

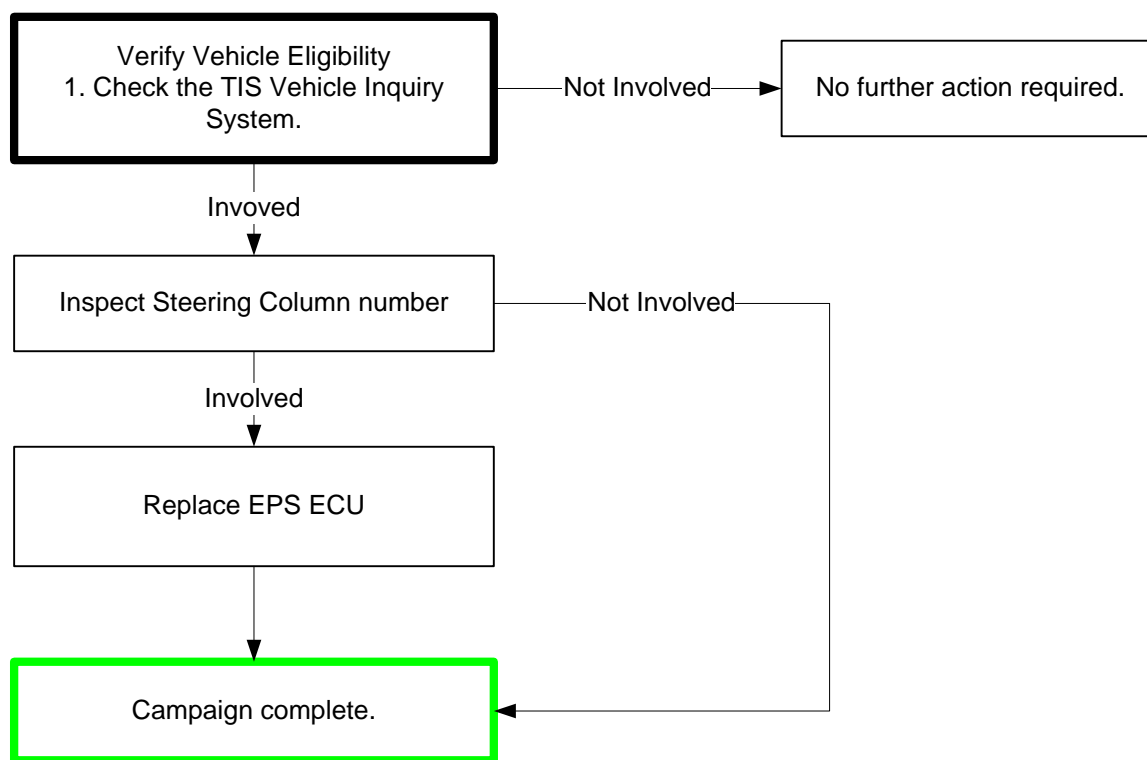
**TECHNICAL INSTRUCTIONS**  
**FOR**  
**SAFETY RECALL F0J**  
**POWER STEERING ECU INSPECTION**  
**CERTAIN 2014 & 2015 MODEL YEAR RAV4**

The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this procedure are required to successfully complete the most current version of the E-Learning course “Safety Recall and Service Campaign Essentials” To ensure that all vehicles have the repair performed correctly; technicians are required to currently hold at least one of the following certification levels to perform this operation:

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

It is the dealership’s responsibility to select technicians with the above certification level or greater to perform this repair. Carefully review your resources, the technician skill level, and ability before assigning technicians to this repair. It is important to consider technician days off and vacation schedules to ensure there are properly trained technicians available to perform this repair at all times.

## 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
89650-0R030	RAV4 EPS ECU KIT (includes EPS ECU p/n 89650-0R020 and bolts)	1
Local Source	ZIP TIE	1

### B. TOOLS & EQUIPMENT

- Standard hand tools
  - Techstream
  - Torque wrench
  - Bar Code Scanner\* (Datalogic 2430)
- \*Bar code scanners were sent each dealer prior to the launch of this program.

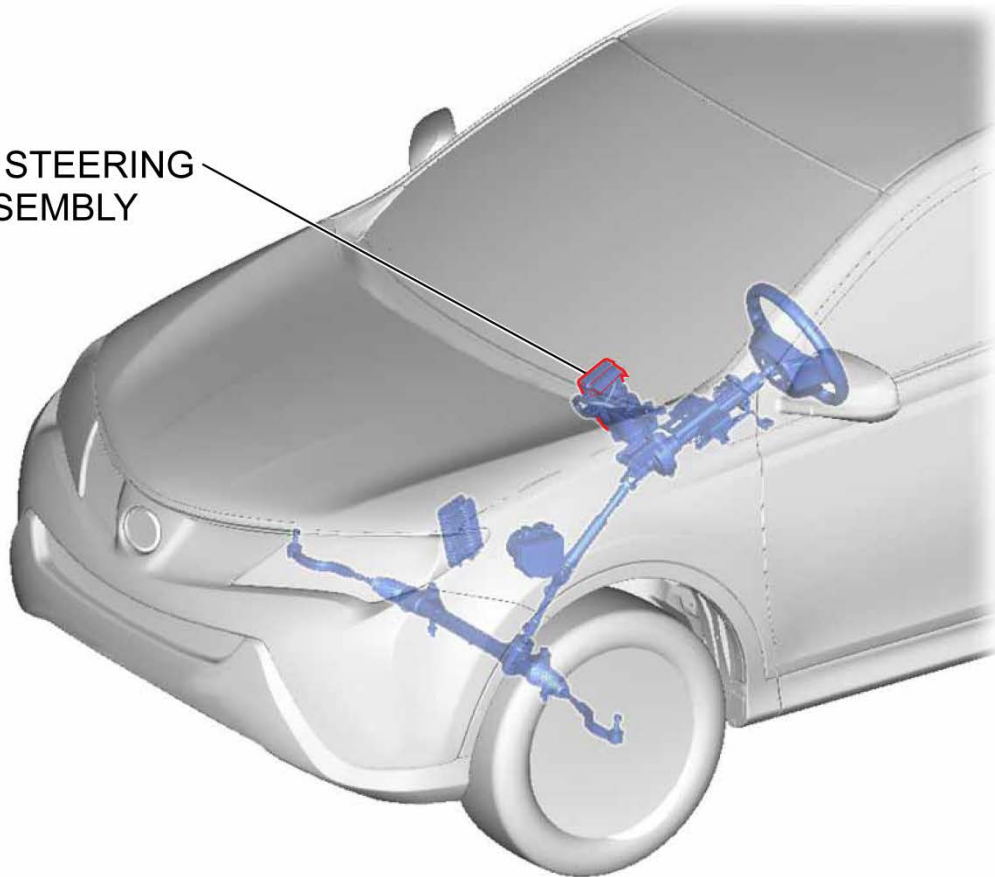
**SST-** These are essential special service tools that the dealership should have.

Part Number	Description	Quantity
00002-06000-01	Plastic Pry Tool Set	1

#### IV. BACKGROUND

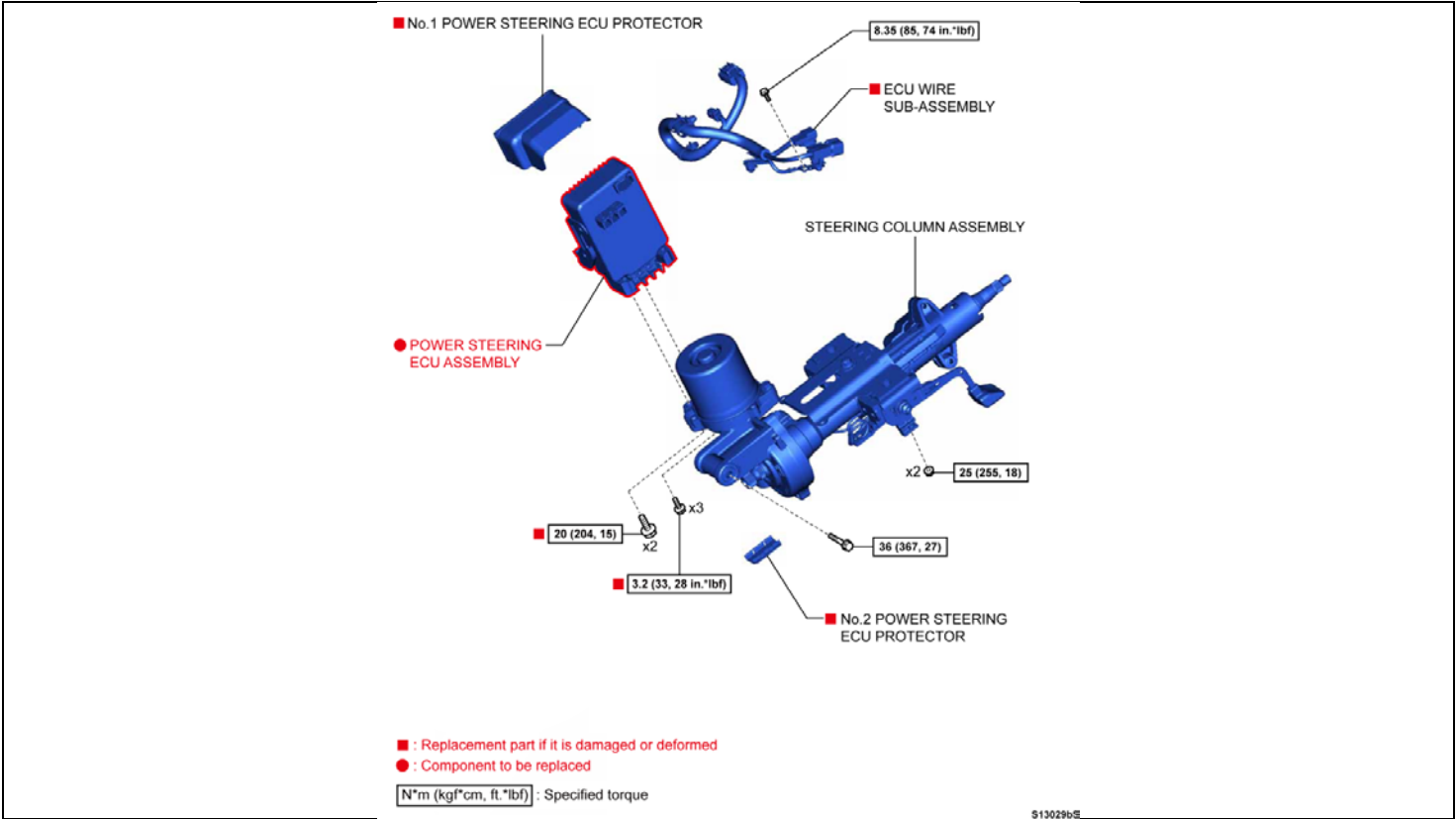
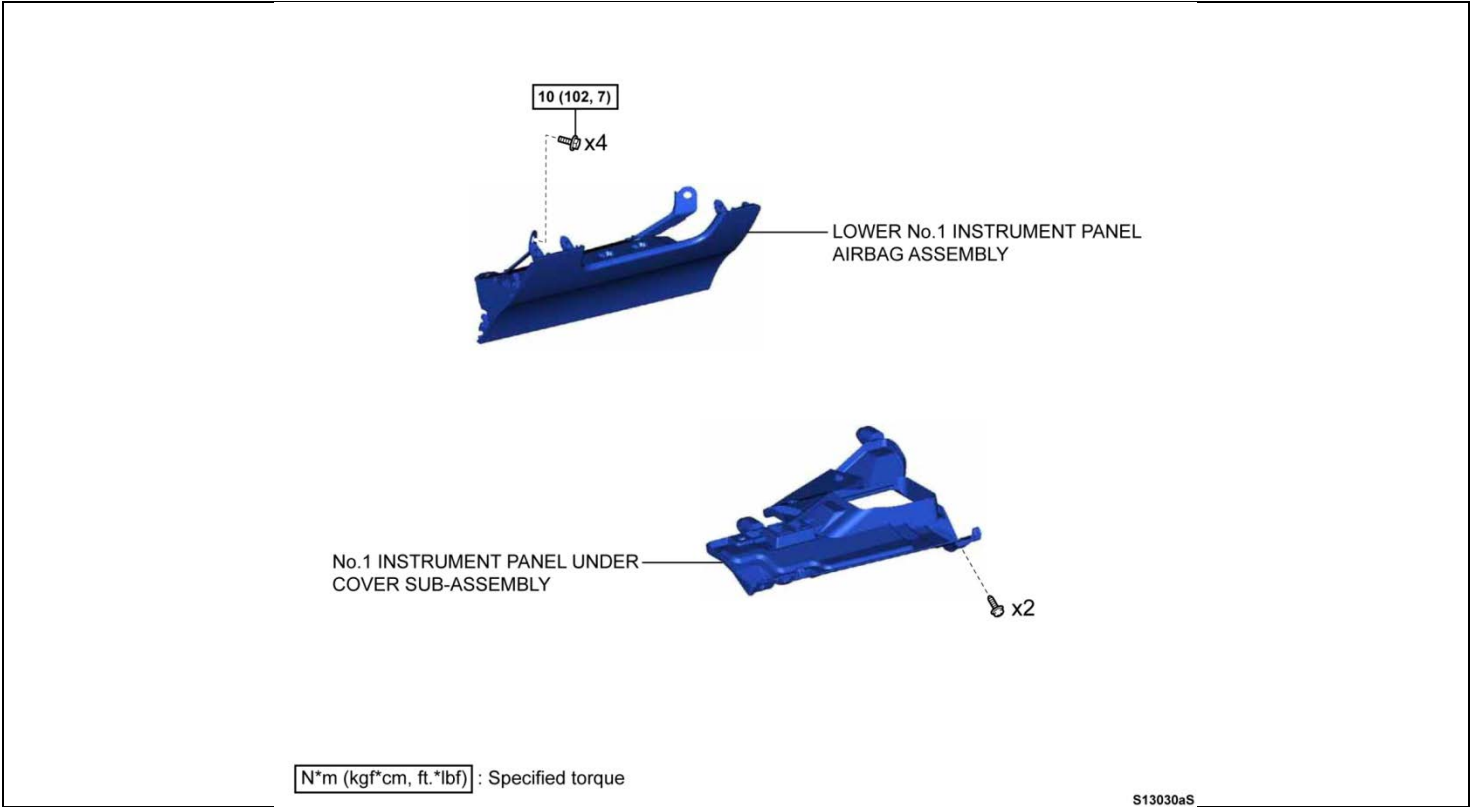
A circuit board for the electric power steering (EPS) in the subject vehicles may have been damaged during its manufacturing process. This can result in the loss of power steering assist. Manual steering is maintained, but the loss of power steering assist results in increase steering effort at low vehicle speeds and increases the risk of a crash.

POWER STEERING  
ECU ASSEMBLY



S13004aS

V. COMPONENTS



VI. WORK PROCEDURE

## 1. CHECK FOR DTCs



**This campaign only covers the inspection and if needed the replacement of the EPS ECU. No other components in the steering system are covered by this campaign.**

- a) Using Techstream, perform a health check to confirm if there are any steering system related DTCs present in the system (**current, history or pending**).
- b) Record and clear any codes.

### NOTES:

- **Ensure that the Techstream software is 10.0 or higher.**
- **On the “connect to vehicle” screen, enter the VIN number to ensure that the vehicle information is uploaded to TIS.**

## 2. RECORD SEAT POSITION

## 3. SLIDE THE DRIVER’S SEAT TO THE REARMOST POSITION

## 4. DISCONNECT THE NEGATIVE BATTERY TERMINAL

- a) Always disconnect the negative terminal before working with any SRS components in order to prevent unintentional deployment.
- b) Wait 90 seconds or more after disconnecting the negative terminal before performing any work due to the backup power supply equipped to the airbag system

## 5. REMOVE THE LOWER No. 1 INSTRUMENT PANEL AIRBAG

Refer to the Technical Information System (TIS), using the applicable vehicle and model year.

**2014 RAV4**

**2015 RAV4**

## 6. INSPECT STEERING COLUMN LABEL

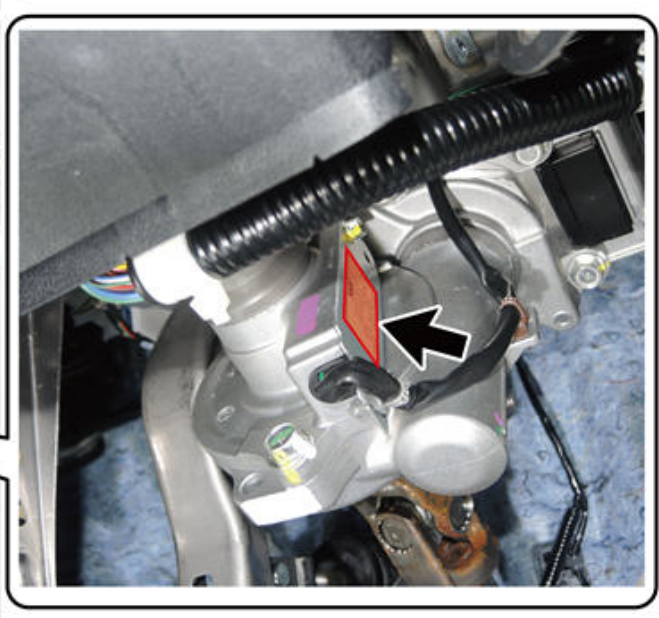


- a) Go to <http://nds-f0j.imagespm.info/login.cfm>
- b) Scan the VIN on the certification label located in the left front door jam.

**NOTE: All information must be scanned into the web site. Manual entry is not available.**

**Ensure that Datalogic scanner model # 2430 is used for this recall.**

- c) Locate the label on the steering column.



d) Scan the bar code on the label.

e) The web site will provide the results of the bar code scan.

#### Website result

**TOYOTA**

Safety Recall F0J - EPS Validation Website

Logout

Validation Result Screen for Camry, Camry HV or Rav4.

Below are the results of the EPS ECU Validation for this vehicle, please print a copy of this validation result and file it with the R.O.

VIN: 2T3ZF4EV9FW14829170

Model: Rav4

Steering Column Serial Number: PT220414829069

Result: The Vehicle EPS ECU is Not Affected by this campaign

Return to VIN Entry Screen Print Vehicle Result

**OK**

Print website results and attach to repair order

Perform Steps 9-10 and 12

**TOYOTA**

Safety Recall F0J - EPS Validation Website

Logout

Validation Result Screen for Camry, Camry HV or Rav4.

Below are the results of the EPS ECU Validation for this vehicle, please print a copy of this validation result and file it with the R.O.

VIN: 2T3ZF4EV9FW14829170

Model: Rav4

Steering Column Serial Number: PT220414829170

Result: The EPS ECU is AFFECTED, repair the vehicle as described in the TI.

Part Number: 89050-0R030

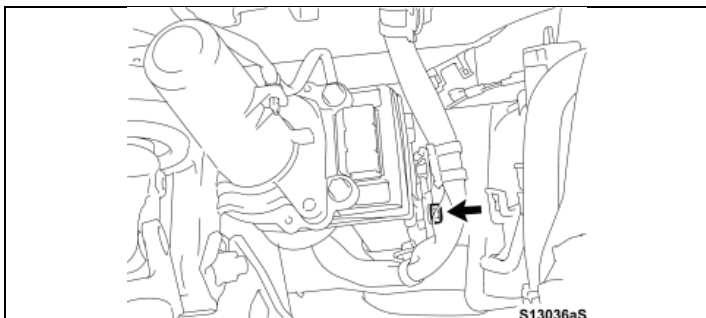
Return to VIN Entry Screen Print Vehicle Result

**NG**

Print website results and attach to repair order

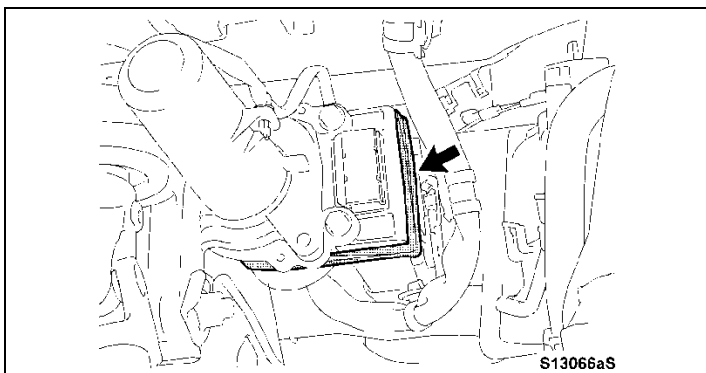
**Replace the EPS ECU**

Perform Steps 7 - 12

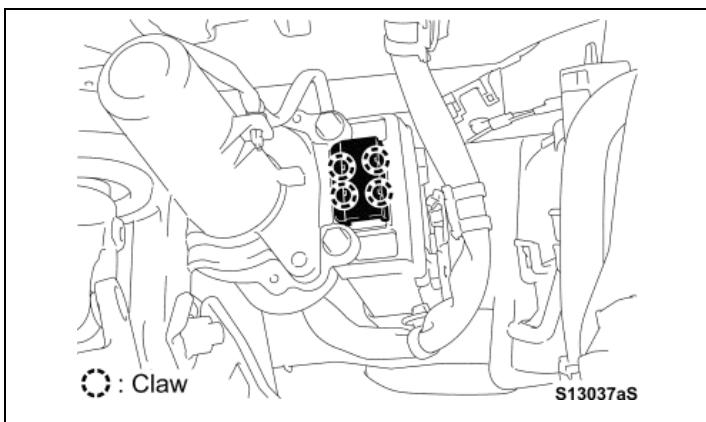


## 7. REMOVE THE EPS ECU

a) Remove the bolt from the EPS ECU.

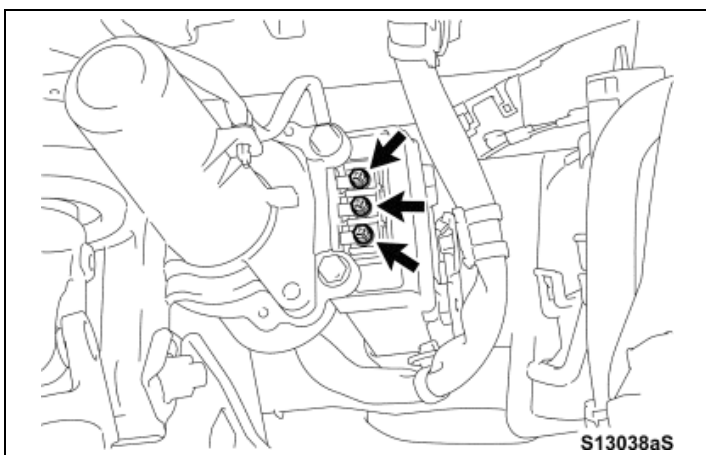


b) Remove and discard the vinyl tape from around the ECU and steering column.

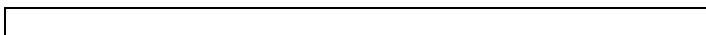


c) Disengage the 4 claws to remove the No. 2 power steering protector.

**NOTE: If the No. 2 protector is damaged replace it with a new one.**

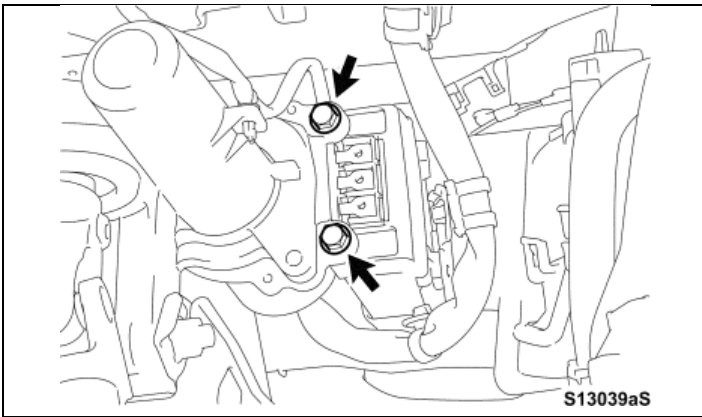


d) Remove the 3 terminal bolts.

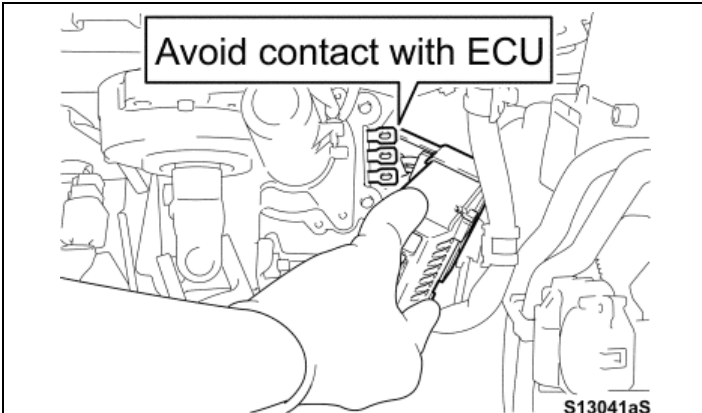


e) Remove the 2 bolts for the EPS ECU.

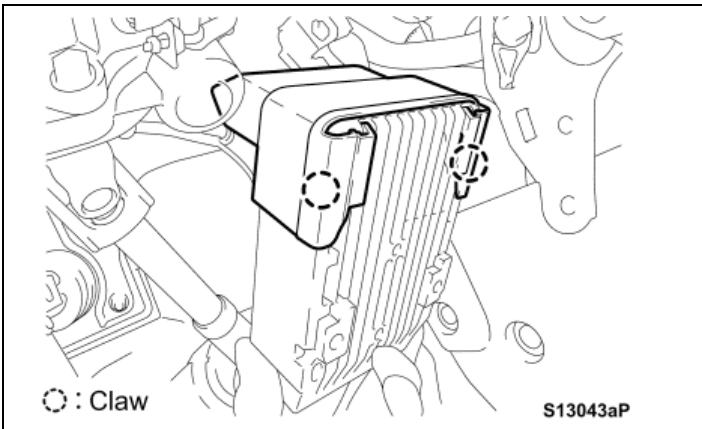




f) Remove the EPS ECU.



**Do not damage the terminals on the steering column when removing the ECU.**

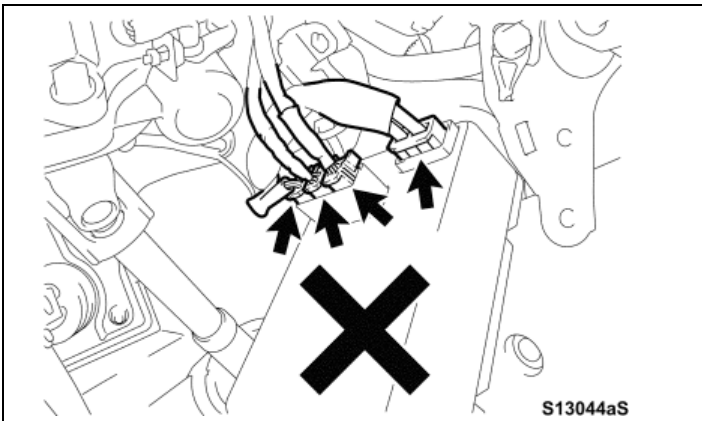


g) Detach the 2 claws and remove the No. 1 protector from the ECU.



**If the No.1 EPS ECU protector is damaged during removal, replace it with a *NEW* one.**

**NOTE:** The EPS ECU can be guided during removal through the opening for the combo meter.

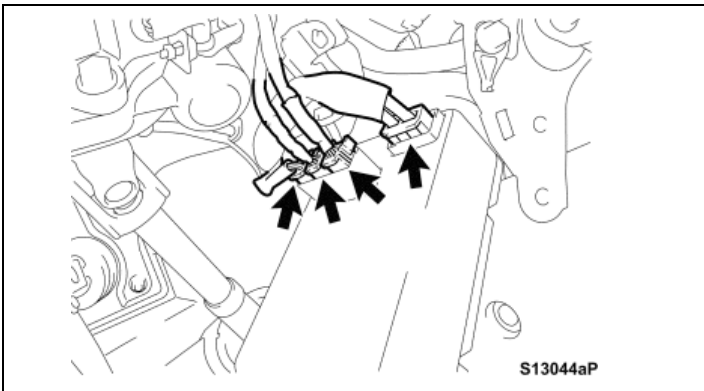


h) Disconnect the 4 Connectors from the EPS ECU.

**NOTE:** Disconnect the 3 smaller connectors first.

i) Mark the old EPS ECU so it is not reused.



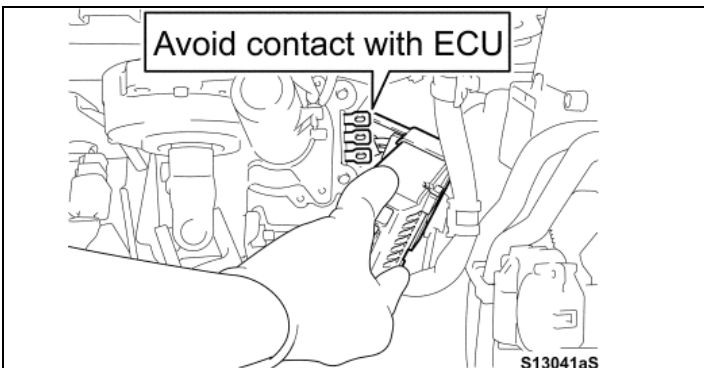


## 8. INSTALL THE NEW ECU

a) Reconnect the 4 connectors to the new EPS ECU.



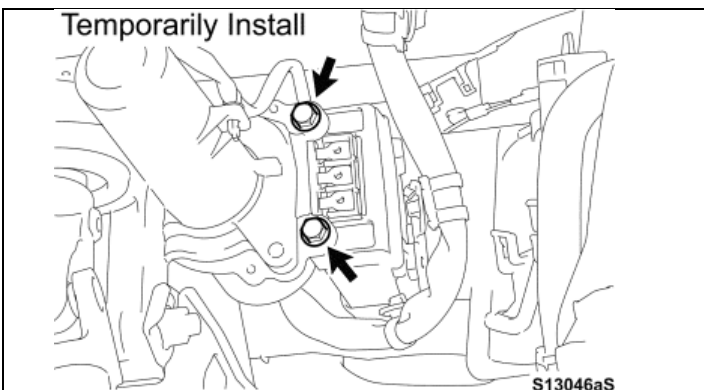
b) Reengage the 2 claws to reinstall the No. 1 protector onto the ECU.



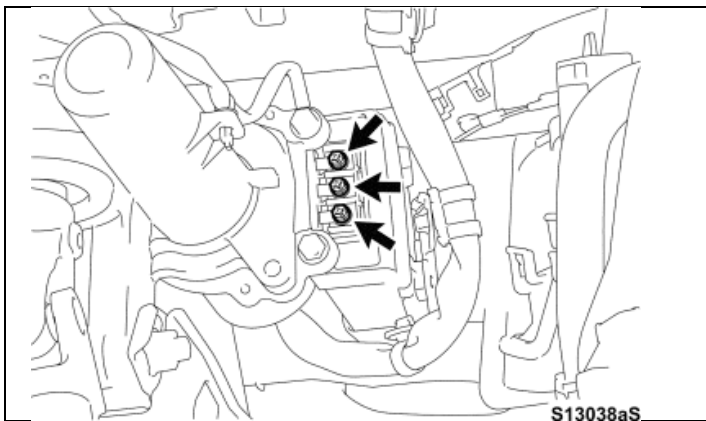
c) Install the EPS ECU.



**Do not damage the terminals on the steering column when reinstalling the ECU.**

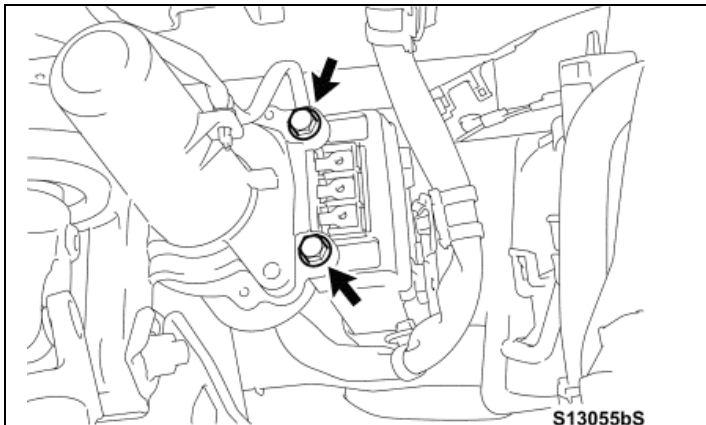


d) Temporarily install the 2 **new** bolts for the EPS ECU.



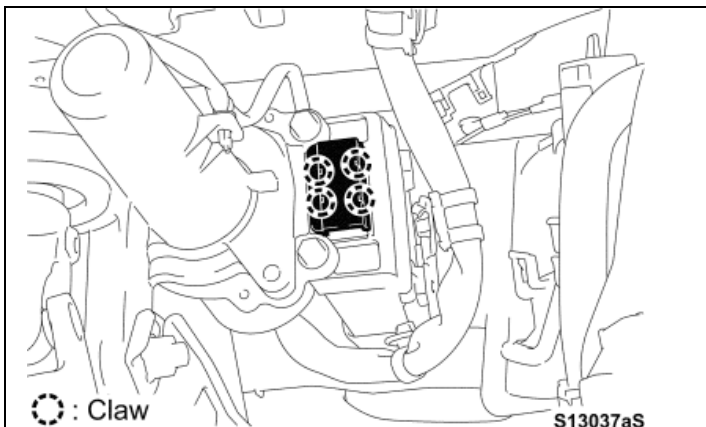
e) Install the 3 **new** terminal bolts.

**TORQUE:**  
**3.2 N\*m (33 kgf\*cm, 28 in\*lbf)**



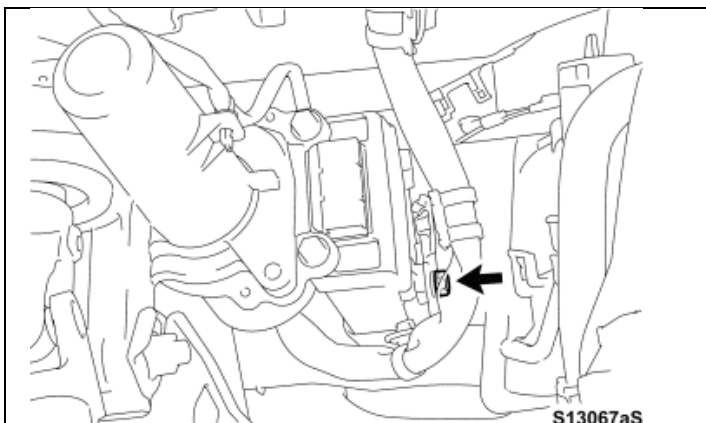
f) Torque the 2 ECU bolts.

**TORQUE:**  
**20 N\*m (204 kgf\*cm, 15 ft\*lbf)**

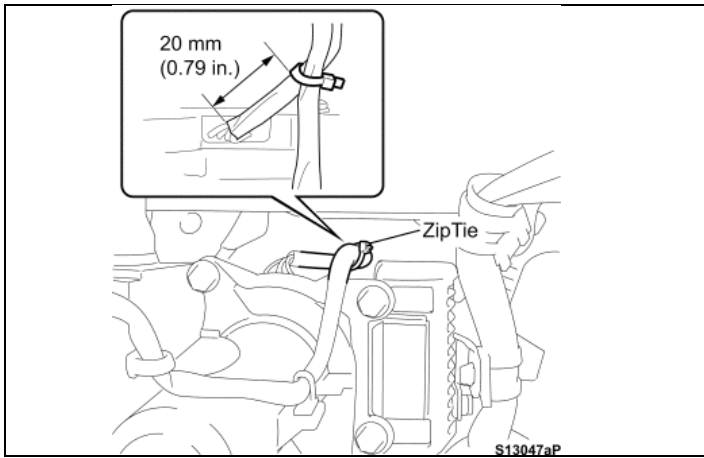


g) Reinstall the No.2 EPS ECU protector.

**NOTE: If the No. 2 protector is damaged  
 replace it with a new one.**



h) Reinstall the clamp bracket and bolt.



- i) Clamp the 2 wire harnesses with a zip tie as shown in the illustration.



**Make sure to wrap a zip tie around the harness tubing.**

## 9. REINSTALL THE LOWER No. 1 INSTRUMENT PANEL AIRBAG

Refer to the Technical Information System (TIS), using the applicable vehicle and model year.

**2014 RAV4**

**2015 RAV4**

## 10. RECONNECT THE NEGATIVE BATTERY CABLE

- a) Perform any needed system initializations.

## 11. ASSIST MAP WRITING (EPS ECU REPLACEMENT ONLY)

Refer to the Technical Information System (TIS), using the applicable vehicle and model year.

**2014 RAV4**

**2015 RAV4**

## 12. CHECK AND CLEAR ANY DTC's

- a) If DTC's are present, diagnose and repair using the appropriate repair information located on TIS and file a separate Warranty claim.

# ◀ VERIFY REPAIR QUALITY ▶

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

## VII. APPENDIX

### A. CAMPAIGN DESIGNATION DECODER

