

TECHNICAL INSTRUCTIONS

FOR

20TA17

STEERING COLUMN ISSUE MAY AFFECT AIRBAG PERFORMANCE

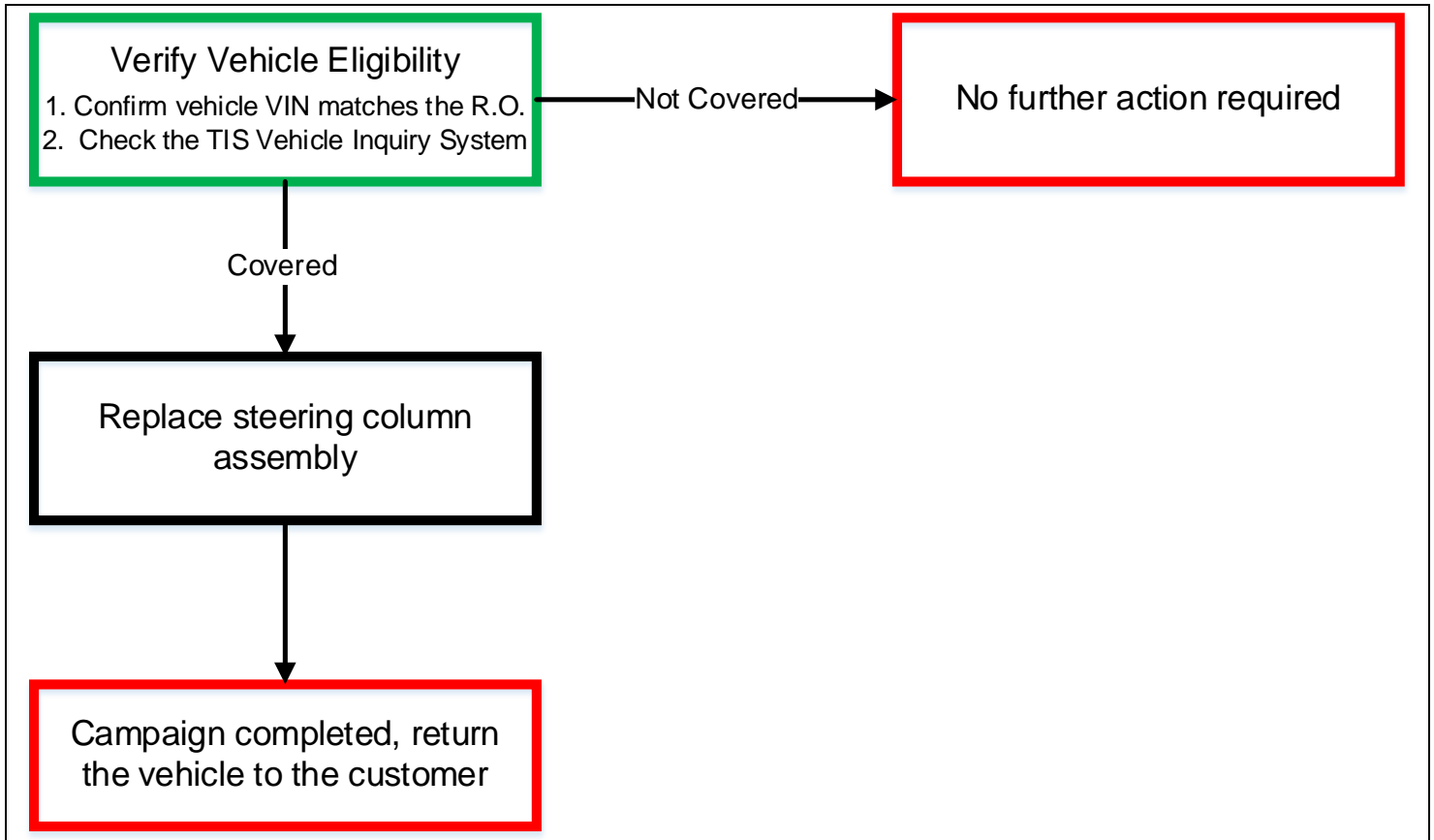
CERTAIN 2020 RAV4
CERTAIN 2020 RAV4 HYBRID

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 (Chassis)
- Expert Technician (any specialty)
- 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

1. CHECK VEHICLE FOR CAMPAIGN ELIGIBILITY

- a. Compare the vehicle's VIN to the VIN listed on the Repair Order to ensure they match.
- b. Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Campaign, and that it has not already been completed.

Note: TMNA warranty will not reimburse dealers for repairs completed on vehicles that are not affected or were previously completed, even by another dealer.

III. BACKGROUND

A component of the steering column on the subject vehicles may have been damaged during assembly. This can potentially affect the performance of the driver airbag when it deploys. This may cause the vehicles not to meet certain federal safety requirements and can result in an increased risk of injury during a crash necessitating airbag deployment.

IV. PREPARATION

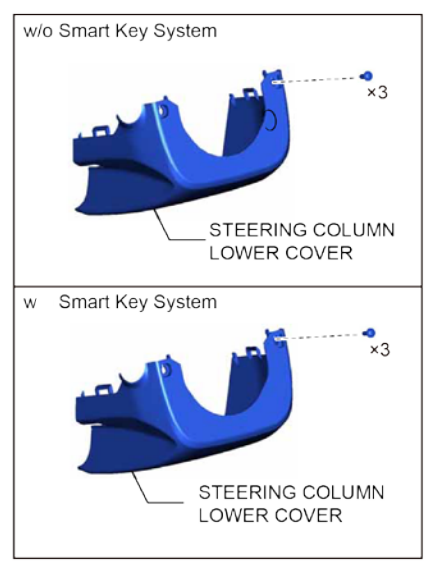
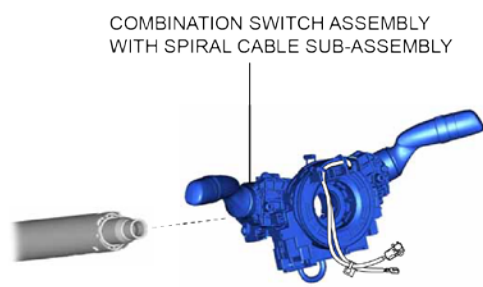
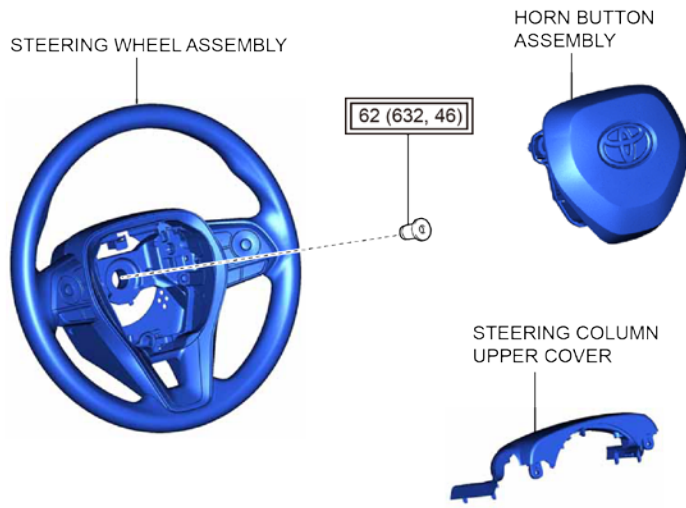
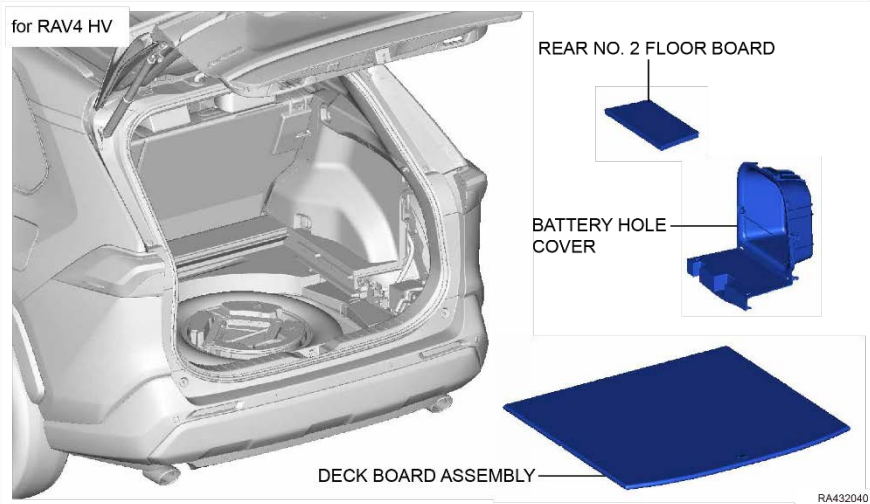
A. PARTS

Ignition Type	Part No.	Description	Quantity
w/ Smart Key System (push button start)	45250-07191	COLUMN ASSY, STEERING	1
	45897-08010	BOLT, STEERING LOCK SET	2
w/o Smart Key System (regular key)	45250-07180	COLUMN ASSY, STEERING	1
	45897-08010	BOLT, STEERING LOCK SET	2

B. TOOLS



- Techstream
- SST 09950-50013 (for steering wheel removal)
- SST 09950-60010 (for steering wheel removal)
- Vice
- Torque Wrench
- Drill
- Drill Bit (4.0 mm or 5/32)
- Spring-Loaded Center Punch (SST 09622-00010 or similar spring-loaded center punch is recommended)
- Screw Extractor (#3 Spiral)

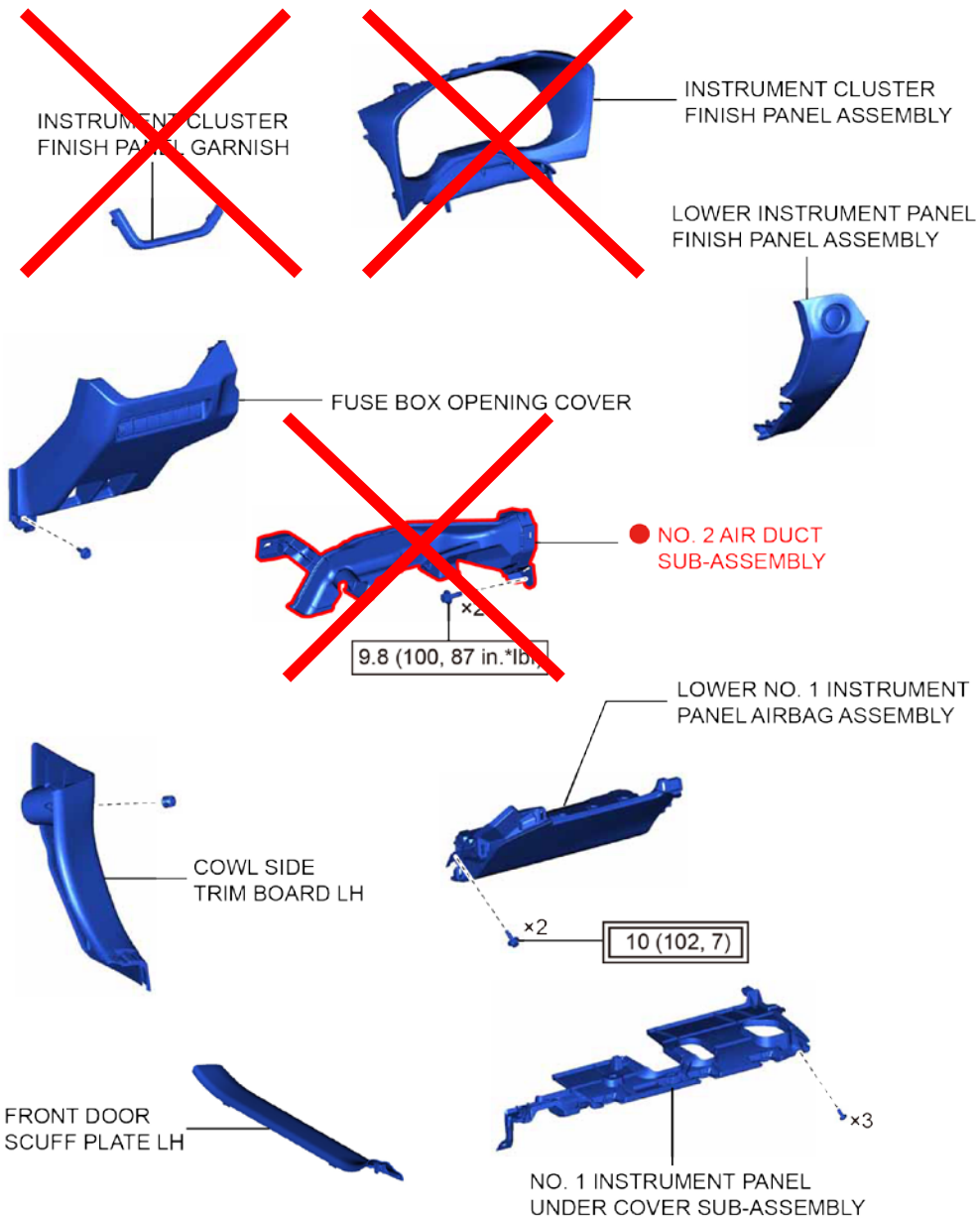
V. COMPONENTS



N*m (kgf*cm, ft.*lbf) : Tightening torque for "Major areas involving basic vehicle performance such as moving/turning/stopping"

RC406838


	DO NOT REMOVE
	DO NOT REMOVE/REPLACE AIR DUCT

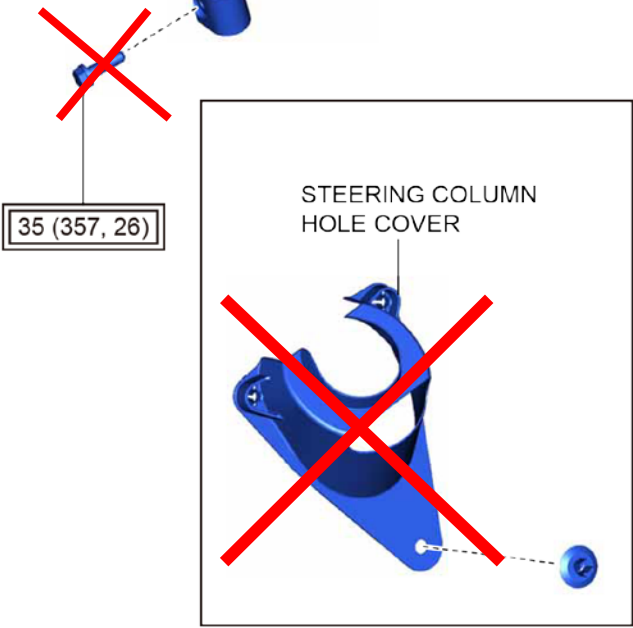
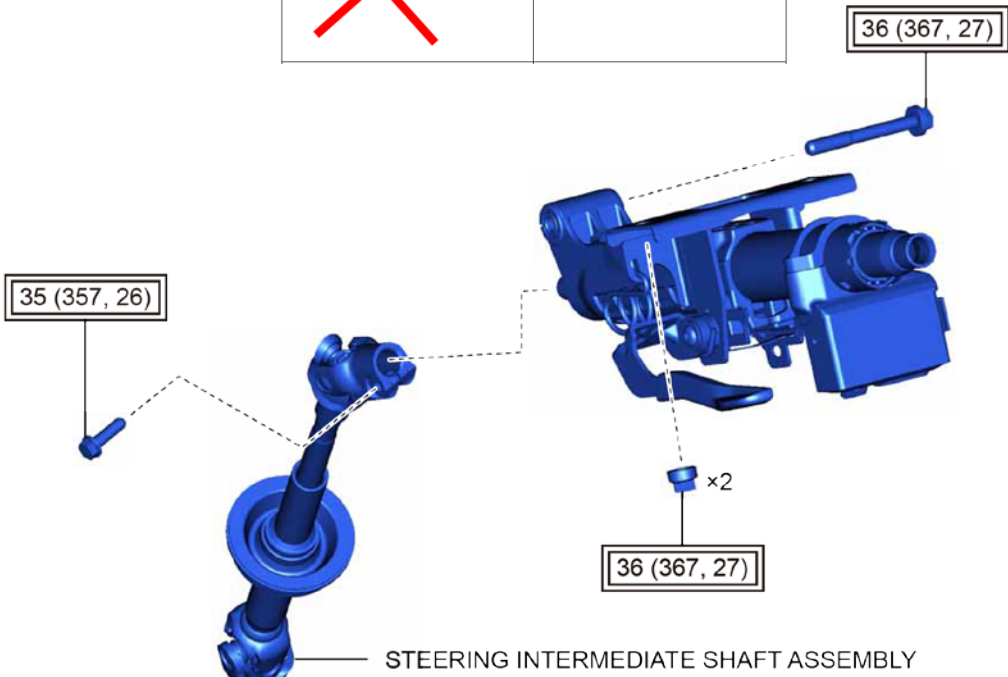


N*m (kgf*cm, ft*lbf) : Specified torque

N*m (kgf*cm, ft.*lbf) : Tightening torque for "Major areas involving basic vehicle performance such as moving/turning/stopping"

RC406840

 DO NOT REMOVE



$\boxed{\text{N}\cdot\text{m (kgf}\cdot\text{cm, ft}\cdot\text{lb)}} : \text{Tightening torque for "Major areas involving basic vehicle performance such as moving/turning/stopping"}$

RC406844

● : Replacement part



● STEERING COLUMN ASSEMBLY

(w/o smart key system)

TRANSPONDER KEY COIL



IGNITION SWITCH LOCK CYLINDER ASSEMBLY



● STEERING LOCK SET BOLT

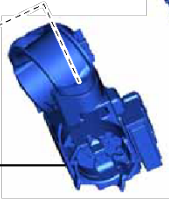


x2

UN-LOCK WARNING SWITCH ASSEMBLY



STEERING LOCK ACTUATOR OR UPPER BRACKET ASSEMBLY



IGNITION OR STARTER SWITCH ASSEMBLY



(w/ smart key system)

● STEERING LOCK SET BOLT



x2

UPPER STEERING COLUMN CLAMP


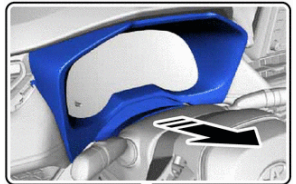
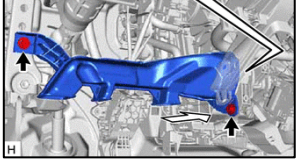
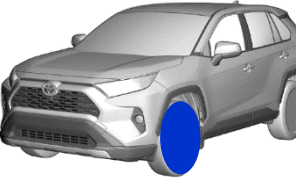
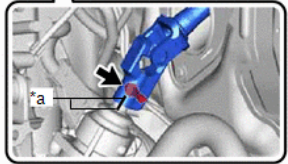

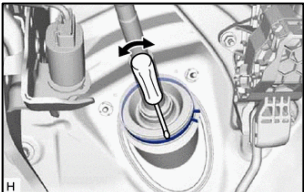


STEERING LOCK ACTUATOR OR UPPER BRACKET ASSEMBLY

VI. REMOVE STEERING COLUMN ASSEMBLY



- The following steps of the TIS repair manual process must be *skipped*.
- These components *must not be removed* when replacing the steering column assembly for this Recall.

TIS RM Step #	Description	
#10	DO NOT REMOVE <i>Instrument Cluster Finish Panel Garnish</i>	
#15	DO NOT REMOVE <i>Instrument Cluster Finish Panel Assembly</i>	
#19 #20	DO NOT REMOVE <i>NO. 1 / NO. 2 Air Duct</i>	
#21	DO NOT REMOVE <i>Left Front Wheel</i>	
#22	DO NOT REMOVE Do not disconnect the steering intermediate shaft from the rack and pinion power steering gear	
#23	DO NOT REMOVE <i>Steering Column Hole Cover</i>	
#24 (a) #24 (b)	DO NOT REMOVE Do not remove the steering intermediate shaft assembly	

◀ ENSURE STEERING WHEEL IS STRAIT BEFORE CONDUCTING REPAIRS ▶



- Before conducting repairs, place steering wheel straight ahead.
- After placing steering wheel straight, ensure it is not rotated at any time during the repair.

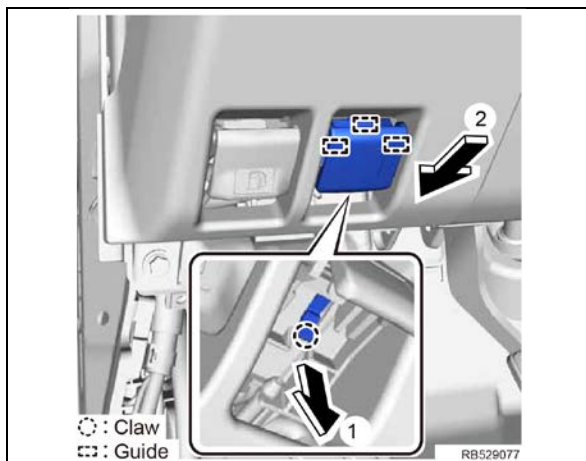
1. Use the link below to access the TIS repair manual instructions for removing the steering column assembly. **Remember:** do not remove the components listed on page 8. Refer to the tips below to supplement the TIS repair manual removal process.

[STEERING COLUMN: STEERING COLUMN ASSEMBLY: REMOVAL; 2020 MY RAV4 RAV4 HV](#)
(Doc ID RM10000001LRGW)

◀ REMOVAL TIP ▶
FUSE BOX OPENING COVER

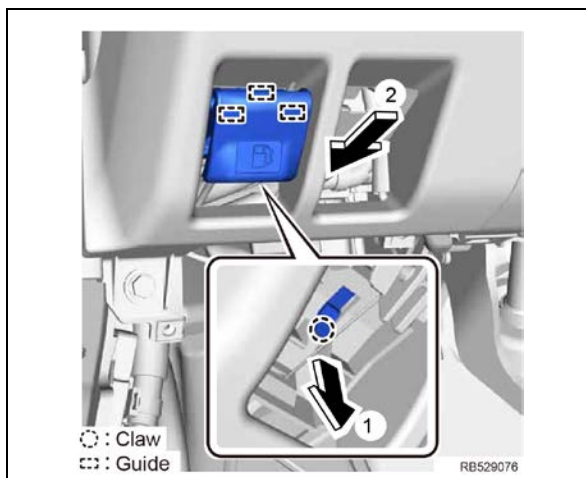


Before removing the FUSE BOX OPENING COVER, you should remove the hood lock lever and fuel lid lock lever following the process below.



Remove the hood lock control lever sub-assembly.

- (i) While pulling the hood lock control lever sub-assembly, detach the claw in the direction (1) indicated by the arrow shown in the illustration.
- (ii) Detach the guide in the direction (2) indicated by the arrow shown in the illustration and remove the hood lock control lever sub-assembly.



Remove the fuel lid lock open lever sub-assembly.

(for gasoline model only)

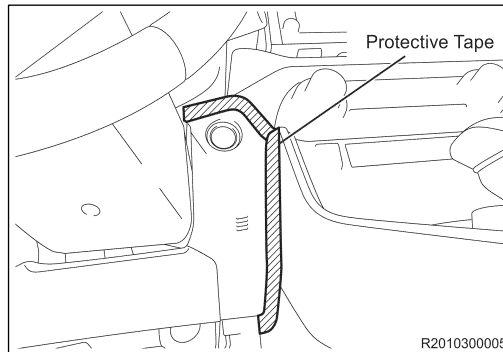
- (i) While pulling the fuel lid lock open lever sub-assembly, detach the claw in the direction (1) indicated by the arrow shown in the illustration.
- (ii) Detach the guide in the direction (2) indicated by the arrow shown in the illustration and remove the fuel lid lock open lever sub-assembly.

◀ **REMOVAL TIP** ▶

LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY

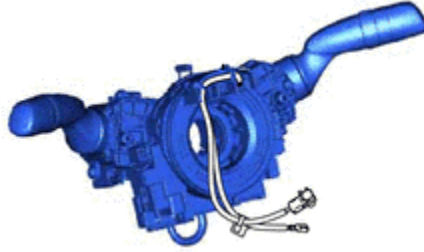


Apply protective tape to the position shown in the illustration to avoid damage when removing the LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY.

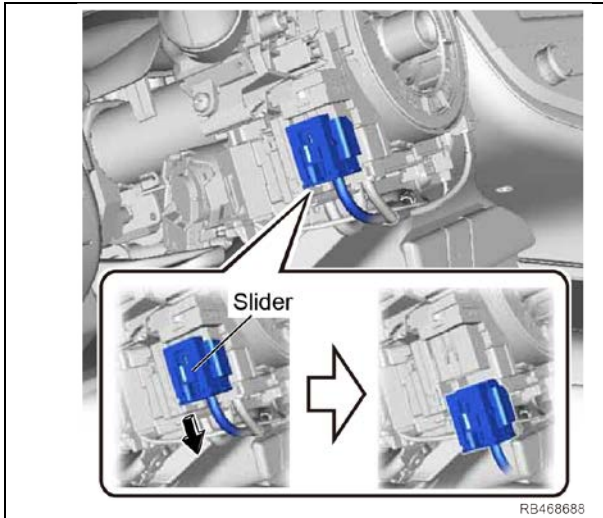


◀ **REMOVAL TIP** ▶

COMBINATION SWITCH ASSEMBLY WITH SPIRAL CABLE SUB-ASSEMBLY



Follow the instructions below to remove the **COMBINATION SWITCH ASSEMBLY WITH SPIRAL CABLE SUB-ASSEMBLY**.

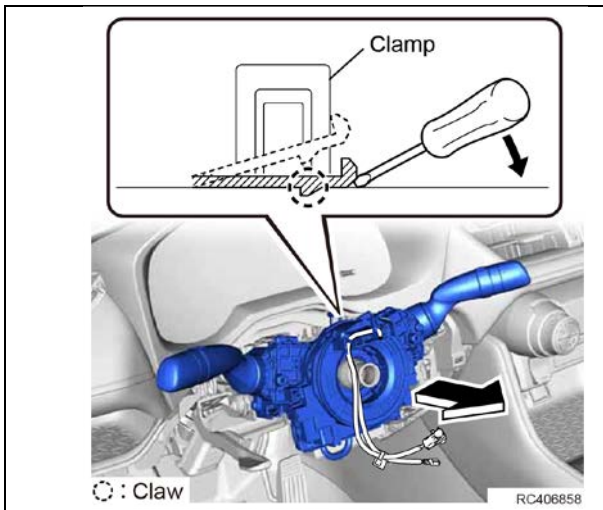


- (i) Slide the slider to release the lock, and then disconnect the airbag connector.



When disconnecting any airbag connector, take care not to damage the airbag wire harness.

- (ii) Disconnect each connector from the turn signal switch assembly with spiral cable sub-assembly.



- (iii) Using pliers, expand the clamp.
- (iv) While holding the clamp expanded, raise the claw using a screwdriver to disengage it, and then remove the turn signal switch assembly with spiral cable sub-assembly from the steering column assembly.

VII. DISSASSEMBLE STEERING COLUMN ASSEMBLY

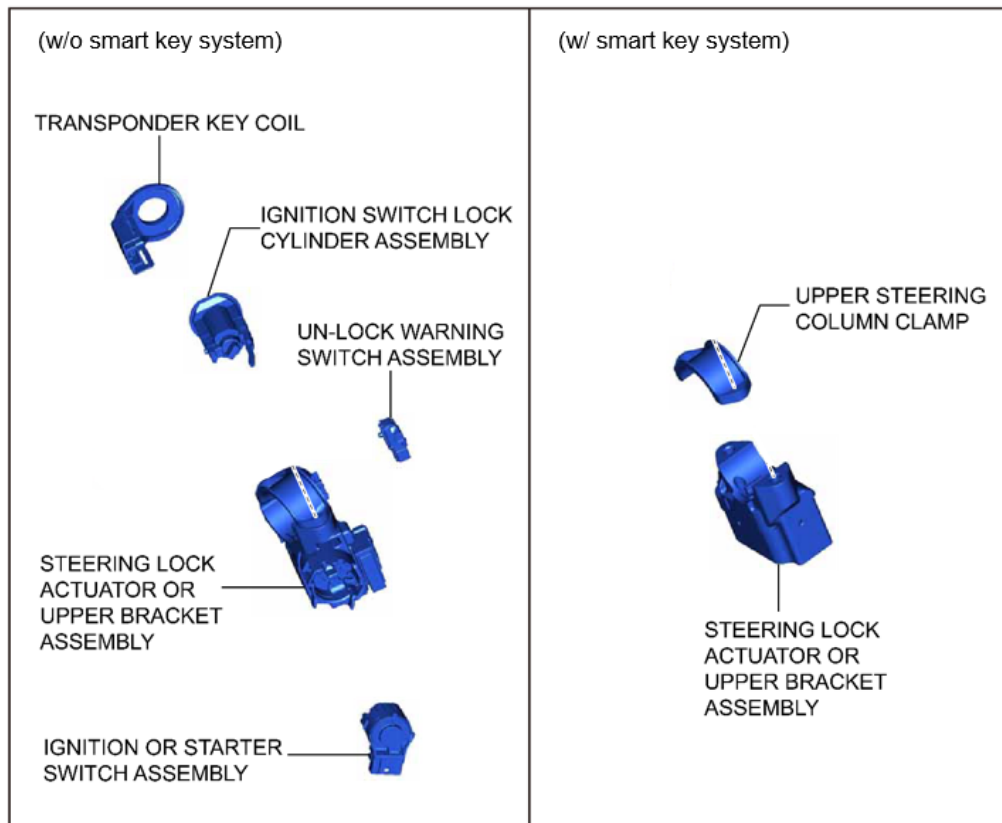
1. Use the link below to access the TIS repair manual instructions for disassembling the steering column assembly. Refer to the tips below to supplement the TIS repair manual disassembly process.

[STEERING COLUMN: STEERING COLUMN ASSEMBLY: DISASSEMBLY; 2019 - 2021 MY RAV4 RAV4 HV \(Doc ID RM100000001FK8L\)](#)

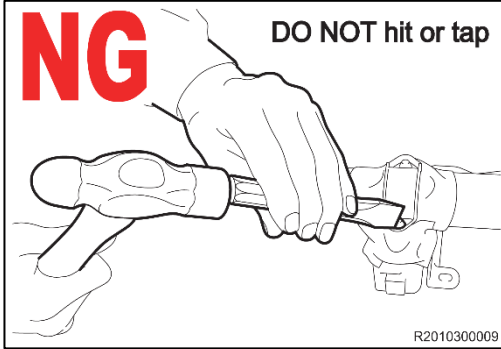
◀ DISASSEMBLY TIP ▶

DO NOT DAMAGE COMPONENTS THAT MUST BE RE-USED

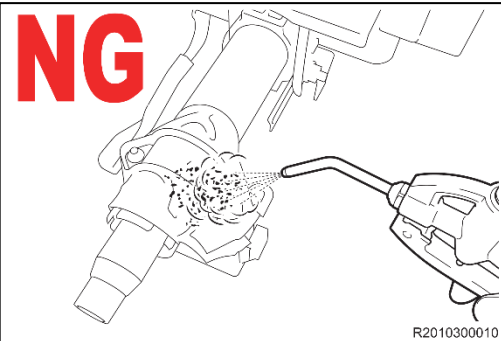
The components shown below will be re-used when disassembling the steering column assembly. Take care not to damage them when you remove them from the steering column assembly.



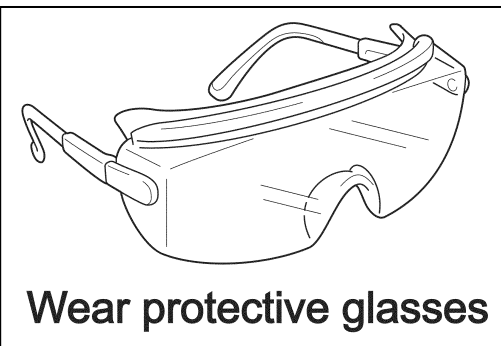
◀ DISASSEMBLY TIP ▶
INTERLOCK ACTUATOR BOLT EXTRACTION



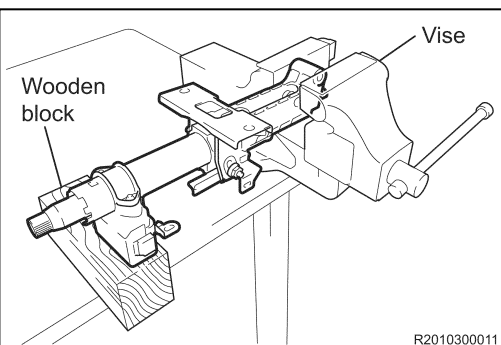
DO NOT hit or tap the steering lock actuator bolt to remove.
Shock applied to the steering lock actuator assembly may cause the actuator to malfunction.



DO NOT use compressed air because it scatters metal debris.



Always wear protective glasses when you use a drill.



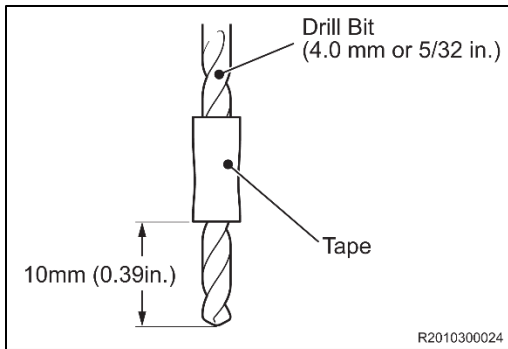
Use a vise to secure the steering column assembly for extracting the interlock bolts.

- (i) Fix the steering column assembly securely to the vise at the position shown.
- (ii) Support the steering column assembly with a wooden block or equivalent to keep it stable.

NOTE:

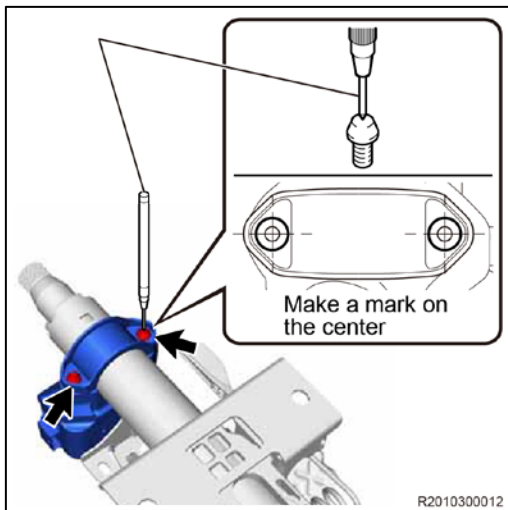
The steering lock actuator assembly will be reused.
DO NOT hold or contact it on the vise.

◀ DISASSEMBLY TIP Continued... ▶ INTERLOCK ACTUATOR BOLT EXTRACTION



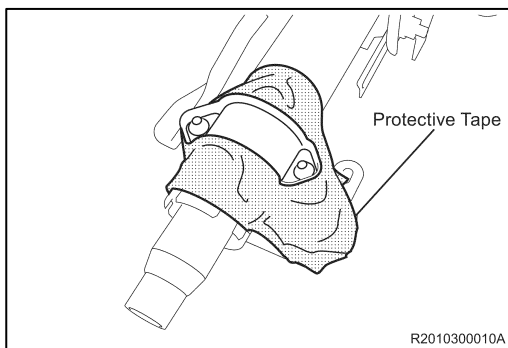
A 4.0 mm (5/32) drill bit is recommended.

- (i) Tape the drill bit at 10 mm from the tip as a stopper

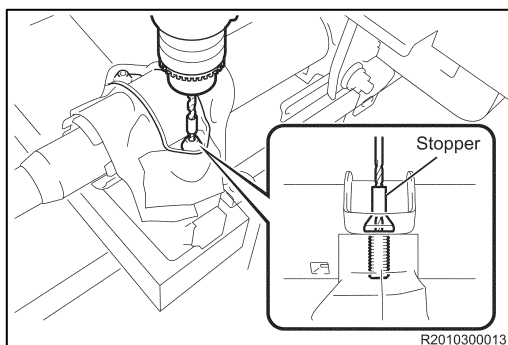


Mark the center of the two interlock bolts with a spring-loaded center punch.

- (i) SST 09622-00010, or a similar center punch is recommended.
- (ii) **Do not use a normal center punch. The impact force may damage the steering lock actuator.**

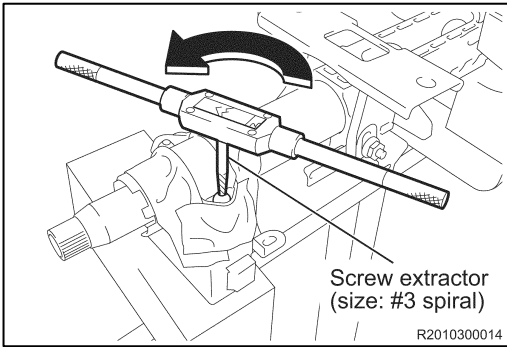


Cover the areas other than the steering actuator bolts with protective tape, so that the steering lock actuator assembly, which is to be reused, is protected from metal debris.



Hold the drill straight and make a hole 10mm deep

◀ **DISASSEMBLY TIP Continued...** ▶
INTERLOCK ACTUATOR BOLT EXTRACTION



- A size #3 (Spiral) screw extractor is recommended
- (ii) Insert the screw extractor into the hole. Slowly turn the extractor counterclockwise while inserting it straight, and then remove the two interlock bolts

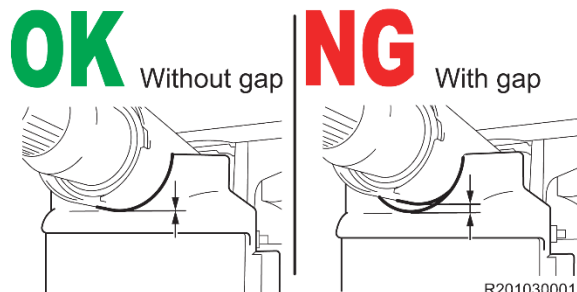
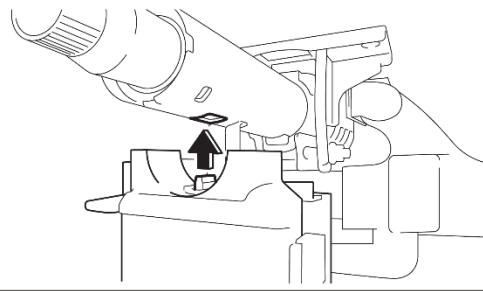
VIII. REASSEMBLE STEERING COLUMN ASSEMBLY

1. Use the link below to access the TIS repair manual instructions for reassembling the steering column assembly. Refer to the tips below to supplement the TIS repair manual reassembly process.

[STEERING COLUMN: STEERING COLUMN ASSEMBLY: REASSEMBLY; 2019 - 2021 MY RAV4 RAV4 HV \(Doc ID RM100000001FK8M\)](#)

◀ **REASSEMBLY TIP** ▶
ENSURE CORRECT ALIGNMENT OF STEERING LOCK ACTUATOR

Align the lock pin of the steering lock actuator assembly and the hole of the **NEW** steering column assembly and assemble them together so that they fit each other without any gap.



IX. INSTALL STEERING COLUMN ASSEMBLY

1. Use the link below to access the TIS repair manual instructions for installing the new steering column assembly into the vehicle.

[STEERING COLUMN: STEERING COLUMN ASSEMBLY: INSTALLATION; 2019 - 2021 MY RAV4 RAV4 HV](#)
(Doc ID: RM100000001FK8P)

◀ VERIFY STEERING WHEEL IS STRAIGHT AFTER REPAIRS ▶

- After the repair is finished, verify that the steering wheel is straight.
- If the steering wheel is not straight, adjust the steering wheel until it is straight.

◀ VERIFY REPAIR QUALITY ▶

- Verify that all nuts and bolts involved in the campaign repair have been torqued to the values specified in the TIS Repair Manual
- Confirm proper steering lock actuator operation.

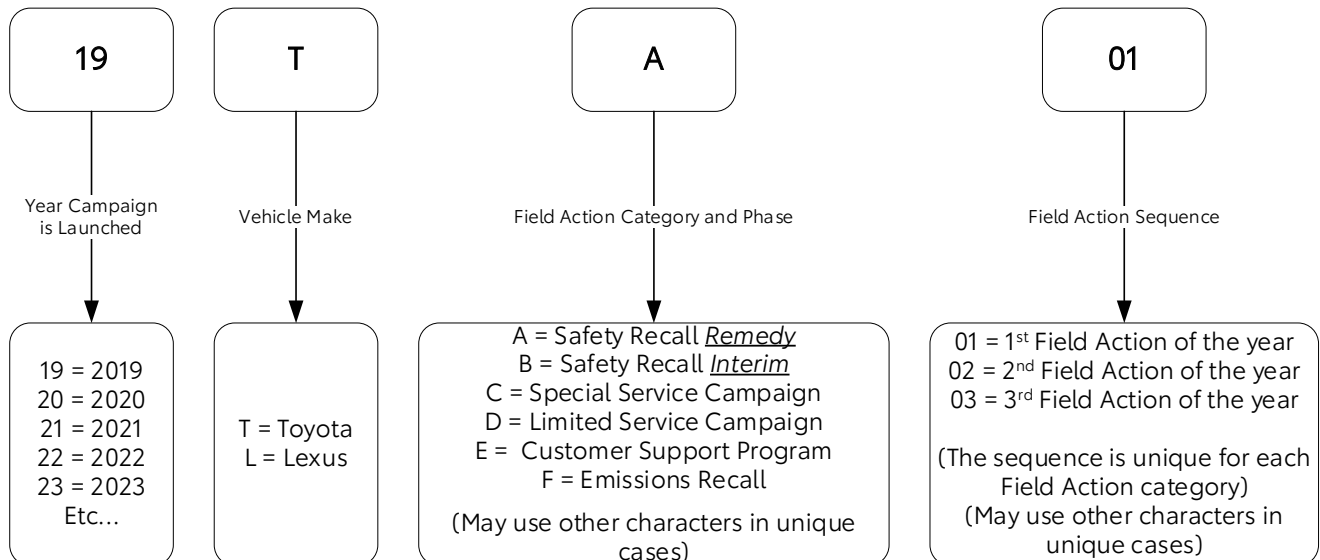
X. APPENDIX

PARTS DISPOSAL

In accordance with Federal law, 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.**

XI. CAMPAIGN DESIGNATION/PHASE DECODER

19TA01



Examples:

19TA01 = Launched in 2019, Toyota, Safety Recall *Remedy* Phase, 1st Safety Recall Launched in 2019

20TC02 = Launched in 2020, Special Service Campaign, 2nd Special Service Campaign Launched in 2020

21TE05 = Launched in 2021, Customer Support Program, 5th Customer Support Program Launched in 2021