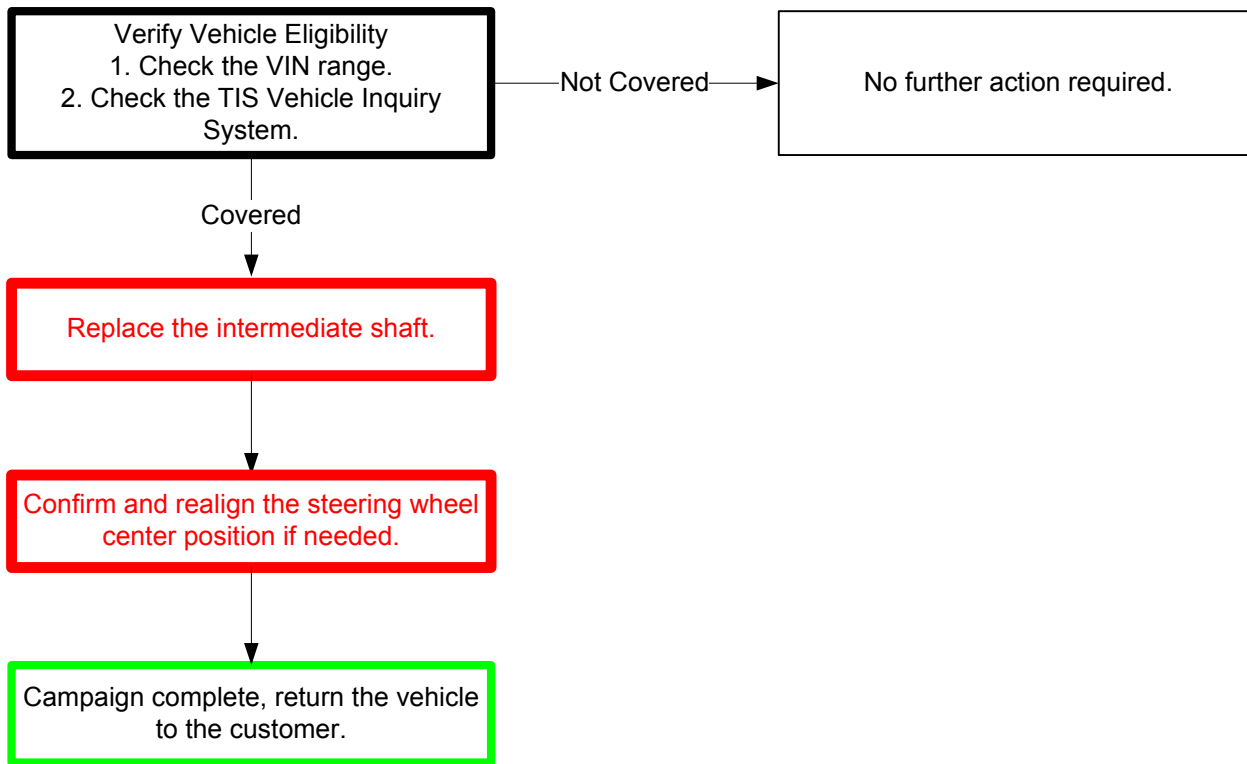


**TECHNICAL INSTRUCTIONS**  
**FOR**  
**SAFETY RECALL F0E**  
**STEERING INTERMEDIATE SHAFT ASSEMBLY**  
**CERTAIN 2014 MODEL YEAR FJ CRUISER**

All dealership associates involved in the recall process are required to successfully complete E-Learning course SC13A. To ensure that all vehicles have the repair performed correctly; technicians performing this recall repair are required to currently hold at least one of the following certifications levels:

- Toyota Certified Chassis
- Toyota Expert Chassis
- Master
- Master Diagnostic Technicians

## I. OPERATION FLOW CHART



## II. IDENTIFICATION OF AFFECTED VEHICLES

### A. COVERED VIN RANGE

- Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Safety Recall, and that the campaign has not already been completed prior to dealer shipment or by another dealer.
- TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected or were completed by another dealer.

## III. PREPARATION

### A. PARTS

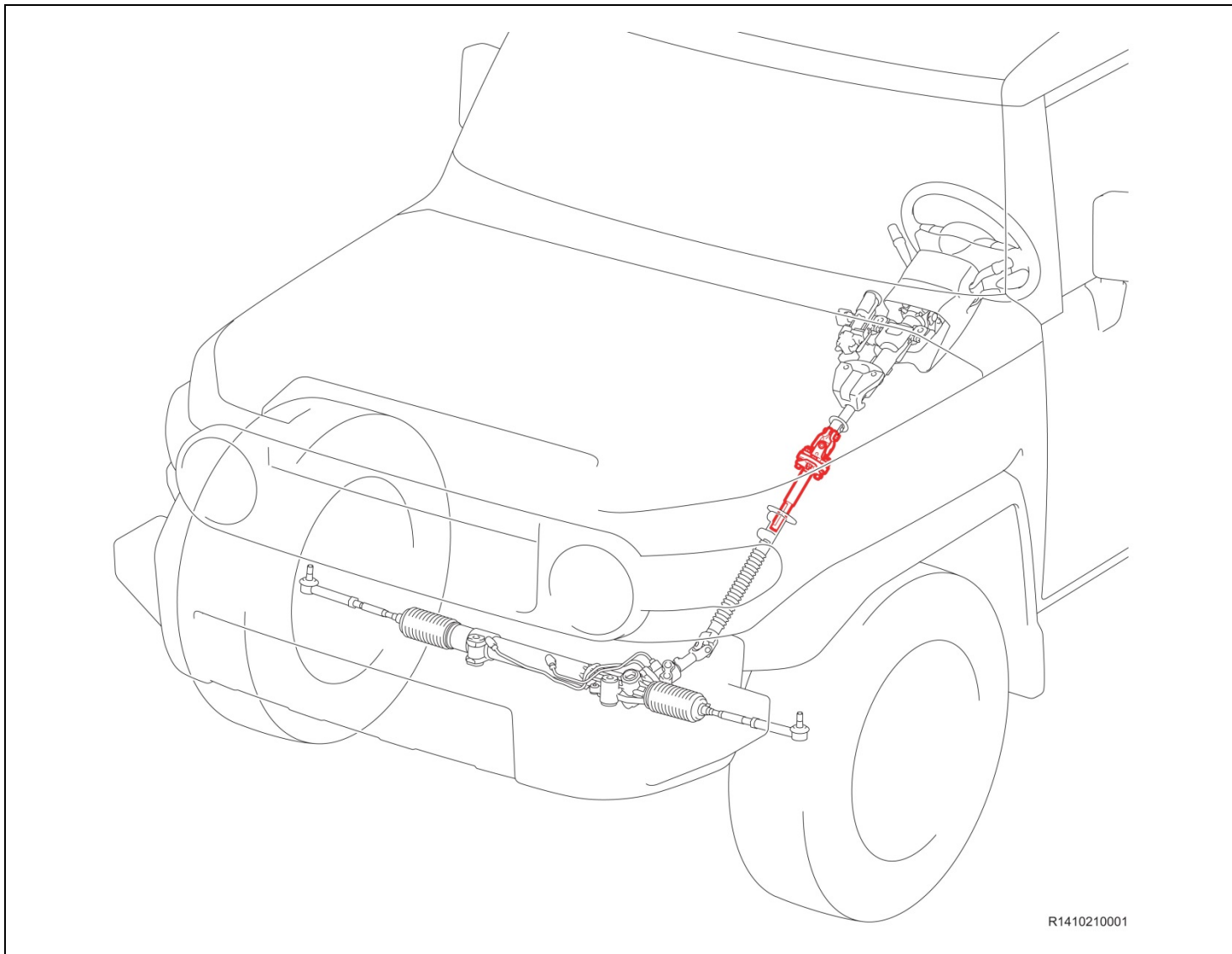
Part Number	Part Description	Quantity
45220-35190	Steering Intermediate Shaft Assembly	1
90467-10186	Clip (for front fender splash shield)	2

### B. TOOLS & EQUIPMENT

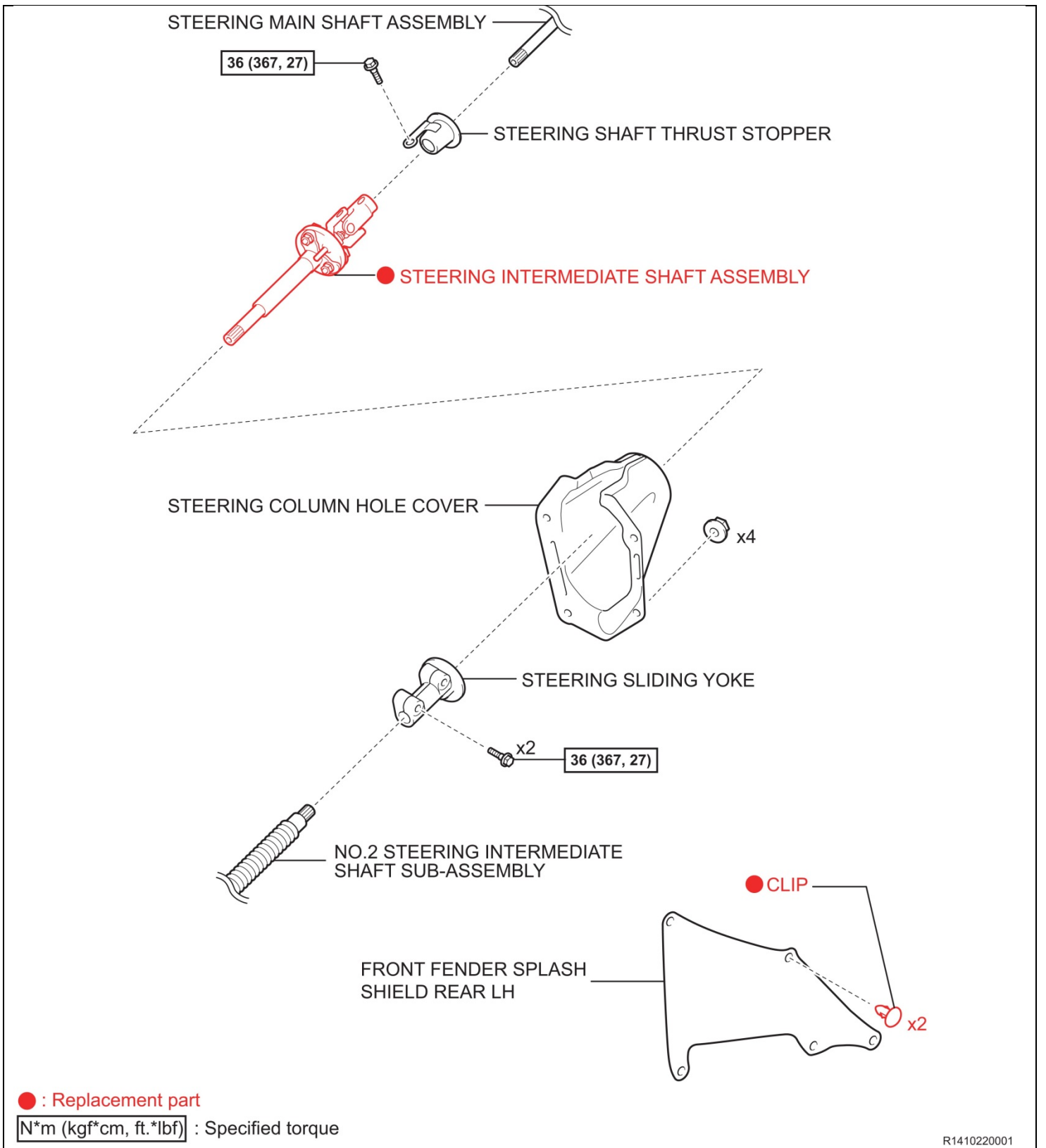
- Standard hand tools
- Torque wrench
- Clip remover
- Protective tape
- Marking pen

#### IV. BACKGROUND

The steering system contains an intermediate shaft, which connects the steering wheel to the steering gear box. The intermediate shaft in the subject vehicles could have received an inadequate weld. Under some circumstances, the weld could separate, resulting in the loss of steering control and increasing the risk of a crash.



# V. COMPONENTS



## VI. INTERMEDIATE SHAFT REMOVAL PROCEDURE

1. RECORD THE POSITION OF THE STEERING WHEEL AND DRIVER'S SEAT
2. SLIDE THE DRIVER'S SEAT TO THE REARMOST POSITION AND TILT THE STEERING WHEEL UP.



3. CONFIRM THAT THE STEERING WHEEL IS IN THE STRAIGHT AHEAD POSITION

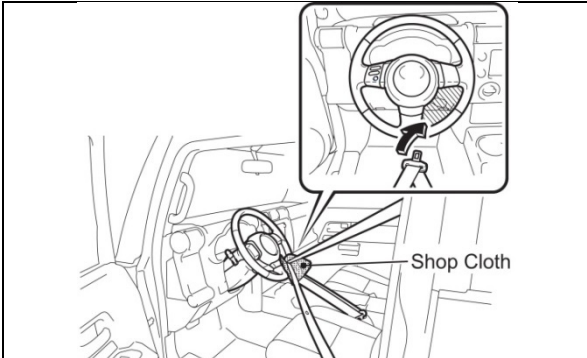
- a) Place the steering wheel in the straight ahead position.
- b) Install tape on the steering wheel and dash and place a match at the center position as shown.

**Note:** This mark will help ensure the new part is installed with the correct phasing.

4. SECURE THE STEERING WHEEL IN POSITION

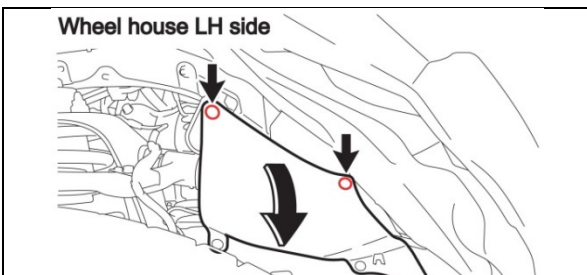
- a) Pass the seat belt through the steering wheel as shown to secure the wheel.

**Note:** Place a soft cloth between the seat belt and the steering wheel to prevent damage.



5. FOLD DOWN THE LH FENDER SPLASH SHIELD

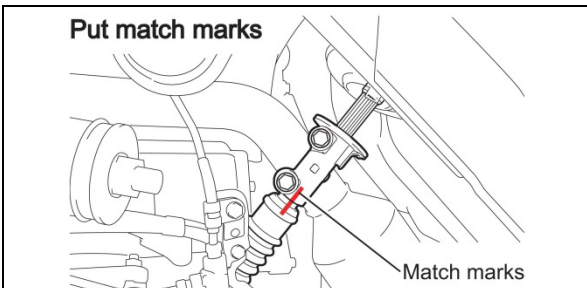
- a) Disengage the 2 clips using the clip remover and discard .



6. REMOVE STEERING SLIDE YOKE

- a) Put match marks on the slide yoke and the No. 2 steering intermediate shaft sub-assembly.

**NOTE:** The match marks will assist with aligning the new intermediate shaft.

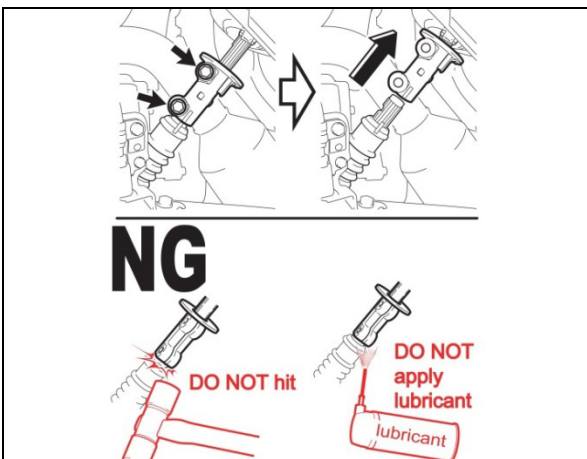


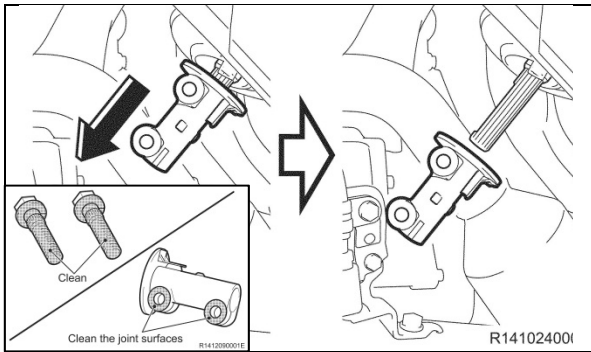
- b) Remove the 2 bolts and slide the sliding yoke upward to separate it from the No. 2 intermediate shaft.

**NOTE:** The bolts will be reused.

**STOP** *If the sliding yoke is stuck on the intermediate shaft DO NOT hammer or apply lubrication.*

- c) If the shaft is stuck use a screw driver to gently open the yoke.

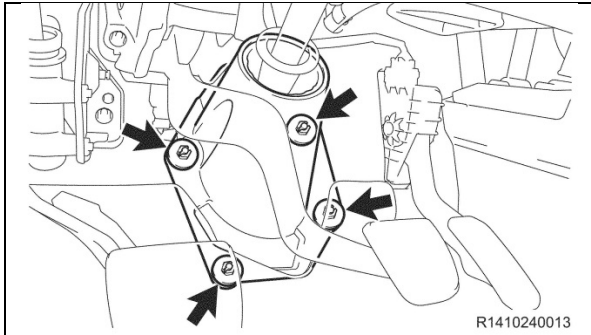




- d) Remove the sliding yoke from the intermediate shaft.
- e) Clean the bolt threads and the grease from the bolt head seating surface of the yoke.

**7. REMOVE STEERING COLUMN COVER**

- a) Disengage the 4 clips and remove the column cover.

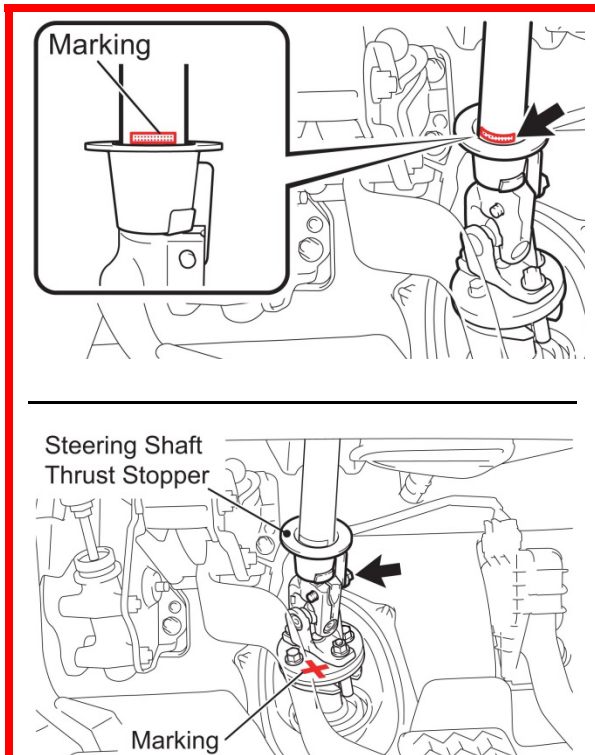


**8. REMOVE THE INTERMEDIATE SHAFT ASSEMBLY**

- a) Turn the steering wheel clockwise approximately 90 degrees to gain access to the bolt.

**Note: DO NOT rotate the steering wheel past 90 degrees or damage to the spiral cable could occur. Loosening of the seat belt will be necessary to turn the steering wheel.**

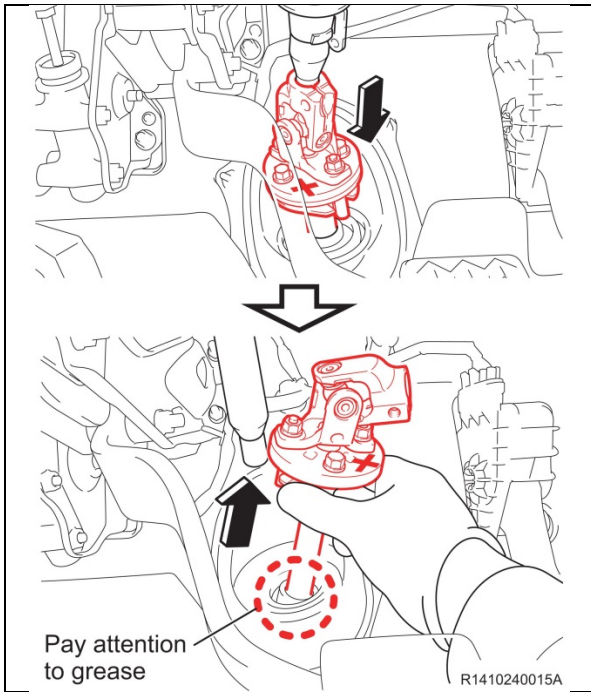
- b) Mark the main shaft as shown to ensure that the NEW intermediate shaft is installed to the correct depth.



**STOP** *Marking the shaft is crucial to ensure the NEW intermediate shaft is installed to the correct depth. If the new part is not installed properly a loss of steering can occur do to separation.*

- c) Mark the No. 2 intermediate shaft assembly to ensure it is not reused.





- d) Separate the intermediate shaft and steering thrust stopper from the steering column.



**If the yoke is stuck DO NOT hit the intermediate shaft, use the procedure below to remove the shaft.**

- e) Pull up the intermediate shaft assembly and remove it from the vehicle.  
 f) Place the shaft in a location where it will not be reused.

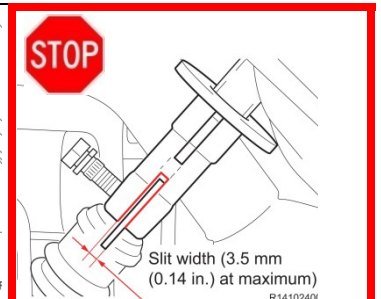
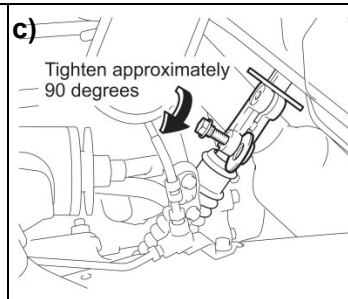
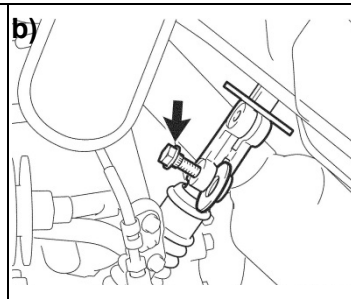
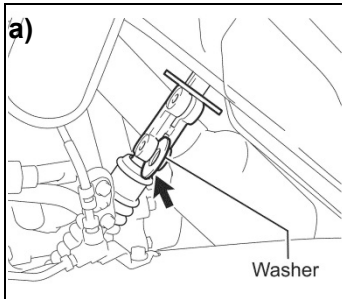
**Note: Take care not to damage the boot and ensure the grease does not get on any interior components.**

**IF INTERMEDIATE SHAFT IS STUCK**

- a) Place a washer in the gap of the intermediate shaft yoke.  
 b) Insert the intermediate shaft bolt on the threaded side of the yoke and hand tighten until it bottoms out against the washer.  
 c) After the bolt has seated against the washer, tighten the bolt 90 degrees to spread the yoke.



**Use caution when performing this step or damage the steering shaft could occur. DO NOT exceed a gap greater than 3.5 mm (.14 in.).**



## VII. INSTALL THE NEW INTERMEDIATE SHAFT

### 1. INSTALL THE NEW INTERMEDIATE SHAFT ASSEMBLY

- a) Pass the **NEW** intermediate shaft through the dust boot.

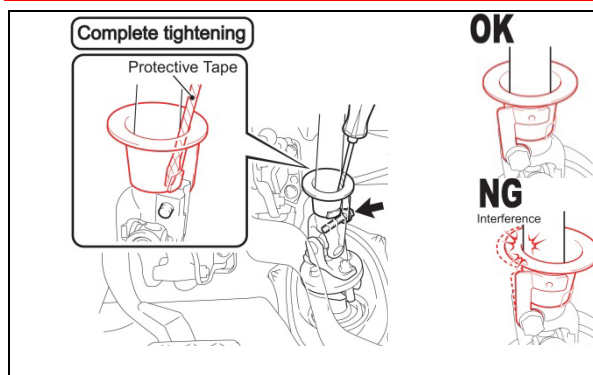
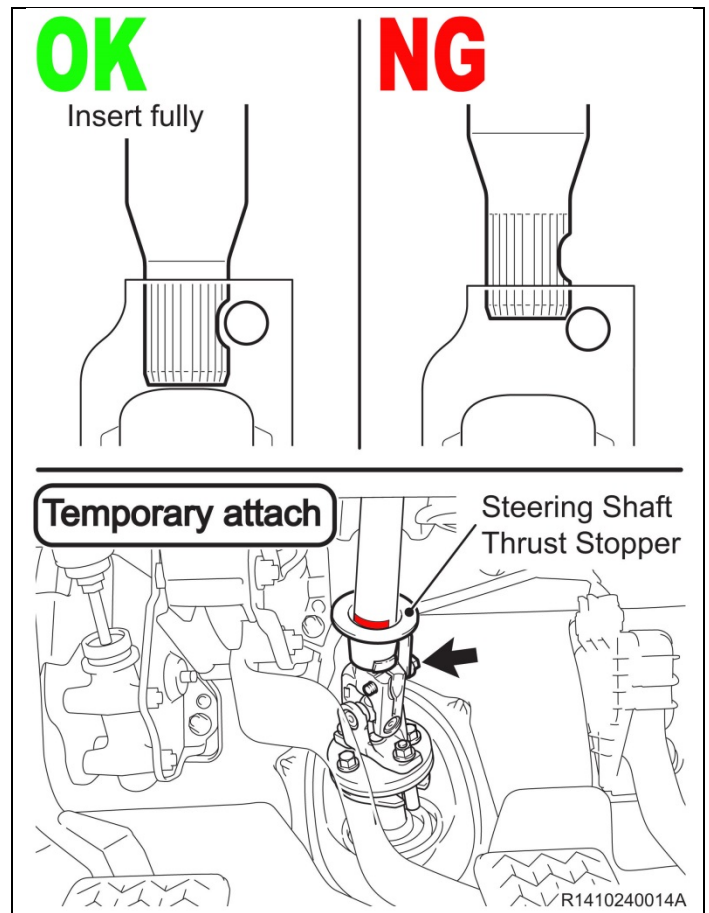
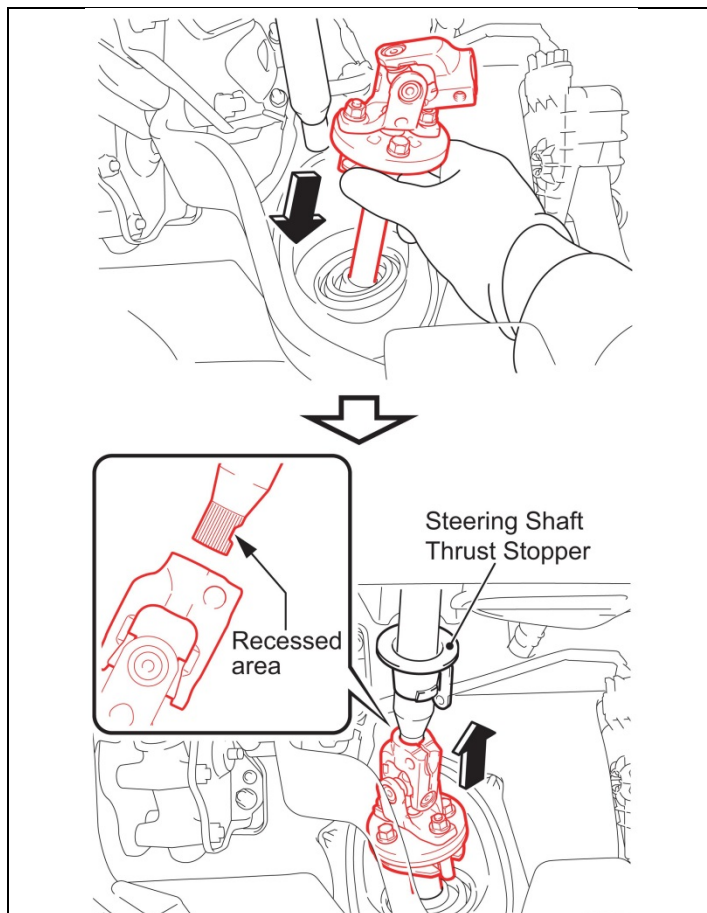
**Note:** There is no need to grease the new shaft because the dust boot has enough grease to stop any rubbing noises.

- b) Attach the steering shaft thrust stopper over the main shaft assembly.  
c) Connect the intermediate shaft to the main shaft so that the recess aligns with the bolt.



**Ensure the main shaft is fully seated into the intermediate shaft as shown.**

- d) Temporarily reinstall the bolt onto the intermediate shaft yoke.



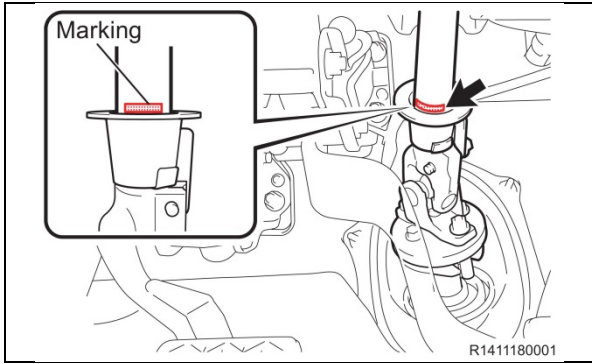
- e) Insert a flat tip screw driver wrapped with tape into the gap between the shaft and the thrust stopper as shown while torquing the intermediate shaft bolt.

**Torque: 27 ft.lbs (36 N\*m, 367 kgf\*cm)**

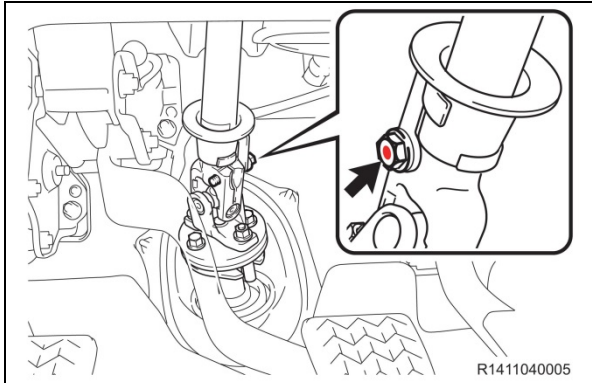


**A screw driver must be inserted because the thrust stopper will turn as the bolt is tightened and interfere with the steering shaft. After tightening the bolt ensure there is no interference between the thrust stopper and steering shaft.**





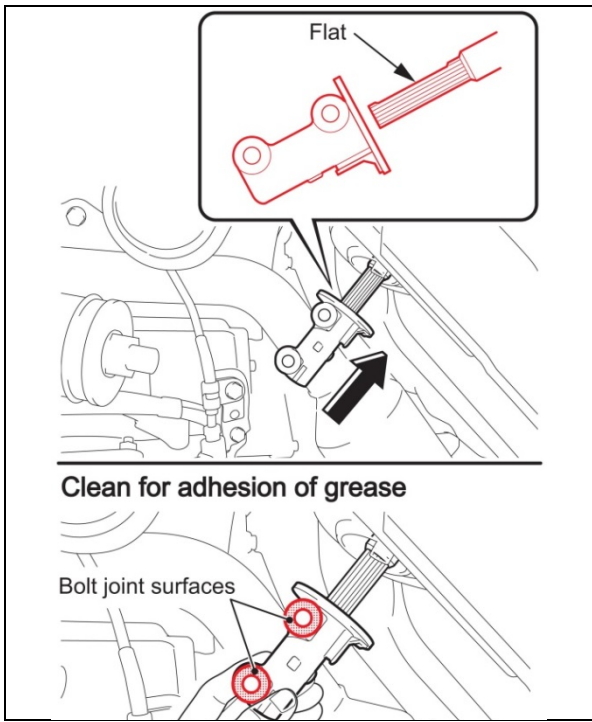
f) Check the mark on the main shaft, to ensure that the intermediate shaft is fully installed on to the main shaft.



g) Mark the bolt to confirm that it has been properly torqued.



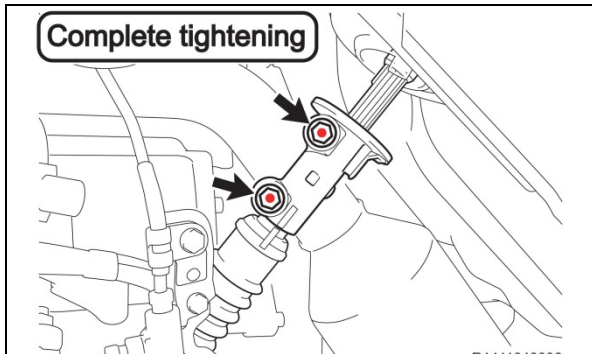
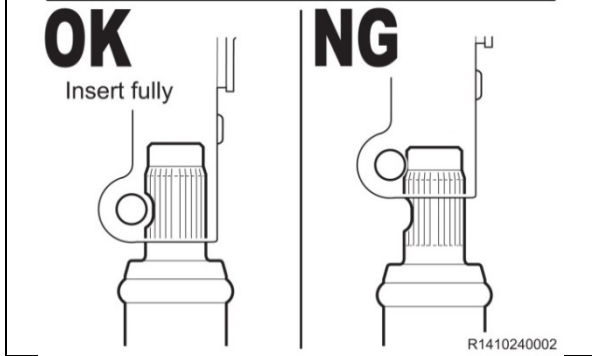
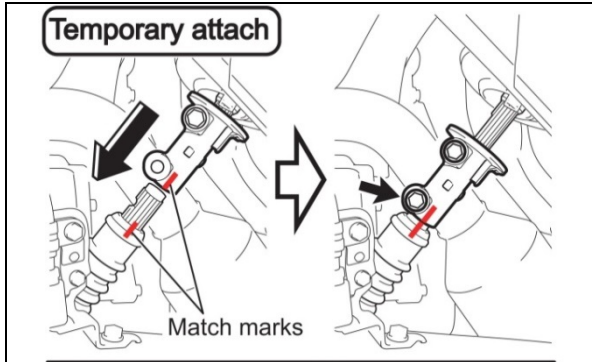
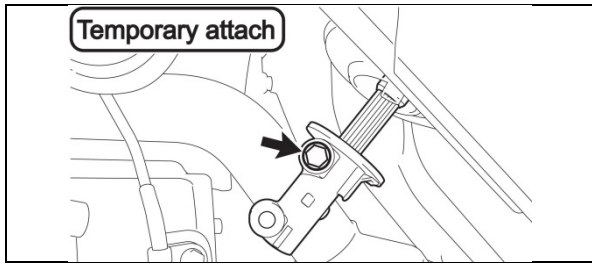
h) Slowly turn the steering wheel counterclockwise and back to the straight ahead position



## 2. REINSTALL THE STEERING SLIDE YOKE

a) Insert the sliding yoke over the intermediate shaft ensuring to align the flat with the bolt holes as shown.

**STOP** *If grease transfers to the bolt surface clean it to ensure proper torqueing.*



b) Temporarily reinstall the upper bolt.

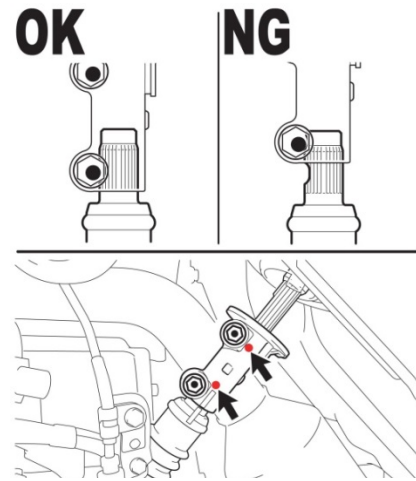
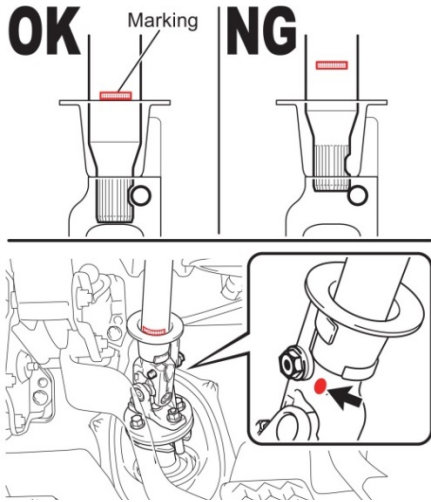
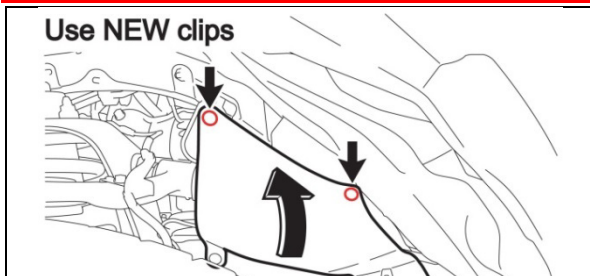
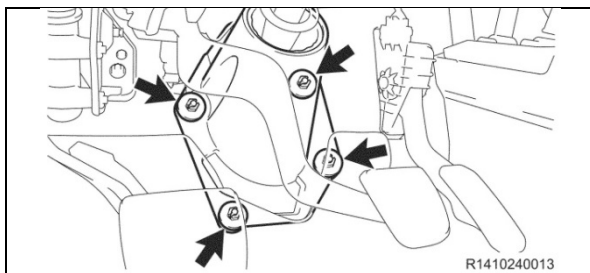
- c) Align the match marks, and reconnect the No. 2 steering intermediate shaft sub-assembly.
- d) Fully seat the sliding yoke and ensure that the bolt hole aligns with the recessed area.
- e) Temporarily reinstall the bolt.

**STOP** *Ensure that the No. 2 steering intermediate shaft is fully installed.*

f) Torque the two bolts.

**Torque: 27 ft.lbs (36 N\*m, 367 kgf\*cm)**

g) Mark the two bolts to identify that they have been torqued properly.

**STOP****INSPECT THE INTERMEDIATE SHAFT TO ENSURE IT IS INSTALLED PROPERLY****STOP****STOP****INSPECT THE INTERMEDIATE SHAFT TO ENSURE IT IS INSTALLED PROPERLY****STOP****3. REINSTALL THE SPLASH SHEILD USING 2 NEW CLIPS****4. REINSTALL THE COLUMN COVER WITH THE 4 CLIPS****5. INSPECT STEERING FOR PROPER OPERATION**

- a) Remove the seat belt from the steering wheel.
- b) Turn the steering wheel from lock to lock for abnormal noise or rough movement.

**6. INSPECT STEERING WHEEL CENTER POSITION.**

- a) If needed, center the steering wheel by adjusting tie rod length.

**STOP**

*Steering wheel centering can change due to slight tolerance variations in the intermediate shaft. Ensure that the steering wheel is centered.*

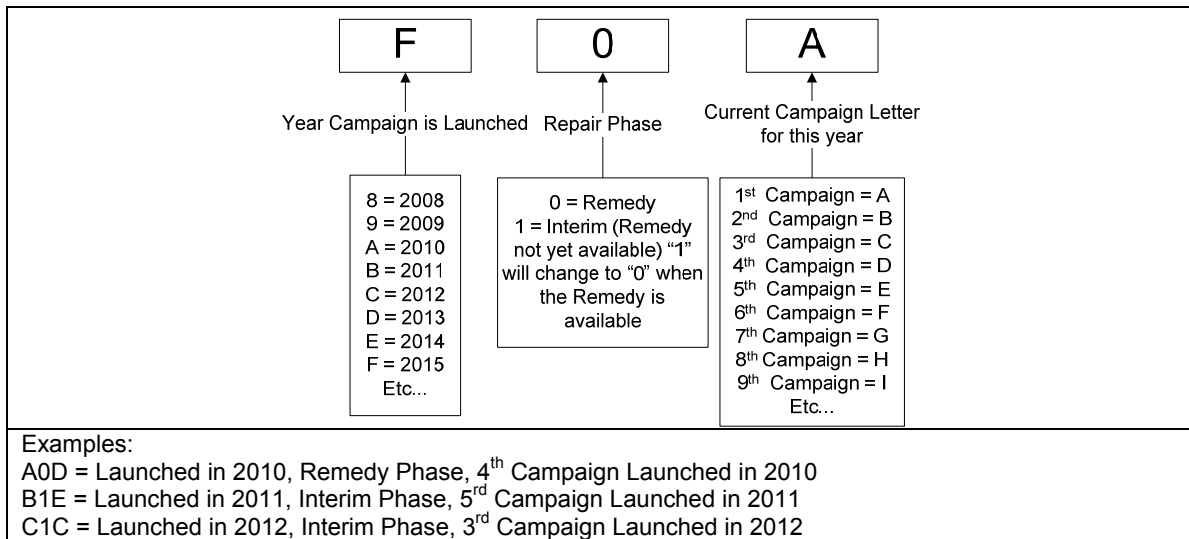
**7. TEST DRIVE VEHICLE****8. RETURN SEAT AND STEERING WHEEL TO ORIGINAL POSITION****◀ VERIFY REPAIR QUALITY ▶**

- Confirm that the No. 2 steering intermediate shaft is installed properly.
- Confirm **ALL** inspection and bolt tightening steps are performed exactly as described
- Confirm the steering wheel is centered before returning the vehicle to the customer

If you have any questions regarding this update, please contact your regional representative.

## VIII. APPENDIX

### A. CAMPAIGN DESIGNATION DECODER



### B. CAMPAIGN PARTS DISPOSAL

As required by Federal Regulations, please make sure all campaign parts (original parts) removed from the vehicle are disposed of in a manner in which they will not be reused, ***unless requested for parts recovery return.***