

# Air Injection System MIL "ON"

**Service Category** Engine/Hybrid System

**Section** Engine Control

**Market** USA

Toyota Supports  
 ASE Certification 

## Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2005 – 2009	4Runner	VDS(s): BT14R, BT17R, ZT14R, ZT17R
2006 – 2007	Land Cruiser	
2005 – 2007	Sequoia	VDS(s): BT44A, BT48A, ZT34A, ZT38A
2005 – 2006	Tundra	VDS(s): BT441, BT481, DT441, DT481, ET341, ET381, JT321, KT421, RT341, RT381

### REVISION NOTICE

October 17, 2013 Rev1:

- The entire bulletin has been updated to include DTC P2445 and diagnosis of the Air Injection Control Driver.
- Applicability has been updated to include 2006 – 2007 model year Land Cruiser vehicles.
- Parts Information has been updated.

Any previous printed versions of this bulletin should be discarded.

### SUPERSESION NOTICE

The information contained in this bulletin supersedes SB No. EG027-07.

- Information from EG027-07 has been combined with T-SB-0230-12.

Service Bulletin No. EG027-07 is Obsolete and any printed versions should be discarded. Be sure to review the entire content of this bulletin before proceeding.

## Air Injection System MIL "ON"

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### Introduction

Some 2005 – 2009 model year 4Runner, 2006 – 2007 model year Land Cruiser, 2005 – 2007 model year Sequoia, and 2005 – 2006 model year Tundra vehicles equipped with the 2UZ-FE (4.7 L) engine may exhibit a MIL "ON" condition for the following Diagnostic Trouble Codes (DTCs):

- P0412 – Secondary Air Injection System Switching Valve "A" Circuit
- P0418 – Secondary Air Injection System Relay "A" Circuit
- P1440/P1443 – Secondary Air Injection System Control Valve Circuit Bank 1 / Bank 2
- P1441/P1444 – Secondary Air Injection System Switching Valve No. 2 Bank 1 / Bank 2 Stuck Open
- P2440 – Secondary Air Injection System Switching Valve Stuck Open Bank 1
- P1442/P1445 – Secondary Air Injection System Switching Valve No. 2 Bank 1 / Bank 2 Stuck Close
- P2441 – Secondary Air Injection System Switching Valve Stuck Close Bank 1
- P2445 – Secondary Air Injection System Pump Stuck Off Bank 1

This condition may be caused by debris passing through the air injection pump assembly and contaminating various components in the system. Use the following procedure to address this condition.

### Parts Information

PART NUMBER		PART NAME	QTY
PREVIOUS	NEW		
17600-0F010		Pump Assembly, Air	1
17171-50030		Gasket, Intake Manifold to Head No. 1	2
25710-50020 25710-50021	25710-50022	Valve Assy, Air Switching	1*
25720-50010	25720-50011	Valve Assy, Air Switching, No. 1	1*
25720-50020		Valve Assy, Air Switching, No. 2	1*
17377-50010		Gasket, Air Tube	4**
89580-34010 89580-34011 89581-34040 89581-34041 89581-71010	89580-34012	Driver, Air Injection Control	1

\* Replace ONLY if damaged by debris. Reuse parts when possible.

\*\* 2 per valve.

## Air Injection System MIL "ON"

### Warranty Information

OP CODE	DESCRIPTION	MODEL	TIME	OFF	T1	T2
EG1215	R & R Air Pump Assy	4Runner	1.6	17600-0F010	8A	99
		Land Cruiser	2.2			
		Sequoia				
		Tundra				
Combo A	R & R Valve Assy, Air Switching*	All	+0.3			
Combo B	R & R Valve Assy, Air Switching, No. 1 and/or No. 2*	All	+0.5			
Combo C	R & R Air Injection Control Driver	All	+0.5			

\* Replace ONLY If damaged by debris. Reuse parts when possible.

#### APPLICABLE WARRANTY

- This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in-service date.
- For California specification vehicles sold and operated in California, Connecticut (starting with '08 MY), Maine, Massachusetts, New Jersey (starting with '09 MY), Oregon (starting with '09 MY), Pennsylvania (starting with '08 MY), Rhode Island (starting with '08 MY), Vermont, and Washington (starting with '09 MY), this repair is covered under the California Emission Warranty, which is 84 months or 70,000 miles, whichever occurs first, from the vehicle's in-service date.
- Warranty application is limited to occurrence of the specified condition described in this bulletin.

### Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
Techstream 2.0*	ADE	TS2UNIT	1
TIS Techstream		TSPKG1	
Techstream Lite		TSLITEDLR01	

\* Essential SST.

#### NOTE

- Only ONE of the Techstream units listed above is required.
- Software version 8.20.019 or later is required.
- Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.

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### Repair Procedure

1. Using Techstream, check if DTCs P0412, P0418, P1440/P1443, P1441/P1444, P1442/P1445, P2440, P2441, or P2445 are present.

If DTC is present, refer to the Technical Information System (TIS), applicable model and model year Repair Manual:

#### 4Runner:

- [2005](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “SFI System (2UZ-FE): **P0412** Secondary Air Injection System Switching Valve “A” Circuit”*
- [2006](#) / [2007](#) / [2008](#) / [2009](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P0412**; Secondary Air Injection System Switching Valve “A” Circuit”*
- [2005](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “SFI System (2UZ-FE): **P0418** Air Injection System Relay “A” Circuit”*
- [2006](#) / [2007](#) / [2008](#) / [2009](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P0418**; Secondary Air Injection System Control “A” Circuit”*
- [2005](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “SFI System (2UZ-FE): **P1440, P1443** Secondary Air Injection System Control Valve Circuit Bank 2”*
- [2006](#) / [2007](#) / [2008](#) / [2009](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P1440, P1443**; Secondary Air Injection Vacuum Switching Valve Circuit Malfunction Bank 1”*
- [2005](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “SFI System (2UZ-FE): **P1441, P1444, P2440** Secondary Air Injection System Switching Valve Stuck Open Bank 1”*
- [2006](#) / [2007](#) / [2008](#) / [2009](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P1441, P1444, P2440**; Stuck Open in Secondary Air Injection Vacuum Switching Valve Bank 1”*
- [2005](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “SFI System (2UZ-FE): **P1442, P1445, P2441** Secondary Air Injection System Switching Valve Stuck Open Bank 1”*
- [2006](#) / [2007](#) / [2008](#) / [2009](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P1442, P1445, P2441**; Stuck Close in Secondary Air Injection Vacuum Switching Valve Bank 1”*

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### Repair Procedure (Continued)

- [2005](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “SFI System (2UZ-FE): P2445 Secondary Air Injection System Pump Stuck Off Bank 1”*
- [2006](#) / [2007](#) / [2008](#) / [2009](#) 4Runner:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: P2445; Secondary Air Injection System Pump Stuck On Bank 1”*

### Land Cruiser:

- [2006](#) / [2007](#) Land Cruiser:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: P0412; Secondary Air Injection System Switching Valve “A” Circuit”*
- [2006](#) / [2007](#) Land Cruiser:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: P0418; Secondary Air Injection System Control “A” Circuit”*
- [2006](#) / [2007](#) Land Cruiser:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: P1440, P1443; Secondary Air Injection Vacuum Switching Valve Circuit Malfunction Bank 1”*
- [2006](#) / [2007](#) Land Cruiser:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: P1441, P1444, P2440; Stuck Open in Secondary Air Injection Vacuum Switching Valve Bank 1”*
- [2006](#) / [2007](#) Land Cruiser:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: P1442, P1445, P2441; Stuck Close in Secondary Air Injection Vacuum Switching Valve Bank 1”*
- [2006](#) / [2007](#) Land Cruiser:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: P2445; Secondary Air Injection System Pump Stuck On Bank 1”*

### Sequoia:

- [2005](#) Sequoia :  
*Engine/Hybrid System – Engine Control – “Engine: P0412 Secondary Air Injection System Air Switching Valve “A” Circuit”*
- [2006](#) / [2007](#) Sequoia:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: P0412; Secondary Air Injection System Switching Valve “A” Circuit”*

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### Repair Procedure (Continued)

- [2005](#) Sequoia:  
*Engine/Hybrid System – Engine Control – “Engine: **P0418** Air Injection System Air Pump Malfunction”*
- [2006](#) / [2007](#) Sequoia:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P0418**; Secondary Air Injection System Control “A” Circuit”*
- [2005](#) Sequoia:  
*Engine/Hybrid System – Engine Control – “Engine: **P1440, P1443** Secondary Air Injection System Control Valve Circuit Bank 2”*
- [2006](#) / [2007](#) Sequoia:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P1440, P1443**; Secondary Air Injection Vacuum Switching Valve Circuit Malfunction Bank 1”*
- [2005](#) Sequoia:  
*Engine/Hybrid System – Engine Control – “Engine: **P1441, P1444, P2440** Secondary Air Injection System Switching Valve Stuck Open Bank 1”*
- [2006](#) / [2007](#) Sequoia:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P1441, P1444, P2440**; Secondary Air Injection Vacuum Switching Valve Circuit Malfunction Bank 1”*
- [2005](#) Sequoia:  
*Engine/Hybrid System – Engine Control – “Engine: **P2445** Secondary Air Injection System Pump Stuck On Bank 1”*
- [2006](#) / [2007](#) Sequoia:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P2445**; Secondary Air Injection System Pump Stuck On Bank 1”*

### Tundra:

- [2005](#) Tundra:  
*Engine/Hybrid System – Engine Control – “Engine (2UZ-FE): **P0412** Secondary Air Injection System Air Switching Valve “A” Circuit”*
- [2006](#) Tundra:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P0412**; Secondary Air Injection System Switching Valve “A” Circuit”*
- [2005](#) Tundra:  
*Engine/Hybrid System – Engine Control – “Engine (2UZ-FE): **P0418** Air Injection System Air Pump Malfunction”*
- [2006](#) Tundra:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P0418**; Secondary Air Injection System Control “A” Circuit”*

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### Repair Procedure (Continued)

- [2005](#) Tundra:  
*Engine/Hybrid System – Engine Control – “Engine (2UZ-FE): **P1440, P1443** Secondary Air Injection System Control Valve Circuit Bank 2”*
  - [2006](#) Tundra:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P1440, P1443**; Secondary Air Injection Vacuum Switching Valve Circuit Malfunction Bank 1”*
  - [2005](#) Tundra:  
*Engine/Hybrid System – Engine Control – “Engine (2UZ-FE): **P1441, P1444, P2440** Secondary Air Injection System Switching Valve No. 2 Stuck Open Bank 1”*
  - [2006](#) Tundra:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P1441, P1444, P2440**; Secondary Air Injection Vacuum Switching Valve Circuit Malfunction Bank 1”*
  - [2005](#) Tundra:  
*Engine/Hybrid System – Engine Control – “Engine (2UZ-FE): **P1442, P1445, P2441** Secondary Air Injection System Switching Valve Stuck Close Bank 1”*
  - [2006](#) Tundra:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P1442, P1445, P2441**; Stuck Close in Secondary Air Injection Vacuum Switching Valve Bank 1”*
  - [2005](#) Tundra:  
*Engine/Hybrid System – Engine Control – “Engine (2UZ-FE): **P2445** Secondary Air Injection System Pump Stuck Off Bank 1”*
  - [2006](#) Tundra:  
*Engine/Hybrid System – Engine Control – “2UZ-FE Engine Control System: SFI System: **P2445** Secondary Air Injection System Pump Stuck On Bank 1”*
2. After repair, if any DTCs are displayed at this time, clear the DTC(s) and click *Data List*.
  3. Select *All Data*.
  4. Display the following parameters:
    - Secondary Air Control VSV
    - 2nd Air System Status
    - MIL

## Air Injection System MIL "ON"

### Repair Procedure (Continued)

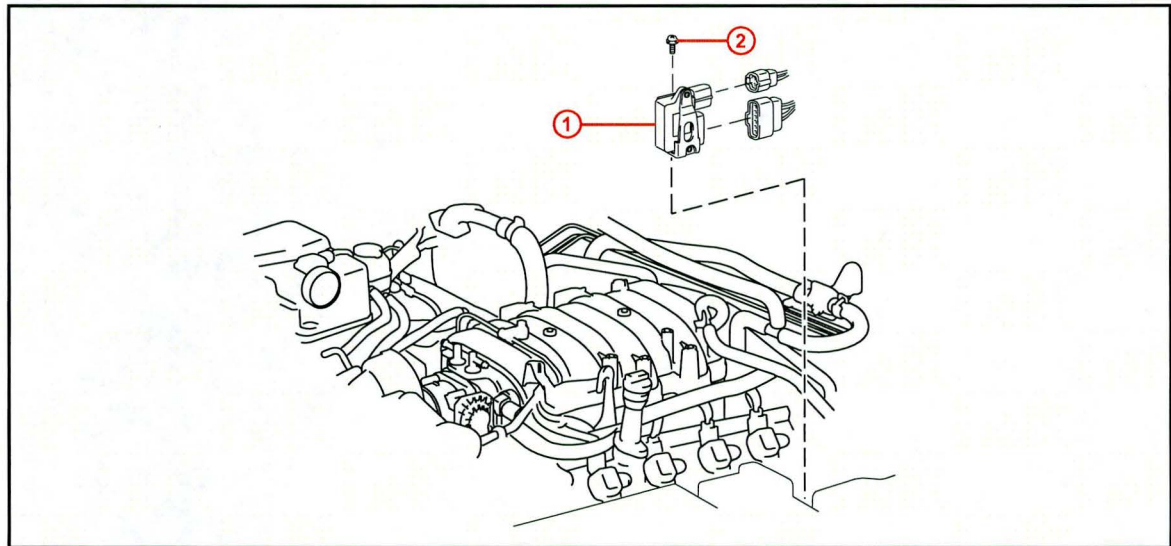
5. Start the engine and wait for air pump operation.
  - Secondary Air Control VSV = ON
  - 2nd Air System Status = ON

**NOTE**

If *Secondary Air Control VSV* and *2nd Air System Status* do not change to "ON," perform again after engine cools.

- If MIL illuminates, or a DTC is detected, proceed to step 6.
  - If MIL does not illuminate, or a DTC is not detected, proceed to step 8.
6. Using Techstream, check for DTCs. If P0418 and/or P2445 are present, replace the Air Injection Control Driver.

Figure 1.



1 Air Injection Control Driver

2 Specified Torque: 7.5 N\*m (76 kgf\*cm, 66 in\*lb)

7. If physical inspection is required through the Repair Manual diagnostic process, look for debris that may have contaminated the air injection system. The debris may consist of air injection pump filter material or fan blade fragments.
8. If such debris is found, replace the air injection pump. If not, go to step 10.
9. Additionally, determine if the debris can be removed from any secondarily affected parts and confirm they operate properly. If they do not operate properly, part replacement is required.
10. Clear the DTCs and road test the vehicle to confirm the condition has been corrected.





# TOYOTA PRIUS PHV

## 2014 PRE-DELIVERY SERVICE CHECK SHEET

October 2013

BEFORE INSPECTION	OK	Adjust/Repair	UNDER VEHICLE (ON HOIST)	OK	Adjust/Repair
01 Install Short Pin (see page 2) .....	<input type="checkbox"/>	<input type="checkbox"/>	<b>01 Remove disc brake anti-rust covers/anti-corrosion wheel film*</b> .....	<input type="checkbox"/>	<input type="checkbox"/>
02 Install radio antenna* .....	<input type="checkbox"/>	<input type="checkbox"/>	02 Inspect tires for defects/damage .....	<input type="checkbox"/>	<input type="checkbox"/>
FUNCTIONAL OPERATION			ROAD TEST		
<i>Apply parking brake and cycle ignition "IG-ON"; place gear selector in reverse; turn on lights and rear defogger. Unlock doors; release fuel door, and release the back door.</i>			<i>A complete road test helps assure customer satisfaction. Drive vehicle over a variety of road surfaces and driving conditions. Check for unusual noise and driving performance.</i>		
01 Check dome, courtesy, map, and sun visor lights* .....	<input type="checkbox"/>	<input type="checkbox"/>	<b>Enter Odometer Readings</b>		
02 Check warning/indicator lights, gauges, and horn .....	<input type="checkbox"/>	<input type="checkbox"/>	Reading Before Test: _____ Reading After Test: _____		
03 Check windshield wipers and washers .....	<input type="checkbox"/>	<input type="checkbox"/>	01 Check cold engine operation .....		
04 Check headlights, instrument lights, turn signals, emergency flashers, and brake lights .....	<input type="checkbox"/>	<input type="checkbox"/>	02 Check engine operation during warm-up .....		
05 Check inside/outside rear view mirror operation/adjustment .....	<input type="checkbox"/>	<input type="checkbox"/>	03 Check engine at normal operating temperature .....		
06 Check cigarette lighter* and power outlets .....	<input type="checkbox"/>	<input type="checkbox"/>	04 Check hybrid transaxle operation .....		
07 Check audio/navigation*/backup camera* systems and set clock .....	<input type="checkbox"/>	<input type="checkbox"/>	05 Check brake and parking brake operation .....		
<b>08 Verify Entune/Navigation software version (Display Audio, Non-HDD Type only)*</b> .....	<input type="checkbox"/>	<input type="checkbox"/>	06 Check steering operation & off-center/vehicle pull/flutter .....		
09 Check multi-information display and trip information on center display* .....	<input type="checkbox"/>	<input type="checkbox"/>	07 Inspect for abnormal noise and vibration .....		
10 Install shift-lock override button cover* .....	<input type="checkbox"/>	<input type="checkbox"/>	08 Inspect for squeaks and rattles .....		
11 Check sliding roof* .....	<input type="checkbox"/>	<input type="checkbox"/>	09 Check heater and A/C* operation .....		
<b>WALKAROUND INSPECTION</b>			10 Check cruise control operation* .....		
<i>Start at left front door. Check window and door lock operation (from master power switch, if equipped). Continue around vehicle in a counterclockwise direction checking each door and window operation, child door locks, seat belts, interior condition, all lights, luggage compartment contents. Finish by checking headlight aim and continue into UNDER HOOD checks.</i>			11 Check front seat heater operation* .....		
<b>01 Check Smart Key System</b> .....	<input type="checkbox"/>	<input type="checkbox"/>	FINAL INSPECTION AND CLEANING		
02 Check window operation .....	<input type="checkbox"/>	<input type="checkbox"/>	01 Remove interior protective covers, unnecessary labels, tags, etc. (Remove protective covers just before delivery to customer) .....		
03 Check that engine starts with all keys .....	<input type="checkbox"/>	<input type="checkbox"/>	02 Visually inspect all interior parts for installation, damage, fit, dirt, etc. ....		
04 Check that child safety door locks are in normal (unlocked) position* .....	<input type="checkbox"/>	<input type="checkbox"/>	<b>03 Verify floor mat application and install using retaining clips*</b> .....		
05 Check seats and seat belt operation .....	<input type="checkbox"/>	<input type="checkbox"/>	04 Verify green light is illuminated on SOS (Safety Connect) button* .....		
06 Check rear defogger/rear view mirror defogger* .....	<input type="checkbox"/>	<input type="checkbox"/>	05 Remove Rappard™ and clear protective bumper film* .....		
07 Check side marker, tail, backup, and license plate lights .....	<input type="checkbox"/>	<input type="checkbox"/>	06 Wash and clean vehicle .....		
08 Check luggage compartment light* and trim appearance .....	<input type="checkbox"/>	<input type="checkbox"/>	07 Inspect paint finish for scratches, chips, rust, dents, damage, etc. ....		
09 Check emergency tire puncture repair kit .....	<input type="checkbox"/>	<input type="checkbox"/>	08 Place oil change sticker on inside of windshield, top left corner .....		
10 Check headlight aim .....	<input type="checkbox"/>	<input type="checkbox"/>	09 Inspect exterior body parts for proper installation, damage, rust, etc. ....		
<b>11 Check battery state-of-charge using Digital Battery System Analyzer (SOC Reading: _____%)*</b> .....	<input type="checkbox"/>	<input type="checkbox"/>	10 Install front license plate and mounting bracket* (see page 2) .....		
<b>UNDER HOOD</b>			11 Place Owner's Guide & first aid kit portfolio* in glove box		
01 Check engine oil level .....			12 Perform Techstream Health Check .....		
02 Check brake fluid level .....					
03 Check engine coolant level .....					
04 Check inverter coolant level .....					
05 Check windshield washer fluid level .....					
06 Inspect for fuel, oil, coolant, and other fluid leaks .....					
BATTERY MAINTENANCE					
<b>01 Perform HV battery check and maintenance</b> .....					
<b>02 Perform Plug-In charge check</b> .....					
* Inspect or install when equipped/required.					

Completion and retention of this form is required to comply with Toyota's Warranty Policy.

We hereby certify that all items on this form have been checked and corrected for proper operation as required.

TECHNICIAN'S SIGNATURE \_\_\_\_\_

SERVICE MANAGER'S SIGNATURE \_\_\_\_\_

NAME (PLEASE PRINT) \_\_\_\_\_

NAME (PLEASE PRINT) \_\_\_\_\_

Date	Dealer Name	Dealer Code	Vehicle Identification Number (Sticker)
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## SHORT PIN INSTALLATION

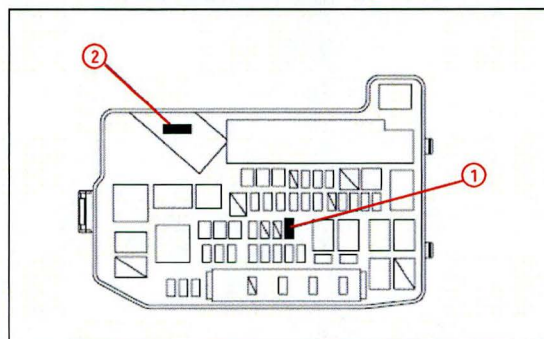
To minimize battery discharge the Short Pin has been removed and is stored in the engine compartment Relay Block. Install the Short Pin and confirm all related DTCs are cleared.

### DTC Clearing Procedure

1. Connect Techstream to DLC3.
2. Cycle the ignition switch to the "IG-ON" position.
3. Using Techstream, check any other codes being output.
4. Erase DTCs (B1650, B1794, U0155, U0142, and U0100) and Freeze Frame Data.

### NOTE

If any DTCs besides B1650, B1794, U155, U0142, and U0100 remain, repair the applicable system according to the Repair Manual.



1 Storage Location  
2 Installation Location

## TPWS ACTIVATION AND INITIALIZATION

### Activation Procedure

1. Connect Techstream to DLC3.
2. Cycle the IG switch to the "IG-ON" position and check that the Low Tire Pressure Warning Light blinks for 1 minute and then remains illuminated.
3. Press or remove the valve core to reduce the tire inflation pressure rapidly by 6 psi (0.4 kgf/cm<sup>2</sup>, 40 kPA), or more, within 30 seconds.
4. Using Techstream, check for DTCs (C2111-C2114). If no DTCs are stored, continue to step 5. If these DTCs are stored, repeat step 3.
5. Adjust all tires to the standard tire inflation pressure, as indicated on the Tire and Loading information label inside the driver's door jamb.
6. Check the tire pressure values of all the tires using Techstream. **TPWS ECU / DATA LIST / TIREPRESS 1-4**

### NOTE

If DTCs C2111-C2114 are present after repeating step 3, lift the vehicle and rotate each tire so that the tire pressure warning valve/sensor is at the top of the wheel well. Then repeat step 3.

### Initialization Procedure

Refer to the Repair Manual for the [Initialization procedure](#).

### NOTE

To adjust the tire pressure correctly when the outside temperature is significantly colder than shop temperature, perform a Health Check using Techstream and select the "Compensation Tire Pressure" checkbox. Compensation pressures will be displayed on the Health Check results screen. Adjust the tire pressure when the tires are cold.

## FRONT LICENSE PLATE AND MOUNTING BRACKET INSTALLATION

1. Align holes "A" of the mounting bracket with the dimples on the front bumper cover. Mark the location of holes "B" in the front bumper cover.

### NOTE

- Holes "A" are used for installation of the mounting bracket to the bumper cover.
- Holes "B" are used for installation of the front license plate to the mounting bracket.

2. Drill 2 relief holes with a diameter of 11 mm (0.43 in.) at the hole "B" marks on the front bumper cover to prevent the license plate retaining bolt from contacting the cover.
3. Install the mounting bracket to the front bumper cover by attaching the 2 self-tapping screws into the dimples.
4. Install the front license plate to the mounting bracket using bolts with the following dimensions.

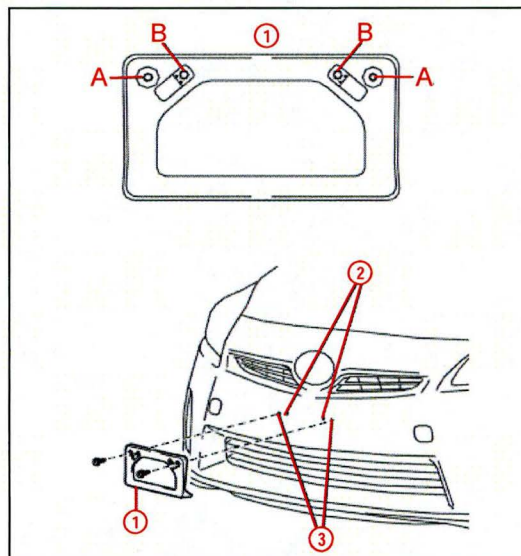
Length: 20.0 — 25.0 mm (0.79 — 0.98 in.)

Diameter: 6.0 mm (0.24 in.)

Pitch: 1.0 mm (0.04 in.)

### NOTICE

- Do NOT pre-drill holes into the bumper.
- Do NOT overtighten the self-tapping screws.



1 Mounting Bracket  
2 Mark and Drill Holes  
3 Dimples