

# MIL "ON" DTC P0715, P0717, P0791, and/or P0793 (U760)

**Service Category** Drivetrain

**Section** Automatic Transmission/Transaxle

**Market** USA

Toyota Supports  
 ASE Certification 

## Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2010	Camry	Engine(s): 2AR Transmission(s): 6AT VDS(s): BF3EK
2009 – 2010	Highlander	Engine(s): 1AR Transmission(s): 6AT VDS(s): DA41A, ZA3EH
2009 – 2010	Venza	Engine(s): 1AR Transmission(s): 6AT VDS(s): BA3BB, BE11A, ZA3BB, ZE11A

## Introduction

Some 2009 – 2010 model year Highlander, Venza, and 2010 model year Camry vehicles equipped with the U760 automatic transaxle may exhibit a MIL "ON" condition with one or more of the following Diagnostic Trouble Codes (DTCs) stored in the Transmission Control Module (TCM):

- P0715 – Input/Turbine Speed Sensor Circuit Malfunction
- P0717 – Input Speed Sensor Circuit No Signal
- P0791 – Intermediate Shaft Speed Sensor "A" Circuit
- P0793 – Intermediate Shaft Speed Sensor "A"

The transmission revolution sensor has been revised. Please follow the repair procedure in this bulletin to address this condition.

### NOTE

Other transaxle DTCs may have set with those listed above. Proceed with this TSB **BEFORE** attempting to diagnose the other DTCs. The transmission revolution sensor may also cause transaxle solenoid performance DTCs to occur (P0746, P0776, P0796, P2714 and/or P2808).

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### Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
TC1002	R & R Transmission Revolution Sensor	2.4	89413-73010	8A	99

#### APPLICABLE WARRANTY

- This repair is covered under the Toyota Comprehensive Warranty. This warranty is in effect for 36 months or 36,000 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
89413-73010	Same	Sensor, Transmission Revolution	1
35168-73010	Same	Gasket, Automatic Transaxle Oil Pan	1
00289-ATFWS	Same	ATF WS	As Needed
90301-27010	Same	O-ring, Oil Strainer	1
90430-A0002	Same	Gasket, Overflow Plug	1
90430-A0003	Same	Gasket, Refill Plug	1

### Required Tools & Equipment

REQUIRED MATERIALS	QTY
Toyota Genuine Adhesive 1344, Three Bond 1344, or Equivalent	As Needed

SPECIAL SERVICE TOOLS (SST'S)	PART NUMBER	QTY
Transmission Fill System*	<a href="#">00002-11100-02</a>	1

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
TIS Techstream* or Techstream Lite  NOTE: Software version 5.00.028 or later is required.	ADE	TSPKG1 or TSLITEDLR01	1

#### NOTE

- Additional TIS Techstream or Techstream Lite units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787.
- Additional SSTs may be ordered by calling 1-800-933-8335.

\* Essential SST.

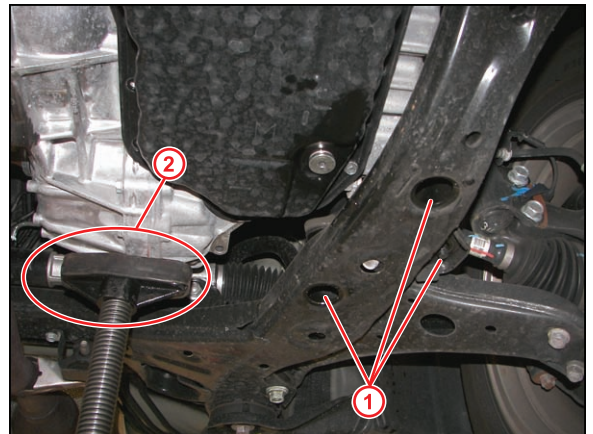
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**Repair Procedure**

1. Remove the automatic transaxle oil pan sub-assembly.

A. Remove the 3 nuts for the LH engine mount as shown in Figure 1.

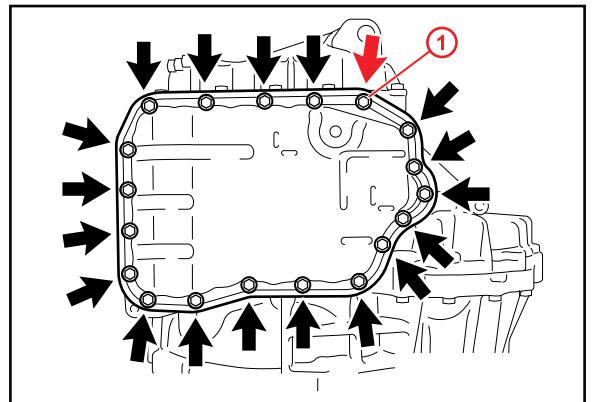
**Figure 1.**



<b>1</b>	LH Engine Mount Nuts (3)
<b>2</b>	Jack Stand Covered with Rubber Protector

B. Use a jack stand covered with a rubber protector to support the engine/transaxle assembly and raise it up approximately 30 mm (1.2 in.) as shown. This will improve the access to bolt 1 shown in Figure 2.

**Figure 2.**



<b>1</b>	Bolt 1
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C. Remove the 19 bolts and oil pan from the transaxle.

**NOTE**

**Some fluid will remain in the oil pan. Remove all the pan bolts, and carefully remove the oil pan assembly.**

D. Remove the gasket from the oil pan.

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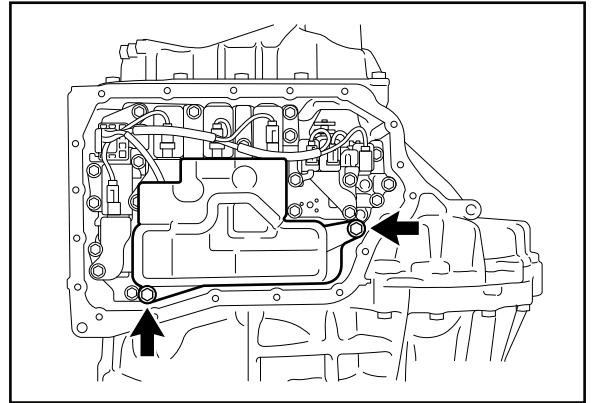
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**Repair Procedure (Continued)**

2. Remove the valve body oil strainer assembly.

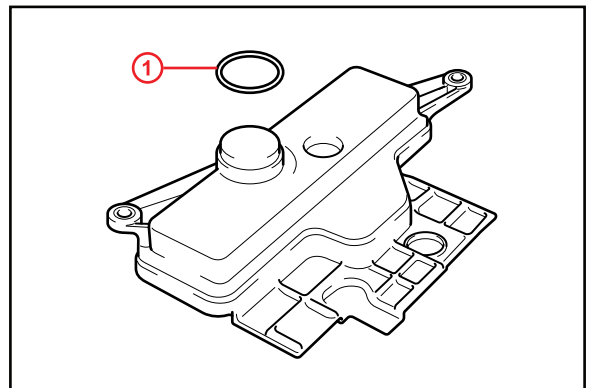
A. Remove the 2 bolts and oil strainer from the valve body.

**Figure 3.**



B. Remove the O-ring from the oil strainer.

**Figure 4.**



<b>1</b>	<b>O-ring</b>
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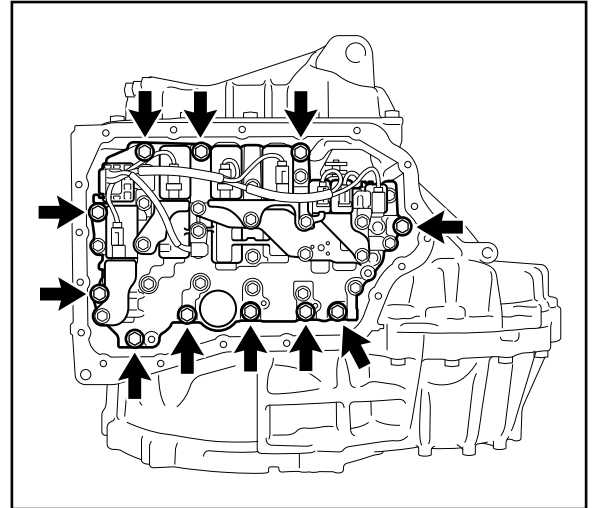
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**Repair Procedure (Continued)**

3. Remove the transmission valve body assembly by removing the 11 bolts.

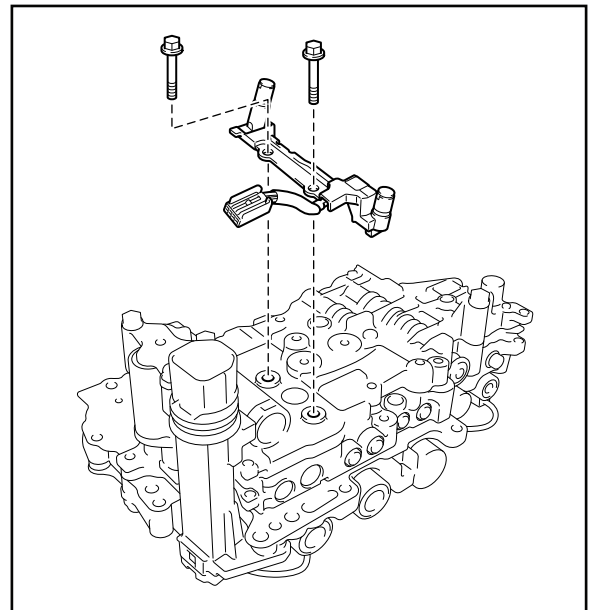
**Figure 5.**

**NOTICE**  
 When removing the transmission valve body assembly, be careful NOT to allow the speed sensor and the transaxle case to interfere with each other.



4. Remove the speed sensor.
  - A. Disconnect the connector.
  - B. Remove the 2 bolts and speed sensor from the valve body.

**Figure 6.**



5. Install the speed sensor.
  - A. Install the speed sensor to the valve body with the 2 bolts.  
**Torque: 11 N\*m (112 kgf\*cm, 8 ft\*lbf)**
  - B. Connect the connector.

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**Repair Procedure (Continued)**

- 6. Install the transmission valve body.
  - A. Coat the O-ring of the transmission wire with ATF.
  - B. Confirm that the manual valve lever is positioned as shown in the illustration and install the valve body assembly to the transaxle case with the 11 bolts.

**Torque:**  
**Bolt A, B, C: 11 N\*m**  
**(112 kgf\*cm, 8 ft\*lbf)**

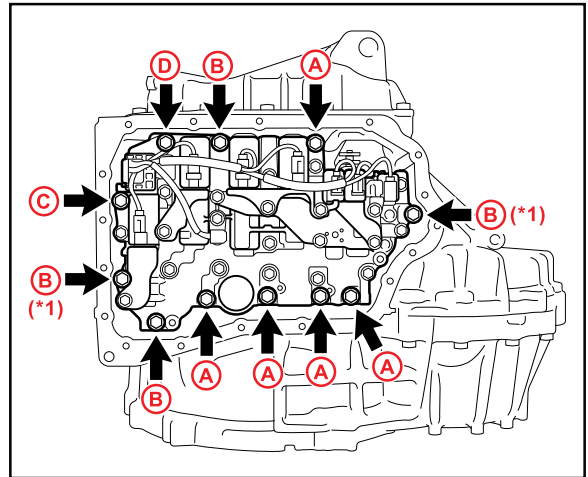
**Torque:**  
**Bolt D: 9.6 N\*m**  
**(98 kgf\*cm, 85 in\*lbf)**

**Bolt Length:**  
**Bolt A: 25 mm (0.984 in.)**  
**Bolt B: 30 mm (1.18 in.)**  
**Bolt C, D: 35 mm (1.38 in.)**

**NOTICE**

- When installing the transmission valve body assembly, be careful NOT to allow the speed sensor and transaxle case to interfere with each other.
- Be sure to insert the pin of the manual valve lever into the groove on the end of the manual valve.
- First, temporarily tighten the bolts marked by (\*1) in the illustration because they are positioning bolts.

**Figure 7.**



<b>A</b>	Bolt A
<b>B</b>	Bolt B
<b>C</b>	Bolt C
<b>D</b>	Bolt D
<b>*1</b>	Positioning Bolt

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**Repair Procedure (Continued)**

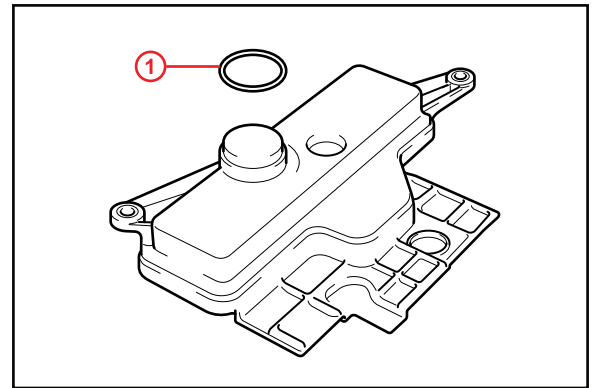
7. Install the valve body oil strainer assembly.

A. Coat a new O-ring with ATF and install it to the oil strainer.

**Figure 8.**

**NOTICE**

**Ensure that the O-ring is not twisted or pinched.**

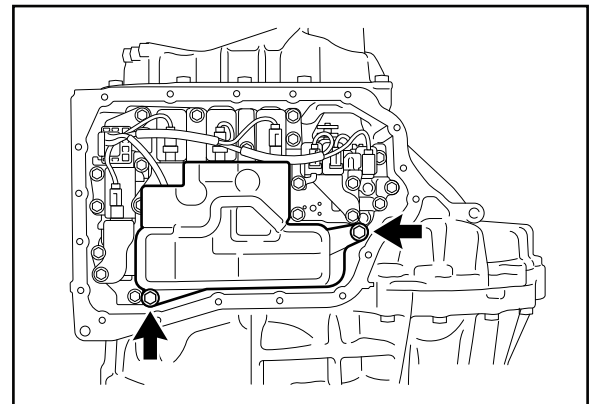


<b>1</b>	<b>O-ring</b>
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B. Install the oil strainer to the valve body with the 2 bolts.

**Figure 9.**

**Torque: 9.6 N\*m (98 kgf\*cm, 85 in\*lbf)**



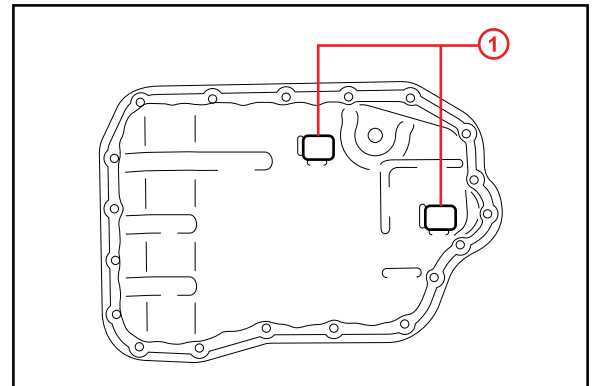
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Repair Procedure (Continued)

8. Install the automatic transaxle oil pan sub-assembly.

A. Confirm the position of the 2 magnets in the oil pan.

Figure 10.



1	Magnet
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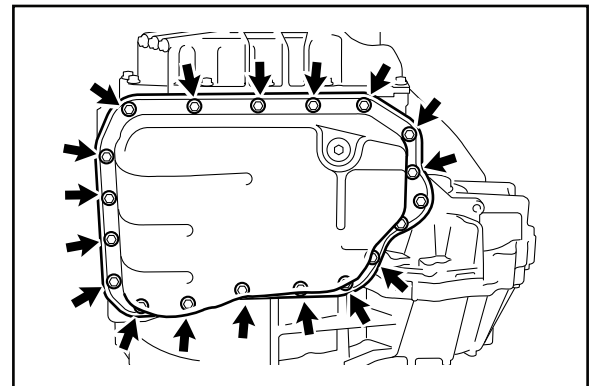
B. Install a new gasket to the oil pan.

C. Install the oil pan to the automatic transaxle with the 17 bolts.

Torque: 7.5 N\*m (76 kgf\*cm, 66 in\*lbf)

Figure 11.

**NOTICE**  
 Completely remove any oil or grease from the contact surface of the transaxle case and oil pan sub-assembly with the gasket before installation.



D. Apply adhesive to the 2 bolts.

Adhesive: Toyota Genuine Adhesive 1344, Three Bond 1344, or equivalent.



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### Repair Procedure (Continued)

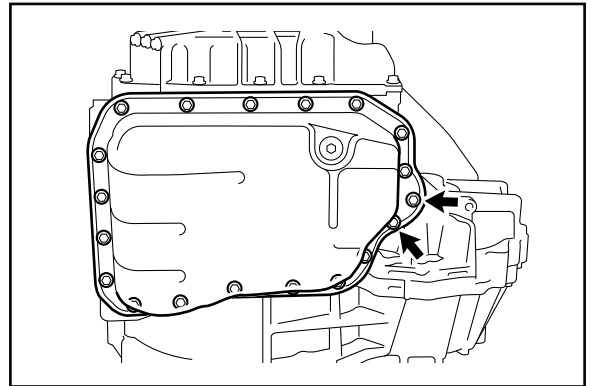
- E. Install the oil pan to the automatic transaxle with the 2 bolts.

**Torque: 7.0 N\*m (71 kgf\*cm, 62 in\*lbf)**

**NOTE**

In order to ensure proper sealing of the transmission oil pan bolts, apply sealant to the bolts and install them within 10 minutes of sealant application.

Figure 12.

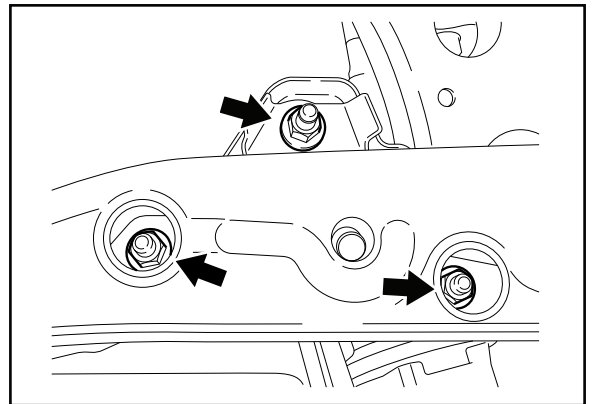


- F. Lower the engine/transaxle assembly and remove the jack stand.

- G. Install the 3 nuts for the LH engine mount.

**Torque: 87 N\*m (887 kgf\*cm, 64 ft\*lbf)**

Figure 13.



9. Fill transaxle with automatic transaxle fluid.

Refer to the Technical Information System (TIS), applicable model and model year Repair Manual:

- [2010](#) Camry:  
*Drivetrain – Automatic Transmission/Transaxle – “U760E Automatic Transaxle: Automatic Transaxle Fluid: Adjustment”*
- [2009](#) / [2010](#) Highlander:  
*Drivetrain – Automatic Transmission/Transaxle – “U760E Automatic Transaxle: Automatic Transaxle Fluid: Adjustment”*
- [2009](#) / [2010](#) Venza:  
*Drivetrain – Automatic Transmission/Transaxle – “U760E Automatic Transaxle: Automatic Transaxle Fluid: Adjustment”*

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### Repair Procedure (Continued)

- [2009](#) / [2010](#) Venza:  
*Drivetrain – Automatic Transmission/Transaxle – “U760F Automatic Transaxle: Automatic Transaxle Fluid: Adjustment”*

10. Test drive the vehicle to confirm the repair.