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# SERVICE BULLETIN

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ST14-009

Reference:

NTB14-053

Date:

June 6, 2014

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## 2014 ALTIMA; HYDRAULIC ELECTRIC POWER STEERING SERVICE INFORMATION

**APPLIED VEHICLE:** 2014 Altima (L33)

### SERVICE INFORMATION

As with other Nissan vehicles, the Altima is equipped with Hydraulic Electric Power Steering (H-EPS). This system uses an electric motor to drive a pump rather than relying on a conventional belt-driven pump. Some normal operational sound may be heard from the front of the vehicle generated by the H-EPS when the steering wheel is operated.

Comparing the incident vehicle to a “known good vehicle” will help determine if there is louder than normal H-EPS related sound.

If diagnosed as having louder than normal H-EPS sound, use this bulletin to assist in locating and repairing the cause.

Nissan Bulletins are intended for use by qualified technicians, not 'do-it-yourselfers'. Qualified technicians are properly trained individuals who have the equipment, tools, safety instruction, and know-how to do a job properly and safely. **NOTE:** If you believe that a described condition may apply to a particular vehicle, DO NOT assume that it does. See your Nissan dealer to determine if this applies to your vehicle.

## SERVICE PROCEDURE

If the applied vehicle being worked on is diagnosed as having louder than normal H-EPS related sound, review the following pages for possible causes and related repair.

### Power Steering Fluid

Check the fluid level of the Hydraulic Electric Power Steering (H-EPS) system.

- Check fluid level with the ignition OFF and fluid temperature between 0 – 30°C (32 – 86°F).
- Power steering fluid level should be within the hatching area of the indicator on the power steering reservoir tank cap.
- If fluid is needed, use only genuine NISSAN E-PSF or equivalent.



Figure 1

### Right Front Hood Ledge Seal

Make sure the right front hood ledge seal (passenger side) is installed correctly.

- Install the seal correctly
- or
- If damaged, replace the seal
- or
- If missing, install a seal.

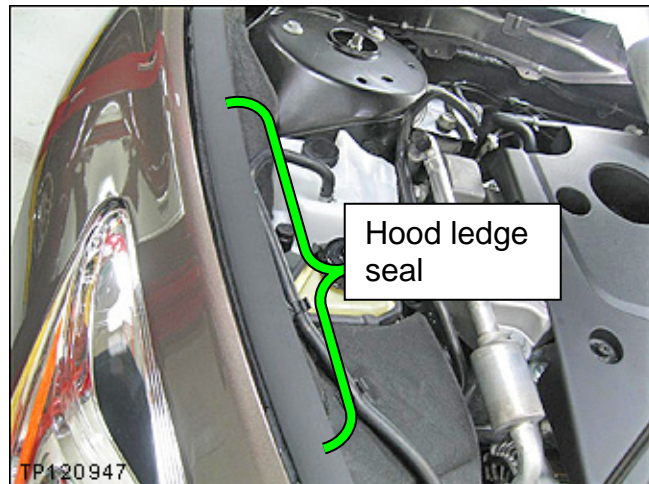


Figure 2

## Pump Mounting Isolator

Make sure there is no binding on the H-EPS pump mounting isolator as follows:

- a. Loosen the four (4) H-EPS pump mounting bolts.
- b. Move the H-EPS pump a small amount from side to side.
- c. Tighten the mounting bolts.

Mounting bolts torque:

13.5 N•m (1.4 kg-m, **10 ft-lb**)

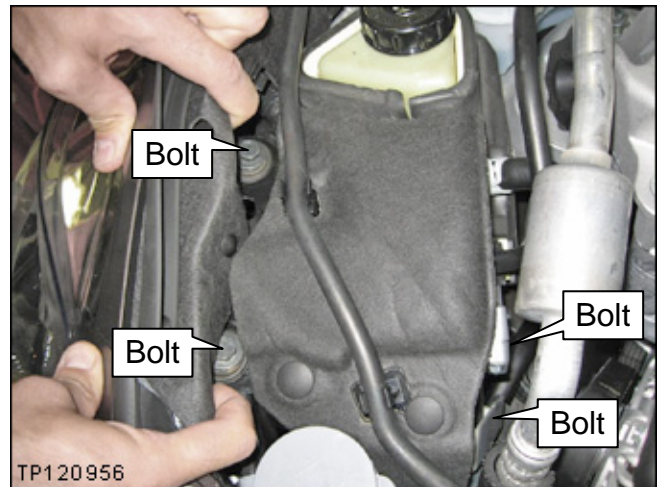


Figure 3

## Pump Felt Cover

Make sure the H-EPS pump felt cover is installed correctly.

- Install the felt cover correctly
- or
- If damaged, replace the felt cover
- or
- If missing, install a felt cover.

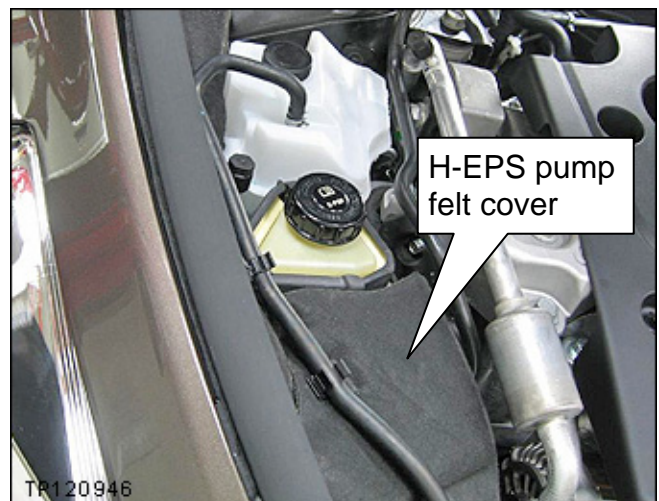


Figure 4

## H-EPS High Pressure Line

Check the H-EPS high pressure line and the A/C low pressure line. Make sure they are **not** touching each other (see Figure 5).

- a. Check the two locations circled in Figure 5.
- b. If the lines are touching, reposition the lines so they are **not** touching.

Check the H-EPS high pressure line and coolant reservoir. Make sure they are **not** touching each other (see Figure 5).

If touching:

- a. Make sure the coolant reservoir is mounted correctly; its locator boss must be seated in the mounting hole.
- b. If needed, reposition the H-EPS line so it is **not** touching the reservoir.

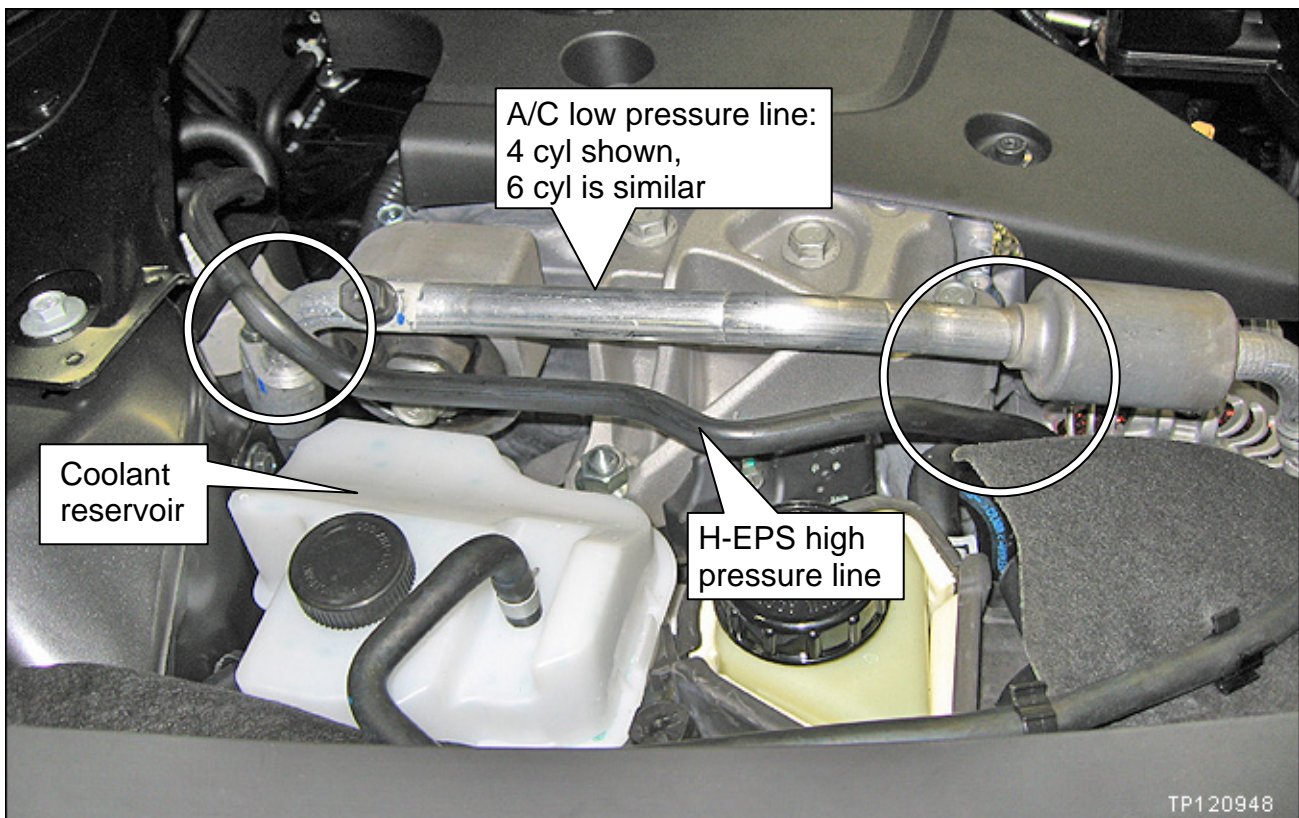


Figure 5



Make sure the H-EPS high pressure line is **not** touching the strut tower brace or the torque rod mounting bracket.

- a. Check the two locations circled in Figure 6.
- b. If needed, reposition the H-EPS high pressure line so it is **not** touching.

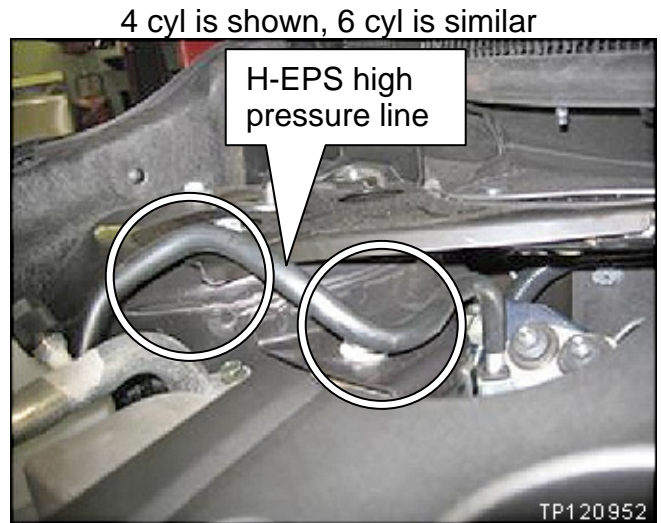


Figure 6

#### 4 Cylinder Models: H-EPS High Pressure Line

Check the H-EPS high pressure line retaining clamp shown in Figure 7.

- a. Make sure the clamp is secured correctly.
  - Figure 7 shows a clamp that **is not** secured correctly.
- b. If the clamp is loose like the one shown in Figure 7, replace the H-EPS high pressure line.
  - Refer to the Electronic Service Manual (ESM), section **ST-Steering System**, for replacement information.

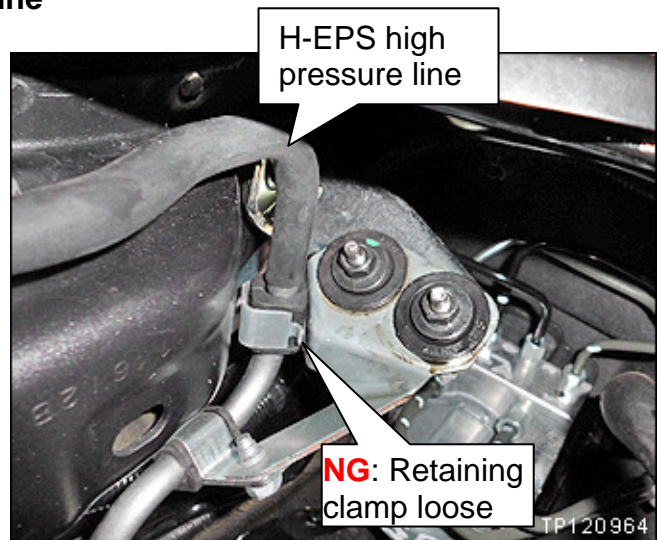


Figure 7

Make sure the H-EPS high pressure line is not touching the A/C line or vehicle body.

- a. Check the area circled in Figure 10.
- b. If needed, reposition the lines so they are **not** touching.
- c. If needed, reposition the H-EPS line so it is **not** touching the vehicle body.

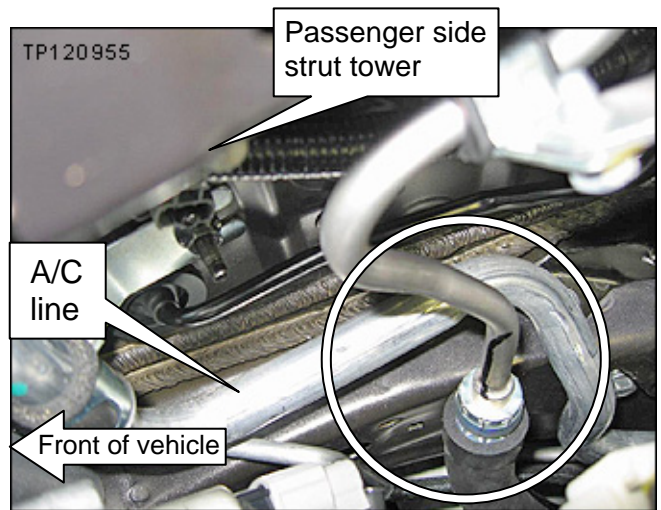


Figure 8

**NOTE:** The view in Figure 8 is downward from the inboard side of the passenger side strut tower.

## H-EPS Low Pressure Line

Make sure the H-EPS low pressure line is **not** touching the sub-frame near the front of the engine.

- a. If needed, reposition the H-EPS low pressure line so it does **not** touch the sub-frame.

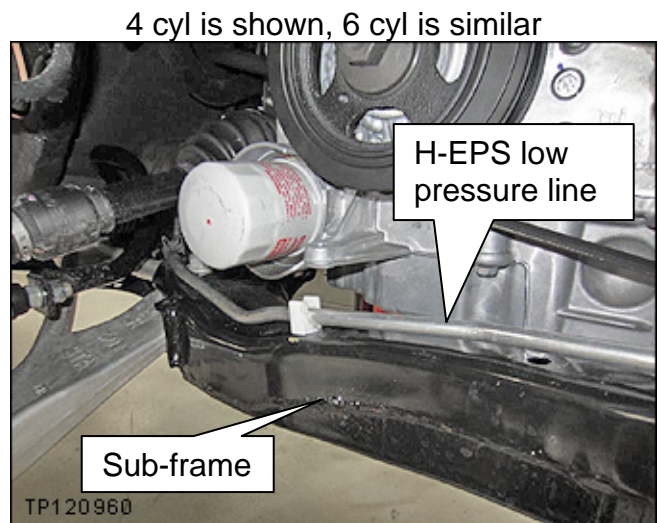


Figure 9

## 4 Cylinder Models: H-EPS High and Low Pressure Lines

Make sure the H-EPS high and low pressure lines under the vehicle are **not** touching surrounding parts.

- a. Lift the vehicle.
- b. Visually check the routing of the under-vehicle H-EPS high and low pressure lines.
- c. If needed, reposition the H-EPS high and low pressure lines so they are **not** touching any surrounding parts.

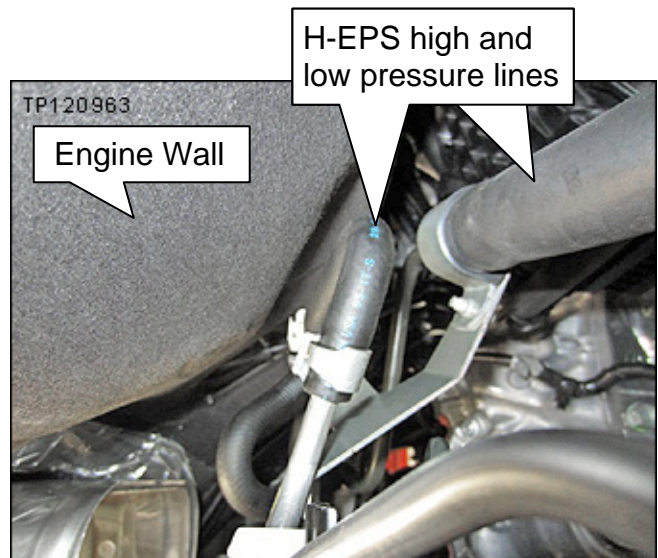


Figure 10



## H-EPS Pump

Make sure the A/C low pressure line is **not** touching the H-EPS pump.

- a. Check the location circled in Figure 8.
- b. If needed, reposition the A/C low pressure line so it is **not** touching the H-EPS pump.

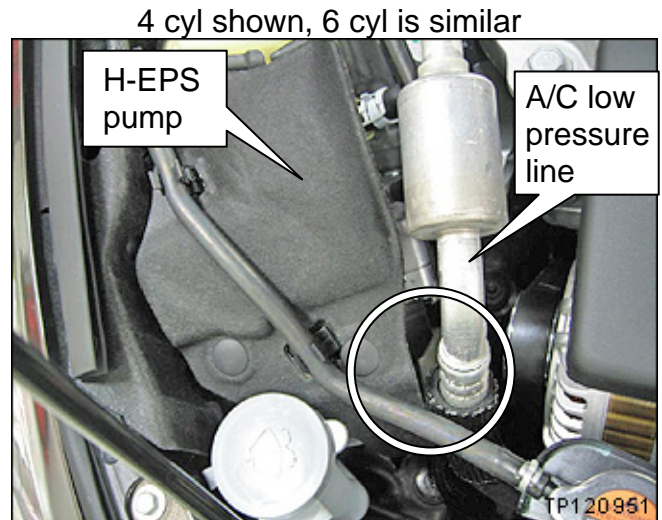


Figure 11

Make sure the A/C high pressure line is **not** touching the H-EPS pump.

- a. Check the location circled in Figure 9.
- b. Wiggle the H-EPS pump and observe the A/C high pressure line. If it moves, it is touching.
- c. If needed, reposition the A/C high pressure line so it is **not** touching the H-EPS pump.

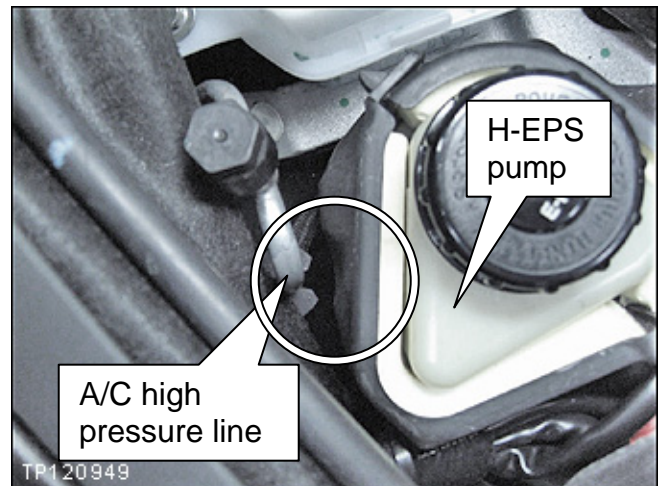


Figure 12

## Noise Insulator

Make sure the noise insulator is installed inside the RH (passenger side) front fender protector:

- a. Remove the passenger side front wheel.
  - b. Partially remove the fender protector.
    - Refer to the ESM, section **EXT-Exterior**, as needed.
  - c. Confirm the insulator is in place.
    - Make sure the insulator is installed correctly
- or
- If damaged or missing, replace the fender protector with insulator.

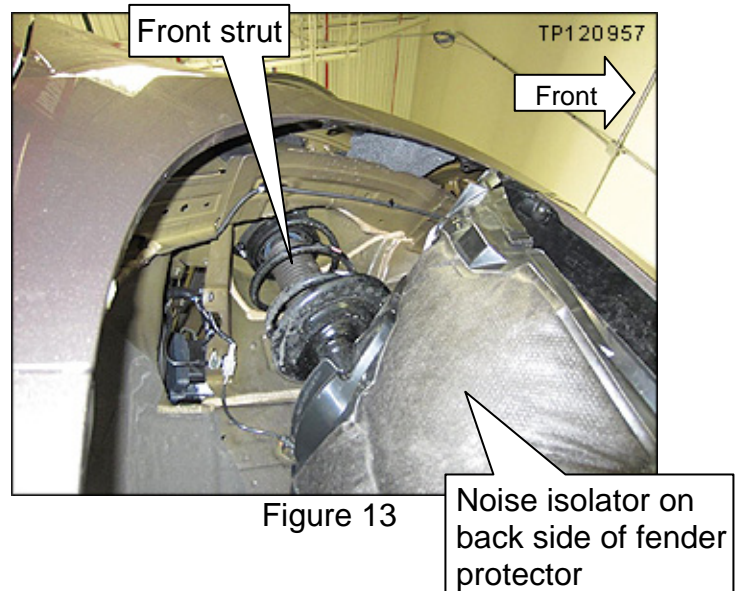


Figure 13

## Baffle

Make sure the baffle is positioned properly inside the RH (passenger side) front fender.

- a. Make sure the baffle is flush against the fender.
- b. There should be no gap between the fender protector and baffle when the fender protector is installed.
- c. If needed, reposition the baffle or install a new one.

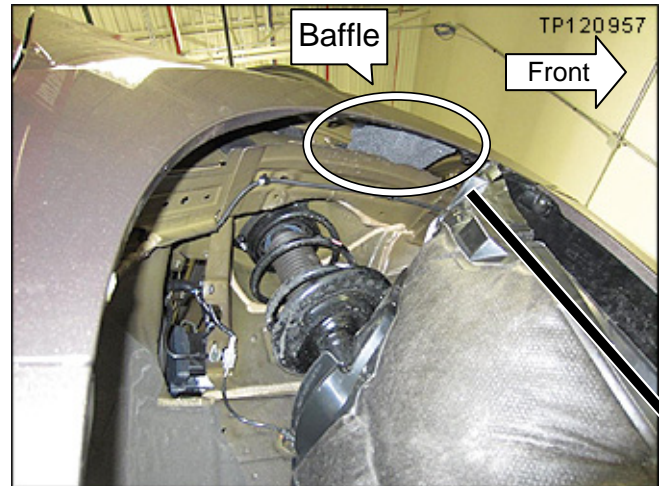


Figure 14

Figure 15 – baffle is **installed correctly**.

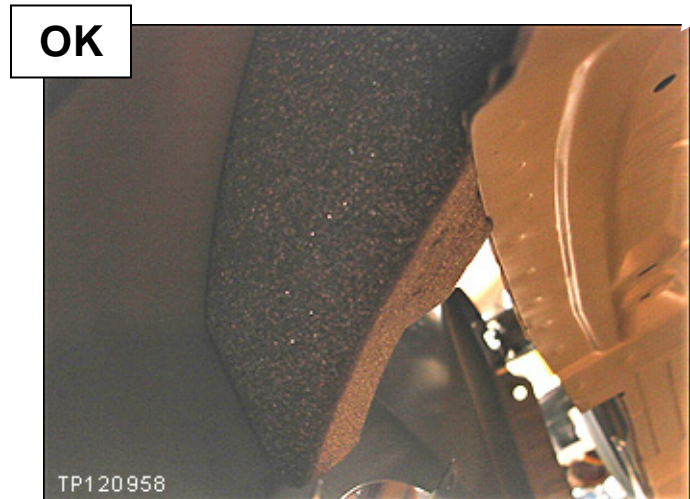


Figure 15

Figure 16 – example of a baffle **installed incorrectly**.



Figure 16

**NOTE:** Lug nuts torque (when reinstalling the right front wheel): 113 N•m (12 kg-m, 83 ft-lb).



#### 4 Cylinder Models: H-EPS Bracket

**NOTE:** All 2014 Altima vehicles have a H-EPS bracket. There is no need for replacement.

Check torque of all three (3) H-EPS bracket nuts:

Nut 1 torque: 8 N•m (0.81 kg-m, **5.9 ft-lb, 71 in-lb**)

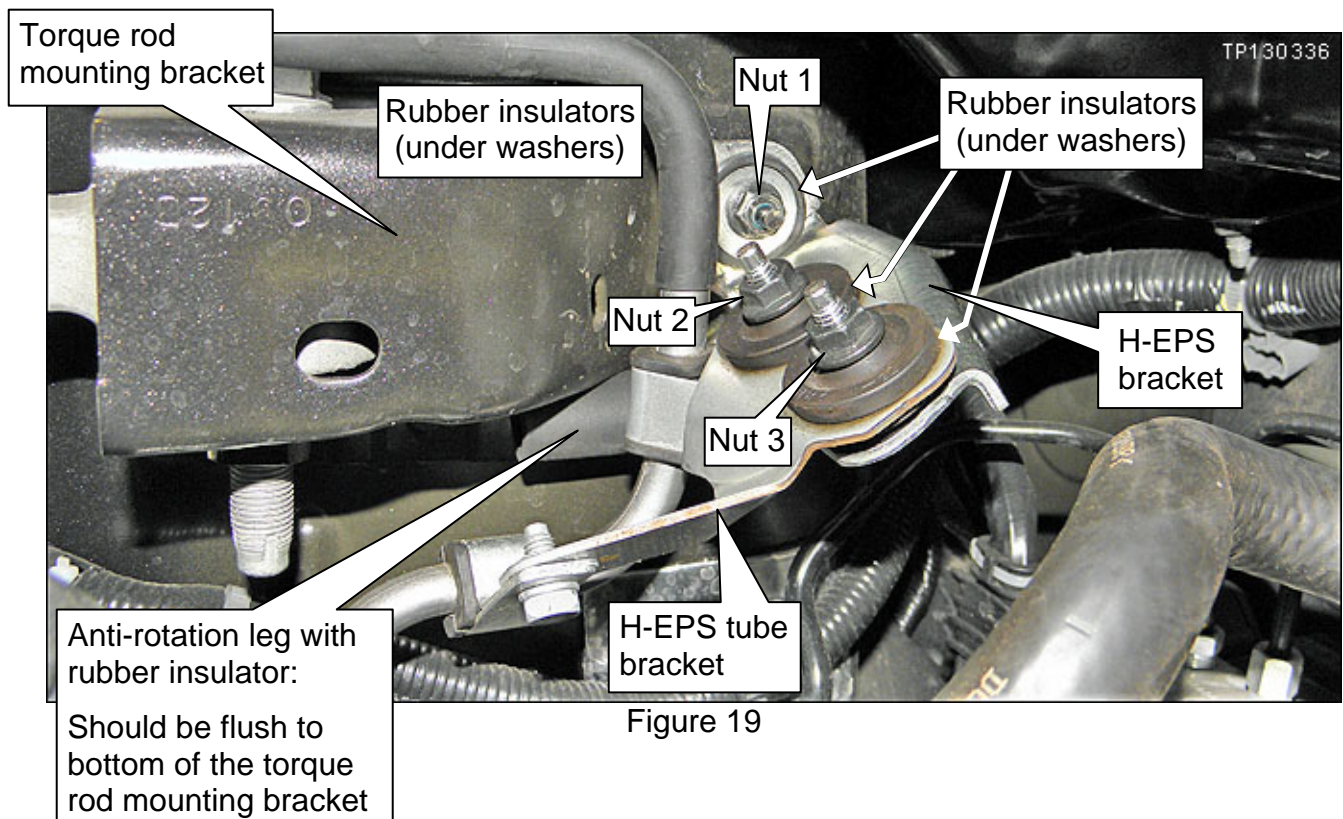
Nuts 2 & 3 torque: 4.9 N•m (0.49 kg-m, **3.6 ft-lb, 43 in-lb**)

Make sure the H-EPS bracket and the H-EPS tube bracket are not touching (see Figure 19).

- a. Make sure there is a gap between the brackets all the way around.
- b. Make sure the rubber insulators are seated properly.
- c. If needed, reposition the brackets so they are not touching.

Make sure the anti-rotation leg of the H-EPS bracket is flush to the bottom of the torque rod mounting bracket (see Figure 19).

- a. Check the position the H-EPS bracket, make sure its anti-rotation leg is flush to the bottom of the torque rod mounting bracket.



## 6 Cylinder Models: H-EPS Bracket

**NOTE:** All 2014 Altima vehicles have a H-EPS bracket. There is no need for replacement.

Check torque of all three (3) H-EPS bracket nuts:

Nut 1 torque: 8 N•m (0.81 kg-m, **5.9 ft-lb, 71 in-lb**)

Nuts 2 & 3 torque: 4.9 N•m (0.49 kg-m, **3.6 ft-lb, 43 in-lb**)

Make sure the H-EPS bracket and the H-EPS tube bracket are not touching (see Figure 20).

- Make sure there is a gap between the brackets, all the way around.
- Make sure the rubber insulators are seated properly.
- If needed, reposition the brackets so they are not touching.

Make sure the H-EPS bracket's anti-rotation leg is flush to the bottom of the torque rod mounting bracket (see Figure 20).

- Check the position the H-EPS bracket, make sure its anti-rotation leg is flush to bottom of the torque rod mounting bracket.

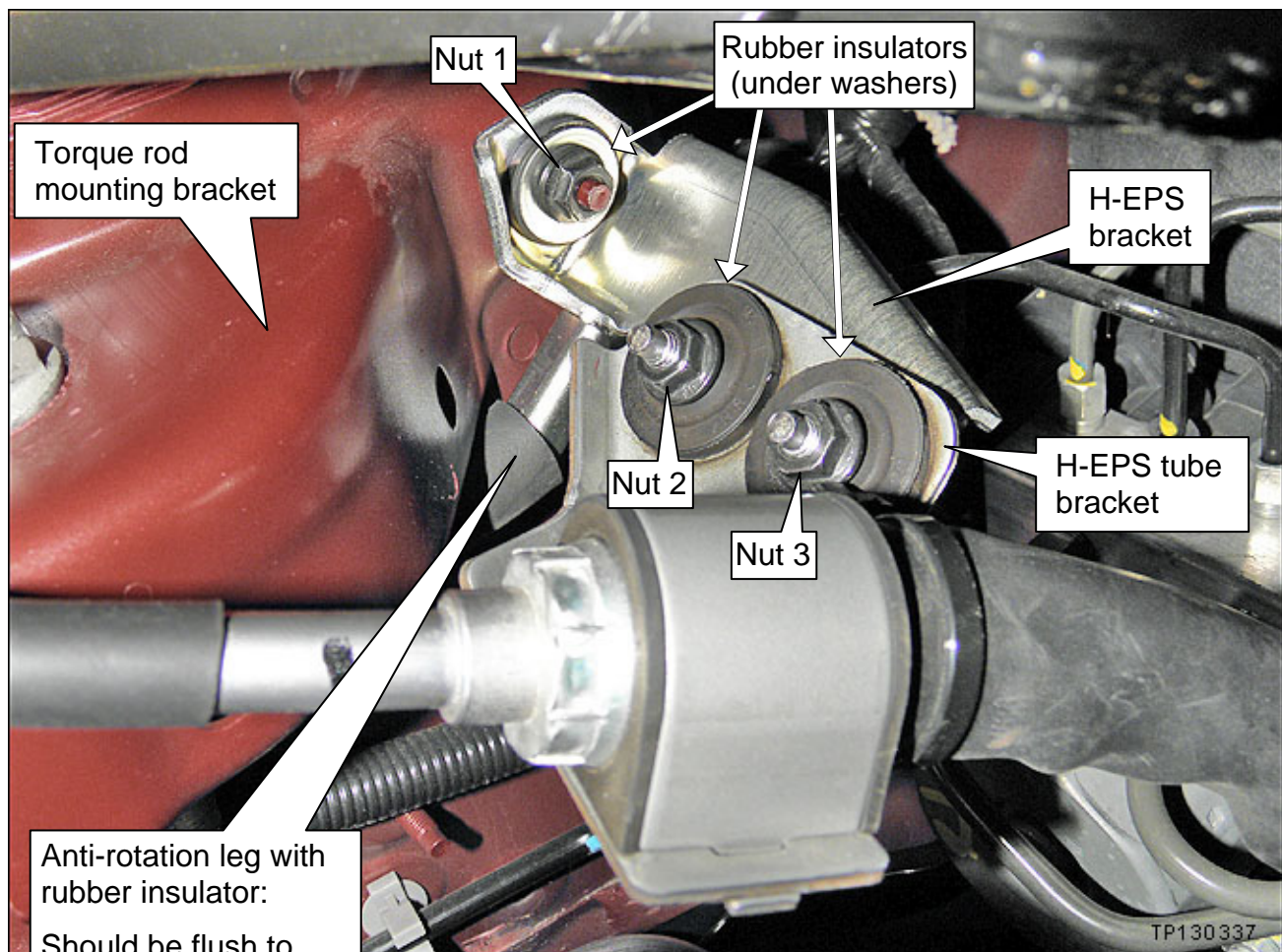


Figure 20