

**TECHNICAL INSTRUCTIONS**  
**FOR**  
**SPECIAL SERVICE CAMPAIGN F0U**  
**EXHAUST PIPE REPLACEMENT FOR CATALYTIC CONVERTER**  
**CERTAIN 2010- 2014 MODEL YEAR TACOMA 2TR-FE VEHICLES**

***UPDATED NOVEMBER 30, 2015***

**Updated 11/30/15**

**– The parts section has been updated for the 2010 MY.**

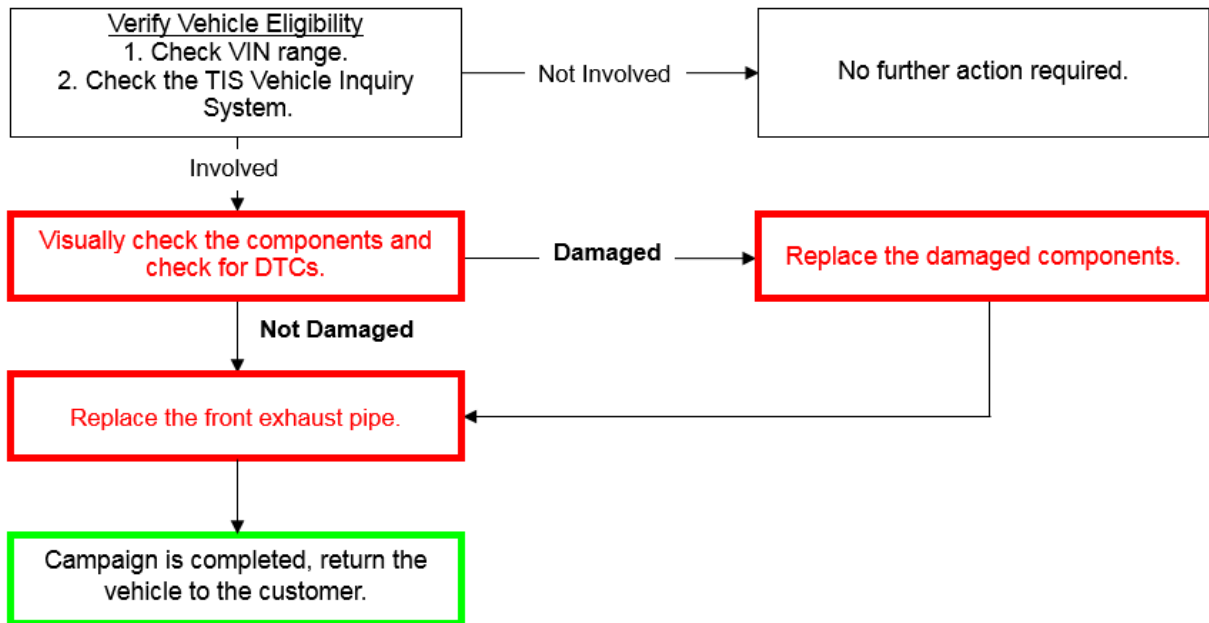
**The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this procedure are required to successfully complete the most current version of the E-Learning course “Safety Recall and Service Campaign Essentials” To ensure that all vehicles have the repair performed correctly; technicians are required to currently hold at least one of the following certification levels to perform this operation:**

- \*Toyota Certified**
- \*Toyota Expert**
- Master**
- Master Diagnostic Technicians**

**\*Note: Certified technicians can perform the inspection and catalytic converter replacement, however if the inspection determines that the vehicle requires additional electrical repairs it must be performed by a technician that is Toyota Expert or above.**

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

### A. COVERED VIN RANGE

- Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Safety Recall, 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.

## III. PREPARATION

### A. PARTS

**THE OLD CATALYTIC CONVERTERS MUST BE RETURNED TO TOYOTA, GO TO SECTION VIII FOR CATALYTIC CONVERTER SHIPPING PREPARATION.**

Model Year	Trans.	Part Number	Part Description	Qty.
2010	AT/MT	17410-0C100	PIPE ASSY, EXHAUST, FR	1
2011-2012	A/T	17410-0C120	PIPE ASSY, EXHAUST, FR	1
	M/T	17410-0C100	PIPE ASSY, EXHAUST, FR	1
2013-2014	MT/AT	17410-0C150	PIPE ASSY, EXHAUST, FR	1
2010-2014		17451-0D020	GASKET, EXHAUST PIPE	1
		90080-43033	GASKET, EXHAUST PIPE	1
		90177-A0004	NUT, LOCK	2
		90080-10064	BOLT, FLANGE	2
		90080-10291	BOLT	2

### B. TOOLS & EQUIPMENT

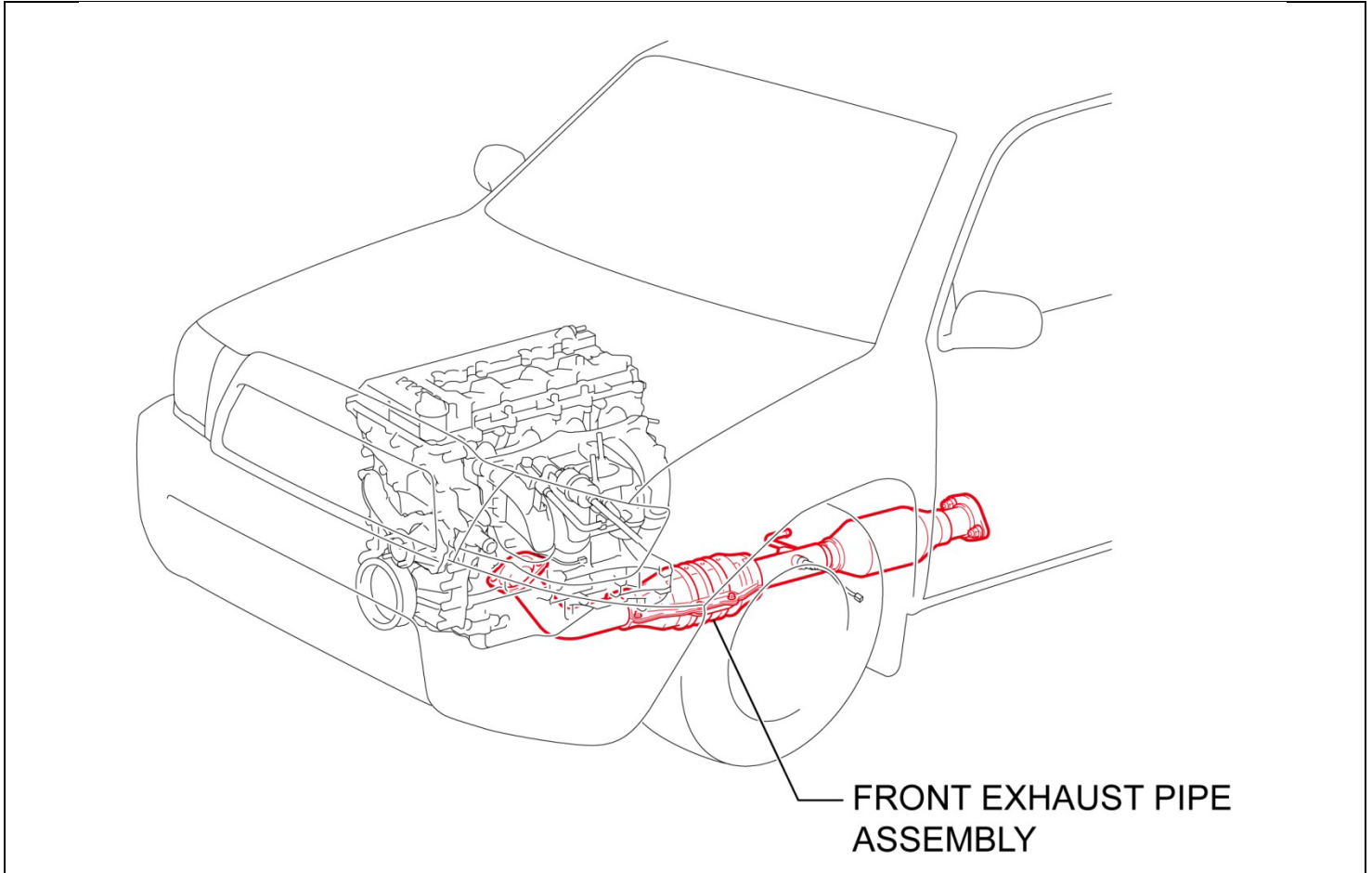
- Techstream
- Standard Hand Tools
- Vernier Calipers
- Protective Glasses
- Wooden Pieces
- Inspection Mirror
- Protective Gloves
- Torque Wrench

**SST-** These are essential special service tools that the dealership should have.

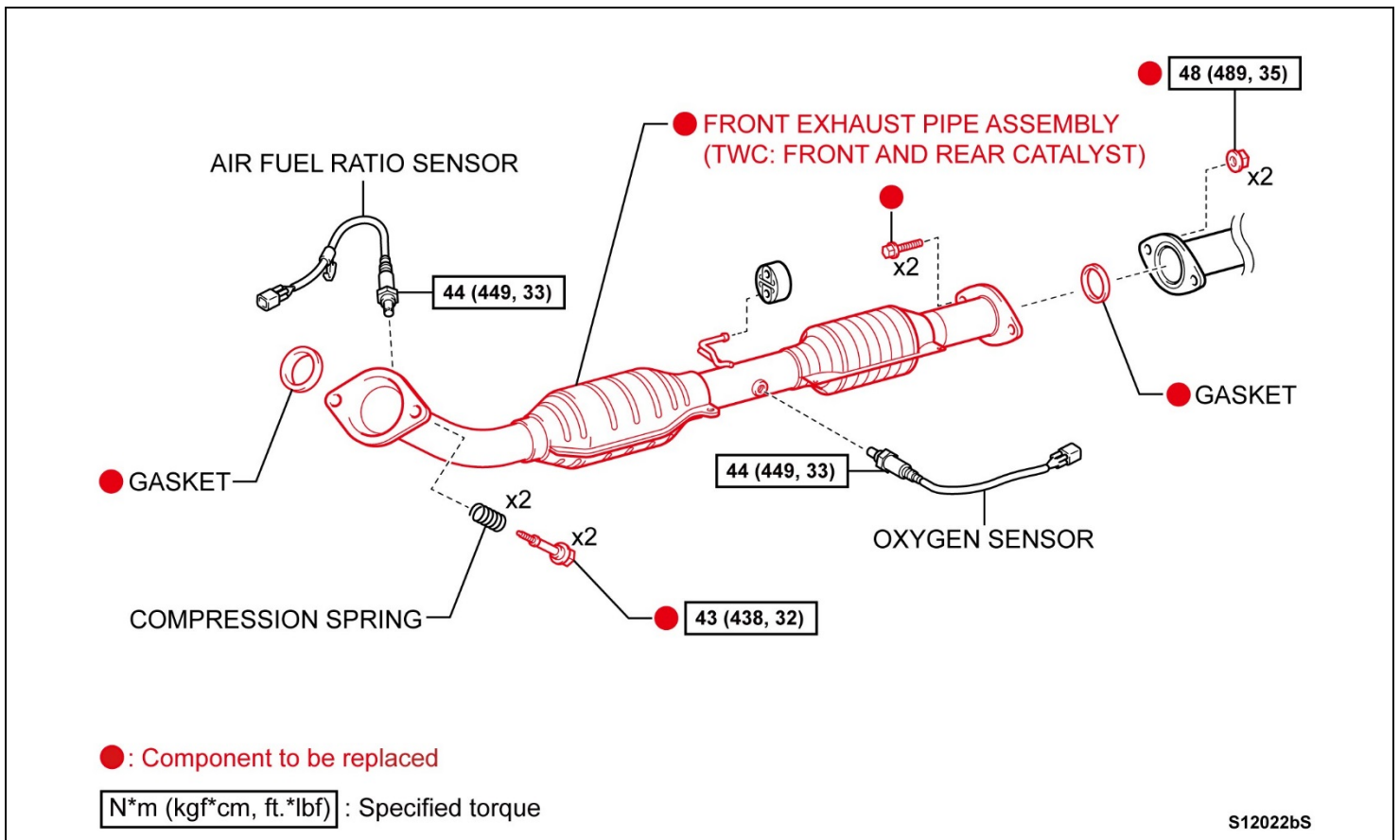
Part Number	Description	Quantity
09224-00010	O2 Sensor Wrench	1

## IV. BACKGROUND

In the subject vehicles the front catalytic converter internal components may become deteriorated and begin to rattle. If continually operated in this condition, the deteriorated components could become dislodged and restrict the exhaust flow. If this occurs, the vehicle may illuminate a check engine light, and, depending on the level of exhaust restriction, the vehicle may experience a reduction in power.



## V. COMPONENTS



## VI. VISUAL INSPECTION AND DTC CHECK

### A. CHECK FOR DTCS

Note: If DTCs are present record the DTC and continue with the visual inspection prior to performing any repairs.

### B. UNDERHOOD COMPONENT INSPECTION

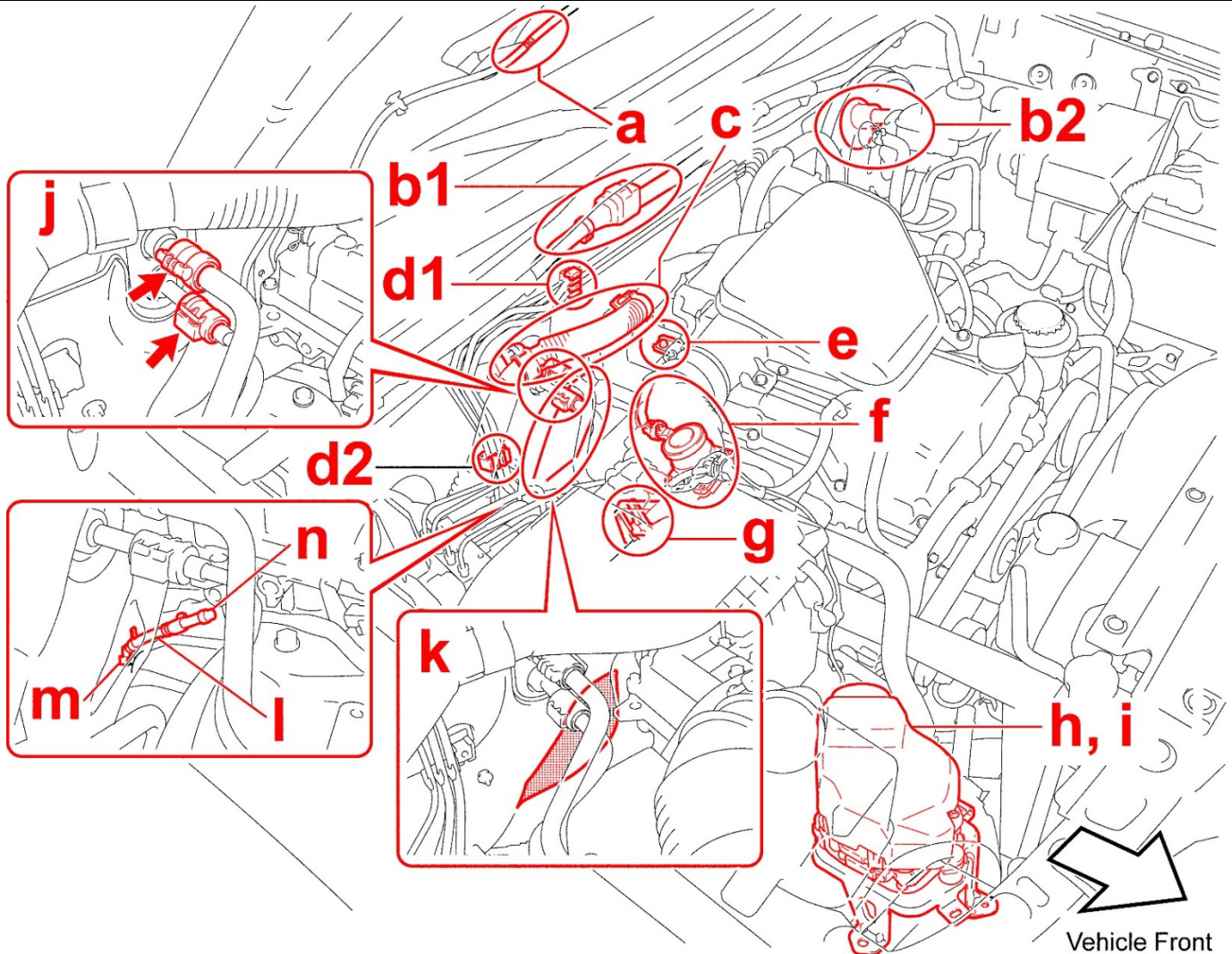
#### 1. INSPECT THE FOLLOWING COMPONENTS UNDER THE HOOD FOR HEAT DAMAGE

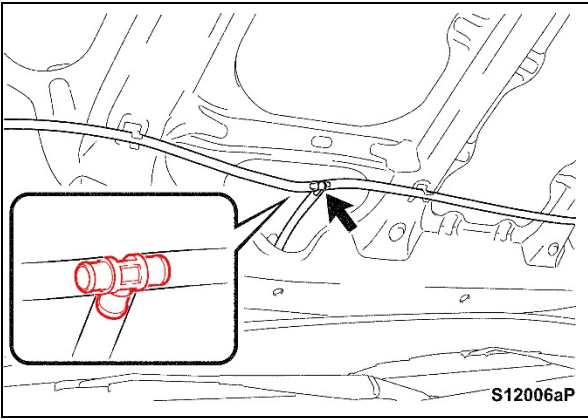
Note: The following pages of the TI have more detailed pictures of each component to be inspected. The picture below is to assist you in locating the component within the engine bay.



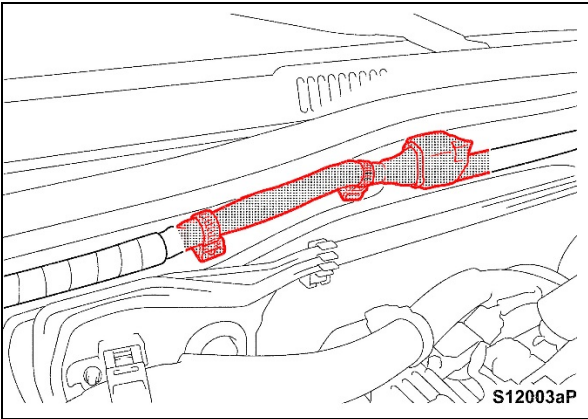
Heat damaged components should be very rare, if you do find a damaged component it is required that a TAS case is created with pictures attached of the damage. This TAS case will be reviewed by your FTS for parts and repair time approval. For damaged component replacement please refer to the supplemental technical instructions.

a	Windshield Washer Hose Joint	b1 b2	Engine Room Main Wire Harness
c	Engine Wire	d1 d2	Brake Tube Clamp
e	Intake Air Connector	f	Air Switching Valve Assembly
g	Air Cleaner Assembly	h	Air Pump Cover (if equipped)
i	Air Pump Assembly	j	Piping Clamp
k	Outer Dash Panel Insulator (if equipped)	l	Breather Plug Hose (Auto Trans Only)
m	No. 1 Breather Plug (Auto Trans Only)	n	No. 2 Breather Plug (Auto Trans Only)





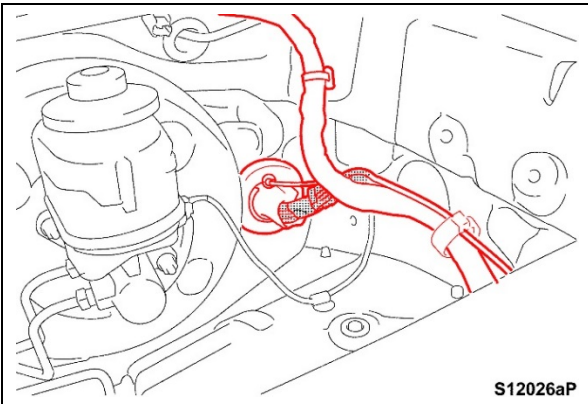
**a. INSPECT WINDSHIELD WASHER HOSE JOINT FOR HEAT DAMAGE**



**b. ENGINE ROOM MAIN WIRE HARNESS**

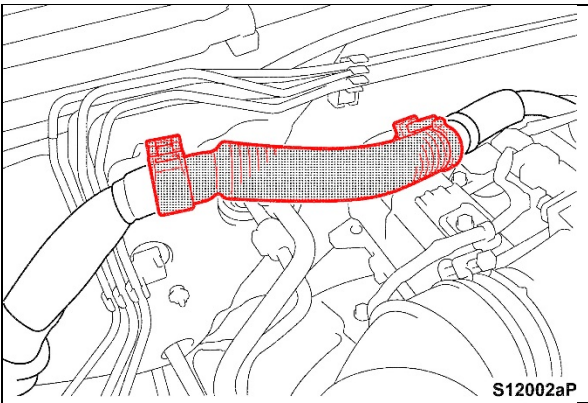
1. Check the engine room wire harness in the area highlighted for heat damage.

**Note:** The area highlighted is the most probable location where heat damage will occur, but be sure to inspect all areas that get close to the exhaust.



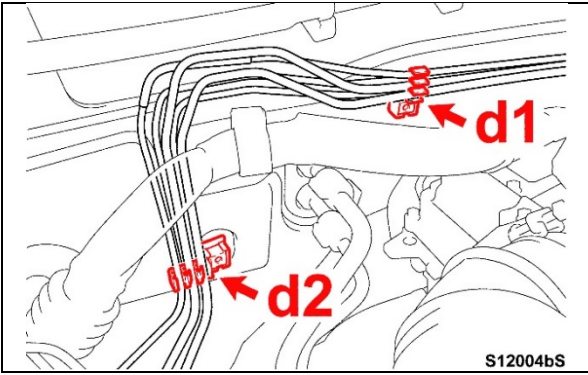
2. Check the wire harness in the area highlighted for heat damage.

**Note:** The area highlighted is the most probable location where heat damage will occur, but be sure to inspect all areas that get close to the exhaust.



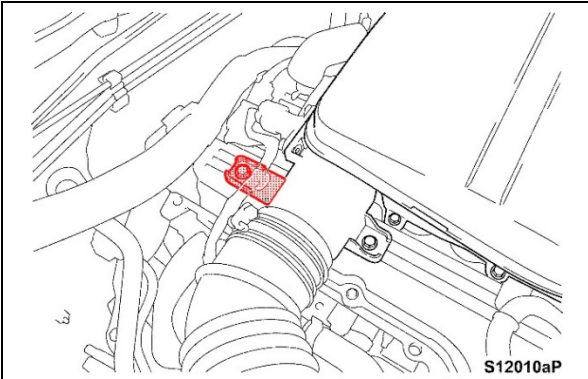
**c. INSPECT THE ENGINE WIRE HARNESS FOR HEAT DAMAGE IN THE HIGHLIGHTED AREA**

**Note:** The area highlighted is the most probable location where heat damage will occur, but be sure to inspect all areas that get close to the exhaust.

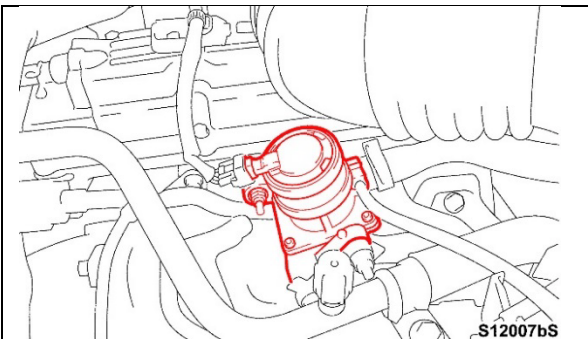


**d. BRAKE TUBE CLAMP INSPECTION**

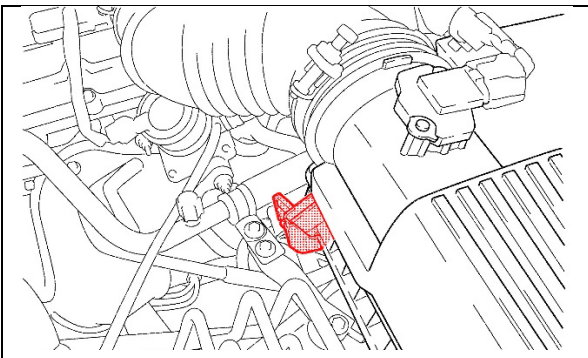
1. Inspect the two brake tube clamps on the bulk head for heat damage.



**e. INSPECT THE INTAKE AIR CONNECTOR FOR HEAT DAMAGE.**

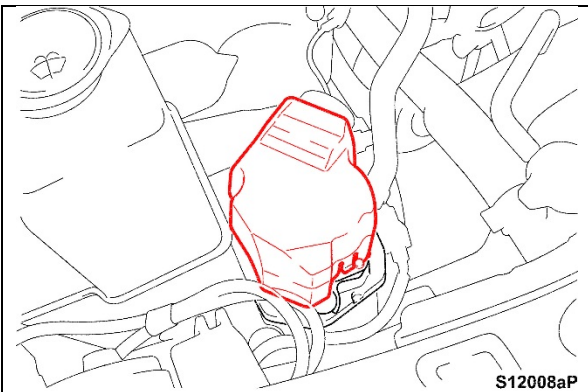


**f. INSPECT THE AIR SWITCHING VALVE FOR HEAT DAMAGE**

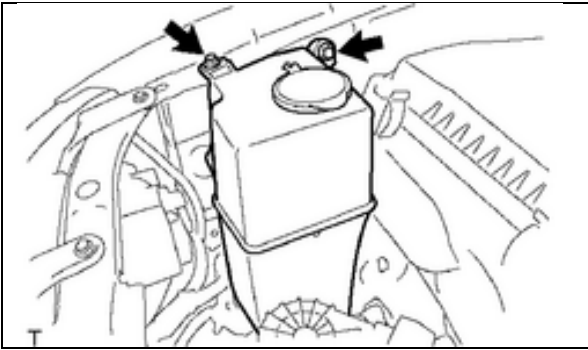


**g. INSPECT THE AIR CLEANER ASSEMBLY FOR HEAT DAMAGE**

**Note:** The area highlighted is the most probable location where heat damage will occur, but be sure to inspect all areas that get close to the exhaust.



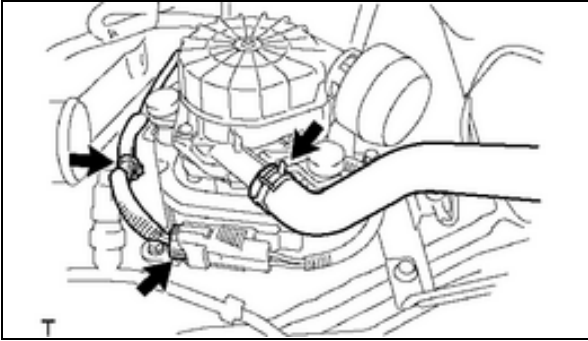
**h. INSPECT AIR PUMP COVER FOR HEAT DAMAGE (If Equipped)**



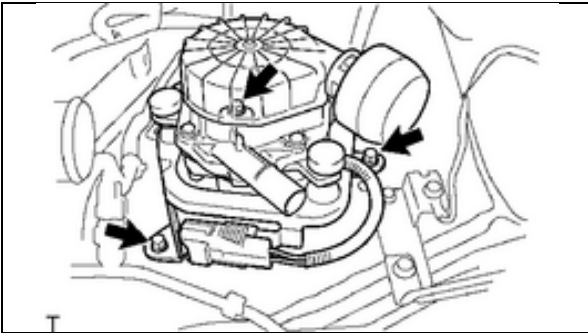
**i. AIR PUMP ASSEMBLY INSPECTION (Requires Removal)**

1. Remove the two bolts securing the washer fluid tank.

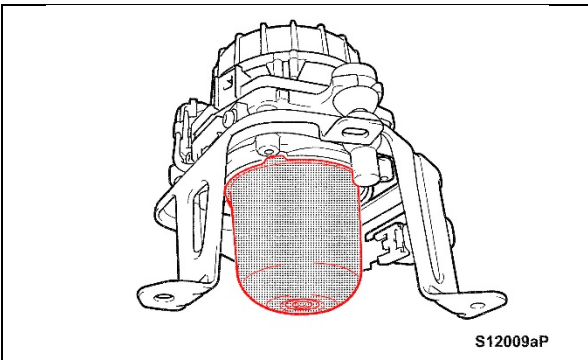
**Note: This will allow you to move the washer fluid tank and give you more room when removing the air pump.**



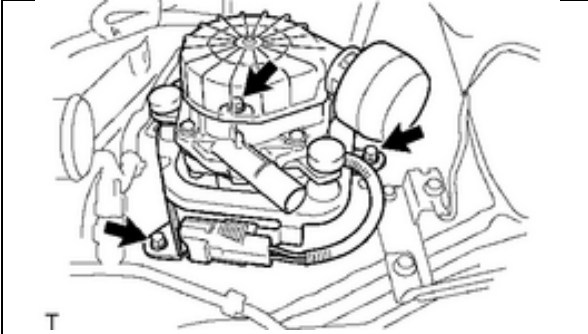
2. Disconnect the air injection system No.1 hose.
3. Disconnect the air pump connector and wire harness clamp.



4. Remove the 3 bolts and remove the air pump and bracket assembly.



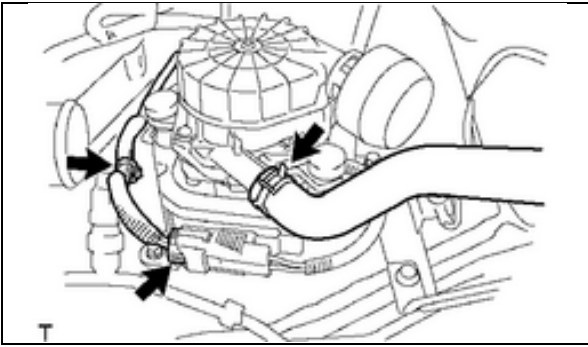
5. Inspect the air pump for heat damage in the highlighted area.



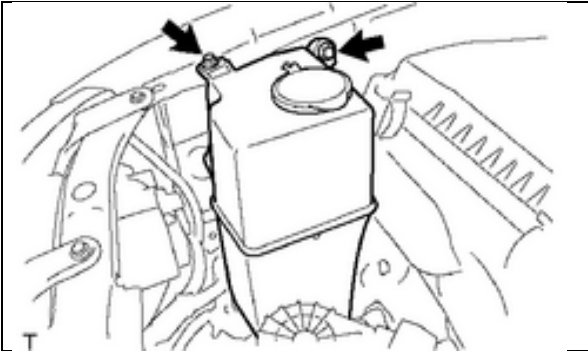
6. Reinstall the air pump and bracket with the 3 bolts.

**Torque Spec: 13ft-lbf (184 kgf-cm, 18 Nm)**



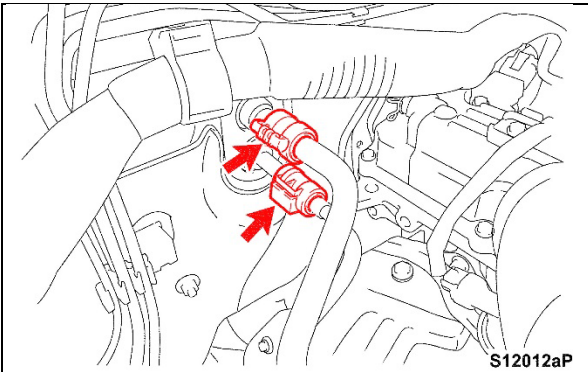


7. Reconnect the air pump connector and wire harness clamp.

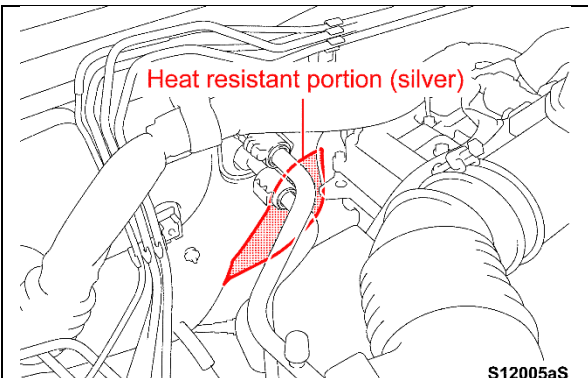


8. Reinstall the 2 washer fluid tank bolts.

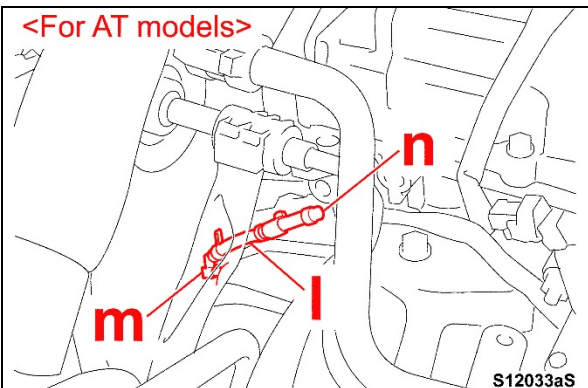
**Torque Spec: 49in-lbf (56 kgf-cm, 6 Nm)**



**j. INSPECT THE A/C PIPING CLAMPS FOR HEAT DAMAGE**



**k. INSPECT THE OUTER DASH PANEL INSULATOR (If Equipped)**



**INSPECT THE FOLLOWING FOR HEAT DAMAGE**

- l. AUTO TRANS BREATHER HOSE**
- m. NO. 1 BREATHER PLUG**
- n. NO. 2 BREATHER PLUG**

### C. UNDER VEHICLE COMPONENT INSPECTION

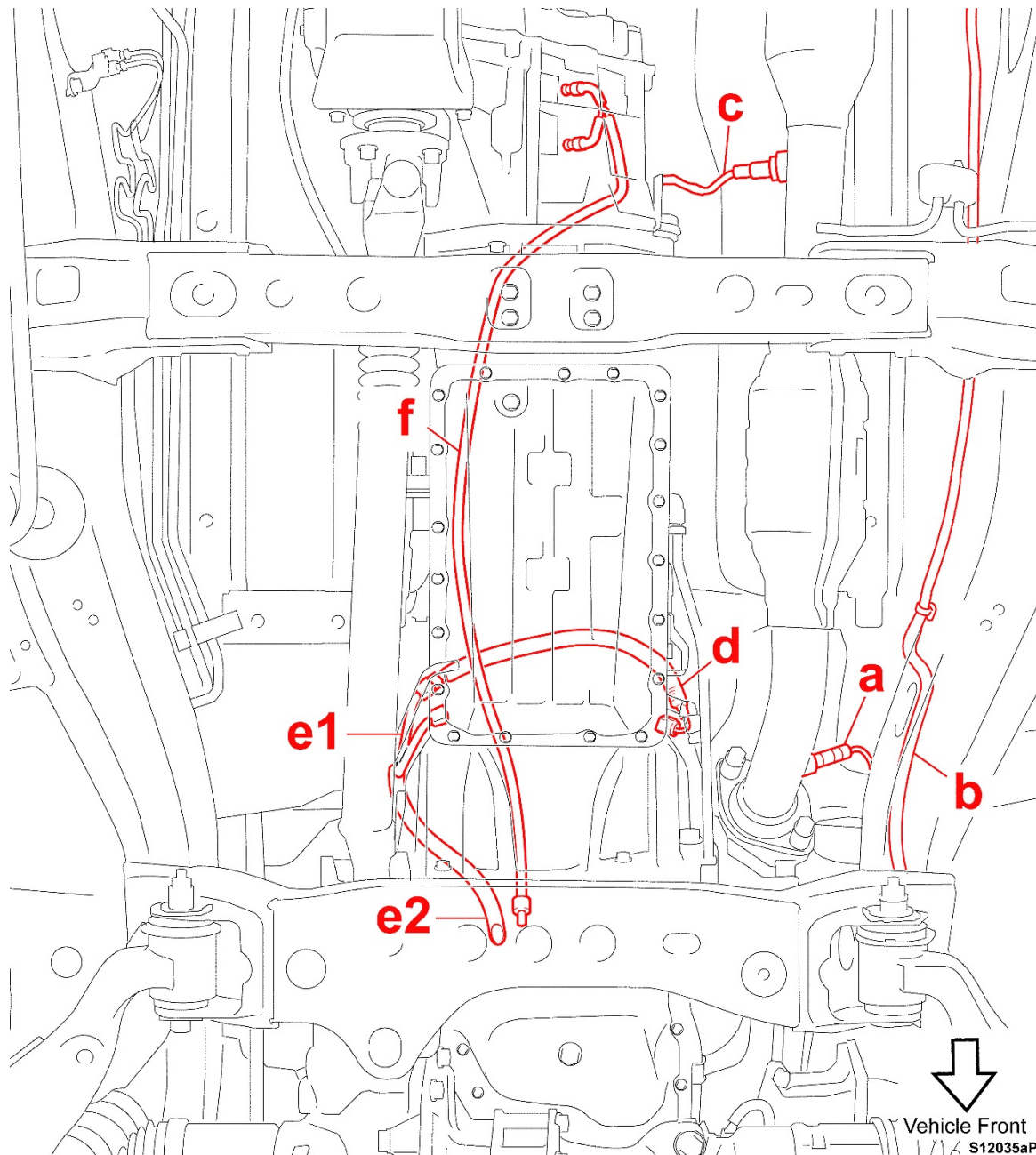
#### 2. INSPECT THE FOLLOWING COMPONENTS UNDER THE VEHICLE FOR HEAT DAMAGE

Note: The following pages of the TI have more detailed pictures of each component to be inspected. The picture below is to assist you in locating the component.

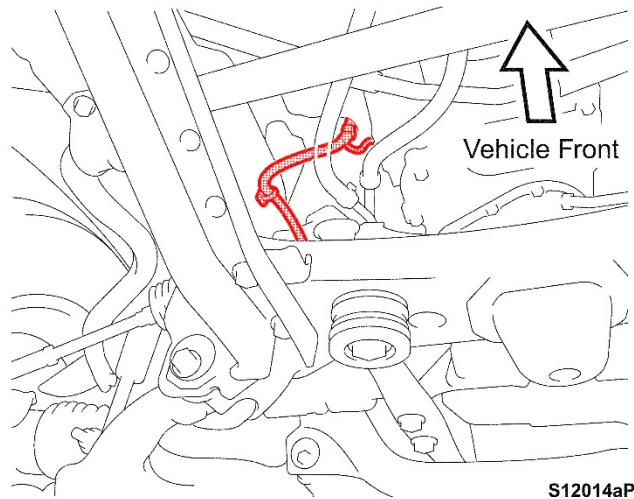
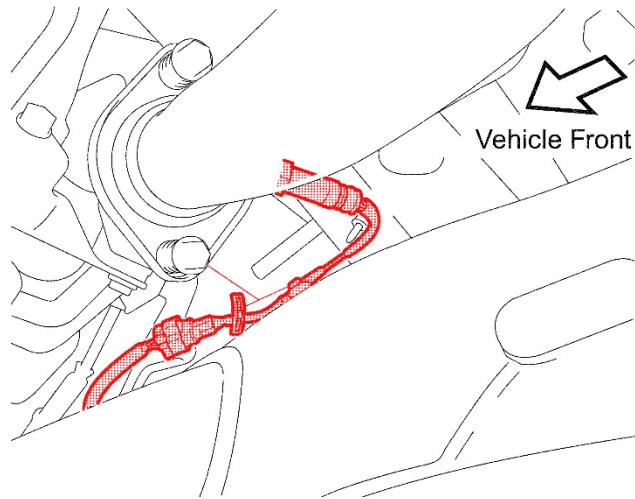


Heat damaged components should be very rare, if you do find a damaged component it is required that a TAS case is created with pictures attached of the damage. This TAS case will be reviewed by your FTS for parts and repair time approval.  
For damaged component replacement please refer to the supplemental technical instructions.

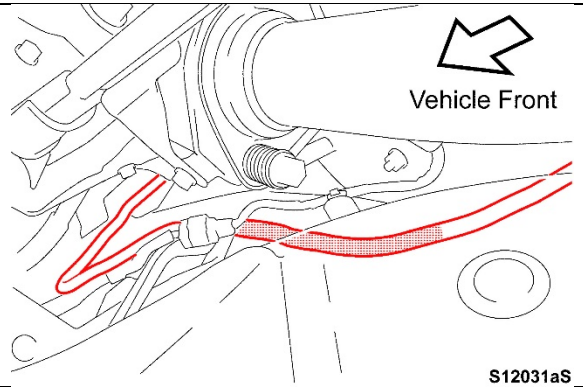
a	Air Fuel Ratio Sensor	b1	No. 2 Frame Wire (If Equipped)
c	Oxygen Sensor	d	Auto Trans Temperature Sensor
e1 e2	Engine Wire Harness	f	Air Switching Valve Assembly



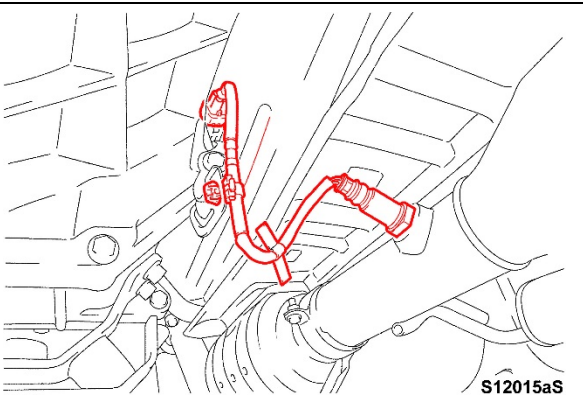
**a. INSPECT THE AIR FUEL RATIO SENSOR AND WIRE FOR HEAT DAMAGE**



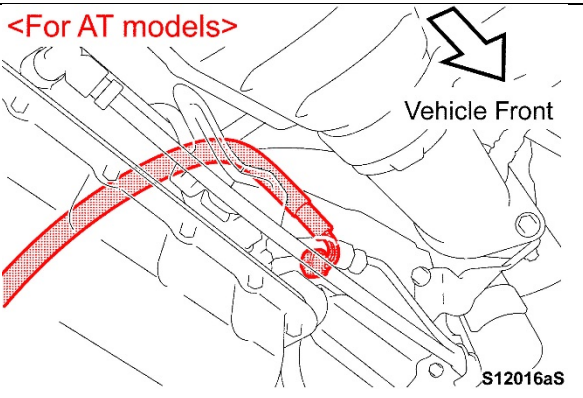
**b. INSPECT THE NO. 2 FRAME WIRE HARNESS FOR HEAT DAMAGE**



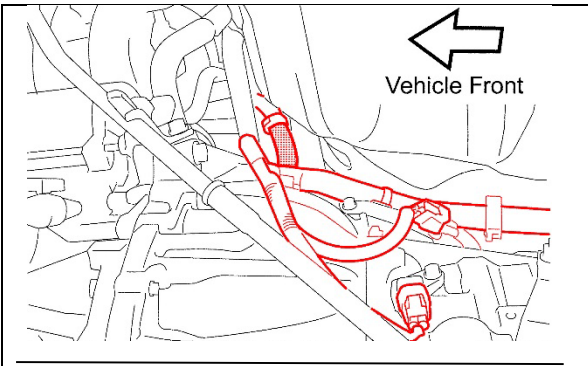
**c. INSPECT THE OXYGEN SENSOR AND WIRE FOR HEAT DAMAGE**



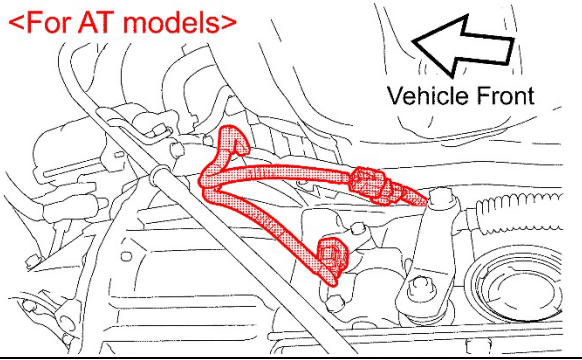
**d. INSPECT THE AUTO TRANS TEMPERATURE SENSOR AND WIRE FOR HEAT DAMAGE (If Equipped)**



**e. INSPECT THE ENGINE WIRE HARNESS FOR HEAT DAMAGE IN THE LOCATIONS SHOWN**

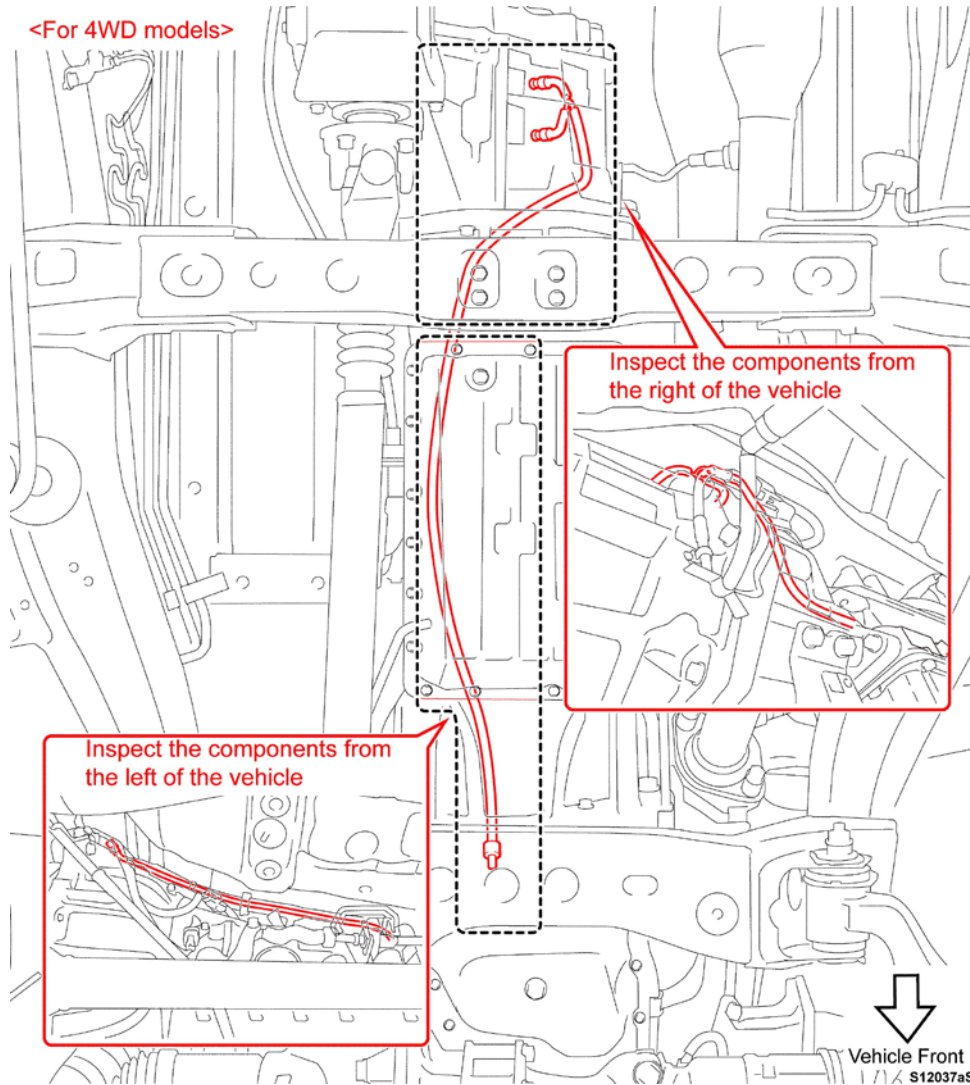


<For AT models>



**f. INSPECT THE TRANSFER CASE BREATHER HOSE FOR HEAT DAMAGE**

<For 4WD models>



## VII. FRONT EXHAUST PIPE ASSEMBLY REPLACEMENT



The exhaust assembly maybe hot, use cation and safety equipment when performing this procedure.

### A. REMOVE FRONT EXHAUST PIPE ASSEMBLY



#### 1. REMOVE THE AIR FUEL (A/F) RATIO SENSOR

- Disconnect the air fuel ratio connector.
- Using the SST, carefully remove the A/F sensor.

SST: 09224-00010



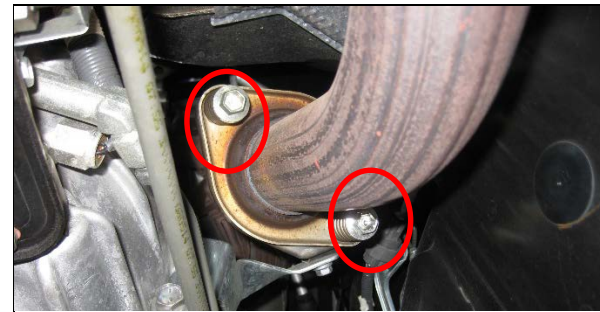
*If the sensor becomes tight during removal, alternate between loosening and slightly tightening. This will help protect the sensor from being damaged.*



#### 2. REMOVE THE O2 SENSOR

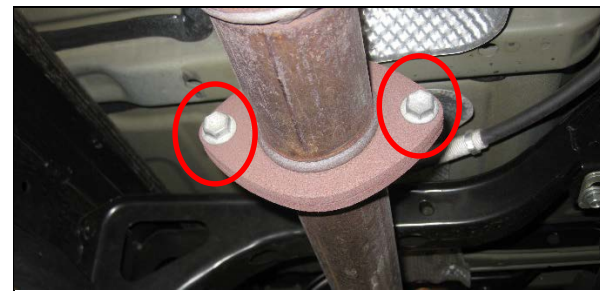
- Disconnect the O2 sensor connector.
- Using the SST, carefully remove the O2 sensor.

SST: 09224-00010



#### 3. REMOVE FRONT EXHAUST PIPE

- Remove the 2 bolts and compression springs.

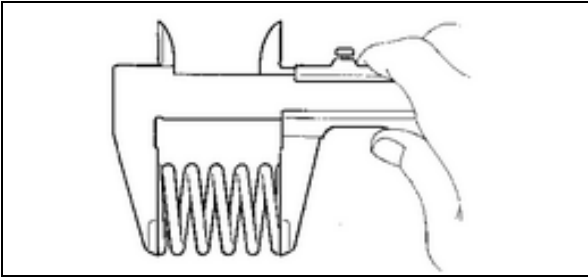


- Remove the two bolts and nuts connecting the front exhaust pipe to the tail pipe assembly.



- Disconnect the front exhaust pipe support from the exhaust assembly.
- Slowly and carefully lower the exhaust.
- Ensure that exhaust gaskets have been removed from the exhaust manifold and the tail pipe assembly.

## B. INSTALL **NEW** FRONT EXHAUST PIPE

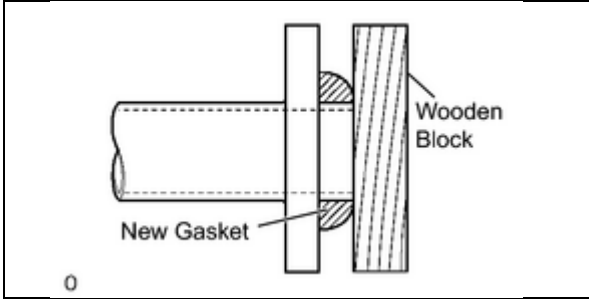


### 1. MEASURE THE EXHAUST COMPRESSION SPRING

- a) Using a vernier caliper, measure the free length of the exhaust compression spring.

**Minimum Spec: 40.5 mm (1.594 in.)**

If the compression spring is below the minimum spec. replace the exhaust compression spring.

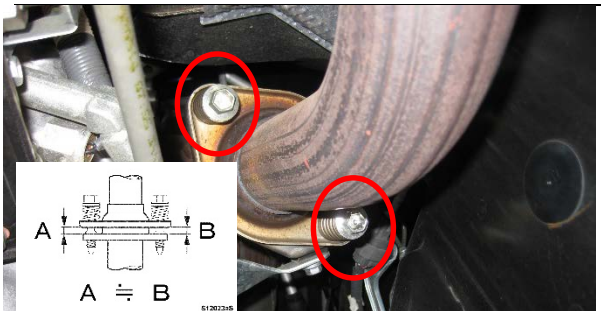


### 2. INSTALL EXHAUST PIPE GASKETS

- a) Using a wooden block gently tap the front exhaust pipe gasket into the exhaust manifold.



### 3. INSTALL THE FRONT EXHAUST PIPE SUPPORT

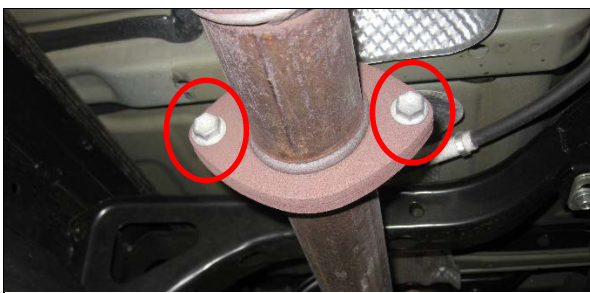


### 4. INSTALL THE EXHAUST COMPRESSION SPRINGS AND NEW BOLTS

- a) Loosely install the exhaust compression springs and NEW bolts.
- b) Tighten the bolts in multiple increments evenly to spec.

**Torque Spec: 35ft-lbf (489 lbf-cm, 48 Nm)**

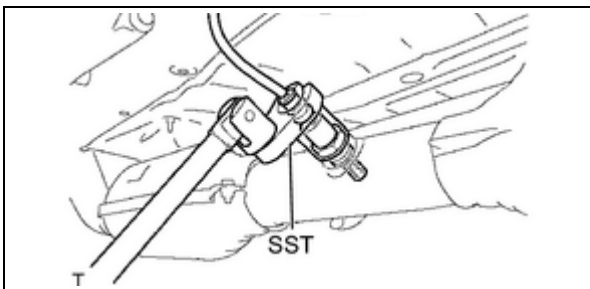
- c) Measure the gap between the left and right flange to ensure they are even after tightening the bolts.



### 5. INSTALL THE FRONT EXHAUST PIPE TO THE TAIL PIPE ASSEMBLY

- a) Install the new gasket into the front exhaust pipe assembly.
- b) Install the 2 NEW bolts and 2 NEW nuts.

**Torque Spec: 35ft-lbf (489 lbf-cm, 48 Nm)**



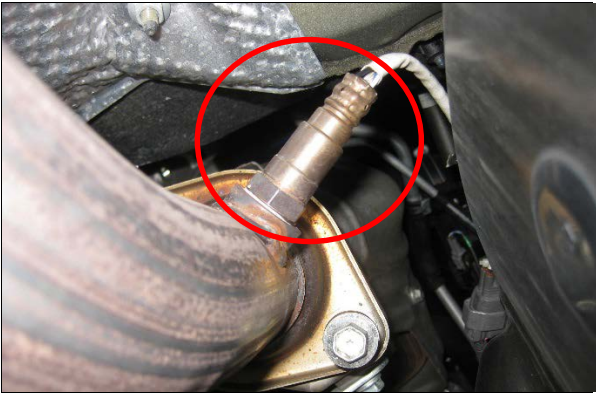
### 6. REINSTALL THE O2 SENSOR

- a) Using the SST, install the O2 sensor.

**Torque Spec: 30ft-lbf (408 lbf-cm, 40 Nm)**

**SST: 09224-00010**

- b) Connect the O2 sensor to the wire harness.



### 7. REINSTALL THE A/F SENSOR

c) Using the SST, install the A/F sensor.

**Torque Spec: 30ft-lbf (408 lgf-cm, 40 Nm)**

**SST: 09224-00010**

d) Connect the A/F sensor to the wire harness.

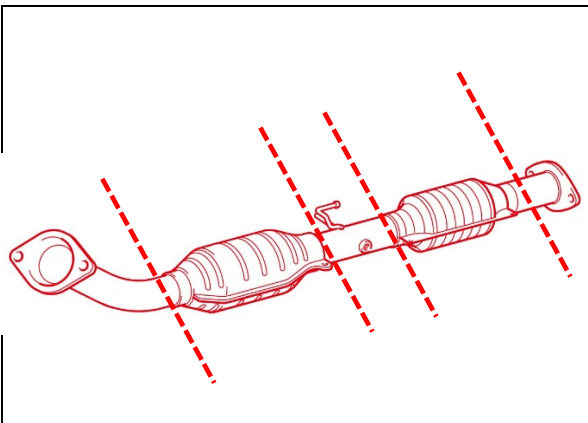
8. INSPECT FOR EXHAUST LEAKS

9. CHECK AND CLEAR DTCS

## VIII. CATALYTIC CONVERTER RETURN PREPARATION



- All catalytic converters must be returned to Toyota, the CPS system will send you a request the day after the warranty claim is approved.
- If the catalytic converters are not returned the warranty claims are subject to debit and core charges.
- Ensure to follow the steps below to ensure that the catalytic converter is prepared for shipping.
- Do not ship the full exhaust pipe assembly back to Toyota. If the exhaust pipe is shipped back as a complete unit your dealer will be debited for the additional shipping charges.



1. CUT THE EXHAUST PIPE AT THE LOCATIONS SHOWN

2. APPLY TAPE TO THE SHARP EDGES OF EACH CATALYTIC CONVERTER



*Use caution when cutting because sharp edges will be created.*

3. RETURN BOTH CATALYTIC CONVERTERS THROUGH THE CPS SYSTEM.

## ◀ VERIFY REPAIR QUALITY ▶

- Confirm that there are no exhaust leaks
- Confirm that all components were inspected for heat damage
- Confirm that the catalytic converter is returned to Toyota (REQUIRED)

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

## IX. APPENDIX

### A. CAMPAIGN DESIGNATION DECODER

