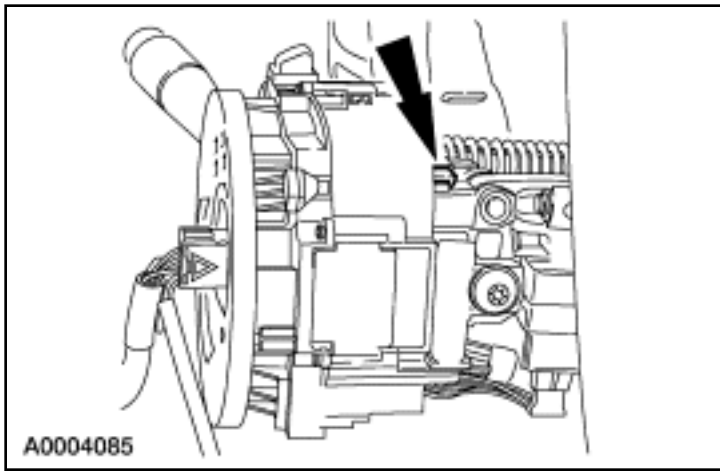
Remove the tape applied during clockspring removal.

## All vehicles

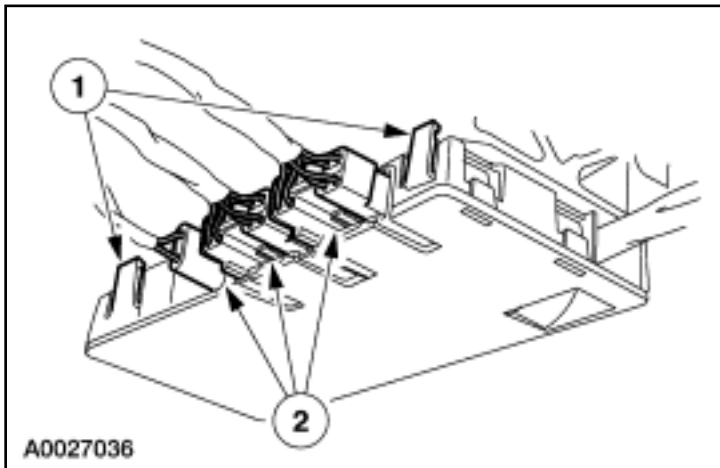
6. **NOTE:** Slight turning of the clockspring rotor is allowable for alignment purposes to the steering column.

With the flats of the clockspring aligned to the flats of the steering column, slide the clockspring onto the steering column engaging the retaining tabs.

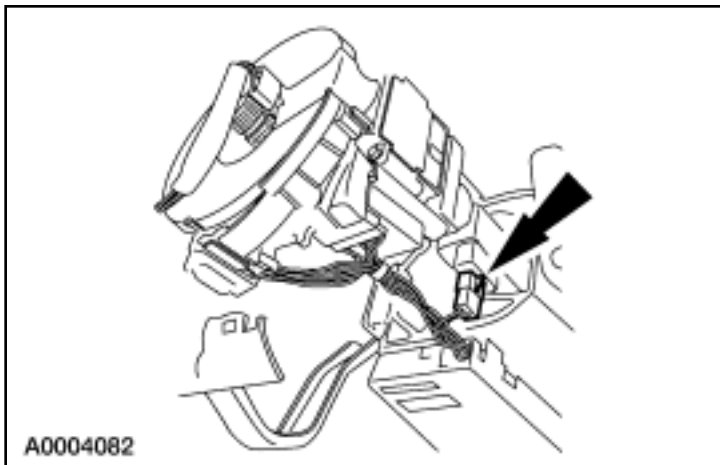




7. Install and connect the clockspring electrical connector assembly.
  1. Align the clockspring electrical connector assembly to the steering column and engage the four retaining tabs (two shown).
  2. Connect the clockspring electrical connector assembly electrical connectors.

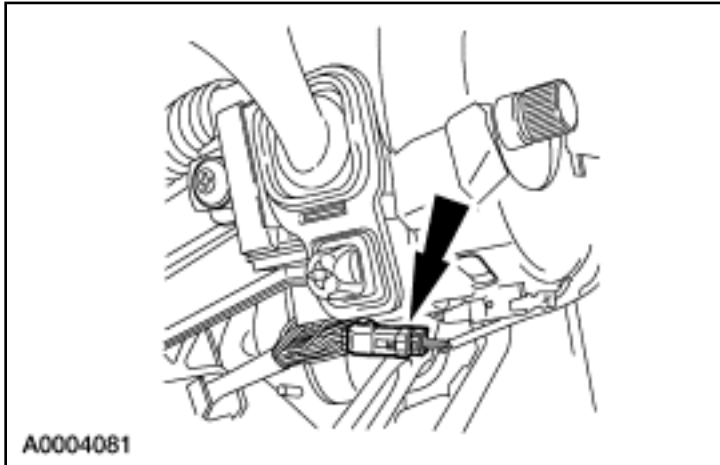


8. Connect the steering column position sensor electrical connector.



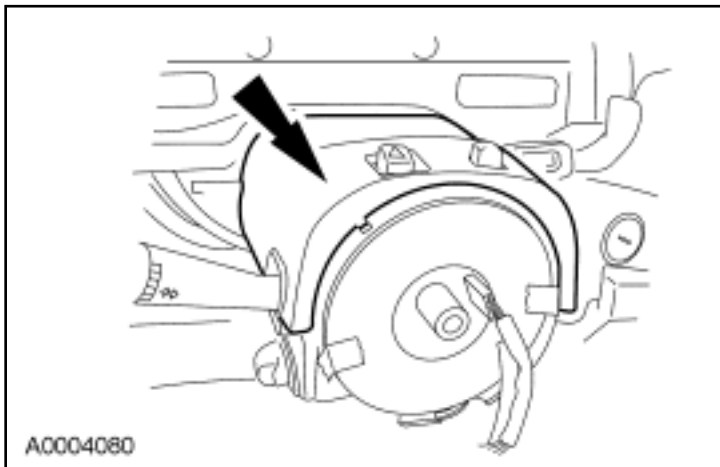
## Vehicles with hands free microphone

9. Connect the microphone electrical connector.

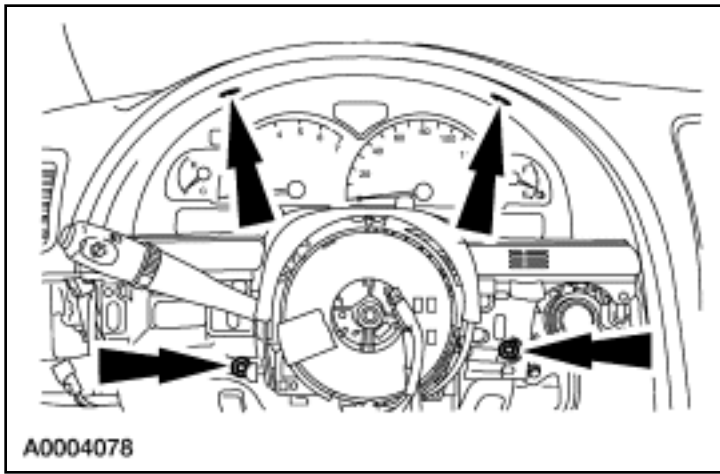


## All vehicles

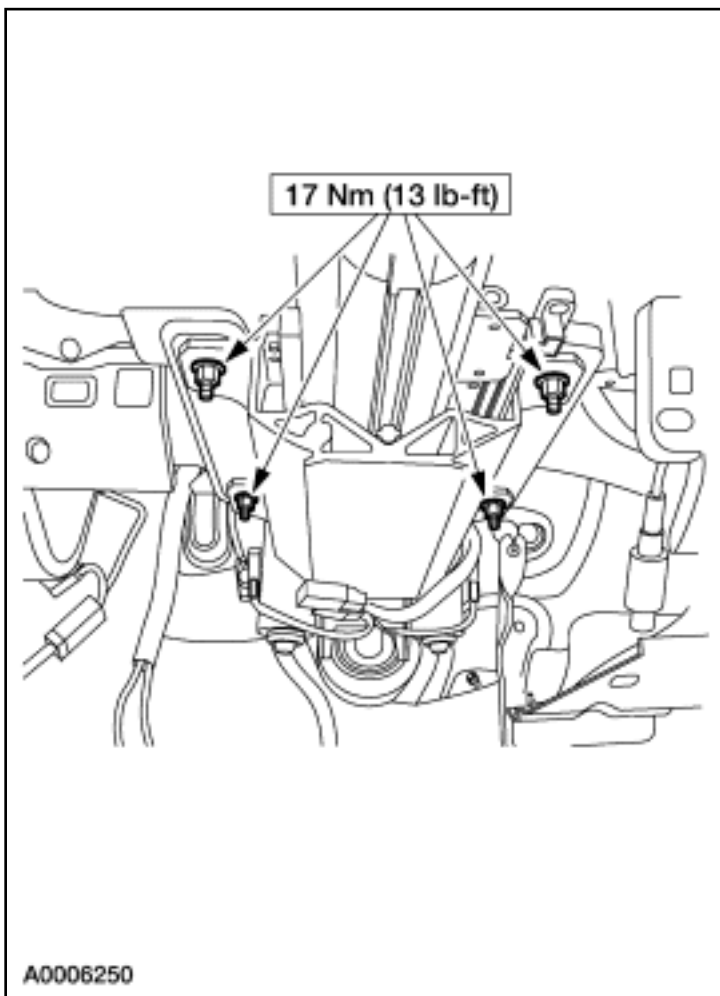
10. Position the upper steering column shroud.



11. Align the instrument cluster finish panel to the instrument panel and install the four screws.
  - Install the automatic temperature sensor to the instrument cluster finish panel (not shown).



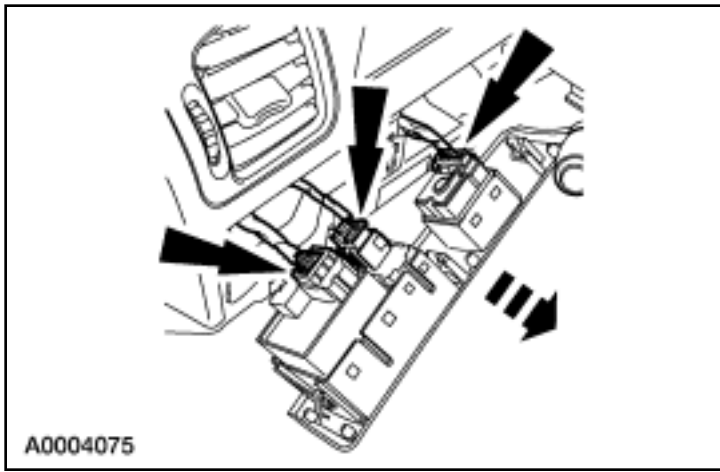
12. Install the nuts.



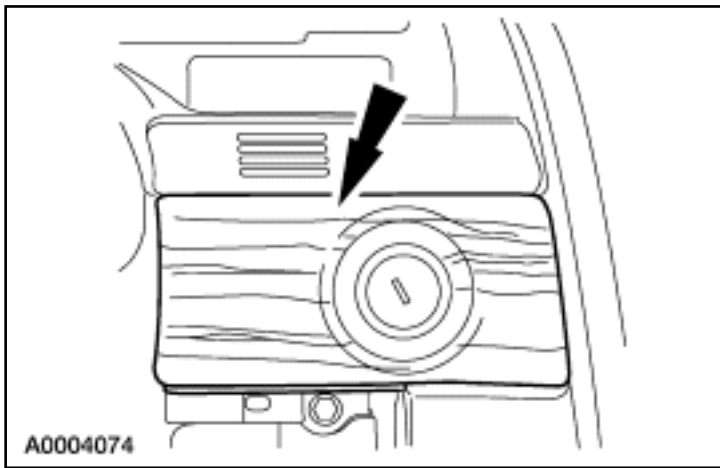
13. Install the steering wheel. For additional information, refer to [Section 211-04](#).

14. Connect the electrical connectors. Aligning the retaining clips, install the headlight switch panel.

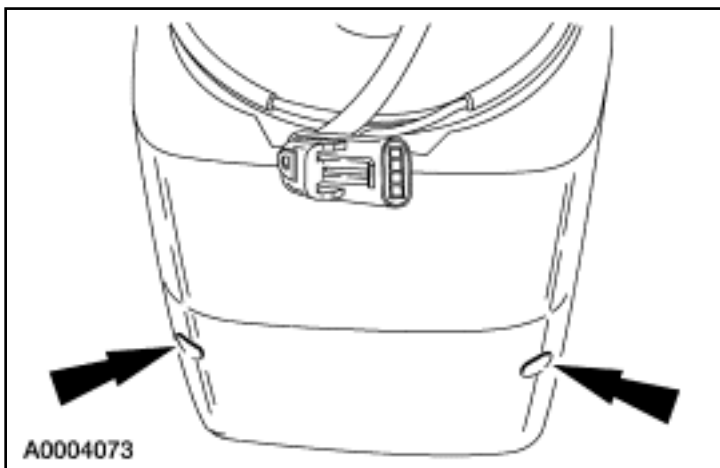




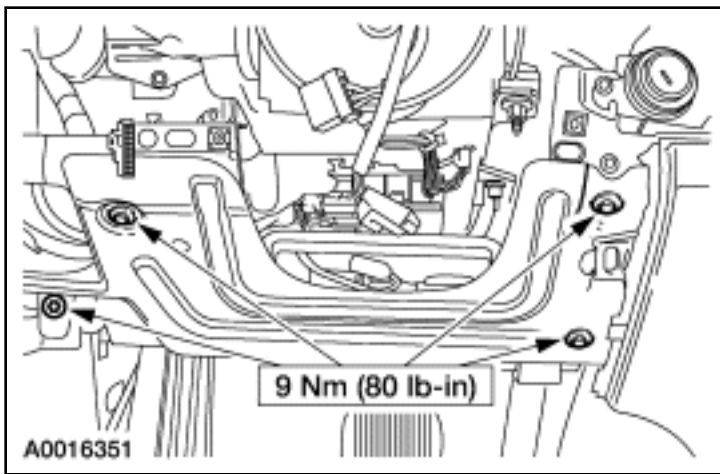
15. Align the ignition switch finish panel and push in, seating the retaining clips.



16. Position the lower steering column shroud. Install the screws.



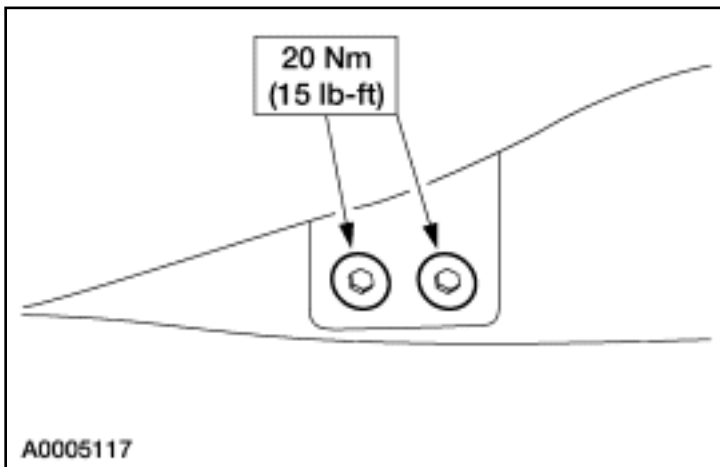
17. Position the steering column opening reinforcement and install the screws.



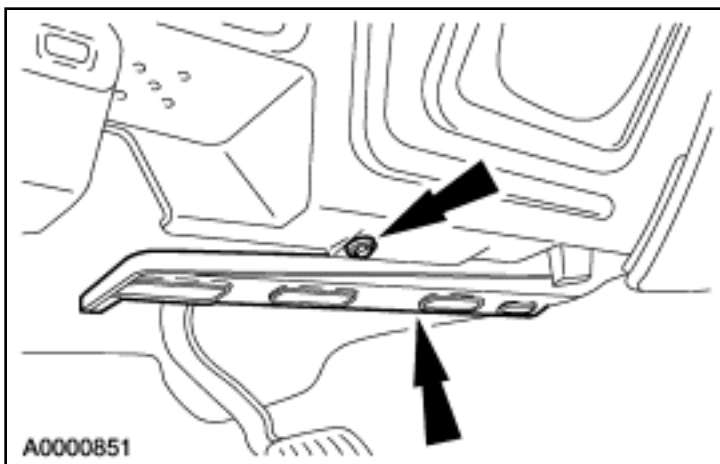
18.  **CAUTION:** Be sure the steering column opening reinforcement is in place before tightening the driver-side instrument panel tunnel brace bolts.

Tighten the two driver-side instrument panel tunnel brace bolts.

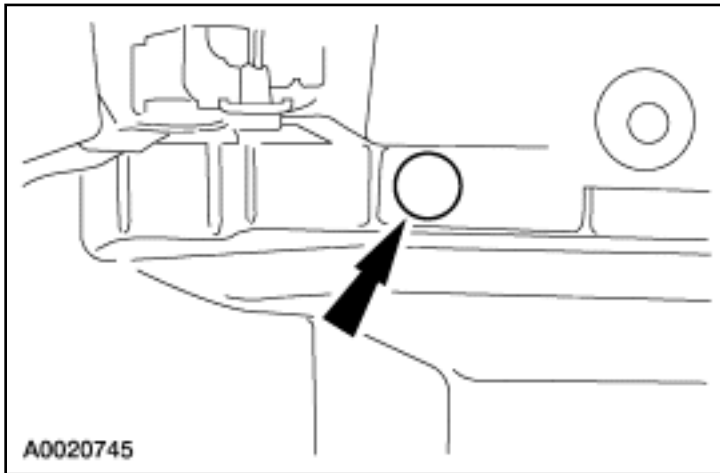
- Reposition the carpet.



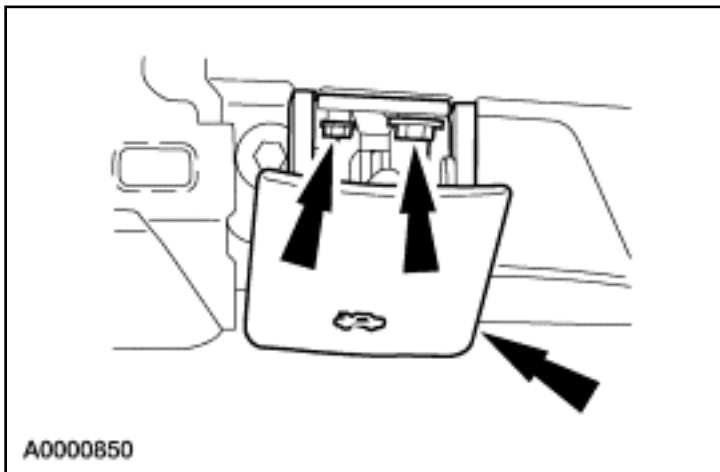
19. Position the heater duct and install the screw.



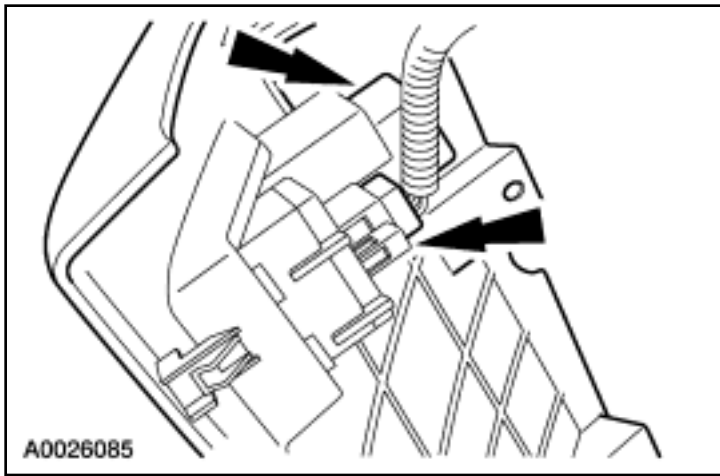
20. Install the RH instrument panel insulator and the two pin-type retainers.
  - Connect the courtesy lamp.



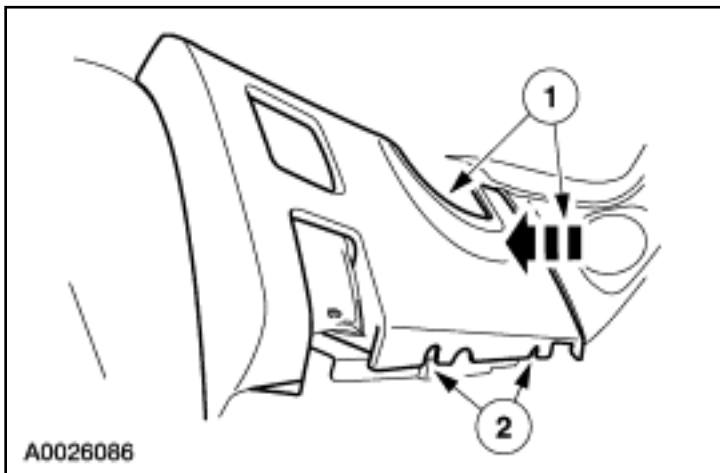
21. Position the hood latch release cable and handle assembly to the steering column opening reinforcement and install the screws.



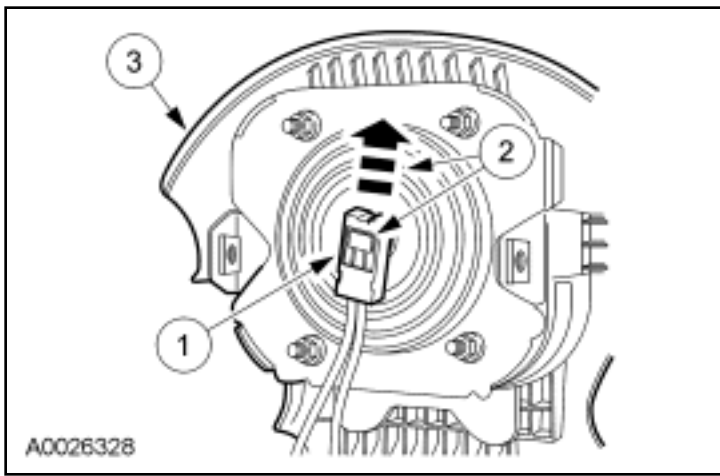
22. Connect the electrical connectors to the switches in the lower steering column opening finish panel.



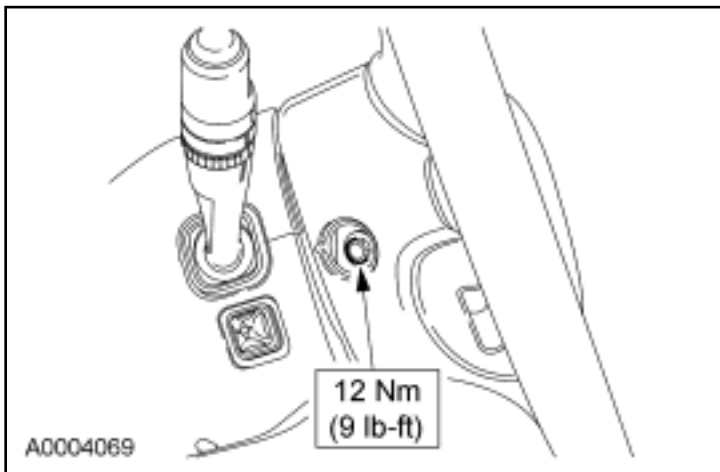
23. Install the lower steering column opening finish panel to the instrument panel.
  1. Position the lower steering column opening finish panel to the instrument panel and push in, seating the retaining clips.
  2. Install the screws.



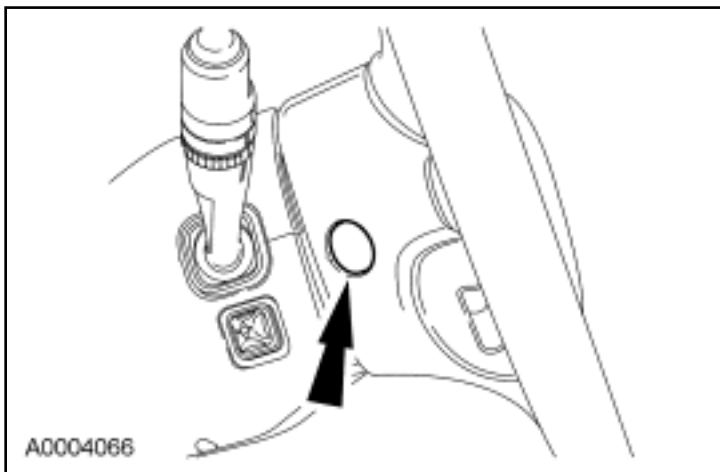
24. Connect and position the driver air bag module to the steering wheel.
  1. Connect the driver air bag module electrical connector.
  2. Slide and engage the driver air bag module electrical connector locking clip.
  3. Position the driver air bag module to the steering wheel.



25. Install the two driver air bag module bolts.



26. Install the two steering wheel back cover plugs.



27. Repower the system. For additional information, refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.