T-SB-0069-12

Rev1

May 1, 2012



# SRS Airbag Light "ON" - B0111/B0116 Open Side Squib Circuit

Service

Category

Vehicle Interior

Section

Supplemental Restraint Systems

Market USA



### **Applicability**

MODEL(S)	ADDITIONAL INFORMATION	
Sienna		2.5

#### REVISION NOTICE

January 22, 2013 Rev1:

Side Airbag Replacement has been removed from the bulletin.

Any previous printed versions of this bulletin should be discarded.

#### SUPERSESSION NOTICE

The information contained in this bulletin supersedes SB No. T-SB-0162-10.

- Production Change Information has been added.
- The entire bulletin has been updated.

Service Bulletin No. T-SB-0162-10 is Obsolete and any printed versions should be discarded. Be sure to review the entire content of this bulletin before proceeding.

#### Introduction

Some 2005 - 2009 model year Sienna vehicles may exhibit an SRS lamp "ON" condition with Diagnostic Trouble Code (DTC) B0111 and/or B0116. An updated repair procedure is available to address this condition. Follow the procedures in this bulletin to repair the floor harness and the side airbag squib circuit.

#### Service Bulletin Overview

After confirming the vehicle condition matches this bulletin, this SB will direct you to repair the floor wire harness and the side airbag squib circuit. The wire repair to the floor harness and side airbag squib circuit is only approved for vehicles covered by this bulletin and is not approved for use on other vehicles. Carefully follow the steps outlined in this bulletin to prevent damage to the vehicle.

## **Production Change Information**

This bulletin applies to vehicles produced **BEFORE** the Production Change Effective VINs shown below

MODEL	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
Sienna	2WD	5TDZK23C#9S233852
	AWD	5TDBK23C#9S023266

### Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2	
EL1107	Wire Harness Repair (Driver Power)	1.5				
EL1108	Wire Harness Repair (Driver Manual)	1.5				
EL1109	Wire Harness Repair (Passenger Power)	1.5		8B		
EL1110	Wire Harness Repair (Passenger Manual)	1.5				
EL1111	Wire Harness Repair (Passenger Fold Flat)	1.5	82161-08270			
EL1112	Wire Harness Repair (Driver Power and Passenger Fold Flat)	1.5			4	
EL1113	Wire Harness Repair (Driver Manual and Passenger Fold Flat)	1.5			0 <del>5.41</del> .8	,
EL1114	Wire Harness Repair (Driver Manual and Passenger Manual)	1.5				
EL1115	Wire Harness Repair (Driver Power and Passenger Manual)	1.5				
EL1116	Wire Harness Repair (Driver Power and Passenger Power)	1.5				

### APPLICABLE WARRANTY

- This repair is covered under the Toyota Restraint System Warranty. This warranty is in effect for 60 months or 60,000 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.

### **Parts Information**

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
N/A	04001-22145	Repair Wire, Kit*	1
N/A	89279-08010	Corrugated Tubing	1

### Wire Repair Kit Contents\*

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
Ń/A	82999-52010	Sleeve	4
N/A	82999-30010	Thermo Contact Tube	4
N/A	90980-11863	Connector (Male)	1
N/A	90980-11864	Connector (Female)	1
Ν̈́/Α	82998-45010	Repair Wire Harness (Male, Wire Color: Yellow – Red)	1
N/A	82998-45020	Repair Wire Harness (Male, Wire Color: Yellow – Green)	1
N/A	82998-45030	Repair Wire Harness (Female, Wire Color: Yellow – Red)	1
N/A	82998-45040	Repair Wire Harness (Female, Wire Color: Yellow – Green)	1

<sup>\*</sup> Repair kit components are not available separately.

## Required Tools & Equipment

SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY	
Plastic Pry Tool Set**	00002-06000-01	1	
Occupant Classification Seat Weight Set**	00002-09090-01	1	
Wire Crimper (Non Insulated)**	09042-2C100	1	

<sup>\*\*</sup> Essential SST.

NOTE

Additional SSTs may be ordered by calling 1-800-933-8335.

### Required Tools & Equipment (Continued)

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

<sup>\*\*</sup> Essential SST.

## NOTE

- . Only ONE of the Techstream units listed above is required.
- Software version 7.31.003 or later is required.
- Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.

## Repair Procedure Overview

· Section 1: Diagnostic Procedure

This procedure, using Techstream and the Technical Information System (TIS), will determine the correct repair method.

· Section 2: Wire Harness Repair

This section will provide the detailed steps to repair the SRS floor harness and SRS seat harness connectors.

#### Diagnostic Procedure

Follow the diagnostic procedure in the Repair Manual.

Refer to TIS, applicable model year Sienna Repair Manual:

#### B0111:

- <u>2005</u> Sienna: <u>Vehicle Interior – Supplemental Restraint Systems – "Supplemental Restraint System: B0111/44 Open In Side Squib"</u>
- 2006 / 2007 / 2008 / 2009 Sienna:
   Vehicle Interior Supplemental Restraint Systems "Supplemental Restraint System: Airbag System: B0111/44: Open In Side Squib RH Circuit"

### Diagnostic Procedure (Continued)

#### B0116:

- 2005 Sienna: Vehicle Interior – Supplemental Restraint Systems – "Supplemental Restraint System: B0116/48 Open In Side Squib"
- 2006 / 2007 / 2008 / 2009 Sienna:
   Vehicle Interior Supplemental Restraint Systems "Supplemental Restraint System: Airbag System: B0116/48: Open In Side Squib LH Circuit"

If NO concern is identified after inspecting the floor harness and the center airbag sensor assembly, proceed to the Repair Procedure.

### Repair Procedure

#### NOTICE

- This SRS wire harness repair has only been approved for vehicles covered in this bulletin and is NOT approved for use on any other vehicles.
- · Follow the procedures outlined in this bulletin to prevent damage to the vehicle.

#### **SRS Floor Harness Connector**

#### NOTE

Repairing the floor harness connector is applicable to all vehicles covered by this bulletin and should be performed FIRST.

1. Remove the front seat.

Refer to TIS, applicable model year Sienna Repair Manual, for each type of seat assembly:

- 2005 Sienna:
   Vehicle Interior Seat "Front Seat Assembly LH (Power Seat Type) / LH (Manual Seat Type) / RH (Fold Flat Type): Overhaul"
- 2006 Sienna:
   Vehicle Interior Seat "Seat: Front Seat Assembly (for Flat Type) / (for Manual Seat)
   / (for Power Seat): Removal"
- 2007 Sienna: Vehicle Interior – Seat – "Seat: Front Seat Assembly (for Flat Type) / (for Manual Seat) / (for Power Seat): Removal"
- 2008 Sienna:
   Vehicle Interior Seat "Seat: Front Seat Assembly (for Flat Type) / (for Manual Seat)
   / (for Power Seat): Removal"

#### Repair Procedure

### SRS Floor Harness Connector (Continued)

- 2009 Sienna: Vehicle Interior - Seat - "Seat: Front Seat Assembly (for Flat Type) / (for Manual Seat) / (for Power Seat): Removal"
- 2. Remove the tape from around the corrugated tubing. Remove and save the corrugated tubing.

### NOTE

Some vehicles may have an additional sleeve protecting the wiring that will need to be removed. The additional sleeve can be discarded.

Figure 1.

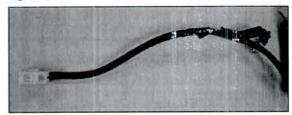
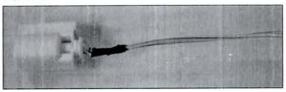


Figure 2.



3. Measure 80 mm (3.15 in.) from the tip of the floor Figure 3. harness connector and cut the wires.

Retain the old floor harness connector for reference.

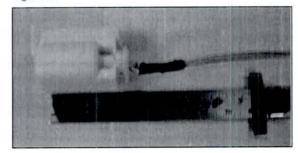
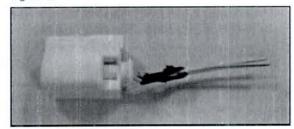


Figure 4.



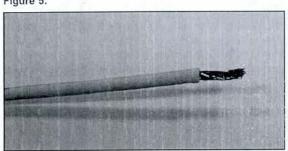
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# SRS Airbag Light "ON" - B0111/B0116 Open Side Squib Circuit

### Repair Procedure

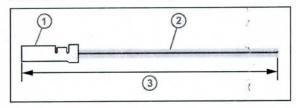
### SRS Floor Harness Connector (Continued)

4. Remove 8 mm (0.32 in.) of insulation from the ends of the 2 floor harness wires.



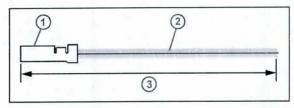
5. Prepare the new wires with the female terminals.

Figure 6. P/N 82998-45030: Repair Wire Harness (Female, Wire Color: Yellow-Red)



1	Female Terminal	
2	Wire	
3	Length (160 +/- 10 mm)	

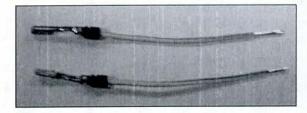
Figure 7. P/N 82998-45040: Repair Wire Harness (Female, Wire Color: Yellow-Green)



1	1 Female Terminal	
2	Wire	
3	Length (160 +/- 10 mm)	

A. Measure 80 mm (3.15 in.) from the ends of the female terminals and cut the new wires to length.

Figure 8.



### Repair Procedure

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## SRS Floor Harness Connector (Continued)

B. Remove 8 mm (0.32 in.) of insulation from the end of the 2 female terminal pigtails.

rigate 3.

6. Install a barrel sleeve onto each of the floor harness wires.

Figure 10.

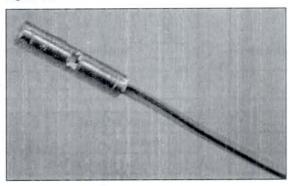
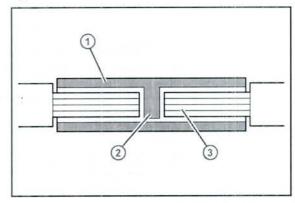


Figure 11.



1	Sleeve	
2	Wire Stop	
3	Wire	

### Repair Procedure

#### SRS Floor Harness Connector (Continued)

Place the sleeve into the 1.25 mm crimp die of the SST.

#### HINT

Place the sleeve into the SST so that the split in the sleeve is in the half circle of the SST.

### NOTE

SST 09042-2C100 is the only tool approved to perform this repair — Do NOT use any other tool to crimp the sleeve.

8. With the sleeve correctly placed in the SST and wire fully inserted into the sleeve, crimp one side of the sleeve in the area shown by closing the handles fully until they release. Crimp the sleeve onto each of the floor harness wires.

# NOTE

The SST has a ratcheting mechanism, and the handle will release when the proper crimp has been achieved.

9. Insert the new harness pig tails into the sleeves and crimp using the SST.

#### NOTE

The new pig tails are color coded to match the existing floor harness.

Figure 12

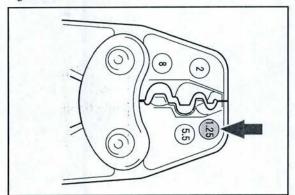
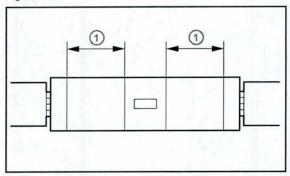
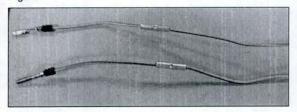


Figure 13.



1 Crimp This Portion

Figure 14.



### Repair Procedure

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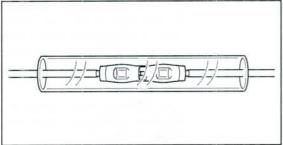
### SRS Floor Harness Connector (Continued)

 Lightly tug on each connection to ensure that the wire is securely crimped.

Figure 15.

- 11. Install the thermo tubing on each wire.
  - Center the thermo tubing over the center of the barrel sleeve.

Figure 16.



B. Using a heat gun, heat the thermo tubing until it shrinks and seals the repaired connection.

### NOTICE

- When using the heat gun, keep the heat gun about 10 mm (0.39 in.) from the thermo tubing.
- Protect the surrounding areas (i.e., interior panels and carpet) from heat damage.

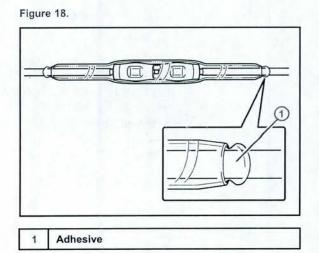
Figure 17.

### Repair Procedure

SRS Floor Harness Connector (Continued)

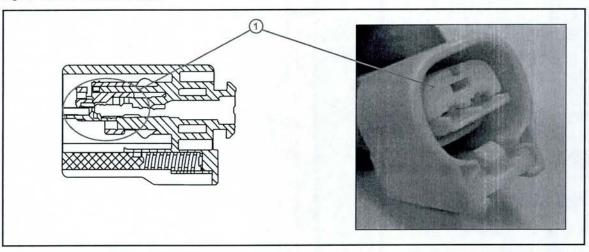
### NOTE

During the sealing process, adhesive may seep from the thermo tubing. This is a normal condition and part of the sealing properties of the thermo tube.



- 12. Install the new floor harness connector.
  - A. Confirm the secondary lock is in the half locked position.

Figure 19. Half Locked Position



Secondary Lock (White Portion)

### Repair Procedure

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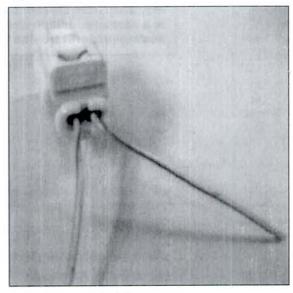
# SRS Floor Harness Connector (Continued)

B. Install each wire into the new connector until a click is heard and the terminal is fully seated.

#### NOTE

Use the old floor harness connector as a guide to insert the correct wire into the correct connector cavity.

Figure 20.



### Repair Procedure

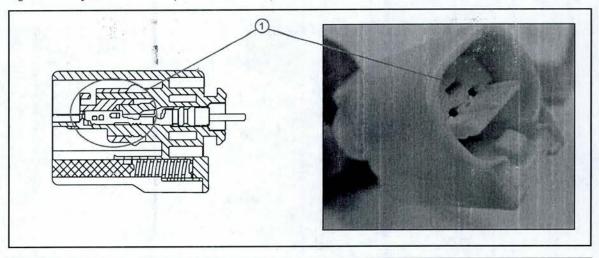
### SRS Floor Harness Connector (Continued)

C. Carefully push the secondary lock until the secondary lock is fully seated.

### NOTICE

When pushing the secondary lock in, do NOT damage the terminals.

Figure 21. Fully Locked Position (after Wire Installed)



1 Secondary Lock (White Portion)

13. Reinstall the corrugated tubing that was removed in step 2. Tape the corrugated tubing to hold it in place.

# Repair Procedure (Continued)

**TOYOTA** 

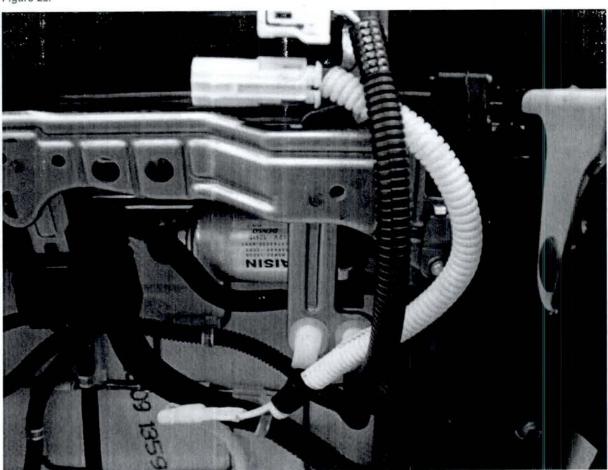
### SRS Seat Wire Harness Connector: Power Seat

1. Unclip the SRS seat harness from the seat. Remove the yellow corrugated tubing and discard.

#### NOTE

Some vehicles may have an additional sleeve protecting the wiring that will need to be removed. The additional sleeve can be discarded.

Figure 22.



2. Measure 165 mm (6.5 in.) from the tip of the seat Figure 23. harness connector and mark the wires.



### Repair Procedure

# SRS Seat Wire Harness Connector: Power Seat (Continued)

Install the old floor harness SRS connector that was cut off in step 3 of the Floor Harness Connector procedure.

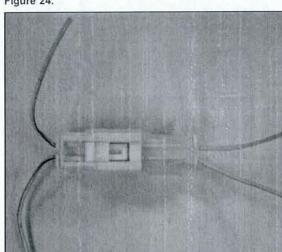


Figure 24.

 Place a small piece of electrical tape behind the SRS seat harness connector that lines up with the yellow wire with the red tracer in the SRS floor harness connector.

### NOTICE

The wires in the SRS seat harness are the same color. Follow the instructions in this bulletin to prevent damage to the vehicle.

Figure 25.

### Repair Procedure

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### SRS Seat Wire Harness Connector: Power Seat (Continued)

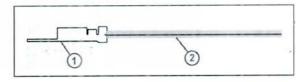
Place a small piece of electrical tape behind the cut mark on the same wire that was taped above. Cut the wires at the 165 mm mark.

Retain the cut-off SRS seat harness and connector for later reference.

Figure 26.

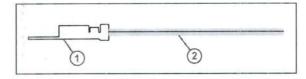
6. Prepare the new wires with the male terminals.

Figure 27. P/N 82998-45010: Repair Wire Harness (Male, Wire Color: Yellow-Red)



1	Male Terminal
2	Wire

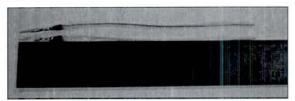
Figure 28. P/N 82998-45020: Repair Wire Harness (Male, Wire Color: Yellow-Green)



1	Male Terminal	
2	Wire	

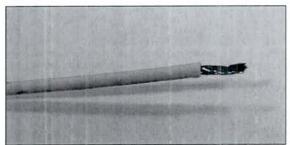
A. Measure 165 mm (6.5 in.) from the tip of the male terminal and cut each wire.

Figure 29.



B. Remove 8 mm (0.32 in.) of insulation from the ends of the male terminal pig tails.

Figure 30.



7. Proceed to Crimping Seat Wires.

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# SRS Airbag Light "ON" - B0111/B0116 Open Side Squib Circuit

### Repair Procedure (Continued)

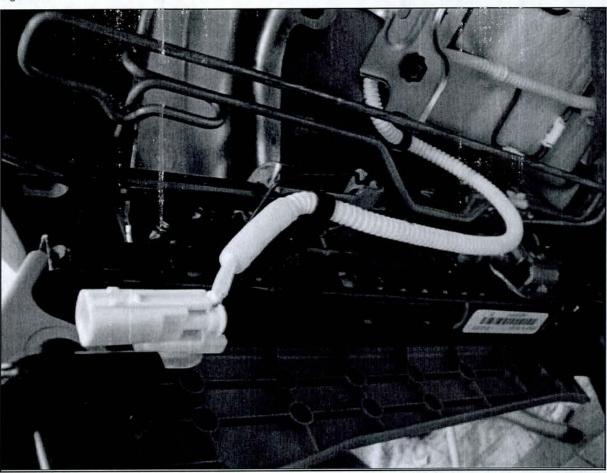
### SRS Seat Wire Harness Connector: Manual & Fold Flat Seat

1. Unclip the SRS seat harness connector. Remove the yellow corrugated tubing and discard.

### NOTE

Some vehicles may have an additional sleeve protecting the wiring that will need to be removed. The additional sleeve can be discarded.

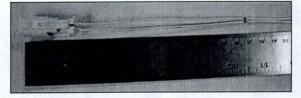
Figure 31.



2. Measure from the tip of the seat harness connector and mark the wires.

Manual Seat, Left: 165 mm (6.5 in.) Manual Seat, Right: 70 mm (2.76 in.)

Figure 32.

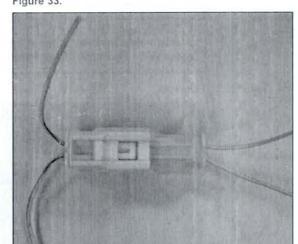


### Repair Procedure

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SRS Seat Wire Harness Connector: Manual & Fold Flat Seat (Continued)

Install the floor harness SRS connector that was cut off in step 3 of the Floor Harness Connector procedure.



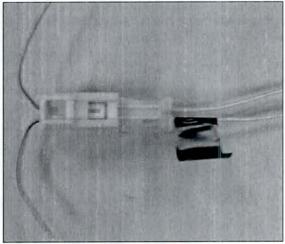
Fin. 22

 Place a small piece of electrical tape behind the SRS seat harness connector that lines up with the yellow wire with the red tracer on the SRS floor harness connector.

### NOTICE

The wires in the SRS seat harness are the same color. Follow the instructions in this bulletin to prevent damage to the vehicle.

Figure 34.



### Repair Procedure

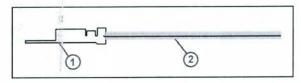
### SRS Seat Wire Harness Connector: Manual & Fold Flat Seat (Continued)

Place a small piece of electrical tape behind the cut mark on the same wire that was taped in step 4.

Figure 35.

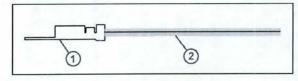
- Cut the wires at the cut mark, and retain the cut-off SRS seat harness and connector for later reference.
- 7. Prepare the new wires with the male terminals.

Figure 36. P/N 82998-45010: Repair Wire Harness (Male, Wire Color: Yellow-Red)



1	Male Terminal
2	Wire

Figure 37. P/N 82998-45020: Repair Wire Harness (Male, Wire Color: Yellow-Green)

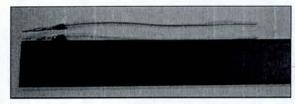


1	Male Terminal
2	Wire

A. Measure from the ends of the male terminals and cut the new wires.

Manual Seat, Left: 165 mm (6.5 in.) Manual Seat, Right: 70 mm (2.76 in.)

Figure 38.

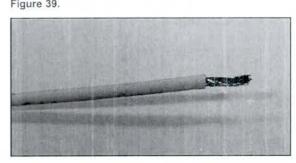


## Repair Procedure

**TOYOTA** 

SRS Seat Wire Harness Connector: Manual & Fold Flat Seat (Continued)

B. Remove 8 mm (0.32 in.) of insulation from the ends of the male terminal pig tails.



8. Proceed to Crimping Seat Wires.

### Repair Procedure (Continued)

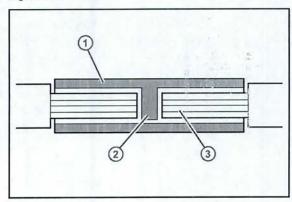
### **Crimping Seat Wires**

1. Install a sleeve onto each of the wires from the seat harness.

Figure 40.



Figure 41.



1	Sleeve	
2	Wire Stop	
3	Wire	ī

Place the sleeve into the 1.25 mm crimp die of the SST.

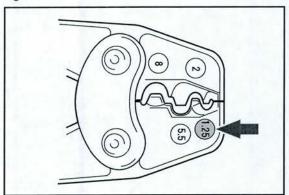
#### HINT

Place the sleeve into the SST so that the split in the sleeve is in the half circle of the SST.

#### NOTE

SST 09042-2C100 is the only tool approved to perform this repair — Do NOT use any other tool to crimp the sleeve.

Figure 42.



### Repair Procedure

(P) TOYOTA

### Crimping Seat Wires (Continued)

 With the sleeve correctly placed in the SST and wire fully inserted into the sleeve, crimp one side of the sleeve in the area shown by closing the handles fully until they release. Crimp the sleeve onto each of the floor harness wires.

NOTE

The SST has a ratcheting mechanism, and the handle will release when the proper crimp has been achieved.

Figure 43.

1 | Crimp This Portion

Insert the new pig tail (yellow with red tracer) into the sleeve that was marked with electrical tape and crimp using the SST.





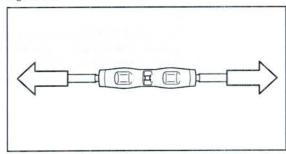
Insert the new pig tail (yellow with green tracer) into the other sleeve and crimp using the SST.

Figure 45.



Lightly tug on each connection to ensure that the wire is securely crimped.

Figure 46.

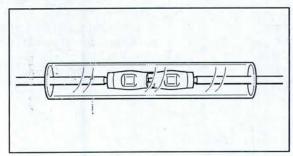


### Repair Procedure

### **Crimping Seat Wires (Continued)**

- 7. Install the thermo tubing on each wire.
  - A. Center the thermo tubing over the center of the barrel sleeve.

Figure 47.

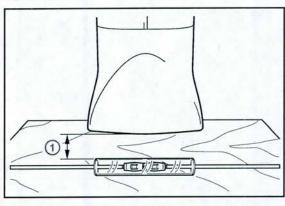


B. Using a heat gun, heat the thermo tubing until it shrinks and seals the repaired connection.

### NOTICE

- When using the heat gun, keep the heat gun about 10 mm (0.39 in.) from the thermo tubing.
- Protect the surrounding areas (i.e., interior panels and carpet) from heat damage.

Figure 48.



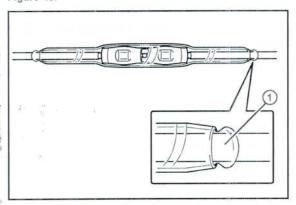
### Repair Procedure

Crimping Seat Wires (Continued)

### NOTE

During the sealing process, adhesive may seep from the thermo tubing. This is a normal condition and part of the sealing properties of the thermo tube.

Figure 49.

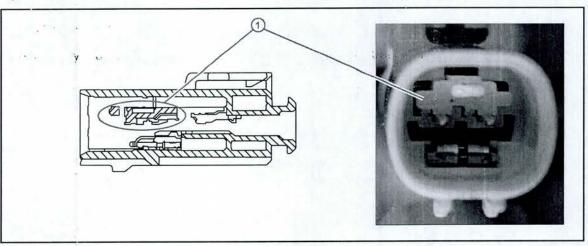


Adhesive

### Repair Procedure

- 8. Install the new SRS seat harness connector.
  - A. Confirm that the secondary lock is in the half-locked position.

Figure 50. Half-Locked Position



- 1 Secondary Lock (White Portion)
- B. Install the old SRS floor harness approximately 15 mm onto the new SRS seat connector.

Figure 51.

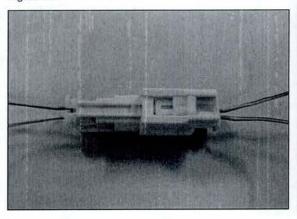
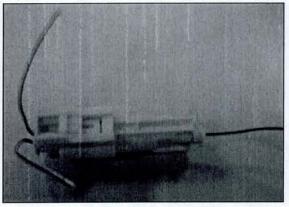


Figure 52.



- C. Insert the yellow wire with the red tracer into the new SRS seat harness connector that lines up with the yellow wire with the red tracer on the old SRS floor harness connector.
- D. Insert the yellow wire with the green tracer into the other cavity of the new SRS seat harness connector.



## Repair Procedure

**Crimping Seat Wires (Continued)** 

#### NOTE

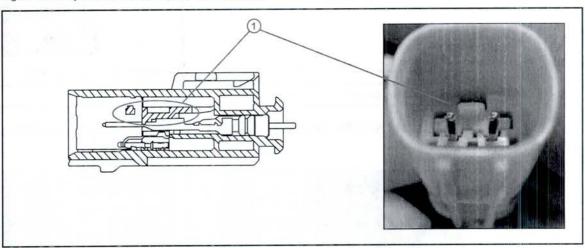
When installing the wires ensure that a click sound is heard and that the terminals are fully seated.

- E. Remove the old SRS floor harness connector.
- F. Carefully push the secondary lock of the new SRS seat harness connector until it is fully seated.

### NOTICE

When pushing in the secondary lock, do NOT damage the terminals.

Figure 53. Fully Locked Position (after Wire Installed)



1 Secondary Lock (White Portion)

### Repair Procedure

### **Crimping Seat Wires (Continued)**

9. Cut and install the new corrugated tubing onto the wiring as follows:

· Power Seat, Left or Right: 175 mm

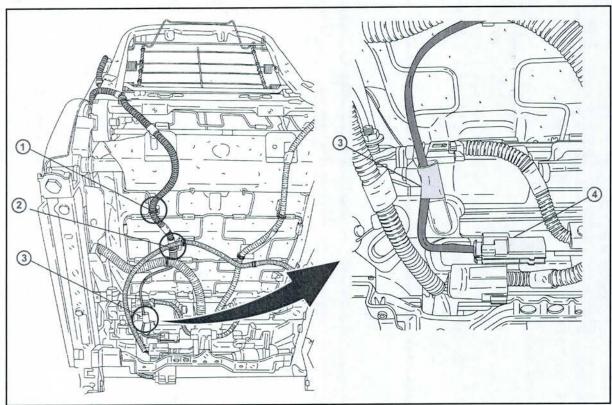
· Manual Seat, Left: 175 mm

Manual Seat, Right: 50 mm

Tape the corrugated tubing to hold it in place.

10. Reinstall the clips for the SRS seat harness.

Figure 54.



1	Clip No. 4	
2	Clip No. 5	

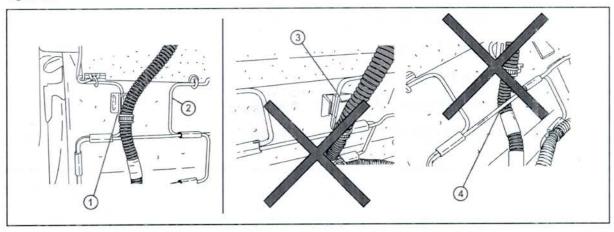
3	Clip No. 6
4	Harness Assembly Connector

# **TOYOTA**

# SRS Airbag Light "ON" - B0111/B0116 Open Side Squib Circuit

# Repair Procedure

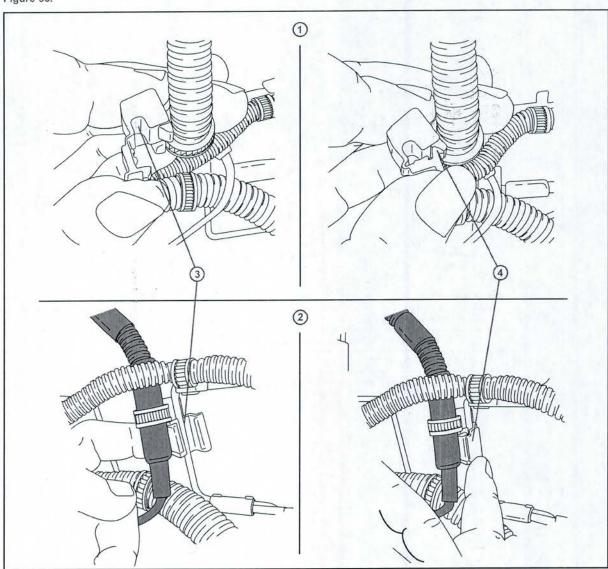
Figure 55.



1	Detail of Clip No. 4 (Fix to OUTSIDE Spring)
2	Inner Spring
3	Do NOT fix to Inner Spring
4	Do NOT Route Between Spring and Pad

## Repair Procedure

Figure 56.

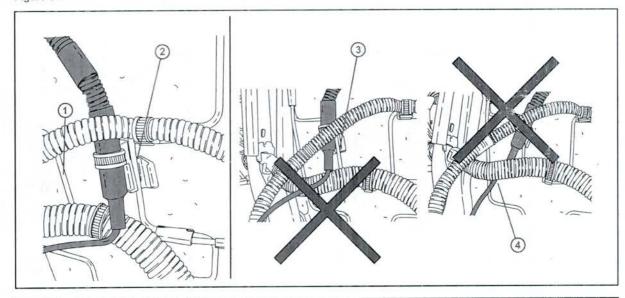


	7 D 7 D 10	
1	Installation for Clip No. 4	
2	Installation for Clip No. 5	
3	Place Spring in Ditch Part of Clip	
4	Inserting the Locking Clasp	

# Repair Procedure

**TOYOTA** 

Figure 57.



- 1 Outside Spring
- 2 Detail of Clip No. 5 (Fix to INNER Spring)
- 3 Do NOT fix to Outer Spring
- 4 Do NOT Route Under the Seat Wire Harness

Rev1

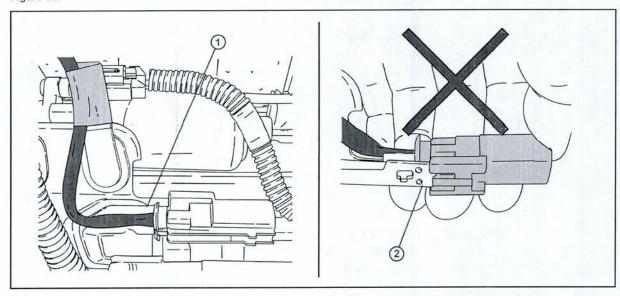
# SRS Airbag Light "ON" - B0111/B0116 Open Side Squib Circuit

## Repair Procedure

# **Crimping Seat Wires (Continued)**

T-SB-0069-12

Figure 58.



1	Detail of Harness Assembly Connector (Install Connector UNDER the Bracket)
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<sup>2</sup> Do NOT Install Above the Bracket

### Repair Procedure (Continued)

#### Installation

1. Reinstall the front seat assembly.

Refer to TIS, applicable model year Sienna Repair Manual:

- 2005 Sienna: Vehicle Interior – Seat – "Front Seat Assembly (Fold Flat Type) / (Manual Seat Type) / (Power Seat Type): Overhaul"
- 2006 Sienna:
   Vehicle Interior Seat "Seat: Front Seat Assembly (for Flat Type) / (for Manual Seat) / (for Power Seat): Installation"
- 2007 Sienna: Vehicle Interior – Seat – "Seat: Front Seat Assembly (for Flat Type) / (for Manual Seat) / (for Power Seat): Installation"
- 2008 Sienna: Vehicle Interior – Seat – "Seat: Front Seat Assembly (for Flat Type) / (for Manual Seat) / (for Power Seat): Installation"
- 2009 Sienna: Vehicle Interior – Seat – "Seat: Front Seat Assembly (for Flat Type) / (for Manual Seat) / (for Power Seat): Installation"
- 2. Initialize the front passenger Occupant Classification System (OCS).

Refer to TIS, applicable model year Sienna Repair Manual:

- 2005 Sienna: Vehicle Interior – Supplemental Restraint Systems – "Supplemental Restraint System: Initialization"
- 2006 / 2007 / 2008 / 2009 Sienna: Vehicle Interior – Supplemental Restraint Systems – "Supplemental Restraint System: Occupant Classification System: Initialization"
- Initialize power systems (windows, moon roof, etc.). Refer to the appropriate Service Bulletin on TIS.
- Clear all codes in the SRS system.
- 5. Test drive vehicle.
- 6. Recheck the vehicle for any SRS codes.
- 7. Perform Health Check and verify.