TECHNICAL INSTRUCTIONS

FOR

SAFETY RECALL H0M

FRONT DRIVE SHAFT REPLACEMENT

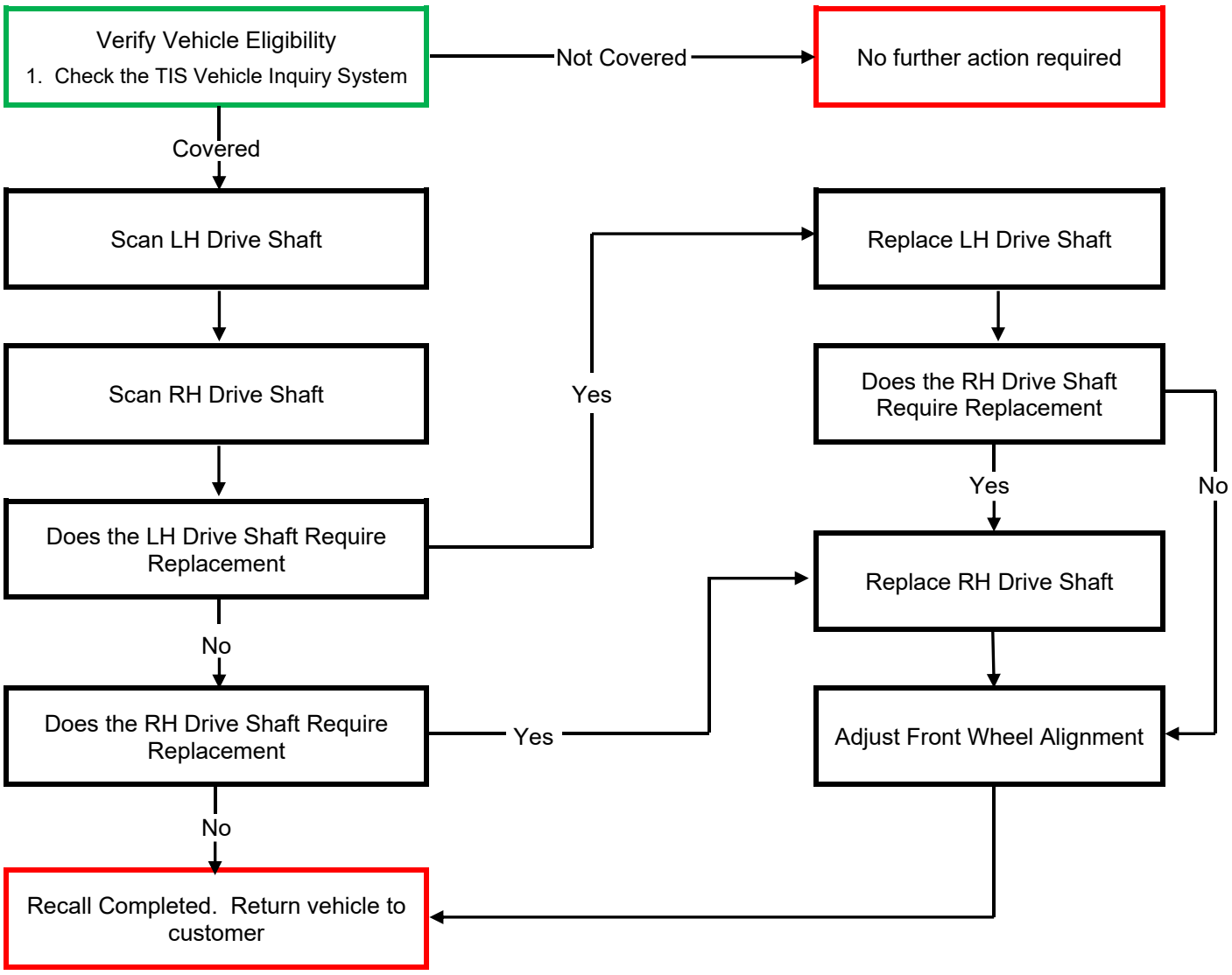
CERTAIN 2016 CAMRY HV & 2016 AVALON HV

The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this recall 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 performing this recall repair are required to currently hold at least one of the following certification levels:

- **Certified Technician (Drivetrain)**
- **Expert Technician (Drivetrain)**
- **Master Technician**
- **Master Diagnostic Technician**

It is the dealership's responsibility to select technicians with the above certification level or greater to perform this recall 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

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

III. PREPARATION

A. PARTS

- If replacement parts are required, the part numbers will be detailed on the Drive Shaft Barcode Scanning website.
- Due to a limited supply of parts, please order parts on an as-needed basis.

B. TOOLS & EQUIPTMENT

- Techstream
- Torque Wrench
- Standard Hand Tools
- 30mm 12pt. deepwell socket

C. SST – Special Service Tools required for this repair:

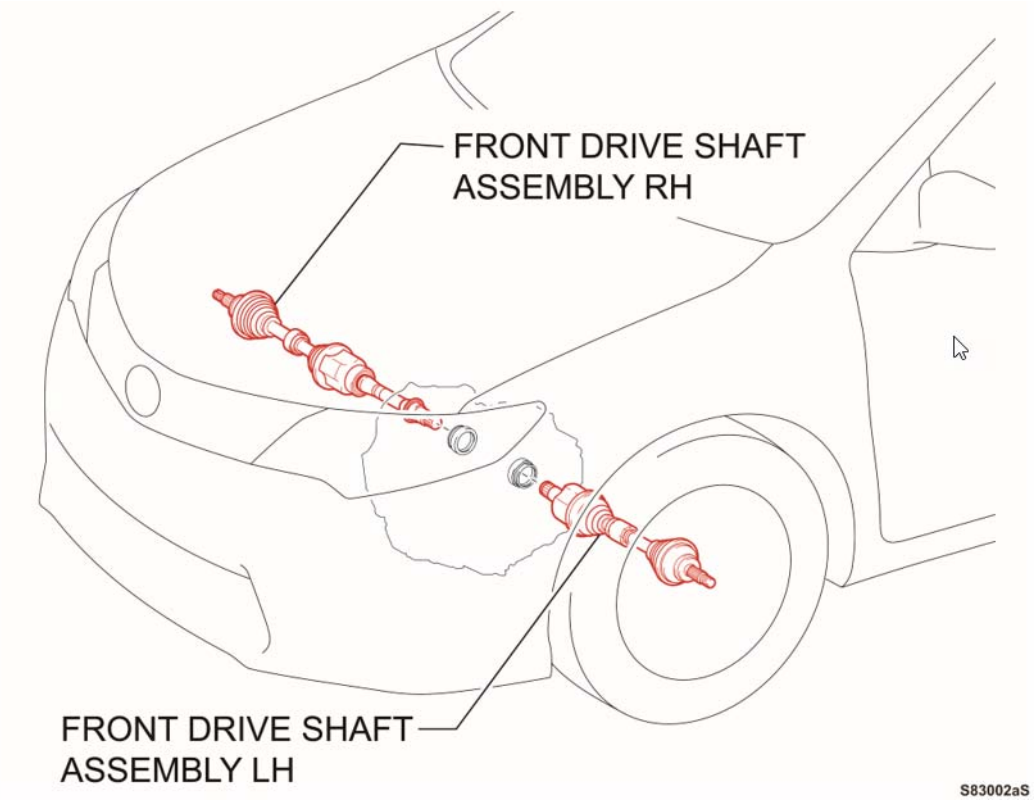
Part Number	Tool Name	Quantity
09960-20010	Ball Joint Puller	1
09930-00010	Drive Shaft Nut Chisel	1
09520-01010	Drive Shaft Remover Attachment	1
09520-32040	Slide Hammer	1

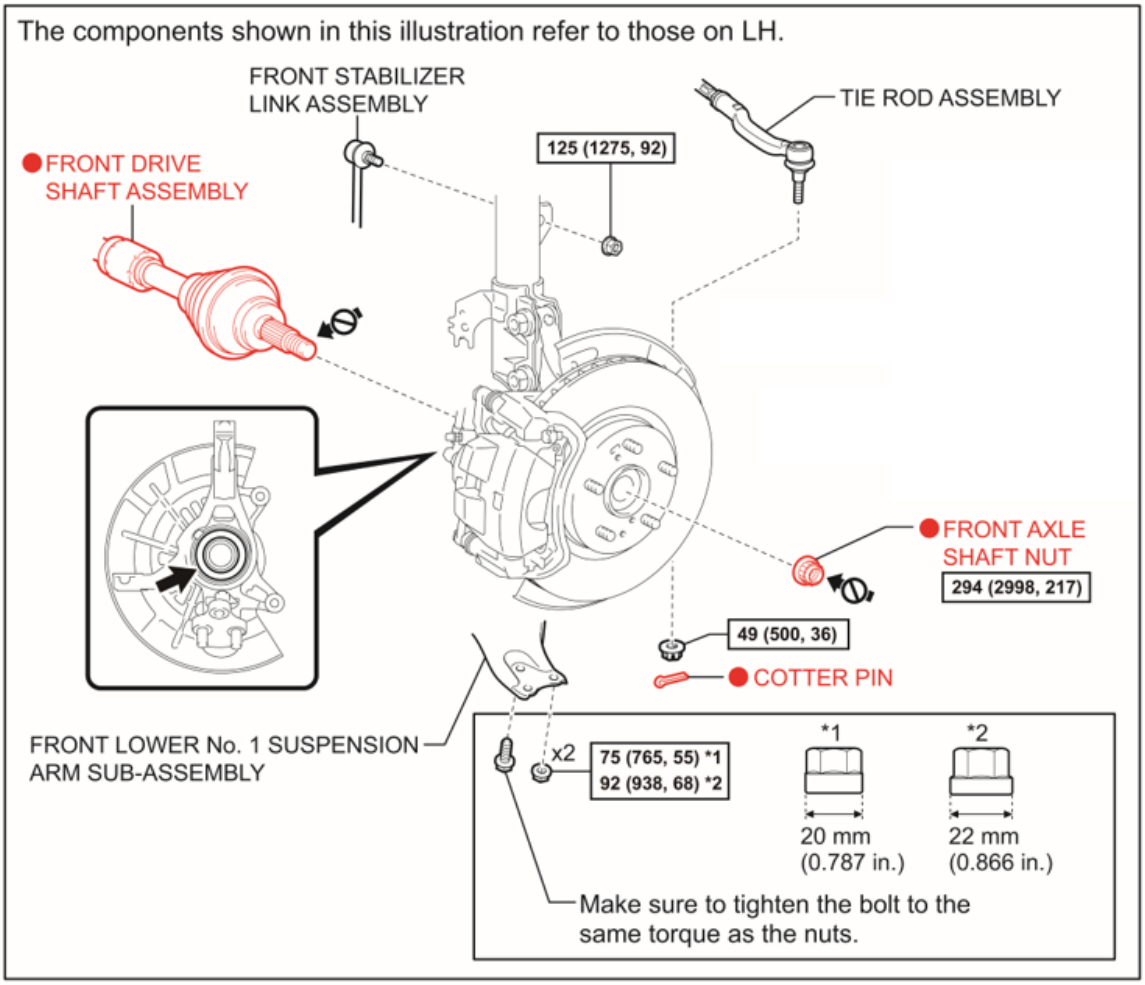
D. MATERIALS

- Toyota Genuine WS ATF (00289-ATFWS)
- Toyota Body Grease W (08887-02007)
- Universal Multi-Purpose Grease

IV. BACKGROUND

The front drive shaft assembly in the involved vehicles may have been misassembled. This could cause vehicle vibration and certain components in the drive shaft assembly to separate, resulting in a loss of propulsion while driving, and the transmission not holding the vehicle when shifted into the “Park” position. A loss of propulsion while driving at higher speeds could increase the risk of a crash. Additionally, if the driver exits the vehicle without applying the parking brake, the vehicle could roll away with the transmission in “Park”, increasing the risk of a crash.



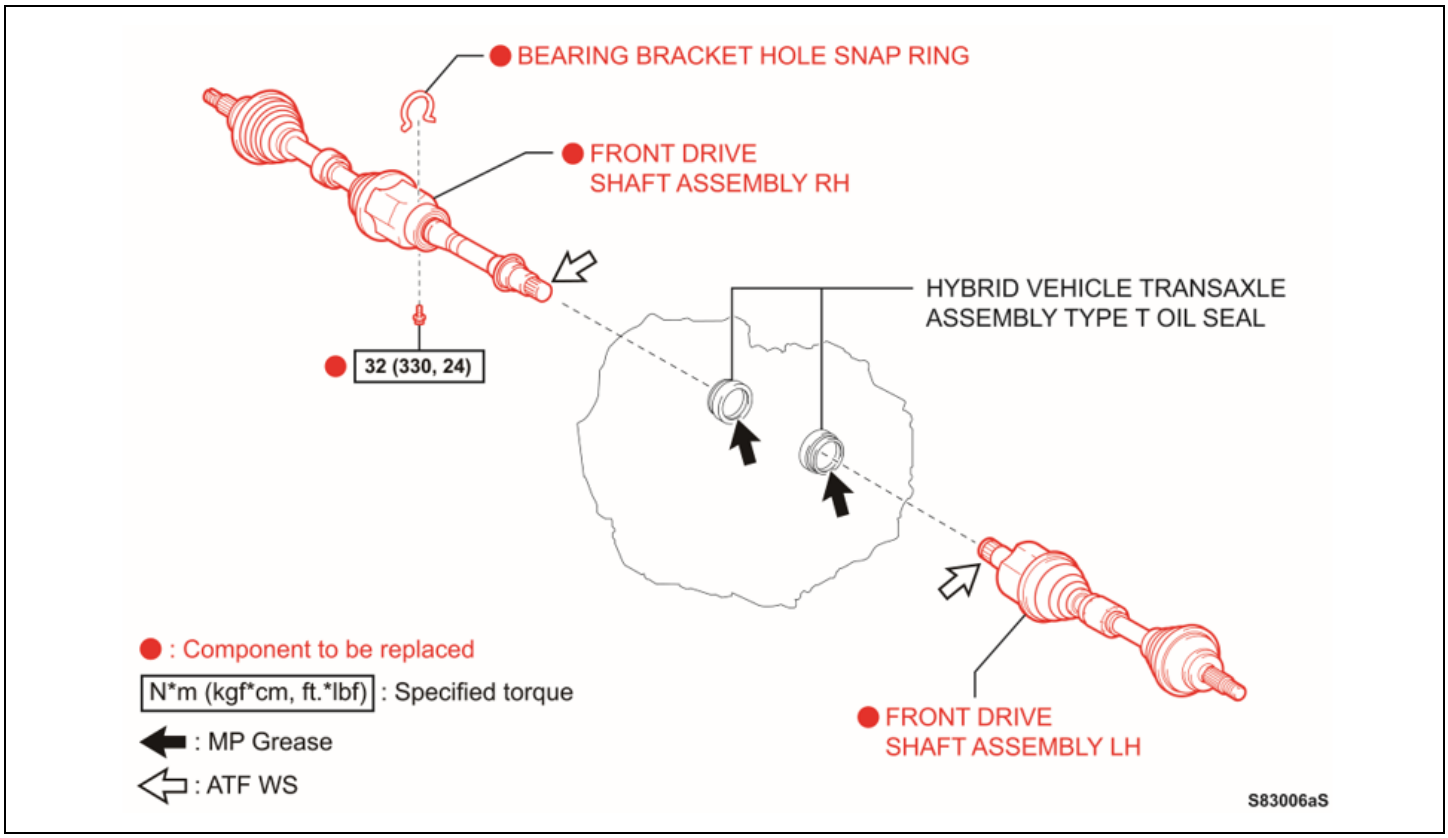


● : Component to be replaced

N*m (kgf*cm, ft.*lbf) : Specified torque

: Toyota Body Grease W

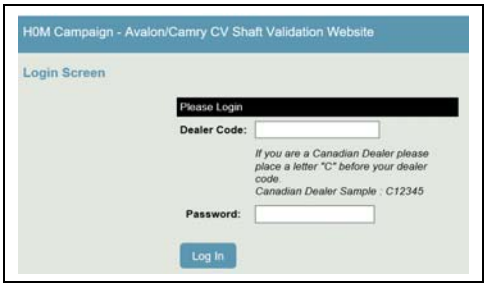
: DO NOT apply lubricants to the threaded parts



V. SCAN DRIVE SHAFT LH & RH

1. ACCESS WEBSITE

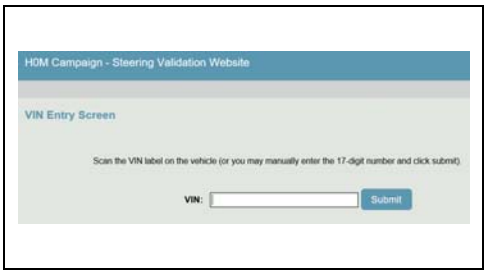
https://toyota-h0m-avalon-camry.imagespm.info



2. INPUT DEALER CODE & PASSWORD

a. Input your dealer code and password

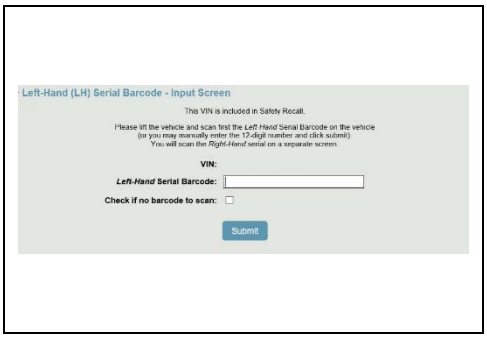
Note: The first time a dealership logs on to this website, the default password is xxxxx (5 lowercase x's). If you change the password, be sure to notify the other dealership associates that will using this website.



3. INPUT VIN

a. Using either a scanner or the keyboard, enter the vehicles VIN number.

Note: If the VIN of this vehicle does not apply to this Recall no further action is required and the campaign is complete



4. SCAN DRIVE SHAFT LH

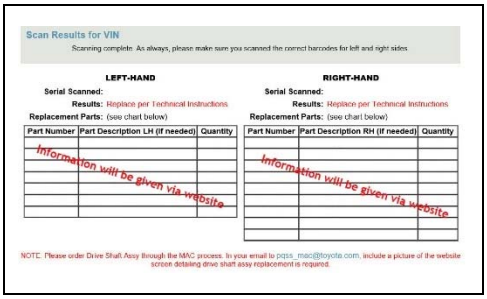
a. Using either a scanner or the keyboard, enter the barcode from the Drive Shaft LH.

Note: If label cannot be scanned or is missing, select the "check if no barcode to scan" box.

5. SCAN DRIVE SHAFT RH

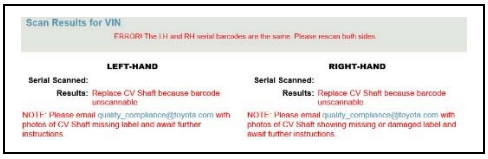
a. Using either a scanner or the keyboard, enter the barcode from the Drive Shaft RH.

Note: If label cannot be scanned or is missing, select the "check if no barcode to scan" box.



6. DETERMINE RESULTS

a. Scannable Barcodes: On the "Scan Results for VIN" screen for this vehicle, note the status of the "Results:" indicator for both LH & RH. These lines will indicate if the drive shafts for either side, or possibly both sides, will need to be replaced.

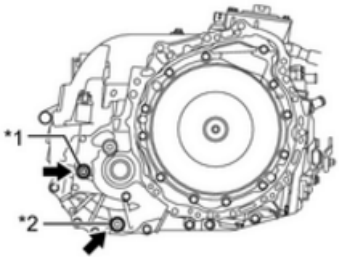


b. Non-Scannable Barcodes: On the Serial Barcode Scan Results screen for this vehicle, note the status of the "Results:" indicator for both LH & RH.

- **If results for BOTH LH <u>and</u> RH is "Part is OK do not replace", this Safety Recall is complete. Return the vehicle to the customer.**

- **If Results for LH <u>or</u> RH is "Replace per Technical Instructions", proceed to Step # VI. DISASSEMBLE SUSPENIONS LH OR RH on page #7.**

VI. DISASSEMBLE SUSPENSION LH or RH



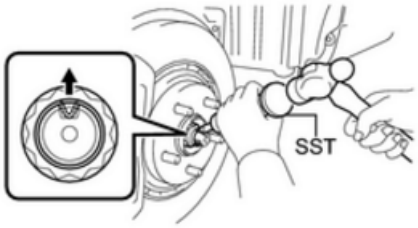
*1	Filler Plug
*2	Drain Plug

6. DRAIN HYBRID TRANSAXLE FLUID

a. Using a 10mm hexagon wrench, remove the **filler** plug and gasket.

b. Using a 10mm hexagon wrench, remove the **drain** plug and gasket to drain the hybrid transaxle fluid.

c. Using a 10mm hexagon wrench, install the drain plug with a ***NEW*** gasket.
Torque: 29 ft.lbs {39 N·m, 400 kgf·cm}

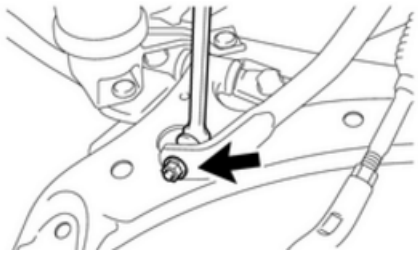


7. REMOVE FRONT WHEEL

8. REMOVE FRONT AXLE NUT

a. Using a hammer and the SST, release the staked section of the front axle shaft nut:
SST: 09930-00010

b. Using a 30mm 12point deep well socket, remove the axle nut:



9. REMOVE STABILIZER BAR LINK LOWER

a. Remove the nut from the lower end of the end link and separate the it from the stabilizer bar.

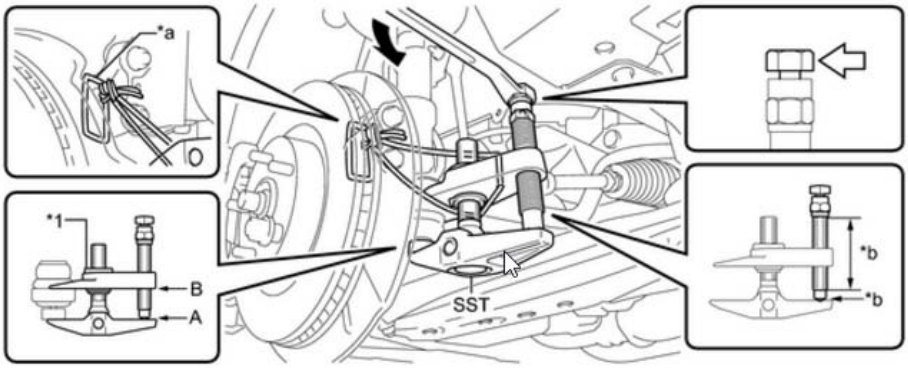
b. Swing the end link upward, making enough room to remove the drive shaft.

10. SEPARATE TIE ROD

a. Remove cotter pin and nut

b. Reinstall the nut upside down until it is flush with the end of the ball joint stud to protect the threads during removal.

c. Using SST, separate the tie rod from the steering knuckle.
SST: 09960-20010



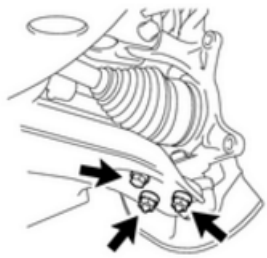
*1	Center Nut	-	-
*a	String	*b	Grease Application Area
⇨	Place the wrench here.	-	-

CAUTION:

Apply grease to the bolt threads and the tip of SST.

NOTICE:

- Install SST with the center nut so that A and B shown in the illustration are parallel. Otherwise, the dust cover may be damaged.
- Be sure to place the wrench on the part indicated in the illustration.
- Do not damage the front disc brake dust cover.
- Do not damage the ball joint dust cover.
- Do not damage the steering knuckle.



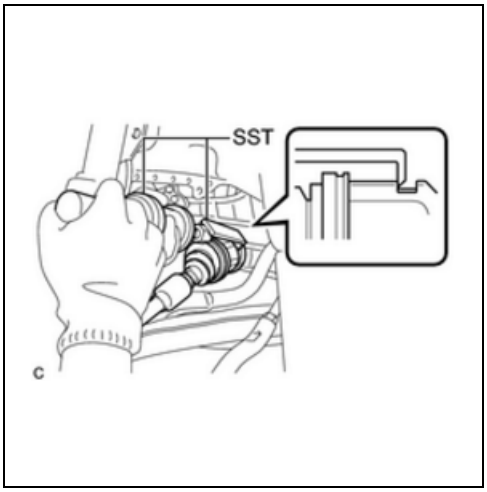
11. SEPARATE LOWER SUSPENSION ARM

a. Remove the bolt and 2 nuts.

b. Separate the lower control arm from the ball joint.

- **If replacing the LH side, or both sides, Skip to Section VII. REPLACE DRIVE SHAFT LH on page #9**
- **If replacing the RH side, skip to Section VIII. REPLACE DRIVE SHAFT RH on page #9**

VII. REPLACE DRIVE SHAFT LH



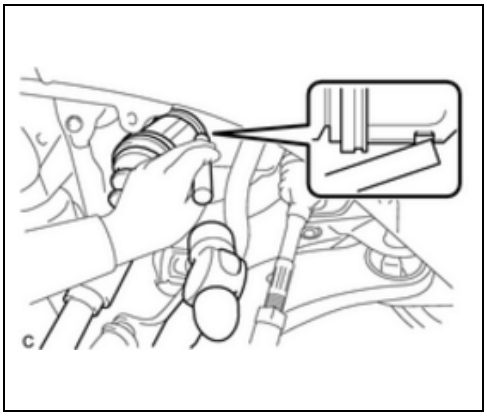
1. REMOVE DRIVE SHAFT LH

a. Pull outward on the steering hub and slide the outboard drive shaft out of the wheel bearing.

b. Using SST, remove the inboard drive shaft from the transmission.

SST: 09520-00031
SST: 09520-01010

STOP **Hold the inboard drive shaft while removing it from the transmission to prevent any damage to the transmission oil seal.**



2. INSTALL *NEW* DRIVE SHAFT LH

a. Coat the splines of the inboard drive shaft with WS ATF.

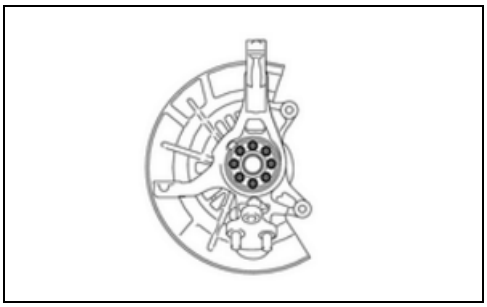
b. Coat the lip of the transmission seal with MP Grease.

c. Guide the drive shaft into the transmission, being careful not to damage the axle seal.

d. Align the inboard drive shaft splines into the transmission and push it in as far as possible by hand.

e. Using a brass bar and a hammer, engage the snap ring.

f. Pull outward by hand on the inboard drive shaft flange to ensure that the snap ring is properly engaged.

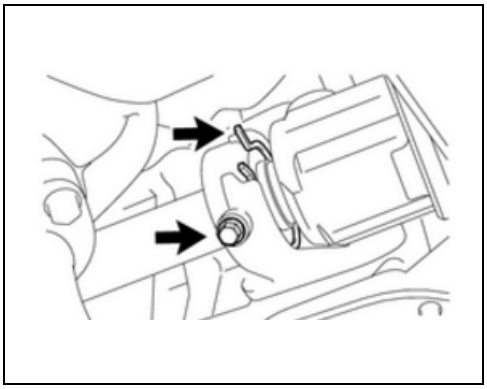


g. Apply a small amount of Toyota Body Grease W to the 8 areas of the wheel bearing as shown in the illustration.

h. Pull outward on the steering hub and slide the drive shaft through the wheel bearing.

i. If replacing ONLY the LH Drive Shaft skip to Section IX. ASSEMBLE SUSPENSION LH or RH on page 10.

VIII. REPLACE DRIVE SHAFT RH



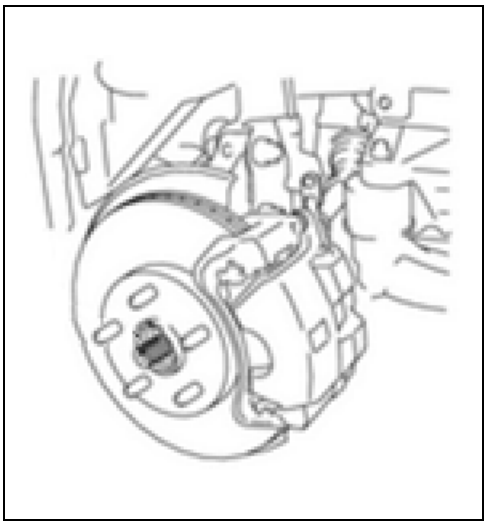
1. REMOVE DRIVE SHAFT RH

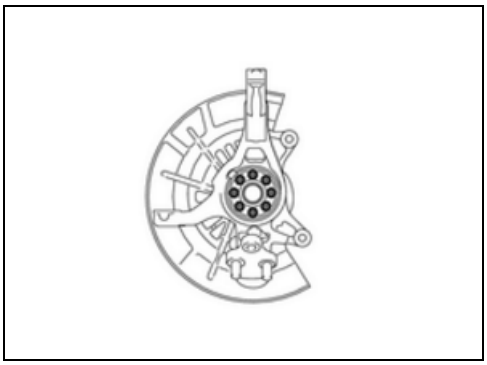
a. Remove the bolt from the RH drive shaft bearing bracket.

b. Remove the C-Clip from the RH drive shaft bearing bracket.

STOP **Hold the inboard axle shaft while removing it from the transmission to prevent any damage to the transaxle oil seal.**

c. Remove the RH drive shaft from the transmission and bearing support bracket.





2. INSTALL *NEW* AXLE SHAFT OUTBOARD RH

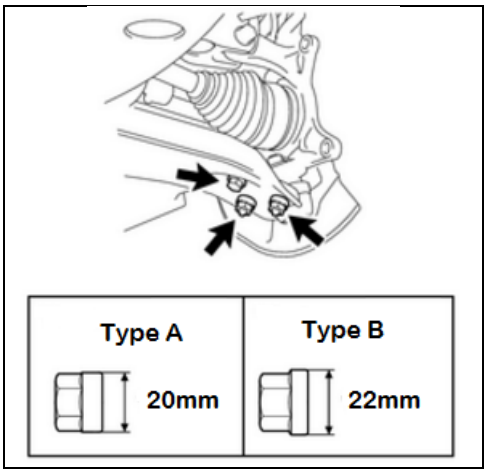
a. Coat the inboard splines of the drive shaft with WS ATF.
b. Coat the lip of the axle seal with MP grease.
c. Install a *NEW* bearing bracket snap ring on to the drive shaft.
d. Install drive shaft assembly RH into the transaxle.

STOP **Be careful to not damage the oil seal when installing the drive shaft into the transaxle.**

e. Engage the *NEW* bearing bracket snap ring
f. Install NEW bolt
Torque 24 ft.lbs {32 N·m, 330 kgf·cm}

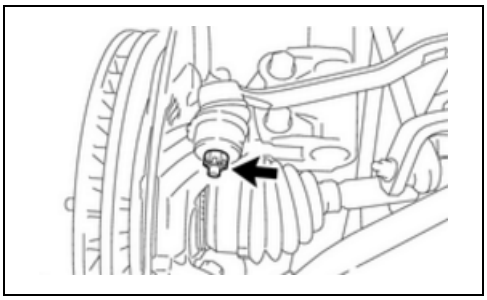
g. Apply a small amount of Toyota Body Grease W to the 8 areas of the wheel bearing as shown in the illustration.
h. Pull outward on the steering hub and slide the drive shaft through the wheel bearing.

IX. ASSEMBLE SUSPENSION LH or RH



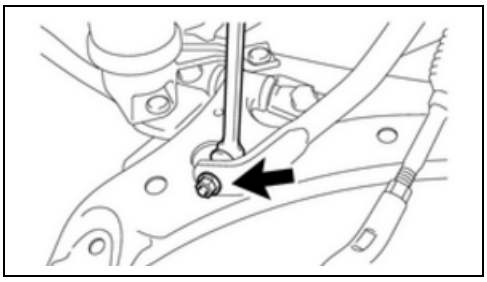
3. INSTALL LOWER SUSPENSION ARM

a. Install the lower suspension arm to the ball joint.
b. Measure the outside diameter of the nuts and determine the proper torque. <u>The bolt will be torqued to the same specification as the nuts.</u>
Torque:
Type A: 55 ft.lbs {75 N·m, 765 kgf·cm}
Type B: 68 ft.lbs {92 N·m, 938 kgf·cm}



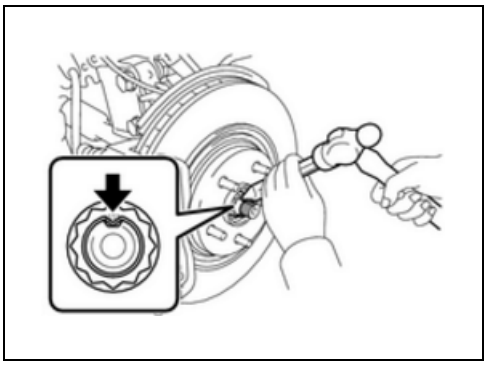
4. INSTALL TIE ROD

a. Connect the tie rod end to the steering knuckle.
Torque: 36 ft.lbs {49 N·m, 500 kgf·cm}
b. Install ***NEW*** cotter pin.



5. INSTALL STABILIZER BAR LINK LOWER

a. Guide the stabilizer bar link into the stabilizer bar and install the nut.
Torque: 55 ft.lbs {74 N·m, 755 kgf·cm}



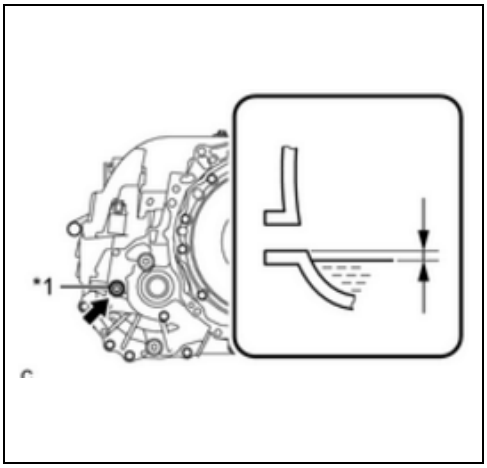
6. INSTALL *NEW* AXLE NUT

a. Clean the threaded portion of the front drive shaft and install a NEW axle shaft nut.
Torque: 217 ft.lbs {294 N·m, 2998 kgf·cm}

b. Using a chisel and hammer, stake the front axle nut.

7. INSTALL WHEEL

Torque: 76 ft.lbs {103 N·m, 1049 kgf·cm}



8. ADD TRANSAXLE FLUID

a. Using a 10mm hexagon socket wrench, remove the filler plug (*1) on the RH side of transaxle.

b. Fill the transaxle with fluid until the level is within 0-5mm (0 to .197 in.) from the bottom lip of the filler plug.
Fluid type: Toyota WS ATF fluid

c. Install fill plug with a *NEW* gasket.
Torque: 29 ft.lbs {39 N·m, 400 kgf·cm}

9. ADJUST FRONT WHEEL ALIGNMENT

a. Following the Repair Manual procedure, adjustment the front wheel alignment.

Camry Front Wheel Alignment RM link

Avalon Front Wheel Alignment RM link

X. INSPECTION

◄ VERIFY REPAIR QUALITY ►

- **Check to confirm there are no Transaxle Fluid Leaks**
- **Test drive vehicle and confirm alignment is correct**

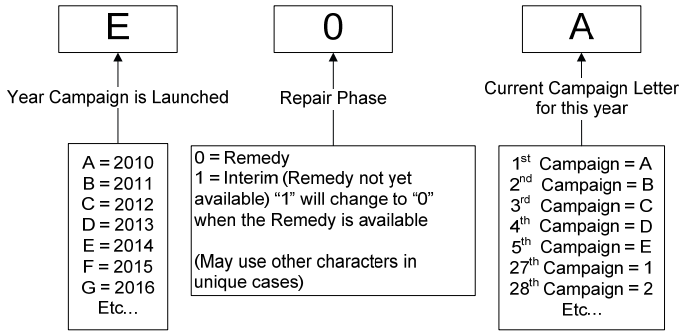
If you have any questions regarding this update, please contact your regional representative.

XI. APPENDIX

A. PARTS DISPOSAL

As required by Federal Regulations, please make sure all recalled 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***.

B. CAMPAIGN DESIGNATION DECORDER



Examples:

A0D = Launched in 2010, Remedy Phase, 4th Campaign Launched in 2010

B1E = Launched in 2011, Interim Phase, 5th Campaign Launched in 2011

C1C = Launched in 2012, Interim Phase, 3rd Campaign Launched in 2012