

**Steering Column—Automatic Transmission****Disassembly**

**⚠ 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:** Vehicle sensor orientation is critical for proper system operation. If a vehicle equipped with an air bag supplemental restraint system (SRS) is involved in a collision, inspect the sensor mounting bracket and wiring pigtail for deformation. Replace and properly position the sensor or any other damaged supplemental restraint system (SRS) components whether or not the air bag is deployed.

**⚠ WARNING:** To avoid accidental deployment and possible personal injury, the backup power supply must be depleted before repairing or replacing any front or side air bag supplemental restraint system (SRS) components and before servicing, replacing, adjusting or striking components near the front or side air bag sensors, such as doors, instrument panel, console, door latches, strikers, seats and hood latches.

Please refer to the appropriate vehicle shop manual to determine location of the front air bag sensors.

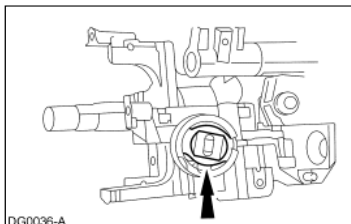
The side air bag sensors are located at or near the base of the B-pillar.

To deplete the backup power supply energy, disconnect the battery ground cable and wait at least one minute. Be sure to disconnect auxiliary batteries and power supplies (if equipped).

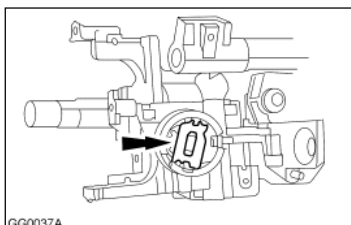
**All vehicles**

1. Remove the ignition switch lock cylinder. For additional information, refer to [Ignition Switch Lock Cylinder—Functional Lock Cylinder](#) or [Ignition Switch Lock Cylinder—Non-Functional Lock Cylinder](#) in this section.
2. Remove the air bag sliding contact. For additional information, refer to [Section 501-20B](#).
3. Remove the steering column (3C529). For additional information, refer to [Column](#) in this section.
4. **⚠ CAUTION:** Carefully note the position of the steering column lock gear, bearing and retainer prior to removal.

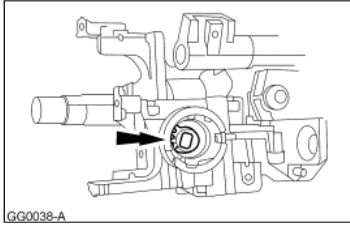
Remove the bearing retainer (3C610).



5. Remove the steering column lock housing bearing (3E700).

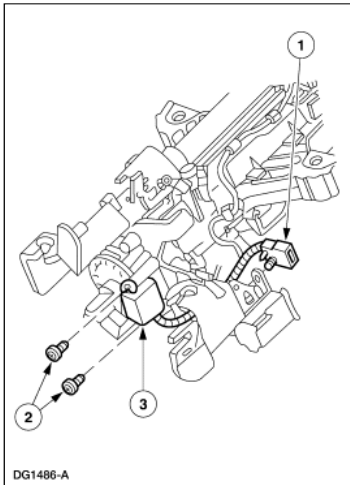


6. Remove the steering column lock gear (3E717).

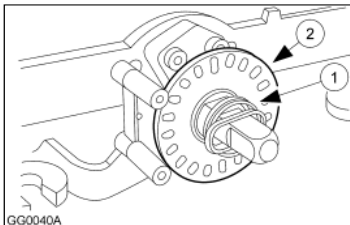


#### Vehicles with tilt steering columns

7. Remove the shock absorber electronic steering sensor (18B015).
  1. Disconnect the electrical connector.
  2. Remove the screws.
  3. Remove the shock absorber electronic steering sensor.

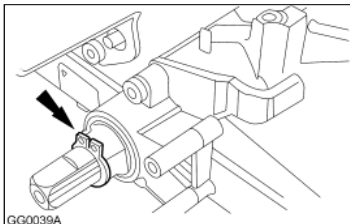


8. Remove the sensor ring.
  1. Remove the steering column lower bearing spring.
  2. Remove the sensor ring.



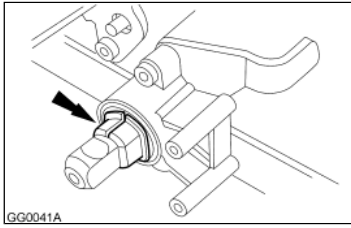
#### Vehicles with fixed steering columns

9. Remove the snap ring from the bottom of the steering column shaft.



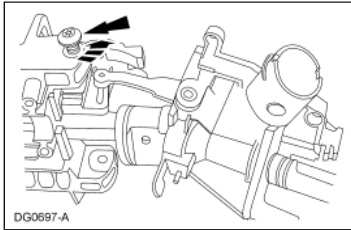
#### All vehicles

10. Remove the steering column bearing tolerance ring (3L539) from the steering column shaft.



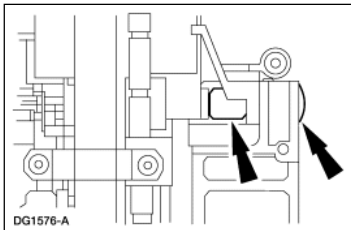
#### Vehicles with tilt steering columns

11. Remove the two lock cylinder housing pivot screws.



#### Vehicles with fixed steering columns

12. Remove the two lock cylinder housing screws and the steering column spacer (3C549).

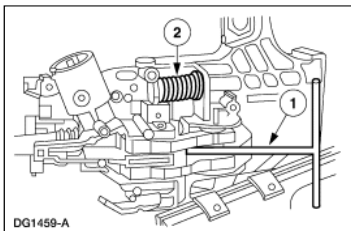


#### All vehicles

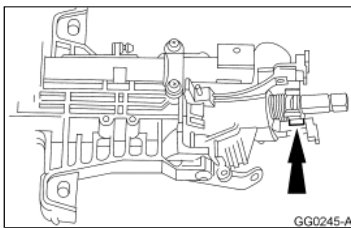
13.  **WARNING:** The steering column position spring is under tension and can come out with great force.

Remove the steering column lock cylinder housing (3511) and the steering column shaft from the steering actuator housing (3F723).

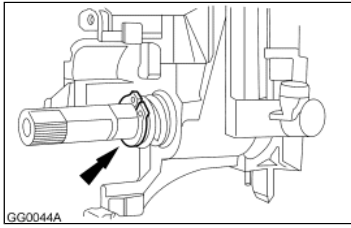
1. Pry up on the steering column locking levers (3B661) using a shop fabricated tool.
2. On tilt steering columns, remove the steering column position spring (3D655).



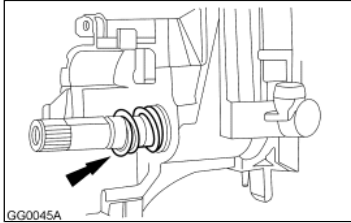
14. Remove the turn signal cancel cam.



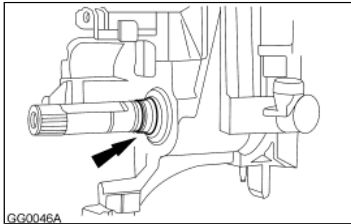
15. Remove the snap ring.



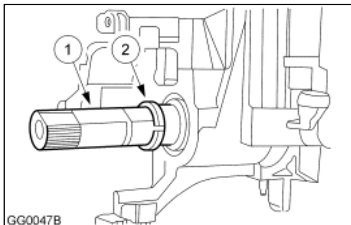
16. Remove the steering column upper bearing spring (3520).



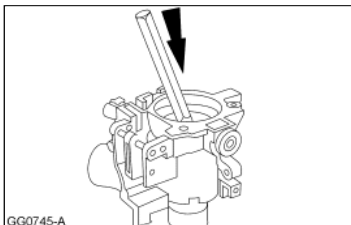
17. Remove the steering column bearing sleeve (3518).



18. Remove the steering column bearing tolerance ring.
1. Slide the steering column shaft in toward the steering column lock cylinder housing, then out.
  2. Slide the steering column bearing tolerance ring off the steering column shaft.

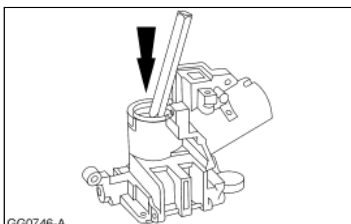


19. Using a suitable punch, remove the steering column bearing (3517) from the steering column lock cylinder housing.



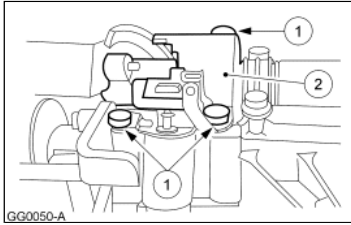
#### Vehicles with tilt steering columns

20. Use a suitable punch to remove the steering column bearing from the steering column lock cylinder housing.

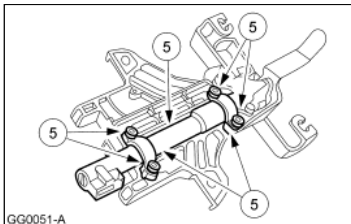


**All vehicles**

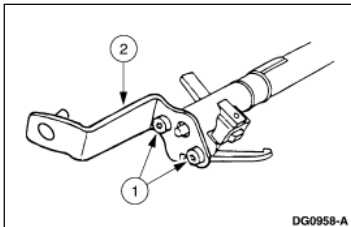
21. Remove the brake shift interlock solenoid.
1. Remove the three bolts.
  2. Remove the brake shift interlock solenoid.



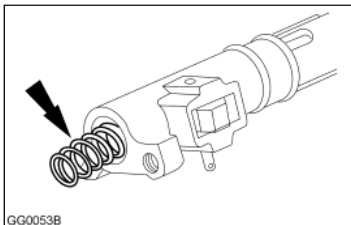
22. Remove the shift tube.
1. Remove the four bolts.
  2. Remove the two shift tube clamps.
  3. Remove the shift tube.



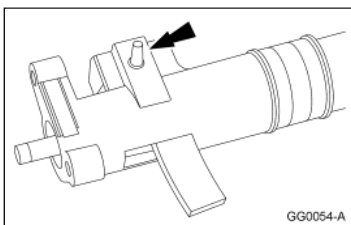
23. Remove the transmission selector lever arm and support (7302).
1. Remove the two bolts.
  2. Remove the transmission selector lever arm and support.



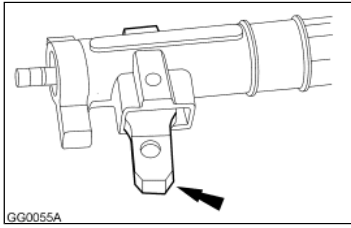
24. Remove the gearshift selector tube spring (7379).



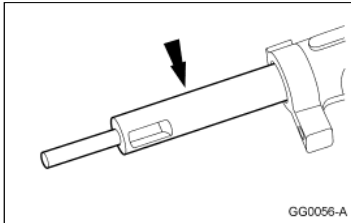
25. Drive out the gearshift lever pin (7W441) from the shift tube.



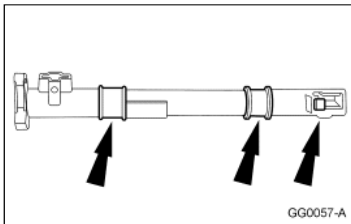
26. Remove the gearshift lever (7210).



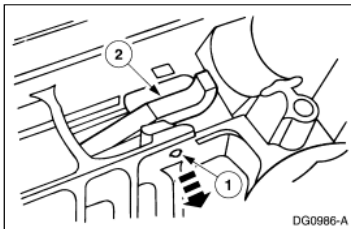
27. Remove the column shift selector lever plunger (7361).
- If it is bent, install a new column shift selector lever plunger.



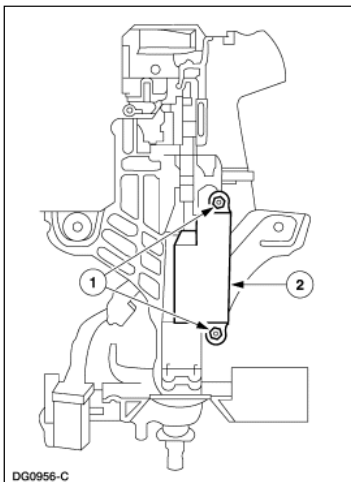
28. Remove the two gearshift lever socket bushings and the transmission control selector lever spring clip.



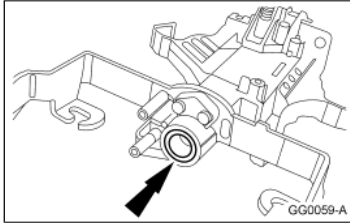
29. Remove the steering column lock pawl (3E691).
1. Drive out the steering column lock lever pin.
  2. Remove the steering column lock pawl.



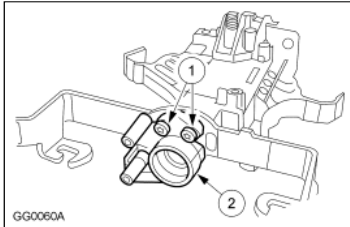
30. Remove the ignition switch (11572).
1. Remove the bolts.
  2. Remove the ignition switch.



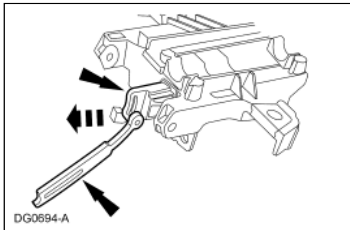
31. Remove the lower steering column bearing and sleeve.



32. Remove the steering column lower bearing retainer.
1. Remove the three bolts.
  2. Remove the steering column lower bearing retainer.



33. Remove the upper steering column lock actuator and the lower steering column lock actuator.



#### Assembly

**⚠ 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:** Vehicle sensor orientation is critical for proper system operation. If a vehicle equipped with an air bag supplemental restraint system (SRS) is involved in a collision, inspect the sensor mounting bracket and wiring pigtail for deformation. Replace and properly position the sensor or any other damaged supplemental restraint system (SRS) components whether or not the air bag is deployed.

**⚠ WARNING:** To avoid accidental deployment and possible personal injury, the backup power supply must be depleted before repairing or replacing any front or side air bag supplemental restraint system (SRS) components and before servicing, replacing, adjusting or striking components near the front or side air bag sensors, such as doors, instrument panel, console, door latches, strikers, seats and hood latches.

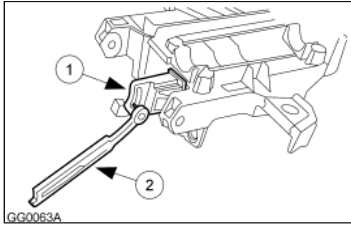
Please refer to the appropriate vehicle shop manual to determine location of the front air bag sensors.

The side air bag sensors are located at or near the base of the B-pillar.

To deplete the backup power supply energy, disconnect the battery ground cable and wait at least one minute. Be sure to disconnect auxiliary batteries and power supplies (if equipped).

All vehicles

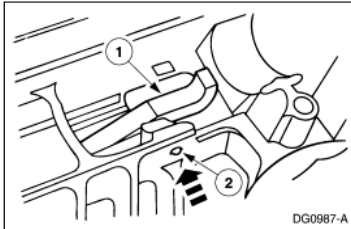
1. Install the steering column lock actuators.
  1. Use Ignition Lock Grease FOAZ-19584-A or equivalent meeting Ford specification ESA-M1C232-A to lubricate the steering column lock actuators.
  2. Install the steering column lock actuators.



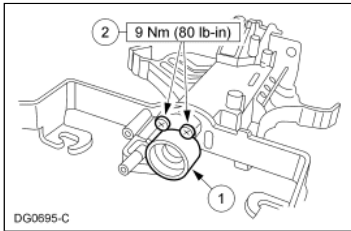
2. **NOTE:** Coat all surfaces with Ignition Lock Grease FOAZ-19584-A or equivalent meeting Ford specification ESA-M1C282-A.

Install the steering column lock pawl.

1. Position the steering column lock pawl.
2. Drive in the steering column lock lever pin (3B663).



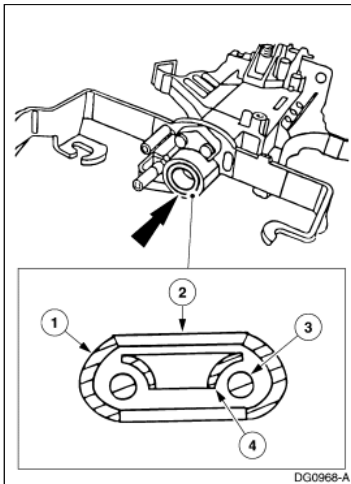
3. Install the steering column lower bearing retainer (3D681).
  1. Position the steering column lower bearing retainer.
  2. Install the three bolts.



4. **NOTE:** The "UP" position of the bearing must be facing forward, toward the engine.

**NOTE:** Install the steering column bearing and sleeve so that the inner race is visible when installed.

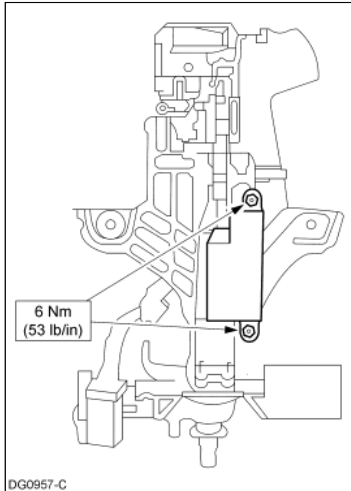
Install the steering column bearing and sleeve.



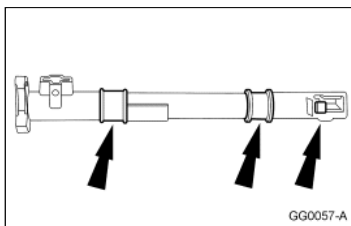
Item	Part Number	Description
1	—	Outer race
2	3517	Bearing (in the "UP" position)
3	—	Ball

4	—	Inner race
---	---	------------

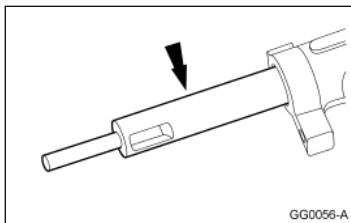
5. Install the ignition switch. Align the ignition switch with the slot and index mark on the steering column. Install the bolts.



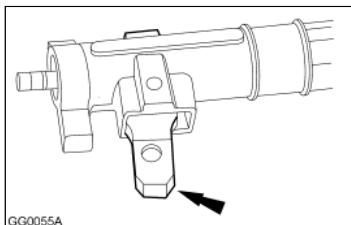
6. Install the transmission control selector lever spring clip and the gearshift lever socket bushings (7335) on the shift tube.
- Coat the gearshift lever socket bushings with Steering Gear Grease C3AZ-19578-A or equivalent meeting Ford specification ESW-M1C87-A.



7. Install the column shift selector lever plunger.
- Coat the column shift selector plunger with Steering Gear Grease C3AZ-19578-A or equivalent meeting Ford specification ESW-M1C87-A.

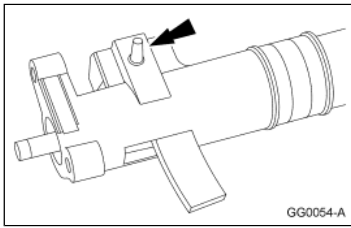


8. Position the gearshift lever in the shift tube.

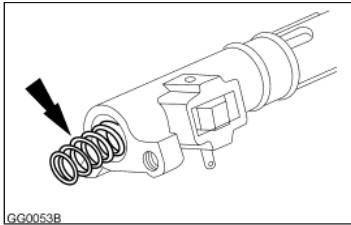


9. **⚠ CAUTION:** Gearshift lever pin must be installed correctly or 1st gear position can be blocked.

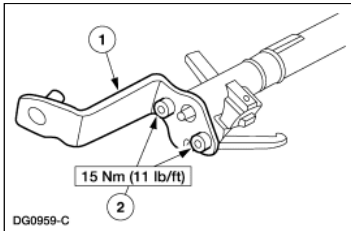
Install the gearshift lever pin in the shift tube.



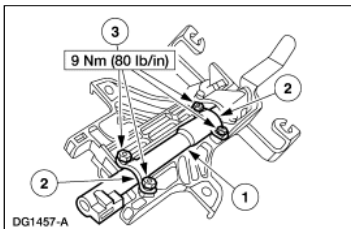
10. Install the gearshift selector tube spring in the shift tube.
- Coat the end of the spring with Steering Gear Grease C3AZ-19578-A or equivalent meeting Ford specification ESW-M1C87-A.



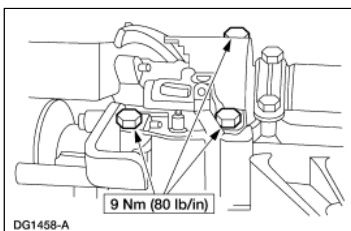
11. Install the transmission selector lever arm and support on the shift tube.
1. Position the transmission selector lever arm and support.
  2. Install the bolts.



12. Install the shift tube.
1. Position the shift tube.
  2. Position the shift tube clamps.
  3. Install the bolts.

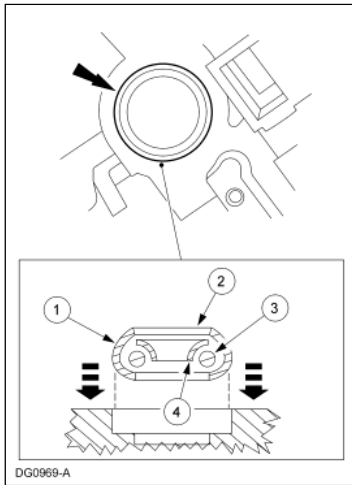


13. Position the brake shift interlock solenoid and install the bolts.



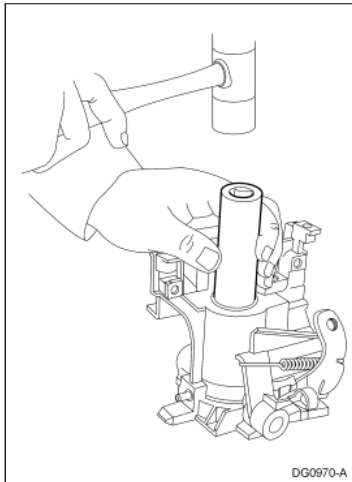
14. **⚠ CAUTION:** Install the upper steering column bearing so that the inner race is visible when installed.

Using an appropriate bearing installer or socket; install the upper steering column bearing on the steering column lock cylinder housing.



DG0969-A

Item	Part Number	Description
1	—	Outer race
2	—	Bearing (in the "UP" position)
3	—	Ball
4	—	Inner race



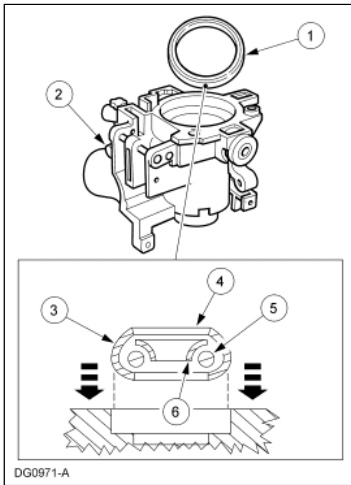
DG0970-A

**Vehicles with tilt steering columns**

15.  **CAUTION:** Install the large steering column bearing so that the inner race is visible when installed.

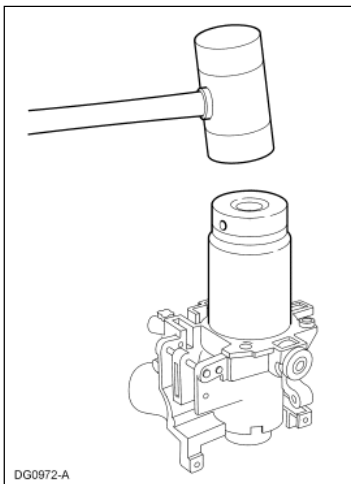
**NOTE:** Use an appropriate bearing installer or socket.

Install the large steering column bearing into the steering column lock cylinder housing.



DG0971-A

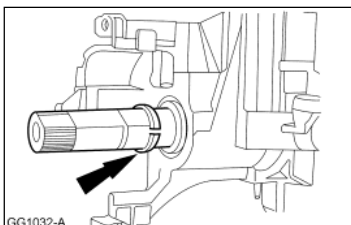
Item	Part Number	Description
1	—	Bearing slot
2	3511	Steering column lock cylinder housing
3	—	Outer race
4	—	Bearing (in the "UP" position)
5	—	Ball
6	—	Inner race



DG0972-A

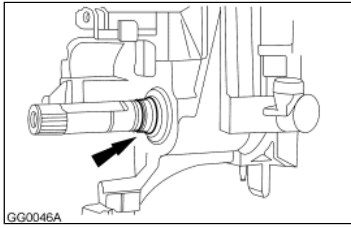
**All vehicles**

16. Position the steering column shaft in the steering column lock cylinder housing.
  - Install the steering column bearing tolerance ring on the steering column shaft.

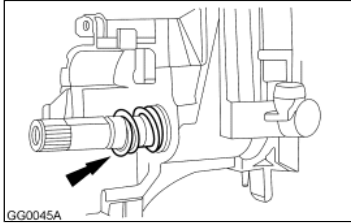


GG1032-A

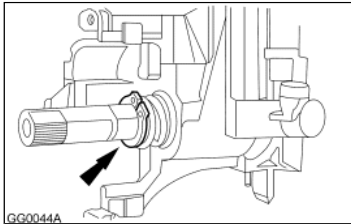
17. Install the steering column bearing sleeve.



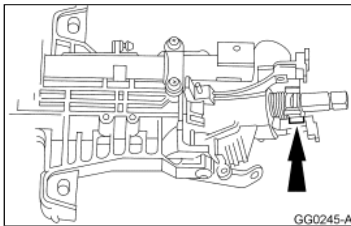
18. Install the steering column bearing spring (3C674).



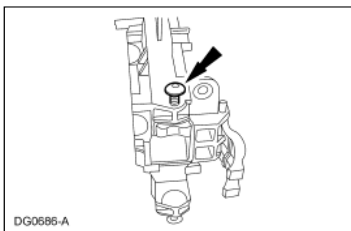
19. Install the snap ring.



20. Install the turn signal cancel cam.



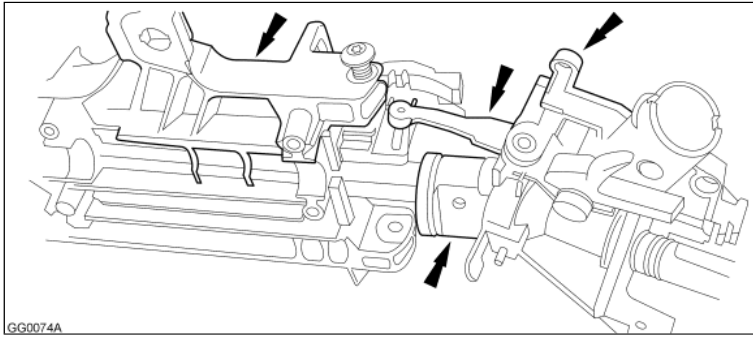
21. Install the lock cylinder housing screws loosely and position the steering actuator housing in a vise.



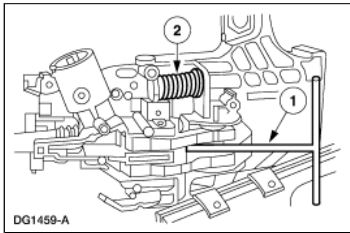
22. **NOTE:** Lubricate the lock cylinder housing bushings with Rust Penetrant and Inhibitor F2AZ-19A501-A or equivalent meeting Ford specification ESR-M99C56-A.

Position the steering column lock cylinder housing and the steering column shaft on the steering actuator housing.

- Make sure the upper and lower steering column lock actuators are aligned.

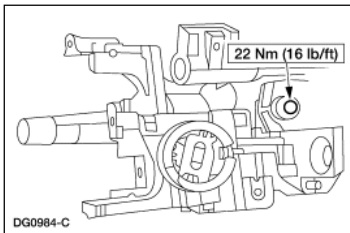


23. Position the steering column locking levers on the steering actuator housing.
1. Use a shop fabricated tool.
  2. On tilt steering columns, install and compress the steering column position spring.



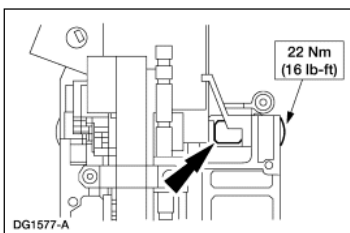
#### Vehicles with tilt steering columns

24. Position the lock cylinder housing and steering actuator housing, and tighten the lock cylinder housing screws.



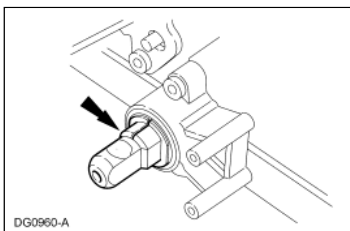
#### Vehicles with fixed steering columns

25. Install the steering column spacer (3C549). Tighten the two lock cylinder housing screws.
- The steering column spacer is installed on the LH side of the steering column.



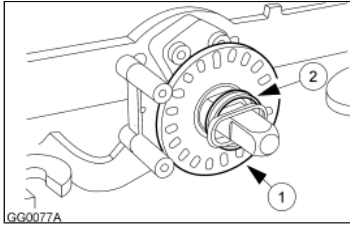
#### All vehicles

26. Install the steering column bearing tolerance ring.

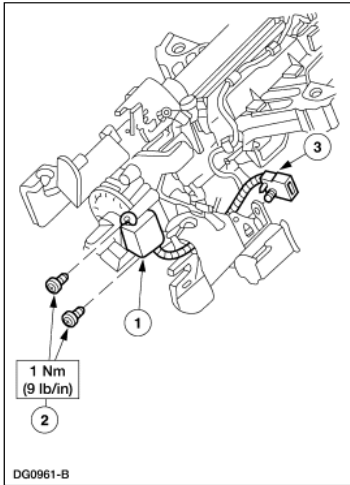


#### Vehicles with tilt steering columns

27. Install the sensor ring.
1. Install the sensor ring.
  2. Install the steering column bearing spring.

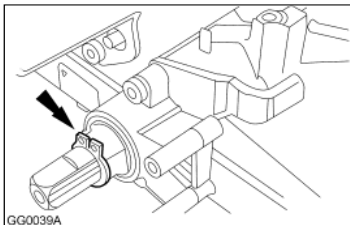


28. Install the shock absorber electronic steering sensor.
1. Position the shock absorber electronic steering sensor.
  2. Install the screws.
  3. Connect the electrical connector.



#### Vehicles with fixed steering columns

29. Install the snap ring.

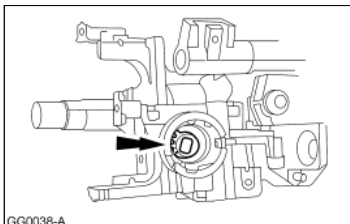


#### All vehicles

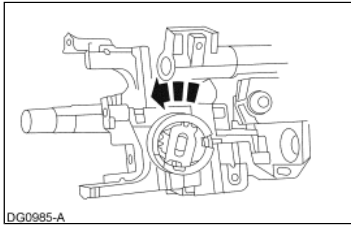
30. **NOTE:** The narrow section of the keyhole in the lock gear must be in the one o'clock position.

Install the steering column lock gear.

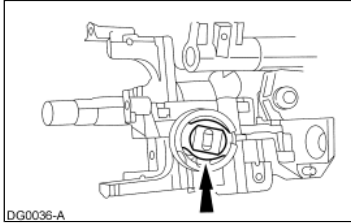
- Use Ignition Lock Grease FOAZ-19584-A or equivalent meeting Ford specification ESA-M1C232-A to coat the steering column lock gear.



31. Install the steering column lock housing bearing.
- The narrow section of the keyhole should be in the one o'clock position, with the tab inboard at the three o'clock position and rotate it counterclockwise.
  - Lubricate the steering column lock housing bearing with Ignition Lock Grease FOAZ-19584-A or equivalent meeting Ford specification ESA-M1C232-A.



32. Install the steering column upper bearing retainer firmly to engage the four retention tabs into the lock housing.



33. Install the steering column. For additional information, refer to [Column](#) in this section.
34. Install the air bag sliding contact. For additional information, refer to [Section 501-20B](#).
35. Install the ignition switch lock cylinder. For additional information, refer to [Ignition Switch Lock Cylinder—Functional Lock Cylinder](#) or [Ignition Switch Lock Cylinder—Non-Functional Lock Cylinder](#) in this section.
-