HYUNDAI NEW THINKING. NEW POSSIBILITIES.	GROUP	NUMBER
Technical Service Bulletin	**CAMPAIGN**	**17-01-009-2**
	DATE	MODEL(S)
	MARCH 2017	**SANTA FE SPORT (AN)** **SANTA FE (NC)**

SUBJECT:	SANTA FE SPORT (AN), SANTA FE (NC) REAR WHEEL SPEED SENSOR (SERVICE CAMPAIGN 949)

THIS TSB SUPERSEDES 17-01-009-1 TO REVISE THE NUMBER OF SPRAY NOZZLES AND STRAWS THAT ARE INCLUDED WITH EACH SILICONE SPRAY PART NUMBER.

✶ IMPORTANT

***** Dealer Stock and Retail Vehicles *****

Dealers must perform this Service Campaign on all affected vehicles prior to customer retail delivery and whenever an affected vehicle is in the shop for any maintenance or repair.

When a vehicle arrives at the Service Department, access Hyundai Motor America's "Warranty Vehicle Information" screen via WEBDCS to identify open Campaigns.

Description: If the rear wheel hub in the affected vehicles is submerged in salt water, salt water can enter the rear wheel speed sensor housing and may interrupt the rear wheel speed sensor signal and temporarily illuminate the ABS and/or ESC warning lights in the instrument cluster until the sensor dries. For these cases, replacement of the wheel speed sensor cap is required. If no ABS/ESC warning lamp is illuminated, applying a silicone spray to the sensor is required. This bulletin describes the service procedure for the rear wheel speed sensors.

Applicable Vehicles:
VERIFY THAT THE VEHICLE IS IDENTIFIED AS AFFECTED BY THE SERVICE CAMPAIGN VIA WEBDCS.

1. **Model:**
   - **Santa Fe Sport (AN) vehicles produced from:**
     - Group #1: July 13, 2012 ~ May 13, 2014
     - Group #2: May 1, 2015 ~ February 20, 2016
   - **Santa Fe (NC) vehicles produced from:**
     - Group #1: January 15, 2013 ~ February 6, 2014
     - Group #2: March 1, 2015 ~ October 14, 2015
2. **Areas, Coastal States:** Alabama, Florida, Georgia, Hawaii, Louisiana, Mississippi, North Carolina, South Carolina, Texas.

Circulate To: General Manager, Service Manager, Parts Manager, Warranty Manager, Service Advisors, Technicians, Body Shop Manager, Fleet Repair

★ IMPORTANT

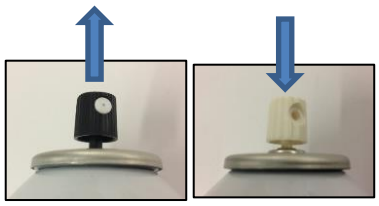
There are circumstances under which vehicles not currently registered or never registered in a coastal state may be eligible for this Campaign. These circumstances include:

Vehicles that have relocated into a coastal area and/or vehicles registered in another state and driven in a coastal area. If it is determined that an owner of a vehicle within the affected VIN production date range relocates or has operated their vehicle in a coastal state, the dealer should perform the campaign procedure. The dealer should perform this procedure at no cost to the customer, and the Hyundai Warranty PA Center must be contacted prior to repair and submission of the Warranty Claim.

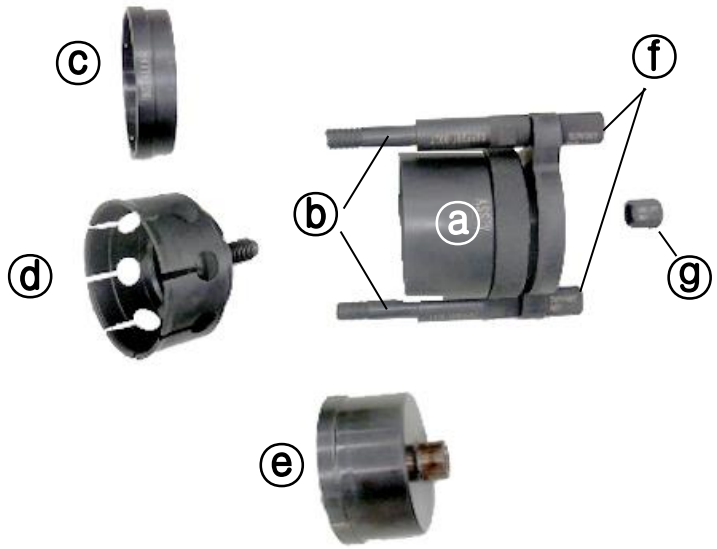
★ NOTE

If the owner of a vehicle within the affected VIN production date range requests a rear wheel speed sensor inspection of their vehicle, the inspection should be performed at no charge to the customer.

Parts Information:

Part Name	Image	Part Number	Remark
Wheel speed sensor cover		**52751-2B100-QQH**	Replace only when ABS/ESC lamp on, **and** DTCs present from chart (see page 4). *<u>Replace both sides.</u>*
Silicone Conformal Coating Spray	  	**00232-19071**	Each bottle will service about 10 vehicles. QTY: 1 part number contains: - Two 12 ounce silicone bottles - Two spray nozzles - 5 straws ***NOTICE*** **Spray bottles come with black nozzles installed. The included white nozzles must be installed to accommodate the straws for precise application of silicone coating.**

SST Information:

Image	Parts Description
	Rear WSS Cover Installer / Remover Part number: **0K527-1U100-QQH** a) Tool assembly b) Support Bolts (2) c) Installer d) Collet e) Cleaner f) Support nuts (2) g) Collet nut (1)

Warranty Information:

Model	Op. Code	Operation	Op. Time	Causal Part	Nature Code	Cause Code
Santa Fe Sport (AN) – *Group 1* *(SOP ~ May 13, 2014)*	60C083R0	Silicone Application	0.3 M/H	52750-2B100	I3B	ZZ6
Santa Fe Sport (AN) – *Group 2* *(May 1, 2015 ~ February 20, 2016)*	60C083R1					
Santa Fe Sport (AN) – *Group 1* *(SOP ~ May 13, 2014)*	60C083R2	Wheel Sensor Cover Replacement	0.7 M/H			
Santa Fe Sport (AN) – *Group 2* *(May 1, 2015 ~ February 20, 2016)*	60C083R3					
Santa Fe (NC) – *Group 1* *(SOP ~ February 6, 2014)*	60C083R4	Silicone Application	0.3 M/H	52750-2B100	I3B	ZZ6
Santa Fe (NC) – *Group 2* *(March 1, 2015 ~ October 14, 2015)*	60C083R5					
Santa Fe (NC) – *Group 1* *(SOP ~ February 6, 2014)*	60C083R6	Wheel Sensor Cover Replacement	0.7 M/H			
Santa Fe (NC) – *Group 2* *(March 1, 2015 ~ October 14, 2015)*	60C083R7					

NOTE 1: Submit Claim on Campaign Claim Entry Screen
NOTE 2: If a part is found in need of replacement while performing Service Campaign 949 and the affected part is still under warranty, submit a separate claim using the same Repair Order. If the affected part is out of warranty, submit a Prior Approval Request for goodwill consideration prior to performing the work.
NOTE 3: Labor Operations 60C083R0, 60C083R1, 60C083R4, and 60C083R5 will reimburse applicable silicone spray in sublet if silicone application is required.

Service Procedure: DTC Inspection

1. Start engine and wait a moment for the cluster lights to extinguish.

2. Check for the following two conditions:
   1) ABS/ESC warning lamp remains illuminated after engine start.
   2) DTC(s) from the "*DTC Chart*" below are present (history or current status).

If BOTH conditions are met, perform the "**Wheel Speed Sensor Cover Replacement"** service procedure starting on page 6.

If BOTH conditions are NOT met, perform the **"Silicone Application"** service procedure, below.

NOTICE

If the ABS/ESC warning lamp is illuminated, AND any of the DTCs below are present, replace the WSS covers on BOTH SIDES of the vehicle.

Do not replace only one WSS cover.

DTC Chart
If any of these are present (history or current), perform "Wheel Speed Sensor Cover Replacement."

Rear LH	Rear RH
C1206 – LH Open/Short	C1209 - RH Open/Short
C1207 – LH Range/Performance/Intermittent	C1210 - RH Range/Performance/Intermittent
C1208 – LH Invalid/No Signal	C1211 - RH Invalid/No Signal

Service Procedure: Silicone Application

1. Lift the vehicle on a hoist and locate the rear wheel speed sensor connector on either side of the vehicle.

2. Remove any foreign substances around the connector using a wire brush.

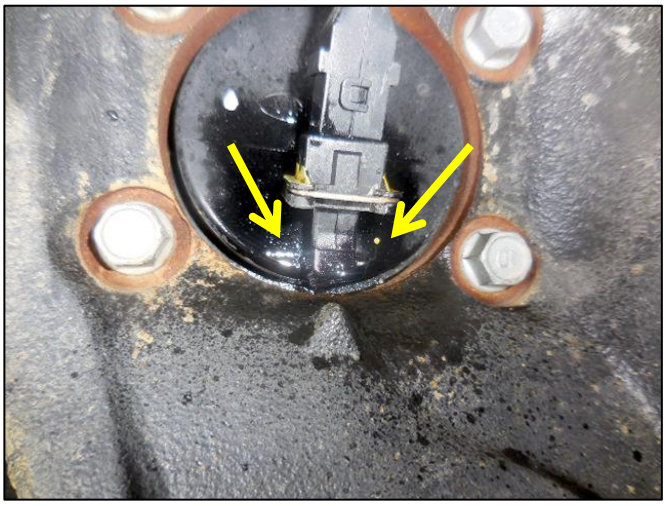
3. Wipe the connector area clean with a cloth, and use compressed air and an air nozzle to blow out any remaining debris.

4. Spray silicone on the wheel speed sensor connector body that protrudes from the bottom of the WSS cover.

   Apply the spray at the base of the protrusions on all sides.

NOTICE

- **Direct the silicone spray in a downward direction, as indicated by the yellow arrow.**
- **Concentrate spray coating on the area circled (both sides).**
- **Take care to avoid spraying the wire harness plug areas.**



5. Repeat for the other side of the vehicle to complete the procedure.

Service Procedure: Wheel Speed Sensor Cover Replacement

1. Lift the vehicle on a hoist and remove the lower mounting bolt for the rear shock absorber on either side of the vehicle.

NOTICE

Tightening torque: 101.2 ~ 115.7 lb-ft. (137.2 ~ 157.0 Nm, 14.0 ~ 16.0 kgf.m)

2. Separate the bottom of the shock from the mount by pushing it inwards towards the center of the car.

NOTICE

It may help to use a stand to compress the suspension slightly when removing the shock from the lower mount to remove any residual load on the shock.

3. Remove the WSS plug by pressing the spring clip and pulling the plug upwards off the connector.

4. Install the SST cleaner onto a ½" drive air ratchet, and insert the cleaner into the gap between the knuckle and WSS cover.

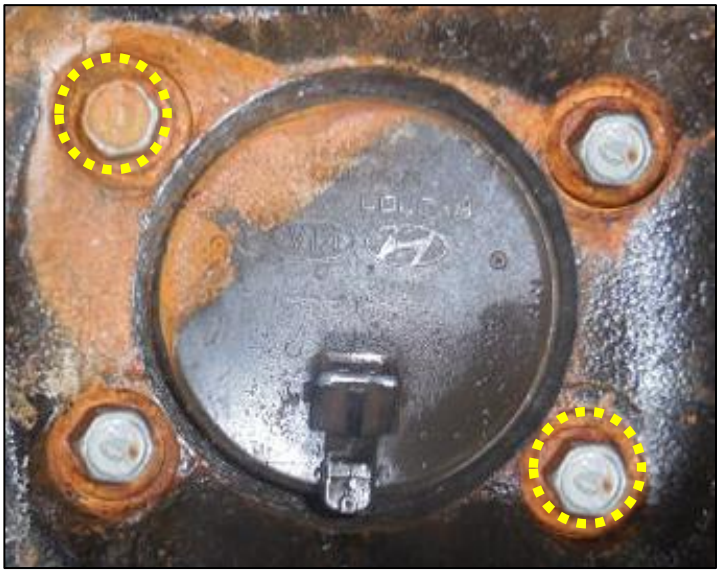
   Turn the cleaner clockwise, and counter-clockwise to remove any foreign substances.

⚠ CAUTION

Take care to hold the tool perpendicular to the knuckle surface.

5. After using the cleaner SST, use an air nozzle to blow out any remaining debris.

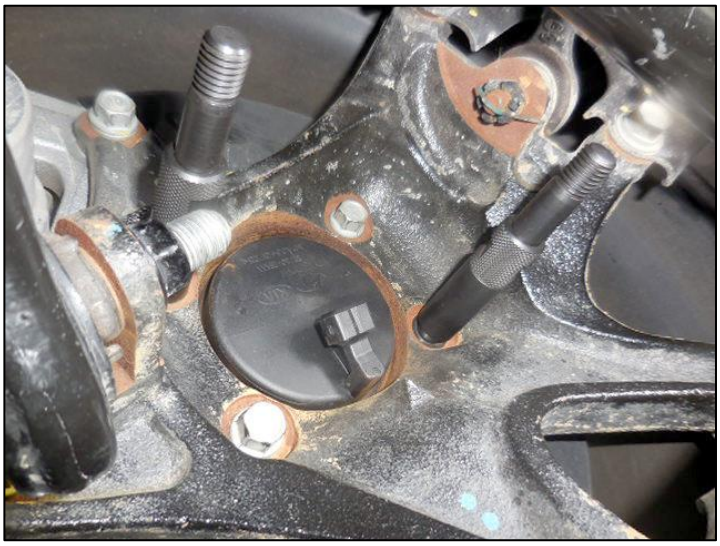
6. Loosen and remove diagonally opposite hub bolts, as shown.



NOTICE

Tightening torque: 57.8 ~ 65.0 lb-ft (78.4 ~ 88.2 Nm, 8.0 ~ 9.0 kgf.m)

7. Thread in and tighten by hand the support bolts of the SST.

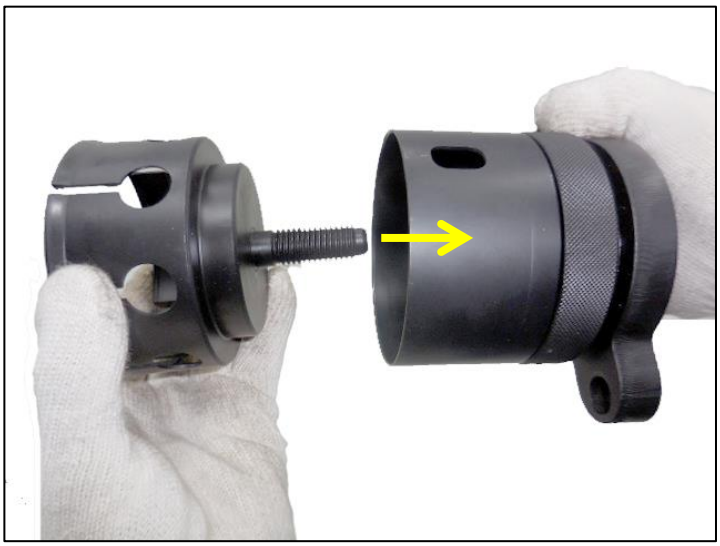


NOTICE

Support bolt has 2 different sides and thread pitches. The finer pitch fits the knuckle, the coarser pitch fits the support bolt nuts.

8. Check for the arrow marking that aligns with the WSS connector location, circled. If no marking is found, create a mark using a permanent marker.

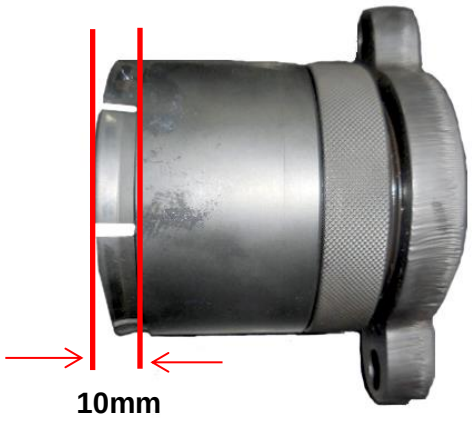
9. Assemble the SST for WSS cover removal by inserting the collet into the tool assembly, as shown.



9a.

NOTICE

Press in the collet until about 10mm sticks out.

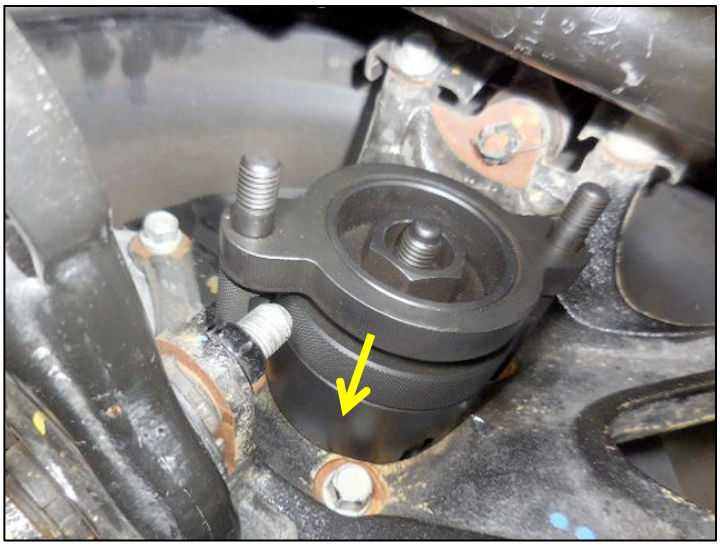


9b.

NOTICE

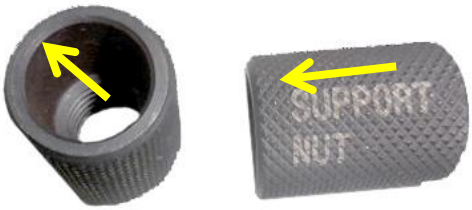
While holding the knurled section of the tool, turn the flange to adjust its position until it is flush with the end of the tool, as shown.

10. Insert the SST assembly onto the support bolts, and press inwards tightly until a sticking sound is heard.



11. Install the support nuts onto the support bolts in the orientation shown by the yellow arrows below.

    Tighten the support nuts by hand while shaking the SST assembly up/down.

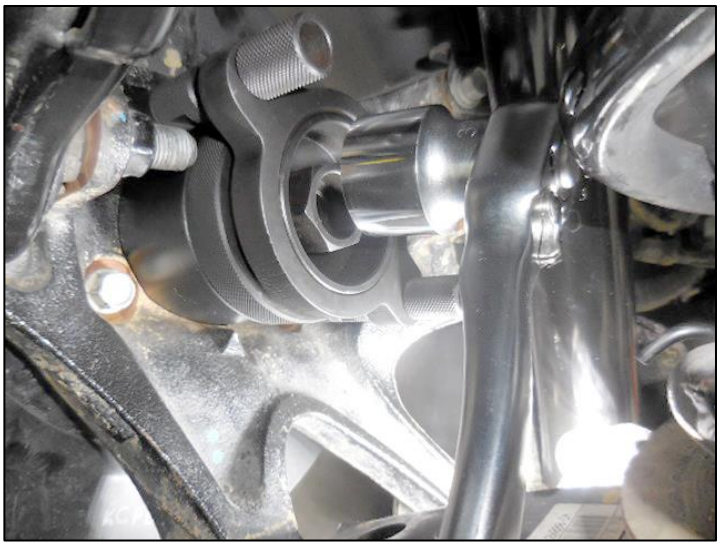


12. Tighten the 32mm assembly nut using a socket wrench.

NOTICE

Take care not to over-tighten nut. Stop when nut stops turning using moderate force by hand.

Never use an impact gun on the SST. High torque is not required for this procedure.

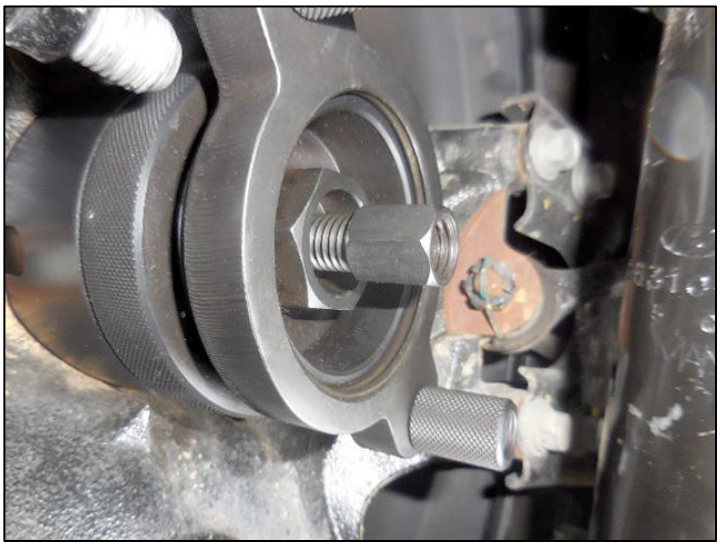


13. Install and tighten the collet nut (left-hand thread, turn counter-clockwise).

NOTICE

Take care not to over-tighten nut. Stop when nut stops turning using moderate force by hand.

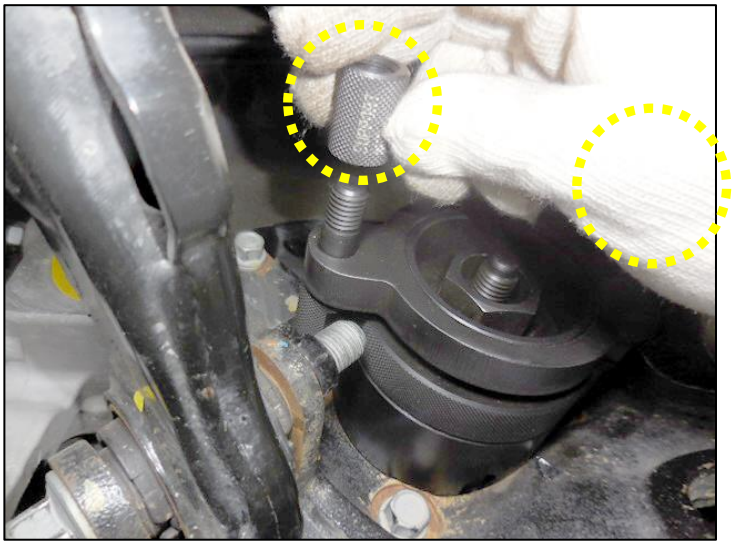
Never use an impact gun on the SST. High torque is not required for this procedure.



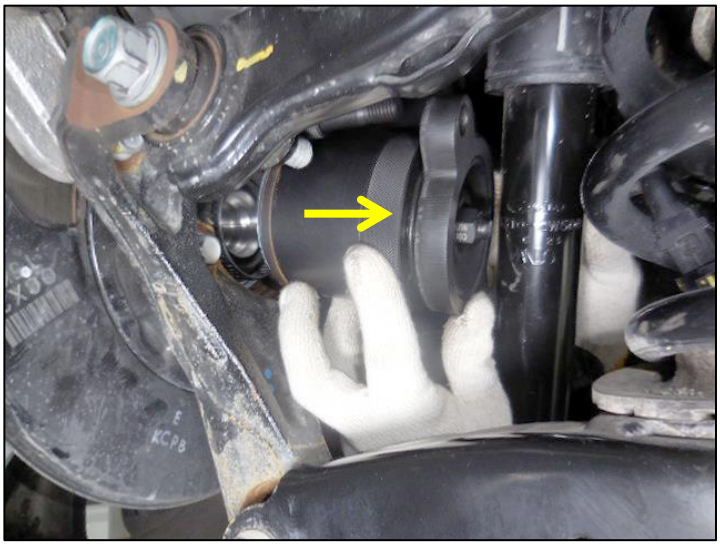
14. Loosen the 32mm assembly nut.

    The WSS cap should be completely separated from the hub assembly after the 32mm nut has moved outwards about 5mm.

15. Remove the support nuts by hand.



16. Remove the SST assembly by pulling it off. The WSS cover should come with the tool inside the collet.



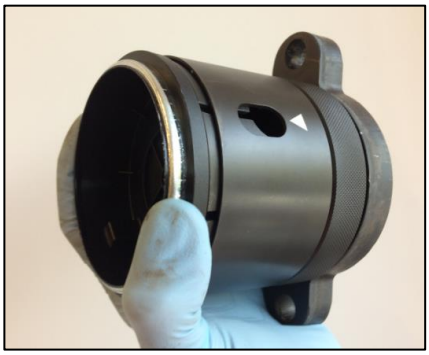
⚠ CAUTION

Use caution to protect the exposed bearing from contamination after removing the WSS cover.

17. Loosen the collet nut (clockwise) and remove the nut from the SST assembly.

18. While holding the WSS cover, tap the collet stud using a rubber mallet from the opposite side to loosen the collet from the SST assembly.

    Remove the collet, and the WSS cover.



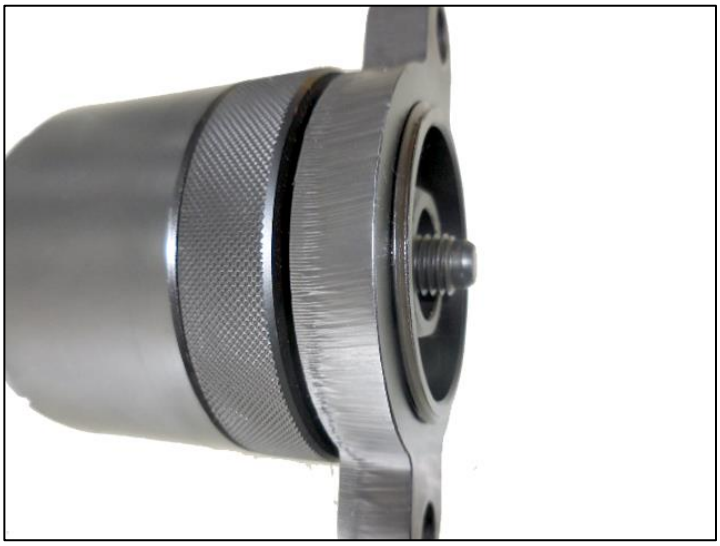
19. Begin installing a new WSS cover by aligning the connector portion of a new WSS cover part with the guide pins in the SST installer.

20. Insert the installer/WSS cover into the SST assembly with the WSS cover connector aligned with the hole in the SST.

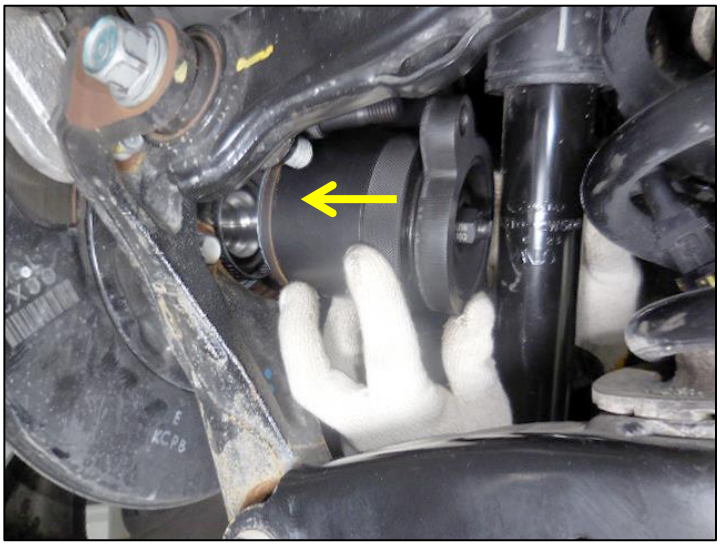
NOTICE

The hole in the tool is meant to provide a visual confirmation of the connector's orientation when installed into the hub assembly.

21. While holding the knurled section of the SST by hand, tighten the flange by hand (turn it clockwise) until it stops.



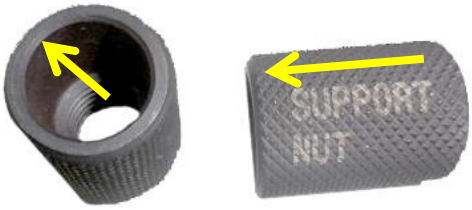
22. Insert the assembled SST and WSS cover back onto the support bolts / hub and press until a stick sound is heard.



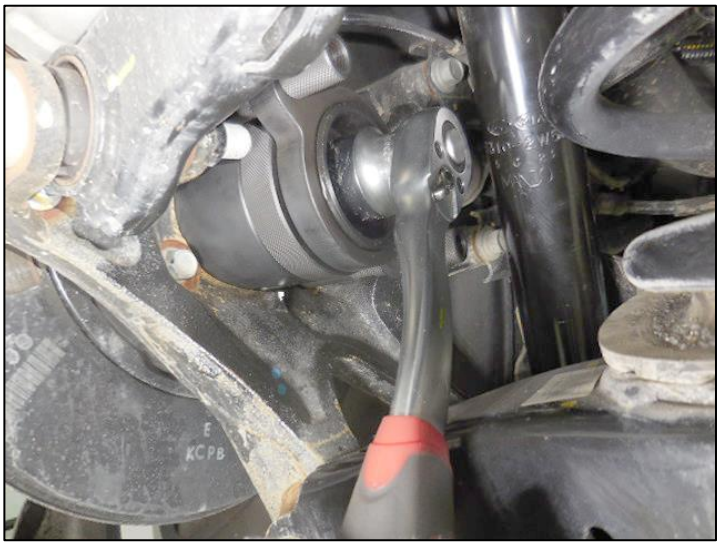
23. Rotate the tool until the inspection hole is aligned with the mark on the bottom of the knuckle.

24. Install the support nuts onto the support bolts in the orientation shown by the yellow arrows below.

    Tighten the support nuts by hand while shaking the SST assembly up/down.



25. Tighten the 32mm assembly nut using a socket wrench.

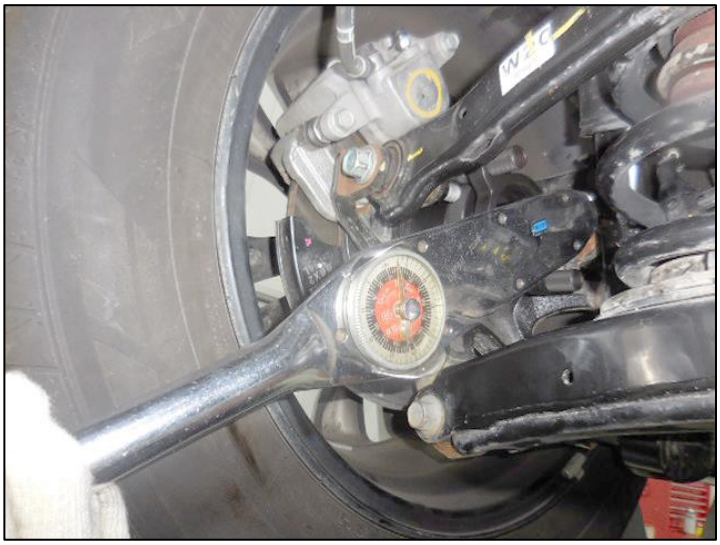


NOTICE

Take care not to over-tighten nut. Stop when nut stops turning using moderate force by hand.

Never use an impact gun on the SST. High torque is not required for this procedure.

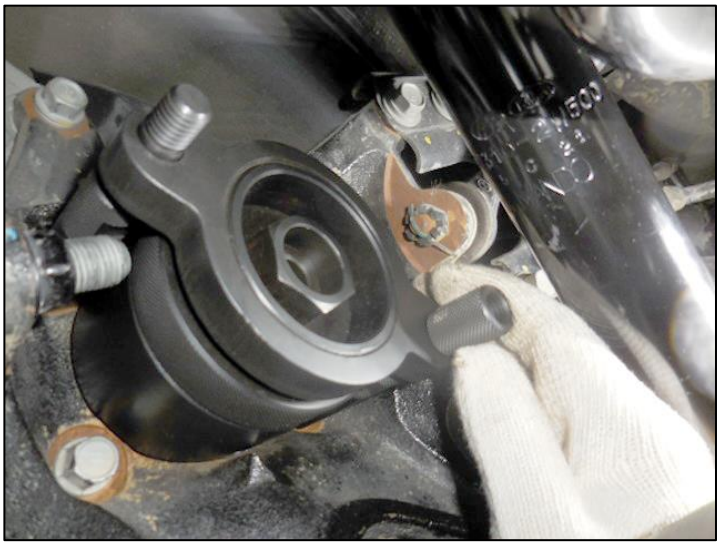
26. Use a torque wrench and tighten the 32mm nut to the specified torque.



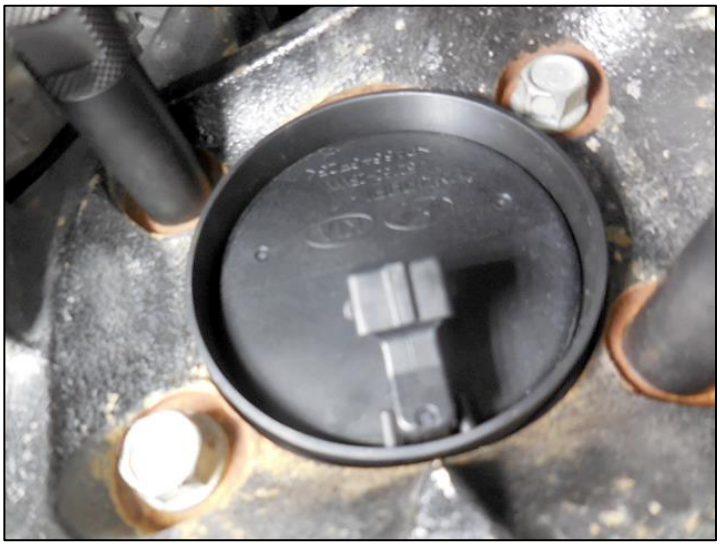
NOTICE

Tightening torque: 115.7 ~ 130.0 lb-ft. (156.7 ~ 176.5 Nm, 16.0 ~ 18.0 kgf.m)

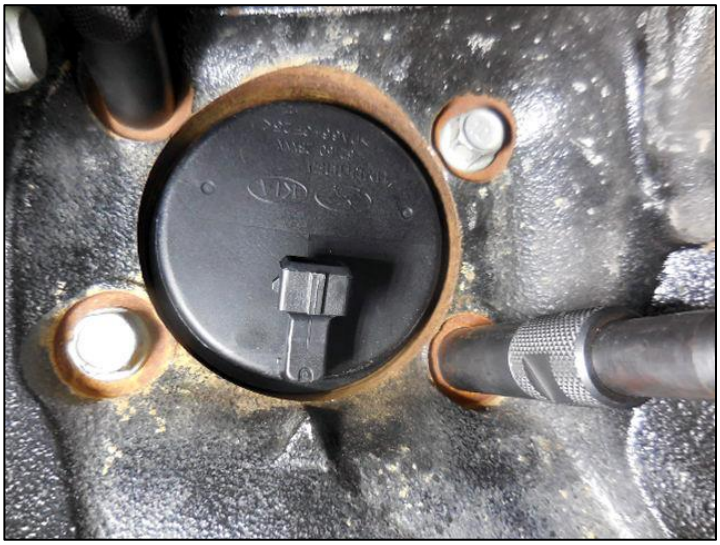
27. Remove the support nuts by hand and remove the SST assembly.



28. If necessary, remove the installer guide using a pair of pliers.



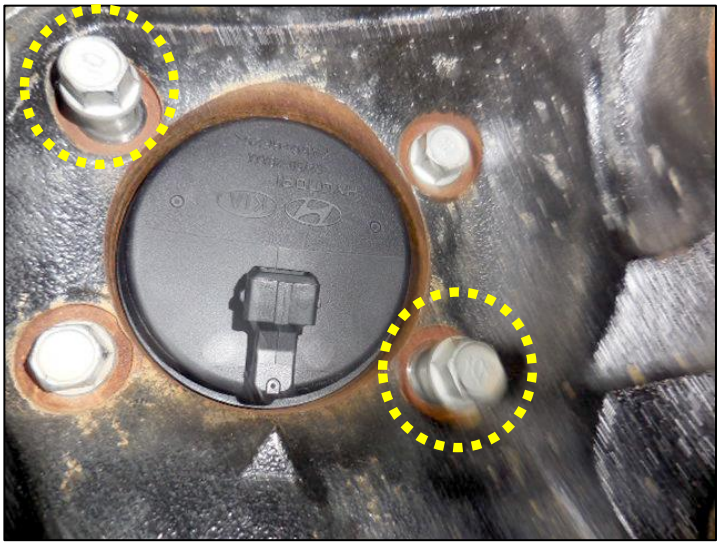
29. Check that the WSS cover is correctly installed by verifying that the cover is underflush (deeper) compared with the knuckle surface level.



30. Remove the support nuts, and install the previously removed hub bolts.

NOTICE

Tightening torque: 57.8 ~ 65.0 lb-ft (78.4 ~ 88.2 Nm, 8.0 ~ 9.0 kgf.m)



31. Reinstall remaining parts in reverse order of removal.
Repeat the wheel speed sensor cover replacement for the other side of the vehicle.
Check and clear any DTCs. Verify no warning lamps on in the instrument cluster.