DISASSEMBLY AND ASSEMBLY

Steering Column — Column Shift

Special Tool(s)

<table>
<thead>
<tr>
<th>Tool Description</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steering Column Locking Lever Tool (Shop Fabricated)</td>
<td><img src="DG1400-A" alt="Image" /></td>
</tr>
</tbody>
</table>

Material

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-Purpose Grease</td>
<td>ESB-M1C93-B</td>
</tr>
<tr>
<td>XG-4</td>
<td></td>
</tr>
<tr>
<td>Penetrating and Lock</td>
<td>XL-1</td>
</tr>
<tr>
<td>Lubricant</td>
<td></td>
</tr>
<tr>
<td>Premium Long Life</td>
<td>ESA-M1C75-B</td>
</tr>
<tr>
<td>Grease XG-1-C</td>
<td></td>
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</tbody>
</table>

Disassembly

1. **WARNING**: To reduce the risk of serious personal injury, read and follow all warnings, notes and instructions in the steering column removal and installation procedure.

Remove the steering column. For additional information, refer to Steering Column in this section.

2. Remove the clockspring. For additional information, refer to Section 501-20B.

3. Remove the multifunction switch.

4. Unclip the steering column opening gearshift lever seal from the steering column.

5. Remove the gearshift lever retaining pin and remove the gearshift lever assembly.

6. **CAUTION**: Carefully note the position of the steering column lock gear, bearing and retainer prior to removal.

Remove the snap ring.
7. Remove the steering column lock housing bearing.

10. On a tilt steering column, remove the sensor ring.
    1. Remove the steering column lower bearing spring.
    2. Remove the sensor ring.

8. Remove the steering column lock gear.

11. Remove the steering column bearing tolerance ring from the steering column shaft.

9. On a fixed steering column, remove the snap ring from the bottom of the steering column shaft.

12. Remove the two lock cylinder housing pivot screws.
13. **WARNING:** The steering column position spring is under tension and can come out with great force. Failure to follow these instructions may result in personal injury.

Remove the steering column lock cylinder housing and the steering column shaft from the steering actuator housing.

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

14. Using a flat-blade screwdriver pry up on the flush surface of the turn indicator cancel cam and remove.

15. Remove the snap ring.

16. Remove the steering column upper bearing spring.

17. Remove the steering column bearing sleeve.
DISASSEMBLY AND ASSEMBLY (Continued)

18. Remove the steering column bearing tolerance ring.
   1. Slide the steering column shaft in toward the steering column lock cylinder housing.
   2. Slide the steering column bearing tolerance ring from the steering column shaft and remove the shaft.

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

20. On a tilt steering column, use a suitable punch to remove the steering column lower bearing from the steering column lock cylinder housing.

21. Remove the two screws and remove the plastic harness retainer.

22. Remove the brake shift interlock solenoid and the transmission shift position insert.
   1. Remove the three bolts.
   2. Remove the brake shift interlock solenoid and the transmission shift position insert.
23. Remove the shift tube.
   1  Remove the four bolts.
   2  Remove the two shift tube clamps.
   3  Remove the shift tube.

24. Remove the transmission shift arm assembly.
   1  Remove the two bolts.
   2  Remove the transmission shift arm assembly.

25. Remove the spring.

26. Drive out the gearshift lever pin from the shift tube.

27. Remove the gearshift lever.

28. Remove the column shift selector lever plunger.
   •  If it is bent, replace the column shift selector lever plunger.
29. Remove the two gearshift lever socket bushings and the transmission control selector lever spring clip.

30. Remove the steering column lock pawl.
   1. Drive out the steering column lock lever pin.
   2. Remove the steering column lock pawl.

31. Remove the ignition switch.
   1. Remove the screws.
   2. Remove the ignition switch.

32. Remove the steering column lower bearing and sleeve.
33. Remove the steering column lower bearing retainer.
   1. Remove the bolts.
   2. Remove the steering column lower bearing retainer.

   ![Diagram of steering column lower bearing retainer]

   **NOTE:** Coat all surfaces with multi-purpose grease.
   Install the steering column lock pawl.
   1. Position the steering column lock pawl.
   2. Drive in the steering column lock lever pin.

   ![Diagram of steering column lock pawl installation]

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

   ![Diagram of steering column lock actuator removal]

**Assembly**

1. Install the steering column upper and lower lock actuators.
   1. Use multi-purpose grease to lubricate the steering column lock actuators.
   2. Install the steering column upper and lower lock actuators.

   ![Diagram of steering column lock actuators installation]

   **NOTE:**
   - Use multi-purpose grease to lubricate the steering column lock actuators.
   - Install the steering column upper and lower lock actuators.

   ![Diagram of steering column lock actuators installation]
4. **NOTE:** The ‘‘UP’’ position of the bearing must be facing forward, toward the engine.

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

Install the steering column lower bearing and sleeve.

6. Install the transmission control selector lever spring clip and the gearshift lever socket bushings on the shift tube.
   - Coat the gearshift lever socket bushings with premium long life grease.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>—</td>
<td>Outer race</td>
</tr>
<tr>
<td>2</td>
<td>3517</td>
<td>Bearing (in the ‘‘UP’’ position)</td>
</tr>
<tr>
<td>3</td>
<td>—</td>
<td>Ball</td>
</tr>
<tr>
<td>4</td>
<td>—</td>
<td>Inner race</td>
</tr>
</tbody>
</table>

5. Install the ignition switch. Align the ignition switch with the slot and index mark on the steering column.
   - Install the screws.
DISASSEMBLY AND ASSEMBLY (Continued)

7. Install the column shift selector lever plunger.
   - Coat the column shift selector plunger with premium long life grease.

8. Position the gearshift lever in the shift tube.

9. **CAUTION:** Gearshift lever pin must be installed correctly or 1st gear position may 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 premium long life grease.

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 steering column upper bearing on the steering column lock cylinder housing.
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 steering column lower bearing into the steering column lock cylinder housing.

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<tr>
<td>1</td>
<td>—</td>
<td>Bearing slot</td>
</tr>
<tr>
<td>2</td>
<td>3511</td>
<td>Steering column lock cylinder housing</td>
</tr>
<tr>
<td>3</td>
<td>—</td>
<td>Outer race</td>
</tr>
<tr>
<td>4</td>
<td>—</td>
<td>Bearing (in the “UP” position)</td>
</tr>
<tr>
<td>5</td>
<td>—</td>
<td>Ball</td>
</tr>
<tr>
<td>6</td>
<td>—</td>
<td>Inner race</td>
</tr>
</tbody>
</table>
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.

17. Install the steering column bearing sleeve.

18. Install the steering column upper bearing spring.

19. Install the snap ring.
20. Install the turn indicator cancel cam.

21. Install the lock cylinder housing screws loosely and position the steering actuator housing in a vise.
   - Lubricate the lock cylinder housing screws with penetrating and lock lubricant.

22. **NOTE:** Lubricate the lock cylinder housing bushings with penetrating and lock lubricant.
    Position the steering column lock cylinder housing and the steering column shaft in the steering actuator housing.
    - Make sure the upper and lower steering column lock actuators are aligned.
211-04-14  Steering Column  211-04-14

DISASSEMBLY AND ASSEMBLY (Continued)

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

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

25. Install the steering column bearing tolerance ring.

26. Install the sensor ring.
   1 Install the sensor ring.
   2 Install the steering column lower bearing spring.

27. NOTE: The narrow section of the keyhole in the lock gear must be in the 1 o’clock position. Install the steering column lock gear.
   • Use multi-purpose grease to coat the steering column lock gear.
28. Install the steering column lock housing bearing.
   - The narrow section of the keyhole should be in the 1 o’clock position, with the tab inboard at the 3 o’clock position and rotate it counterclockwise.
   - Lubricate the steering column lock housing bearing with multi-purpose grease.

29. Install the bearing retainer firmly to engage the four retention tabs into the lock housing.

30. Install the gearshift lever assembly and install the retaining pin.

31. Attach the steering column gearshift lever seal onto the steering column.

32. Install the multifunction switch.

33. Install the clockspring. For additional information, refer to Section 501-20B.

34. **NOTE:** When installing the steering column, read and follow the steering column installation instructions and warnings as outlined in this section.

   Install the steering column. For additional information, refer to Steering Column in this section.