# TECHNICAL SERVICE BULLETIN

**SUBJECT:** WINDOW REGULATOR DRUM GEAR REPLACEMENT

This bulletin provides the procedure to replace the window regulator drum gear on some 2016-2017MY Optima (JFa) vehicles, produced from September 01, 2015 through July 31, 2016, which may exhibit an inoperative window regulator due to a drum gear separating and/or breaking. To correct this concern, follow the procedure outlined in this bulletin to install the improved drum gear to the affected window regulator.

![](Window_Regulator_Drum_Gear.jpg)

Window Regulator Drum Gear
Replacement Procedure:

1. Remove the following parts from the door with the affected window regulator:
   - Delta cover
   - Door trim
   - Power window motor

   For all removal steps, refer to the following chapters in the applicable Shop Manual on KGIS:

   “Body (Interior and Exterior) → Front Door OR Rear Door:
   - Trim → Repair procedures”
   - Window Glass → Repair procedures”
   - Module → Repair procedures”

2. Front Door Only:
   Disconnect the side view mirror connector and wiring harness (A).

   **Note:** The harness is tucked inside the body pillar. Use a pick or similar tool to easily access and disconnect.
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3. Disconnect the door harness main connector (B).

4. Disconnect the door module wiring harness (C), referring to the “Body (Interior and Exterior) → Front Door OR Rear Door → Module → Repair procedures” chapter in the applicable Shop Manual on KGIS.

Note: It is not necessary to remove the speaker or the side impact sensor.
5a. Loosen the door window glass mounting bolts (D).

Torque specification for bolts (D):
5.8 - 8.7 lb.ft (7.8 - 11.8 N.m
0.8 - 1.2 kgf.m)

**CAUTION**
- Do not remove the window glass from the door.
- Be careful not to damage or scratch the window glass.

5b. Hold the door window glass securely in place using tape or rubber padded clamp.
6a. Remove the window regulator retaining bolts (E) for each door:
- Front Door: Ten (10) bolts
- Rear Door: Nine (9) bolts

6b. Remove the window regulator assembly (F) and place on a clean work table.
7. Using the Winding Tool SST, release the wire cable (G) from one of the pulleys.

7. Using a pick tool, remove the drum gear (H) and then detach the two (2) wire cables (G) from the drum gear (H).

8a. Apply white lithium grease to the new drum gear (H) with a brush as shown.

8b. Install the new drum gear (H) onto the window regulator assembly (F).

8c. Insert and attach the lower wire cable (G) onto the new drum gear.
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9. Turn the drum gear (H) to wind the lower wire cable (G) to the drum gear in the specified direction:
   - Front Left & Rear Right Door: Turn clockwise.
   - Front Right & Rear Left Door: Turn counterclockwise.

   **IMPORTANT**
   Refer to Parts table in this TSB to order the correct drum gear part number. These parts are NOT interchangeable.

10. While holding on to the drum gear, insert and attach the upper wire cable (G) onto the drum gear (H).
    Turn the drum gear (H) several times until slack within the wire cable (G) is removed.
    - Front Left & Rear Right Door: Turn clockwise.
    - Front Right & Rear Left Door: Turn counterclockwise.

    **NOTICE**
    Be careful not to unwind the lower wire cable.
11. Wind the wire cables (G) onto the pulleys (I) on the door.

   Front Door: Wind cables onto three (3) pulleys (I).
   Rear Door: Wind cables onto one (1) pulley (I).

12. Pull the upper wire cable (G) towards the corner pulley (I) as shown.

   **Note:** Front Door shown.
13. Insert the wire cable (G) around the SST (J) and insert the SST over the pulley (I) as shown.

14. Turn the SST (J) counterclockwise to loop the wire cable (G) onto the pulley (I).

15. Using a brush, lubricate the window regulator tracking system (K) with white lithium grease.
16. Slide the tracking system (K) back and forth to confirm that the wire cable is engaged and winding as designed.

**Note**: Slide the tracking system (K) to the top right position as shown.

17. Install all removed parts in reverse order of removal.

18. Confirm window operation is normal.
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**AFFECTED VEHICLE RANGE:**

<table>
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<th>Model</th>
<th>Production Date Range</th>
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<tr>
<td>Optima (JFa)</td>
<td>September 01, 2015 to July 31, 2016</td>
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**REQUIRED TOOL:**

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<tr>
<th>Tool Name</th>
<th>Figure</th>
<th>Comments</th>
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<td>Winding Tool</td>
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**REQUIRED PART:**

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<th>Figure</th>
<th>Qty.</th>
<th>Remark</th>
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<td>Drum Gear (B)</td>
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<td>1</td>
<td>Use for Front Right (1R) Door and Rear Left (2L) Door</td>
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<td>White Lithium Grease</td>
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<td>Brush</td>
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**WARRANTY INFORMATION:**

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<td>Front Door Regulator Drum Replacement (One side)</td>
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