

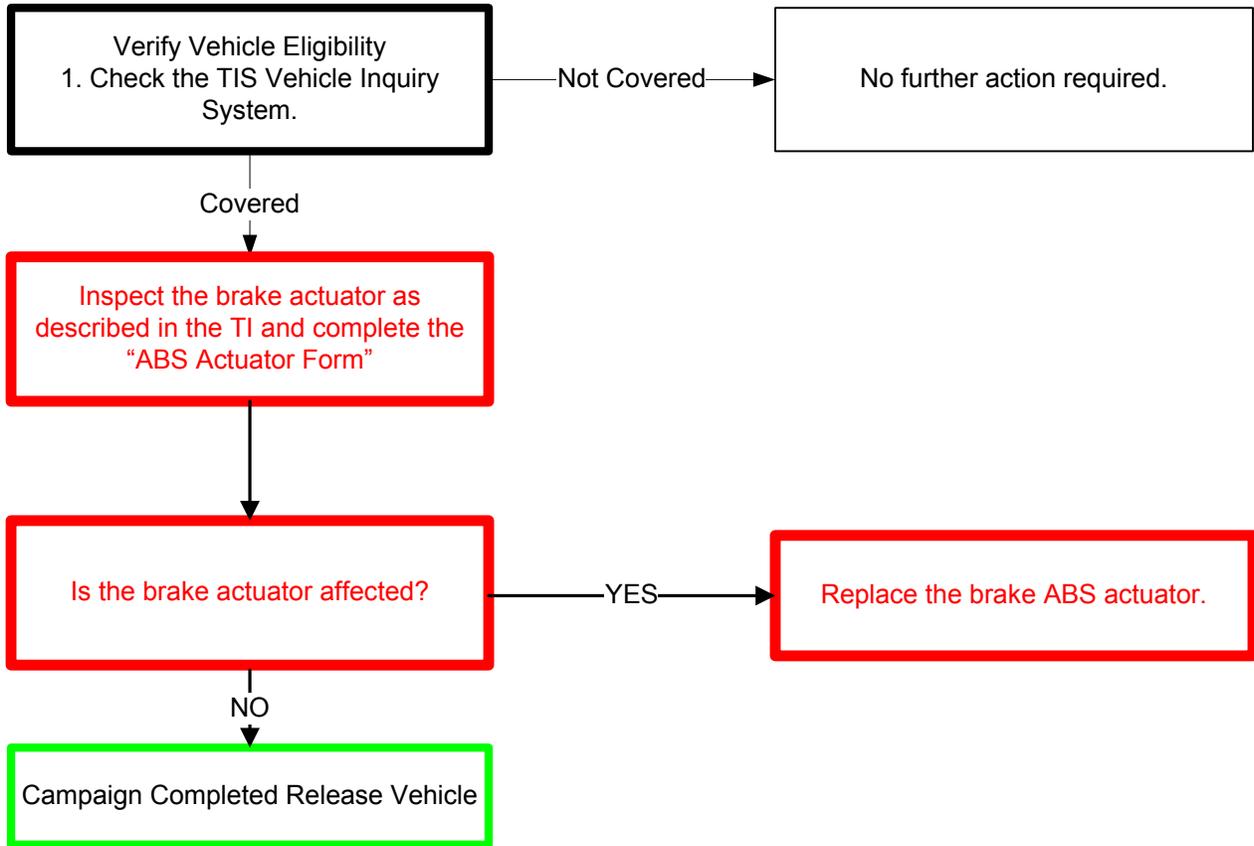
TECHNICAL INSTRUCTIONS
FOR
SAFETY RECALL FLC
BRAKE ACTUATOR ASSEMBLY INSPECTION/REPLACEMENT
CERTAIN 2015 MODEL YEAR NX200t

All dealership associates involved in the recall process are required to successfully complete E-Learning course LSC13A. 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 certifications levels:

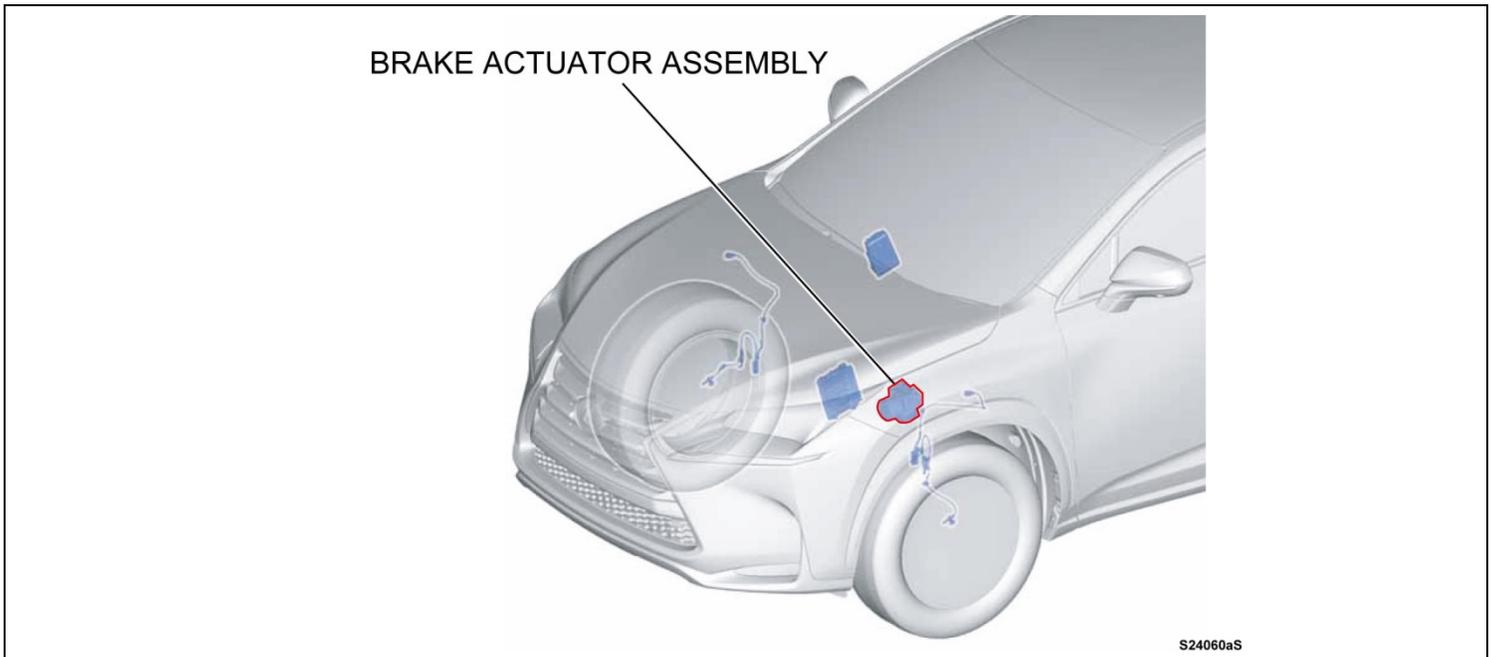
- Senior or Master Service Technician with w Self-Paced Module HL511A
- Senior or Master Diag. Specialist Technician w Self-Paced Module HL511A

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. BACKGROUND



The subject vehicles are equipped with an Anti-Lock Braking System (ABS), Traction Control System (TRAC), and Vehicle Stability Control System (VSC) which are controlled by the ABS actuator. There is a possibility that a component inside the actuator could be damaged during assembly and later not operate properly. Under some driving conditions, when the Anti-Lock Brakes are activated, this could cause a loss of vehicle stability, which can increase the risk of a crash.

III. IDENTIFICATION OF AFFECTED VEHICLES

A. COVERED VIN RANGE

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

IV. PREPARATION

A. PARTS

Not all vehicles will require a parts, actuator replacement is based on vehicle inspection results.

The brake actuator assembly varies based on vehicle options; use the Electronic Parts Catalog (EPC) to confirm the correct part for your vehicle.

Part Number	Part Description (Kit Contents)	Quantity
44050-78010	Brake Actuator Assembly	1
44050-78030	Brake Actuator Assembly (Cruise Control-MRT w/o Low Speed Limit Control)	1
44050-78050	Brake Actuator Assembly (F-Sport)	1
44050-78070	Brake Actuator Assembly (F-Sport w Cruise Control-MRT w/o Low Speed Limit Control)	1

B. MATERIALS

- Protective Gloves
- Paper Towels
- Fender Covers
- Vinyl Tube
- Plastic Bags
- Brake Fluid (SAE J1703 or DOT 3, approx. 6 Pints)

C. TOOLS & EQUIPMENT

- Techstream
- Standard Hand Tools
- 10mm Union Nut Wrench
- Torque Wrench
- Marker Pen

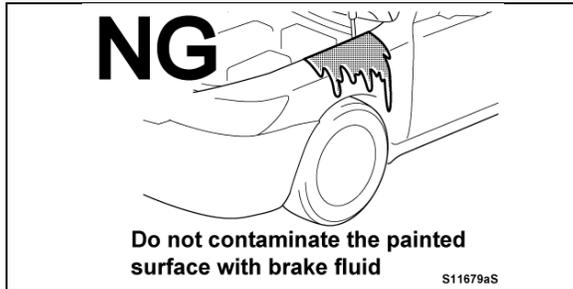
V. SAFETY PRECAUTIONS



CRITICAL INFORMATION – READ THOROUGHLY



These cautions should be observed when performing this campaign. Failure to follow these cautions could result in damaged parts or inadequate repair quality.



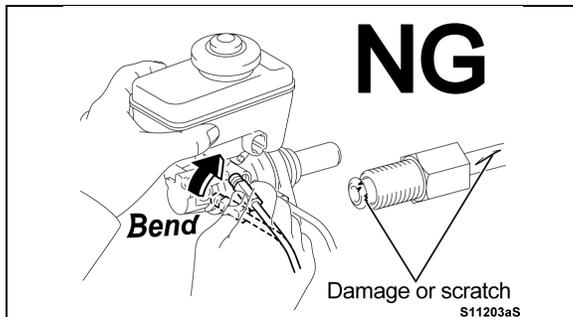
1. HANDLE BRAKE FLUID CAREFULLY

- DO NOT** allow brake fluid to contact any painted surfaces or the paint may be damaged.
- ALWAYS** use paper towels when disconnecting and reconnecting brake lines to prevent spillage.



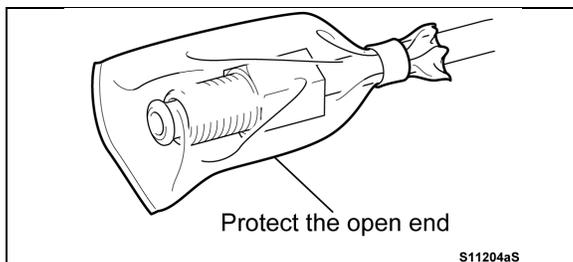
2. DO NOT USE CLOTH RAGS OR GLOVES

- DO NOT** use any fabric near the open brake system components to avoid threads and fibers from entering the braking system.



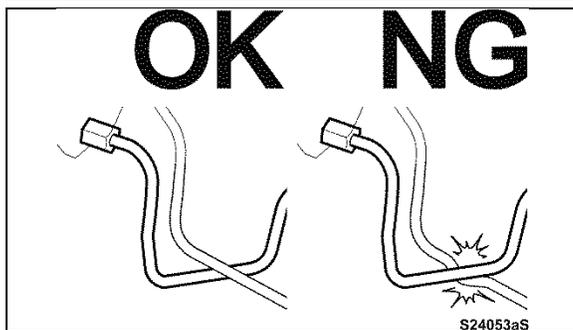
3. HANDLE THE BRAKE TUBES CAREFULLY

- DO NOT** deform or damage the brake tubes during removal or installation.



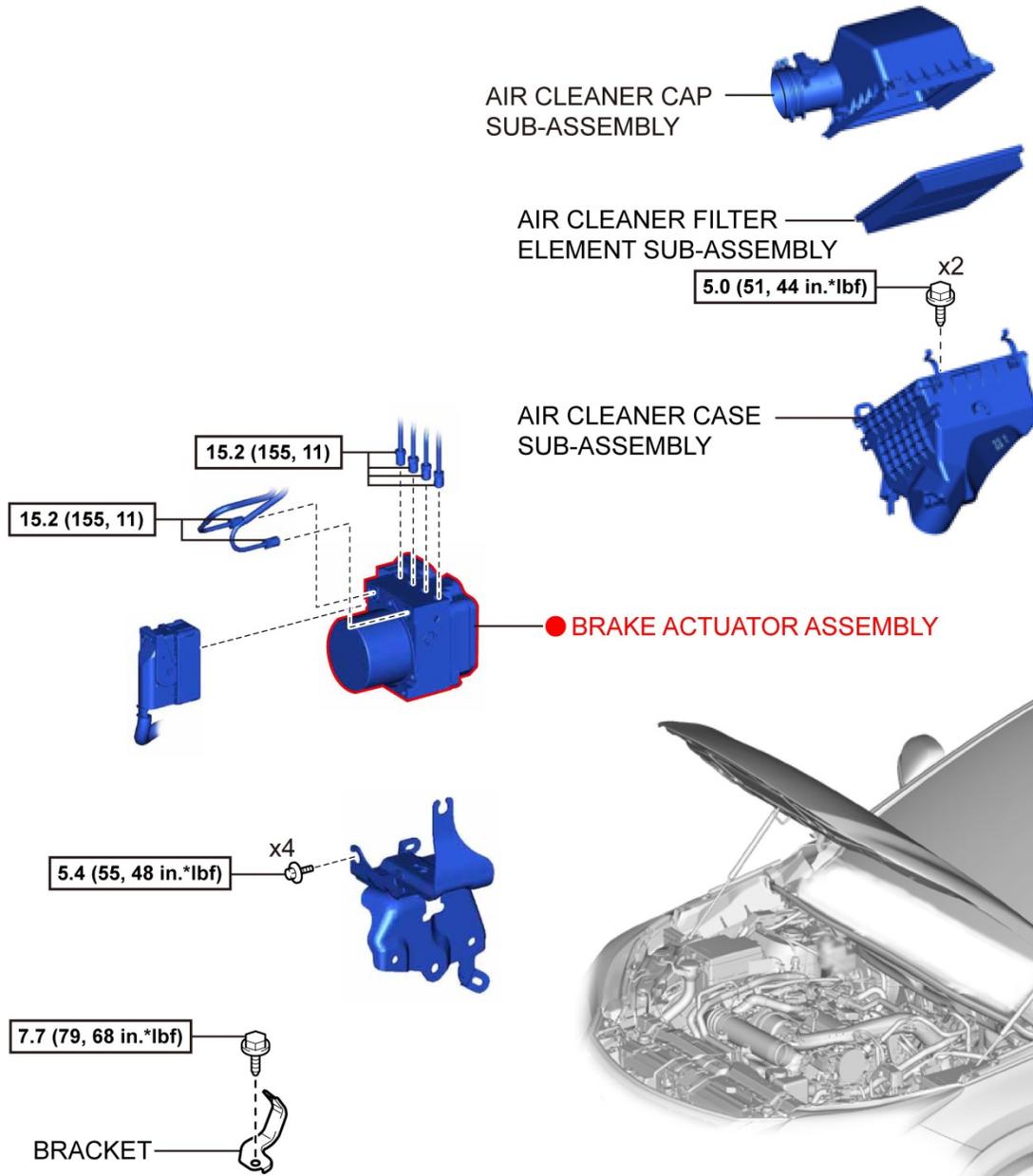
4. PROTECT THE BRAKE SYSTEM

- Clean components prior to disassembly to avoid contamination.
- Cover open components to avoid contamination.



5. DO NOT TWIST OR BEND BRAKE TUBES

VI. COMPONENTS



●: Component to be replaced

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

S24071aS

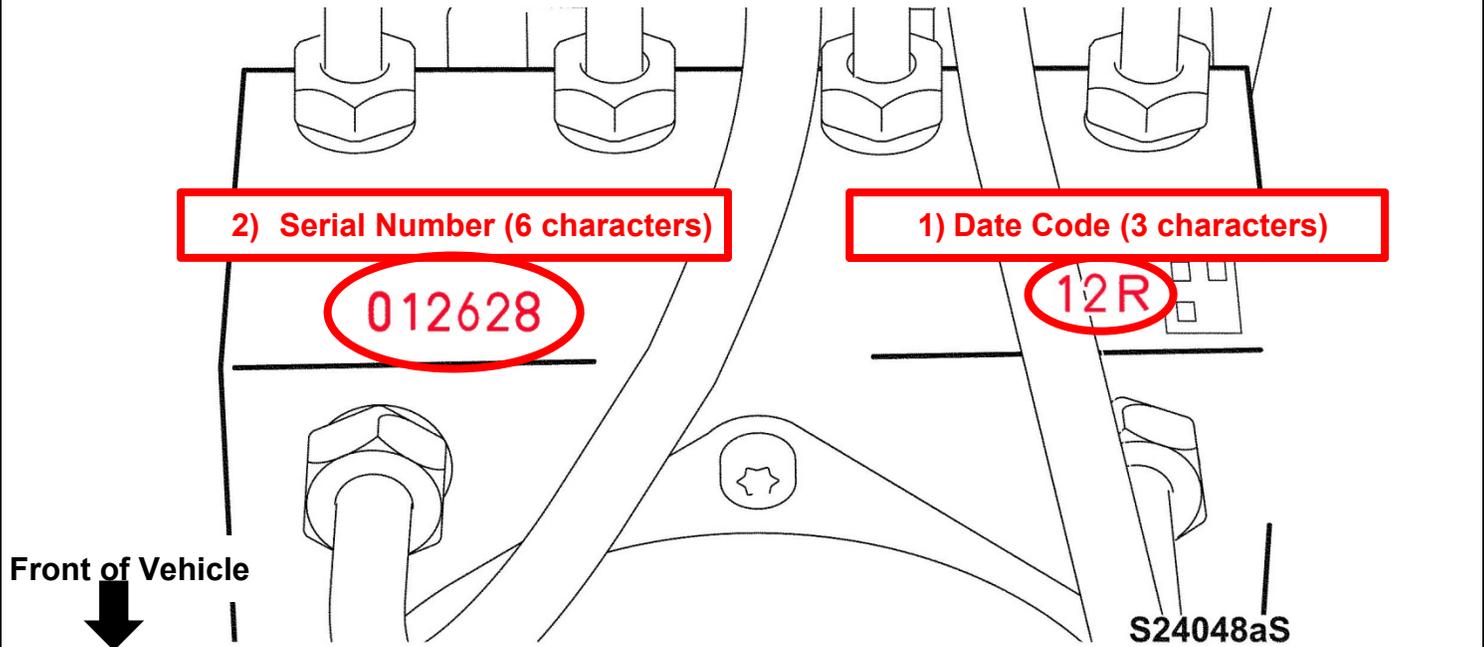
VII. BRAKE ACTUATOR INSPECTION

A. INSPECT THE BRAKE ACTUATOR



- It is important to carefully inspect the numbers stamped on the actuator assembly.
- Follow the process below exactly and **DO NOT SKIP A STEP!**
- There are two different sets of number that need to be inspected and must be inspected in a certain order:
 1. Date Code
 2. Serial Number

Actuator Date Code and Serial Number Locations



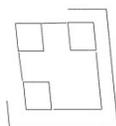
1. CHECK AND RECORD THE DATE CODE

- Click the link in blue and print a copy of the [“ABS Actuator Inspection Sheet”](#)
- Confirm the date code on the actuator and record it onto the ABS Actuator Inspection Sheet.

Note: The inspection sheet is required to be filled out and filed with the R.O.

Date Code

12R



S24049aS

Date Code Spec	Action Required
“12R”	Continue inspection and go to step 2
Anything Else	Actuator NOT Affected, Campaign Complete!

NOTE: The date code can be difficult to read due to the small font size, visual interference from the brake line, and the lite etched numbers. Here are some ideas you can use to help ensure you can read the date code:

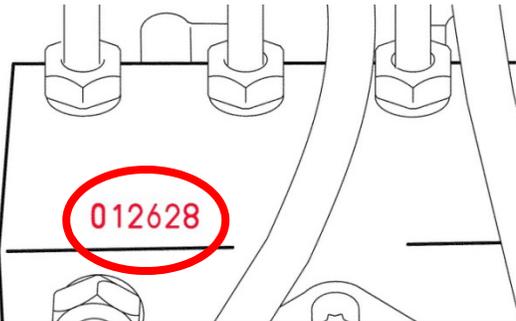
- Take a clear photo that can be enlarged to make a clear judgment.
- Use a bore scope that can display the image.
- Have someone confirm your results

2. CHECK AND RECORD THE SERIAL NUMBER

- Confirm the 6 character serial number on the actuator and record it onto the "ABS Actuator Inspection Sheet".
- After recording the serial number, record the result on the inspection sheet and file it with the R.O.
- If **NG** continue with brake actuator replacement.

NOTE: The serial number is difficult to read due to the small font size, interference from the brake line, and the lite etched numbers. Here are some ideas you can use to help ensure you can read it correctly.

- Take a clear photo that can be enlarged to make a clear judgment.
- Use a bore scope that can display the image.
- Have someone confirm your results



Serial Number Spec	Status	Result
002469 to 012218	Inside Of Range	NG
Serial Outside of Range	Outside of Range	OK

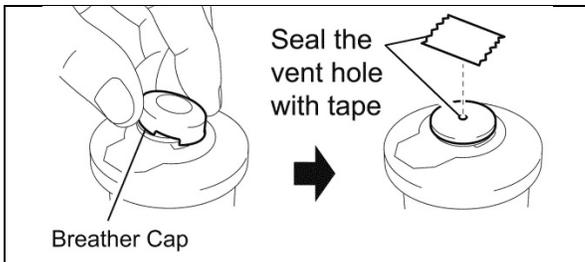
VIII. BRAKE ACTUATOR REMOVAL

A. CONFIRM VEHICLE CONDITION

- PERFORM A HEALTH CHECK TO CONFIRM VEHICLE CONDITION
- RECORD RADIO PRESETS
- RECORD HVAC SETTINGS

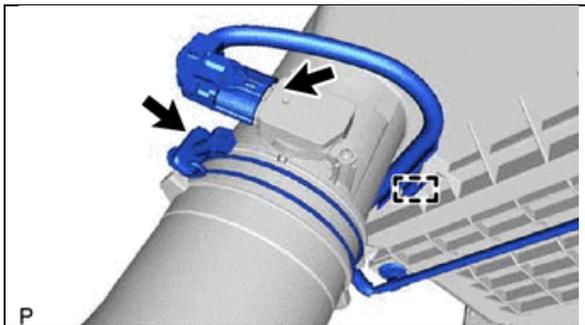
B. BRAKE ACTUATOR REMOVAL

1. DISCONNECT THE BATTERY



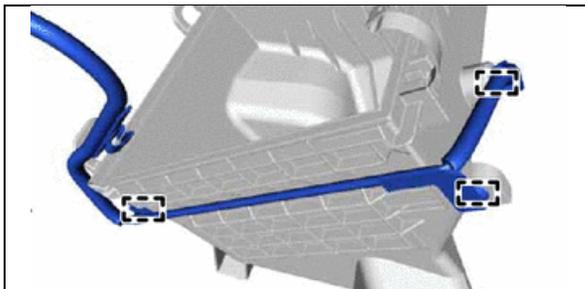
2. SEAL BRAKE MASTER CYLINDER RESERVOIR TANK

- Remove the breather cap from the reservoir tank.
- Apply a piece of tape over the breather hole to minimize the amount of brake fluid that spills out when the brakelines are disconnected.

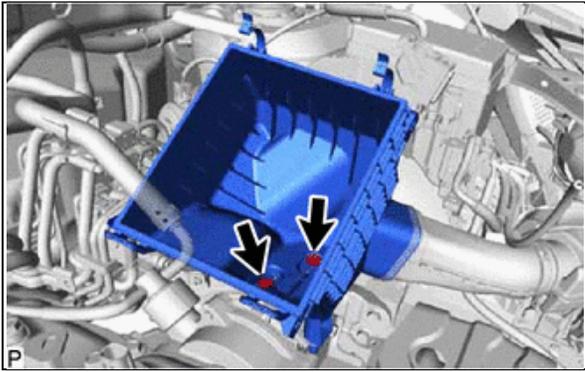


3. REMOVE THE AIR CLEANER

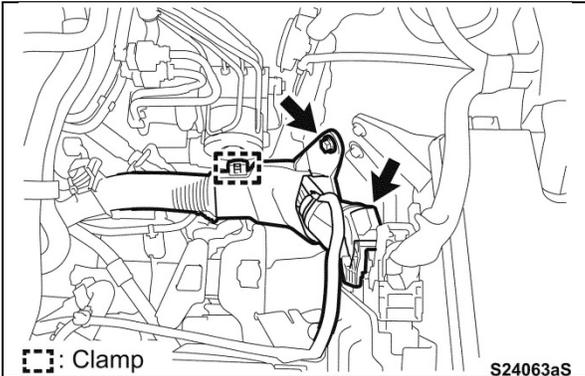
- Disconnect the mass airflow sensor connector.
- Remove the wire harness clamp from the air cleaner lid.
- Remove the 2 clips, loosen the hose clamp, and remove the air cleaner lid.
- Remove the air cleaner element.



- Remove the 3 wire harness clamps from the lower air cleaner assembly.



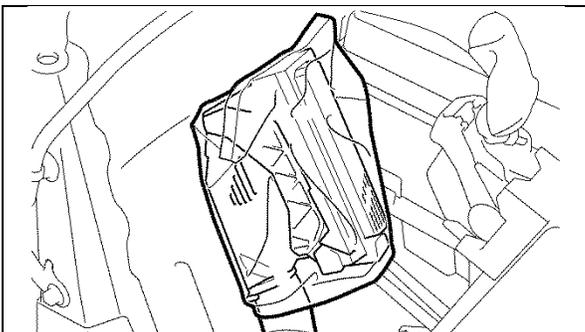
- f) Remove the 3 bolts and remove the lower air cleaner assembly.



4. MOVE ECM WIRE HARNESS

- a) Disconnect the connect at the bottom of the ECM

- b) Remove the clamp and bolt.

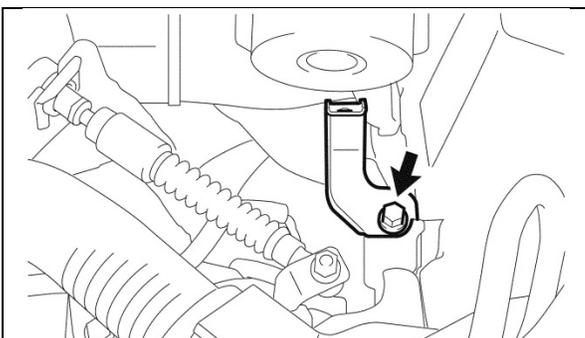


- c) Protect the disconnected connector with a plastic bag.

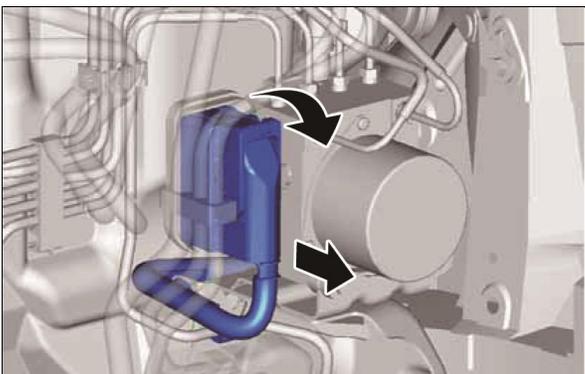


Use caution to prevent the connector from being contaminated with water or dirt when disconnecting it and place it in a plastic bag.

- d) Move the wire harness toward the front of the vehicle to access the actuator and it mounting bolts

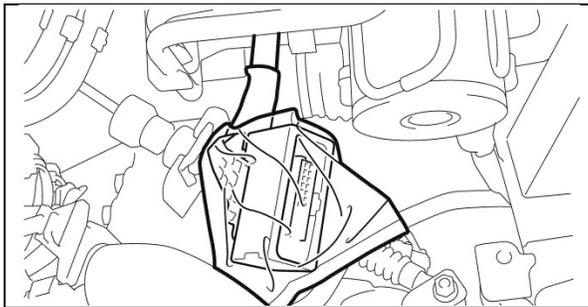


5. REMOVE WIRE HARNESS BRACKET

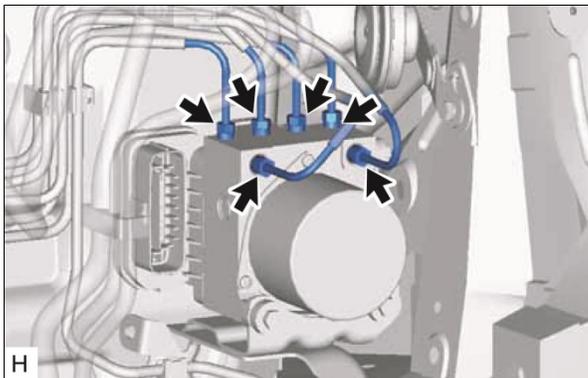


6. DISCONNECT BRAKE ACTUATOR CONNECTOR

- a) Pull the connector lock lever toward the front of the car and disconnect the connector.

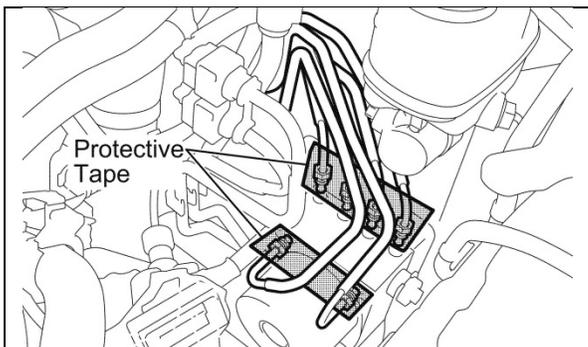


- b) Place the brake actuator connector into a bag to protect it from brake fluid.
- c) Move the connector so that it will not be impeded with the actuator removal.

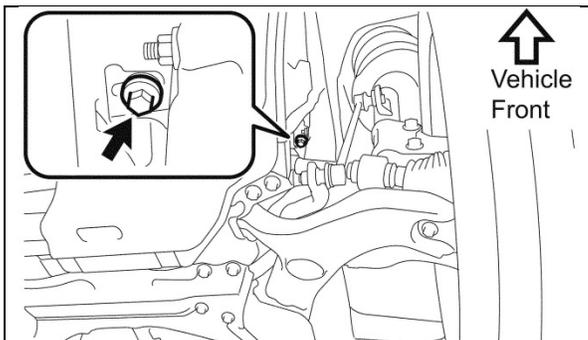


7. DISCONNECT BRAKE LINES

- a) Place a paper towel under the actuator to catch brake fluid as the brake lines are removed.
- b) Using a 10 mm union nut wrench; disconnect the 6 brake lines from the actuator.



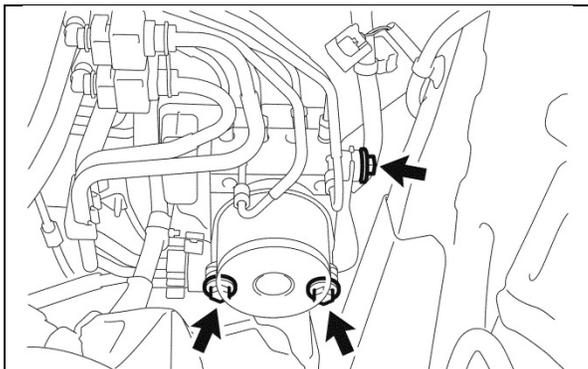
- c) Protect the brake tubes with protective tape or plastic caps to prevent damage to the brake lines.



8. REMOVE BRAKE ACTUATOR

- a) Using a 10mm socket remove the bolt on the underside of the actuator.

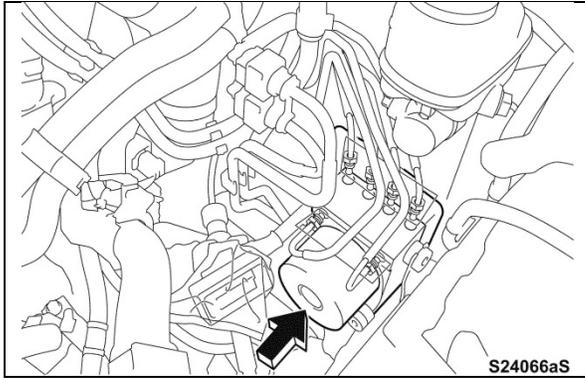
Note: The bolt may be able to be accessed from the top side by some technicians; however due to the tight clearance it is recommended that you raise the vehicle to perform this step.



- b) Remove the remaining 3 bolts.
- c) Wrap the brake actuator with paper towels to prevent the fluid from dripping onto the vehicle's painted surface.

Note: The protective caps provided with the new actuator can also be used to help prevent the brake fluid from leaking when removing the actuator.

IX. NEW ACTUATOR INSTALLATION

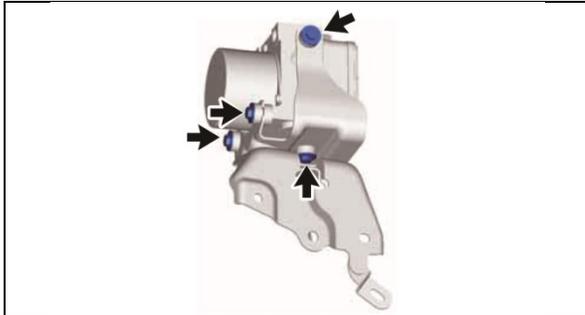


1. INSTALL **NEW** BRAKE ACTUATOR

- Carefully install the **NEW** brake actuator.



Use caution when installing the new actuator because it is prefilled with brake fluid. It is recommended that you leave the protective caps in the actuator until it is completely installed in the vehicle.



- Install the 4 bolts and torque to spec.

Specified torque:

48 in.*lbf (5.4 N*m , 55 kgf*cm)

- Remove the 6 protective caps from the **NEW** brake actuator.

2. CONNECT THE BRAKE LINES

- Remove the protective tape from the brake lines.
- Connect the 4 brake lines at the top of the actuator.

Note: Ensure that the brake tube is inserted completely into the actuator while tightening the nut by hand.

- Using a 10mm union nut wrench, tighten the 4 brake tubes to spec.

Specified torque:

11 ft.*lbf (15.2 N*m , 155 kgf*cm)

- Remove the protective tape from the brake lines.
- Connect the 2 brake lines on the side of the actuator.

Note: Ensure that the brake tube is inserted completely into the actuator while tightening the nut by hand.

- Using a 10mm union nut wrench, tighten the 4 brake tubes to spec.

Specified torque:

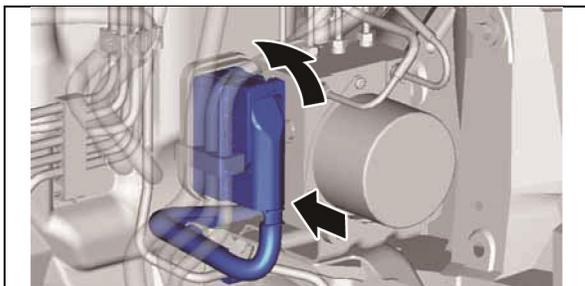
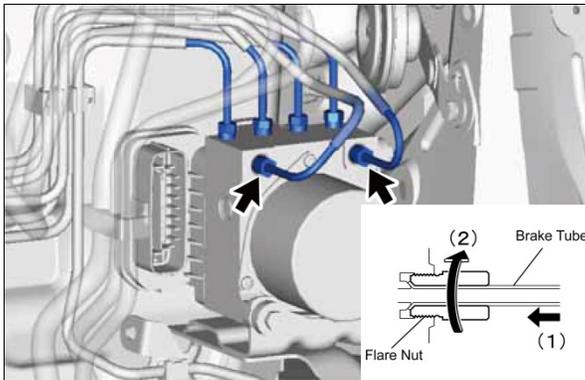
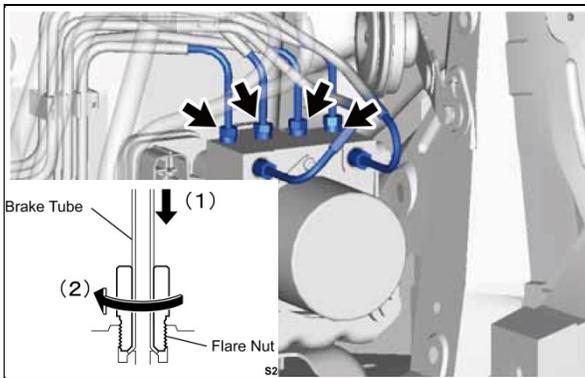
11 ft.*lbf (15.2 N*m , 155 kgf*cm)

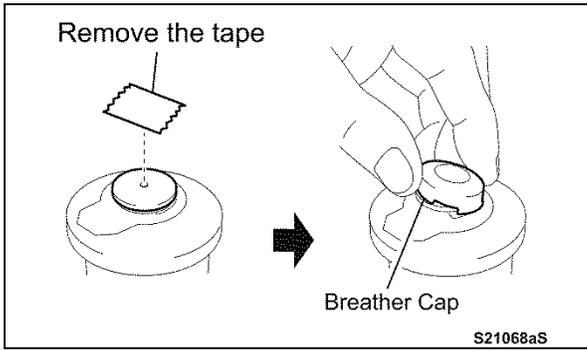
3. RECONNECT BRAKE ACTUATOR CONNECTOR

- Remove the plastic bag from the connector.
- Reconnect the connector to the actuator and return the lever to the lock position.

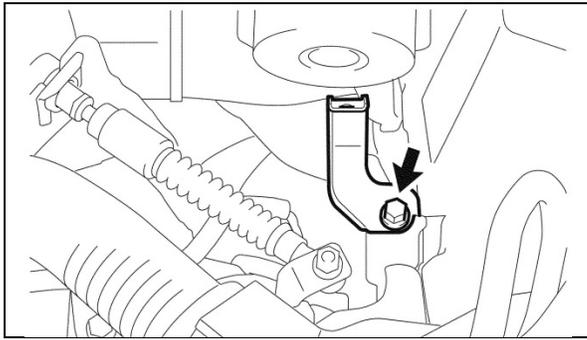


Ensure that the lever is in the lock position and fully engaged.



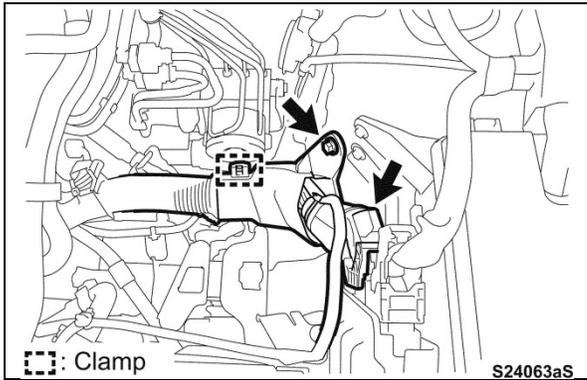


4. REMOVE THE TAPE FROM THE RESERVOIR CAP AND REINSTALL BREATHER CAP.



5. REINSTALL THE ECM WIRE HARNESS BRACKET

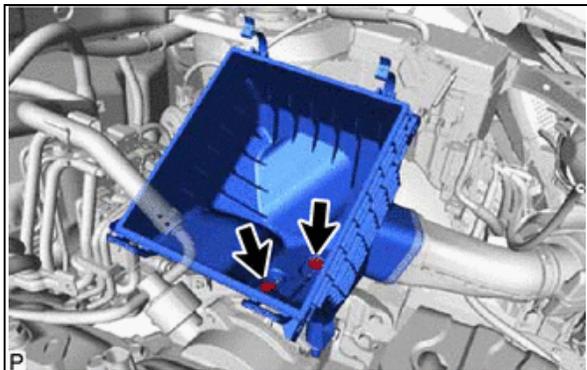
Specified torque:
68 in.*lbf (7.7 N*m , 79 kgf*cm)



6. REINSTALL THE ECM WIRE HARNESS

- Reconnect the connector and lock it with the lever.
- Fasten the clamp.
- Reinstall the bolt and torque it to spec.

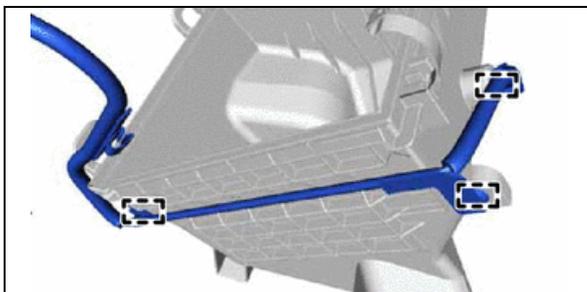
Specified torque:
74 in.*lbf (8.4 N*m , 86 kgf*cm)



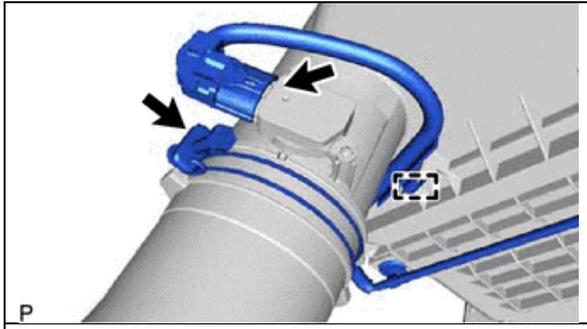
7. REINSTALL THE AIR CLEANER ASSEMBLY

- Reinstall the lower air cleaner assembly.
- Reinstall the 2 bolts and torque to spec.

Specified torque:
44 in.*lbf (5.0 N*m , 51 kgf*cm)



- Attach the 3 wire harness clamps.



- d) Reinstall the air filter element.
- e) Reinstall the air cleaner lid.
- f) Attach the wire harness clamp and connect the mass airflow sensor connector.
- g) Tighten the hose clamp on the air cleaner intake tube.

8. RECONNECT THE NEGATIVE BATTERY CABLE

9. BLEED BRAKE SYSTEM

- a) Refer to the repair manual and Techstream for the brake bleeding procedure.

[RM Brake Bleeding Procedure](#)

Note:

- You must use Techstream to bleed the brake system.
- Follow the brake bleed utility exactly. The brake bleed function will repeat 6 times for each brake circuit (FR/LR, and FL/RR).
- Constantly monitor brake fluid level to ensure air does not get introduced into the system during the bleeding procedure.

10. CONFIRM THERE IS NO LEAKAGE FROM BRAKE SYSTEM

11. TOP OFF BRAKE FLUID AS NECESSARY

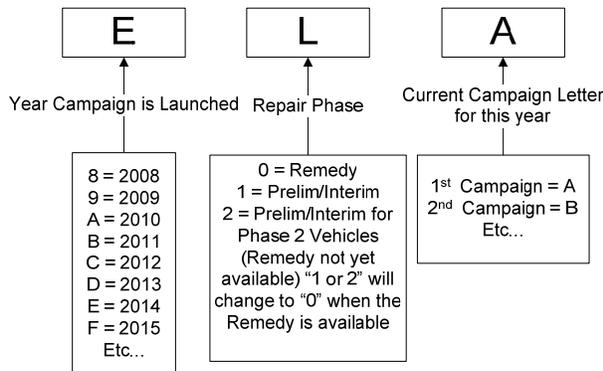
◀ VERIFY REPAIR QUALITY ▶

- Confirm that the inspection was followed properly
- Confirm that the brake lines were installed in the correct location
- Confirm that the brake system is properly bled
- Confirm that there is no leaks in the brake system
- Confirm that the brake fluid level is full

If you have any questions regarding this update, please contact your area 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.***