

TECHNICAL INSTRUCTIONS
FOR
23LA01
DC/DC CONVERTER ASSEMBLY REPLACEMENT
CERTAIN 2022
NX450h+

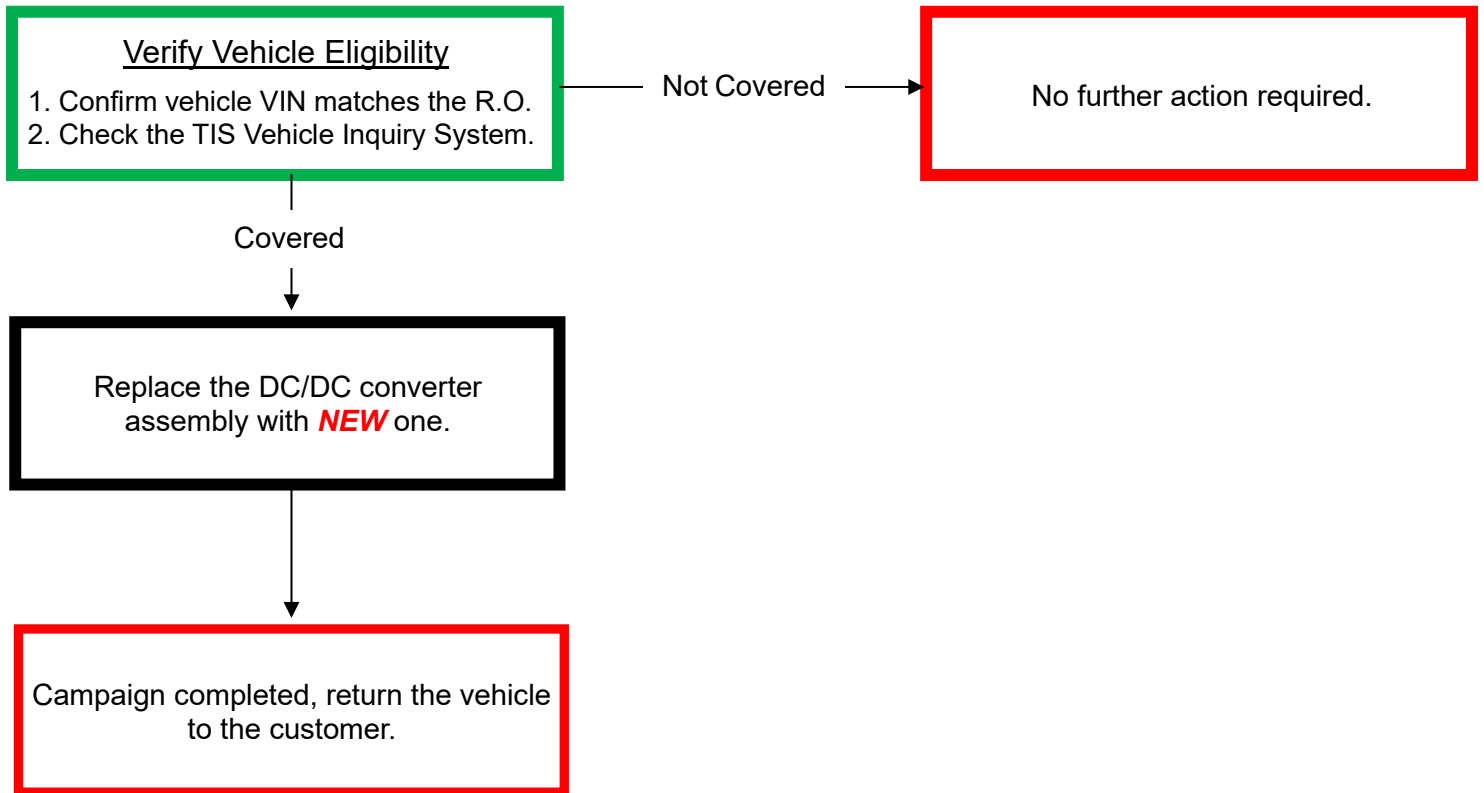
The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this Recall are required to successfully complete the most current version of the E-Learning course “Safety Recall and Service Campaign Essentials”. To ensure that all vehicles have the repair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

LIC209A – Electrified Powertrain Vehicle Repair

It is the dealership’s responsibility to select technicians that have completed the above course 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

The flow chart is for reference only. **DO NOT** use it in place of the full technical instructions. Follow **ALL** steps as outlined in the full technical instructions to confirm the campaign is completed correctly.



II. IDENTIFICATION OF AFFECTED VEHICLES

1. CHECK VEHICLE FOR CAMPAIGN ELIGIBILITY

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

NOTICE:

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

III. PREPARATION

A. PARTS

Part Number	Part Description	Quantity
04003-15142	CONVERTER ASSY, HYBRID VEHICLE *	1
04003-15242	SEAL KIT, HV BATTERY, NO1 **	1
* The kit above includes the following parts.		
Part Number	Part Name	Quantity
G9270-42060	CONVERTER ASSY, HYBRID VEHICLE	1
** The kit above includes the following parts.		
Part Number	Part Name	Quantity
G92DB-42010	SEAL, HV BATTERY, No.1	1
72693-12080	HOOK, RR SEAT CUSHION LOCK	2

B. TOOLS, SUPPLIES & EQUIPMENT

- Standard Hand Tools
 - GTS+
 - Moulding Remover E
 - TORX Socket Wrench T20*
 - Toyota Electrical Tester Set
 - Torque wrench
- *"TORX ®" is a trademark of Acument ® Intellectual Properties, LLC / CAMCAR Innovations ®.

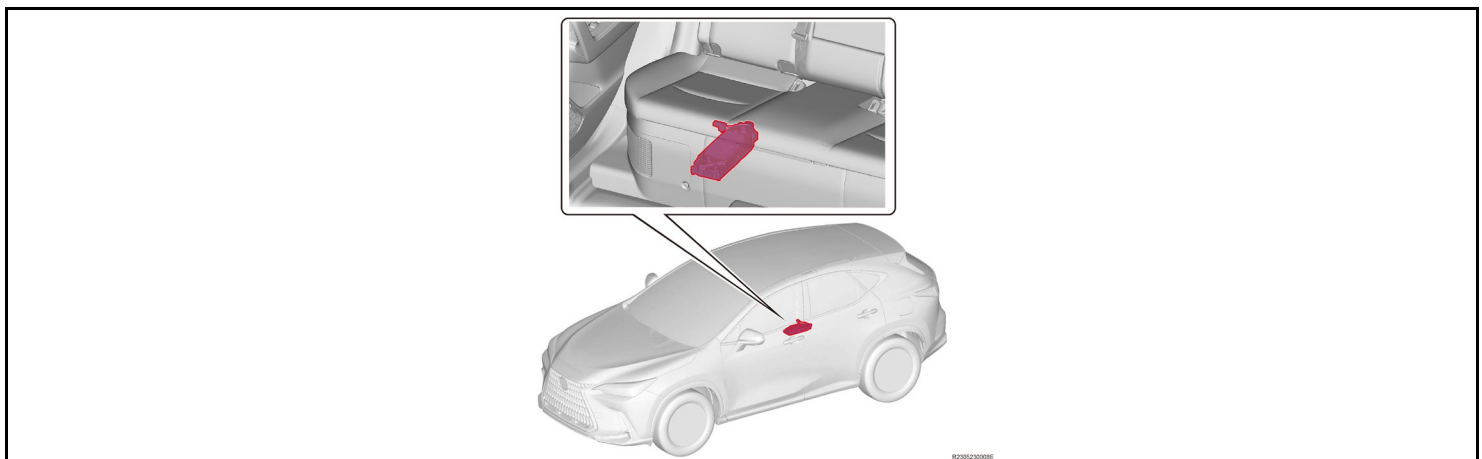
C. MATERIALS

- Protective Gloves
- Insulated Gloves
- Protective Tape
- Marker Pen

IV. WORK PROCEDURE TABLE OF CONTENTS

BACKGROUND.....	SECTION V.
SAFETY PRECAUTIONS	SECTION VI.
COMPONENTS	SECTION VII.
REMOVE DC/DC CONVERTER ASSEMBLY	SECTION VIII.
INSTALL NEW DC/DC CONVERTER ASSEMBLY	SECTION IX.
APPENDIX	SECTION X.

V. BACKGROUND



VI. SAFETY PRECAUTIONS



- Always remember "**SAFETY FIRST**".
- Check each item in the appropriate section for each vehicle.

A. CAUTION WITH "WORKING AT HIGH VOLTAGE" SIGN

Put a "WORKING AT HIGH VOLTAGE" sign on the roof etc. to caution other engineers.
(A sheet is prepared on the next page. Make a copy and use it.)

B. BEWARE OF PERSONAL-EFFECTS FOR SHORT-CIRCUIT PREVENTION

- To prevent short circuit, **DO NOT** wear metal items, such as a wrist watch, a mechanical pencil and a scale.

C. TOOL INSULATION

- Use insulated tools or wrap insulating tape around the tools to be used in order to prevent a short circuit.

HINT:

Use general insulating tape for automobile maintenance (that does not leave residue when removed).

D. WEAR INSULATED GLOVES

- When working with or around the high voltage circuit (orange wires and connectors), wear insulated gloves to prevent electric shock.
- DO NOT** use wet or broken insulated gloves.
- When the insulated gloves are dirty, clean them before use according to the instructions on the manual of the gloves.

E. PROPERLY HANDLE THE SERVICE PLUG GRIP

- Before working with a high voltage system, disconnect the negative terminal of the auxiliary battery and then the service plug grip. Then, leave them for ten minutes and, after the capacitor discharges, start the work.
- Put the disconnected service plug grip in a pocket to prevent other engineers from connecting in error during the work.

F. INSULATE AFTER DISCONNECTION OF HIGH VOLTAGE CIRCUIT

- Soon after removing the connectors and terminals in a high voltage system, insulate them with insulating tape.

HINT:

Use general insulating tape for automobile maintenance (that does not leave residue when removed).

G. CONNECT HIGH VOLTAGE TERMINAL

- In order to prevent defects such as burnout due to poor connection, be sure to check the following.
Check that there is no bite-in of foreign matter or dirt.
Use a torque wrench to check the tightening torques of the terminals.

H. SEPARATE INSIDE AND OUTSIDE BOLTS

- The bolts are used for both inside and outside of the inverter with converter assembly, and some bolts are the same in size. The bolts used outside are dirty and if they are used inside, it may cause a malfunction.
Make sure to store the bolts separating the ones for inside and outside.



CAUTION:
HIGH-VOLTAGE
DO NOT TOUCH.

Person in charge: _____

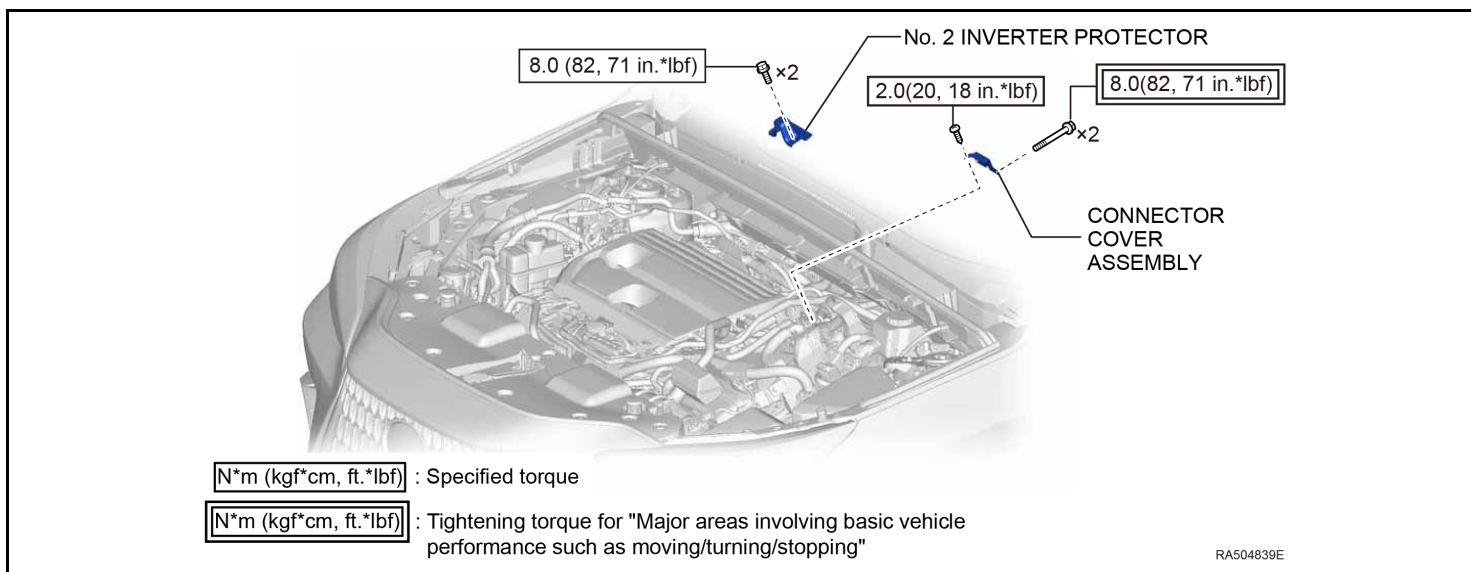
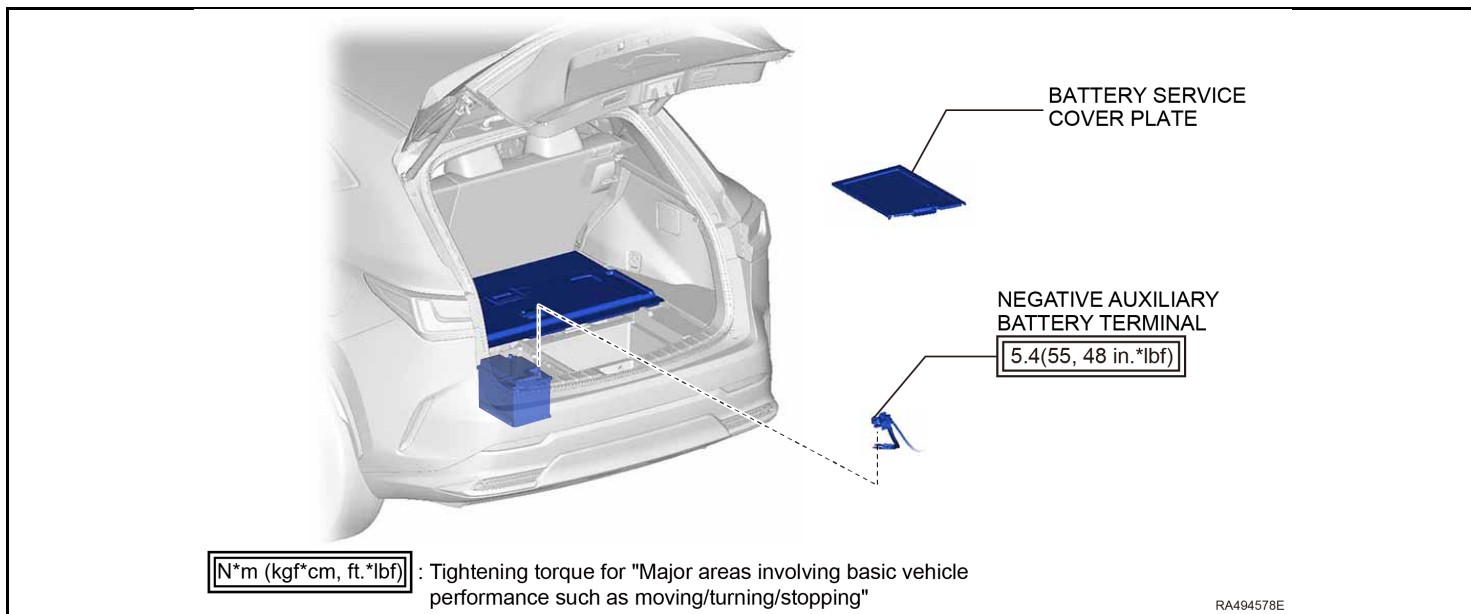
CAUTION:
HIGH-VOLTAGE
DO NOT TOUCH.

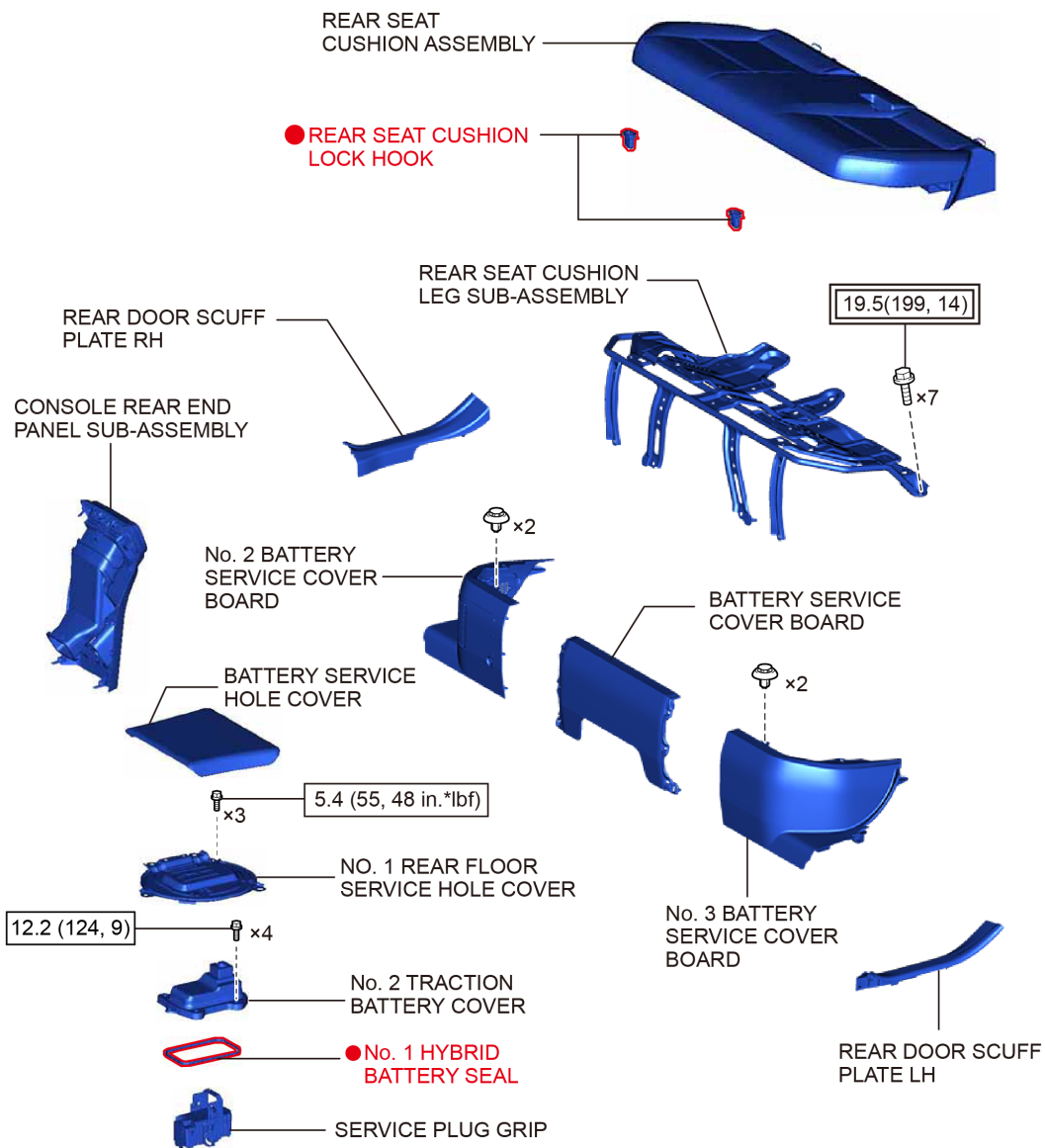
Person in charge: _____



When performing work on the HV system, fold this sign and put it on the roof of the vehicle.

VII.COMPONENTS



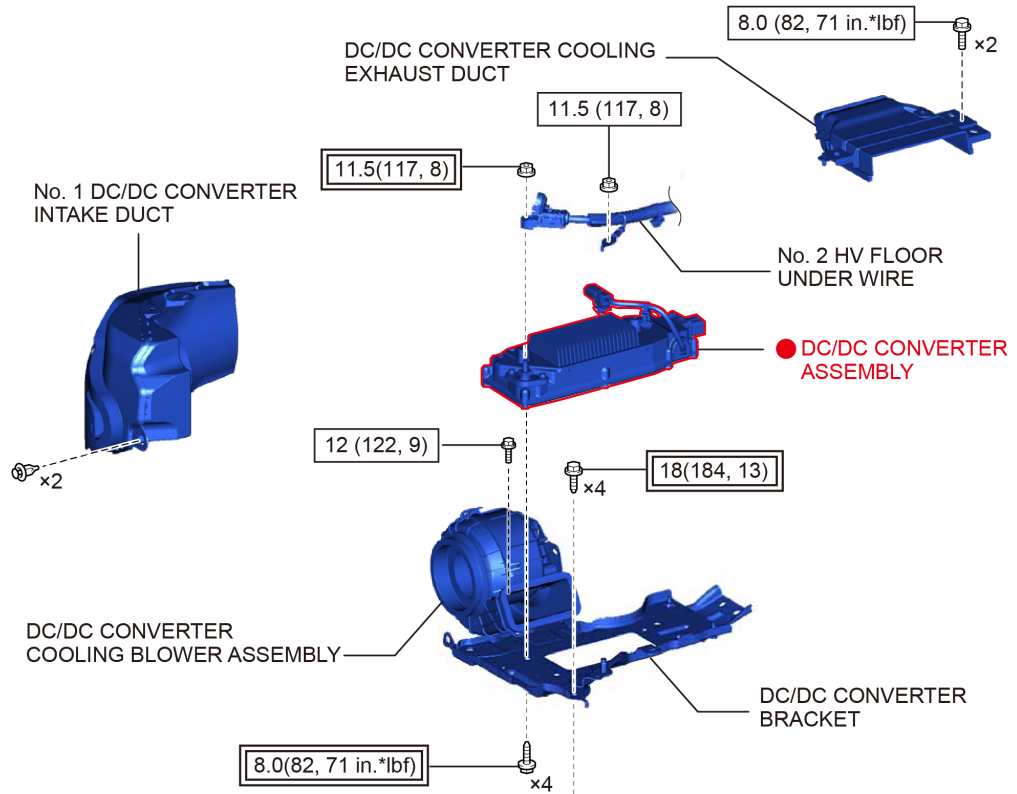


● : Replacement part

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"

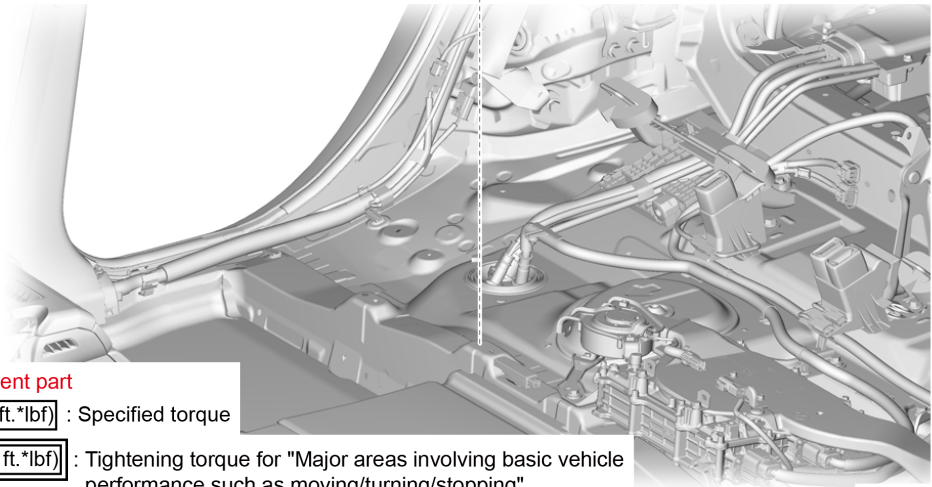
RA504840E



● : Replacement part

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"



RA504842E

VIII. REMOVE DC/DC CONVERTER ASSEMBLY



1. CHECK FOR DTC'S

- a) Using GTS+, perform a Health Check to check for any Diagnostic Trouble Codes.

NOTICE:

This Safety Recall covers only the replacement of the DC/DC converter assembly and associated parts. It does not cover the diagnosis or replacement of any other parts on the vehicle.

2. REMOVE DC/DC CONVERTER ASSEMBLY

[Refer to the TIS for instructions on Engine / Hybrid System > HYBRID / BATTERY CONTROL > ELECTRIC VEHICLE CONVERTER > REMOVAL](#)

NOTICE:

It is unnecessary to remove the DC/DC converter cooling blower assembly from the DC/DC converter bracket.

IX. INSTALL **NEW** DC/DC CONVERTER ASSEMBLY

1. INSTALL **NEW** DC/DC CONVERTER ASSEMBLY

[Refer to the TIS for instructions on Engine / Hybrid System > HYBRID / BATTERY CONTROL > ELECTRIC VEHICLE CONVERTER > INSTALLATION](#)

2. INSPECT REAR SEAT HEATER SYSTEM

[Refer to the TIS for instructions on Vehicle Interior > SEAT > SEAT HEATER SYSTEM > OPERATION CHECK](#)

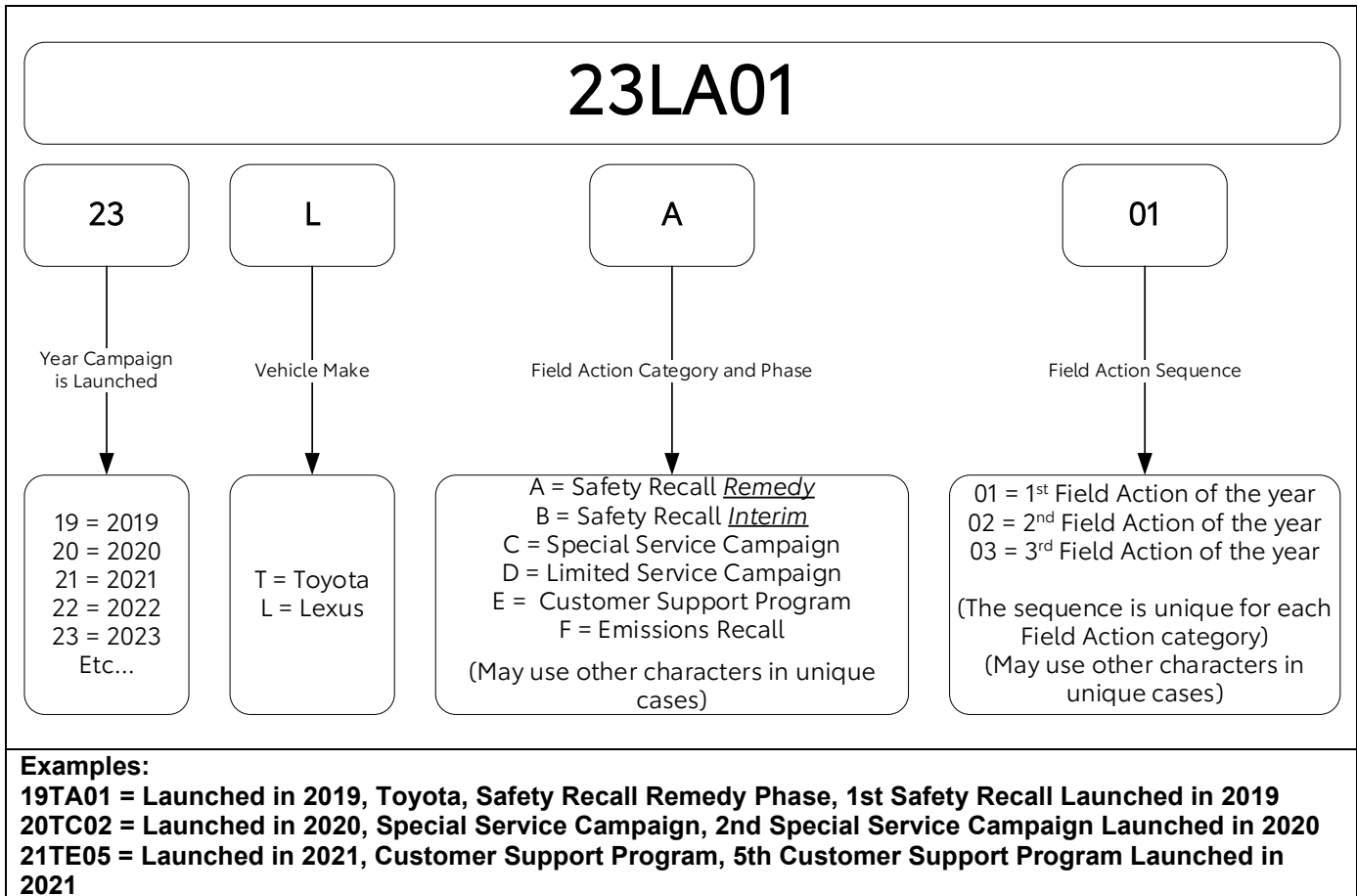
◀ VERIFY REPAIR QUALITY ▶

- Ensure all removed components are properly installed and functioning correctly.
- Ensure there are no new DTC's after Converter assembly replacement

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

X. APPENDIX

A. CAMPAIGN DESIGNATION DECODER



B. CAMPAIGN PARTS DISPOSAL

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