

Various Drivability Concerns, and/or DTCs, Corrosion Present in A43 or A9 Connector

Service Category Engine/Hybrid System

Section Engine Control

Market USA

Toyota Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2014 - 2018	Highlander, Highlander HV	

Introduction

Some 2014 – 2018 model year Highlander and Highlander Hybrid vehicles may exhibit one or more of the following conditions.

- Various drivability concerns
- Low or no fuel pressure
- Diagnostic Trouble Codes (DTCs) (Including but not limited to P1603, P1604, P1605, P0171, P0300, P0302, P0304, U0100)
- Some 2014 – 2018 model year Highlander Hybrid vehicles may exhibit DTC P134A

These conditions may be caused by corrosion/water in the A43 ECM connector (Highlander) or the A9 inverter water pump connector (Highlander HV). The corrosion in the A43 and A9 connectors is due to poorly sealed or damaged aftermarket windshield deicer harnesses. Follow the Repair Procedure in this bulletin to address these conditions.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

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Repair Procedure

1. Confirm if one or more of the following conditions exist.
 - Various drivability concerns
 - Low or no fuel pressure
 - DTCs (Including but not limited to P1603, P1604, P1605, P0171, P0300, P0302, P0304, and U0100) (Highlander only)
 - DTC P314A (Highlander HV only)

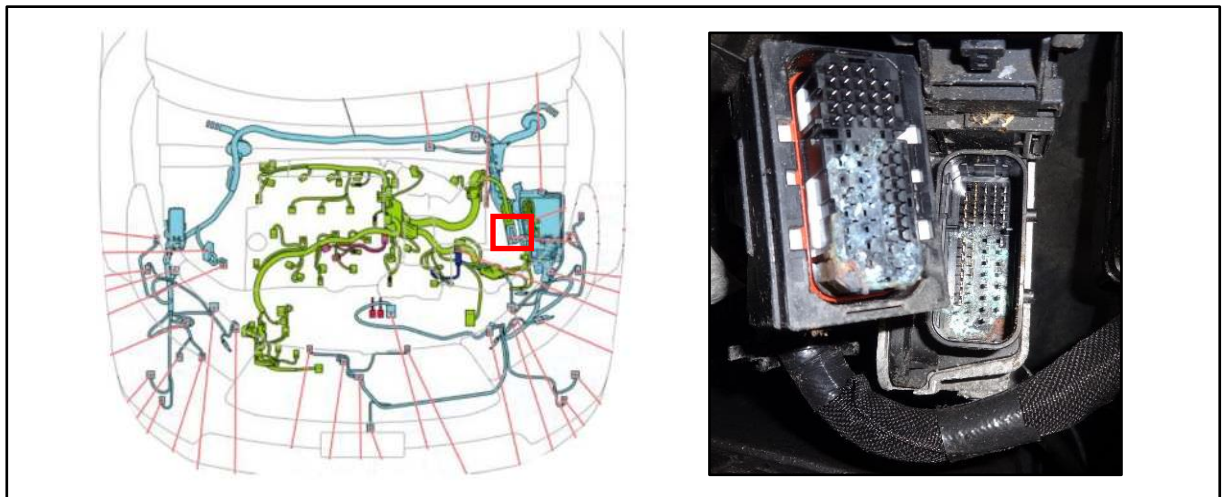
Does the vehicle exhibit any of the conditions listed above?

- **YES** — Continue to step 2.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

2. Is the vehicle a hybrid model (Highlander HV)?
 - **YES** — Go to step 4.
 - **NO** — Continue to step 3.

3. Check for corrosion in the A43 ECM connector.
Remove the A43 ECM connector.

Figure 1. A43 Connector Location and Corrosion



Is corrosion or water present?

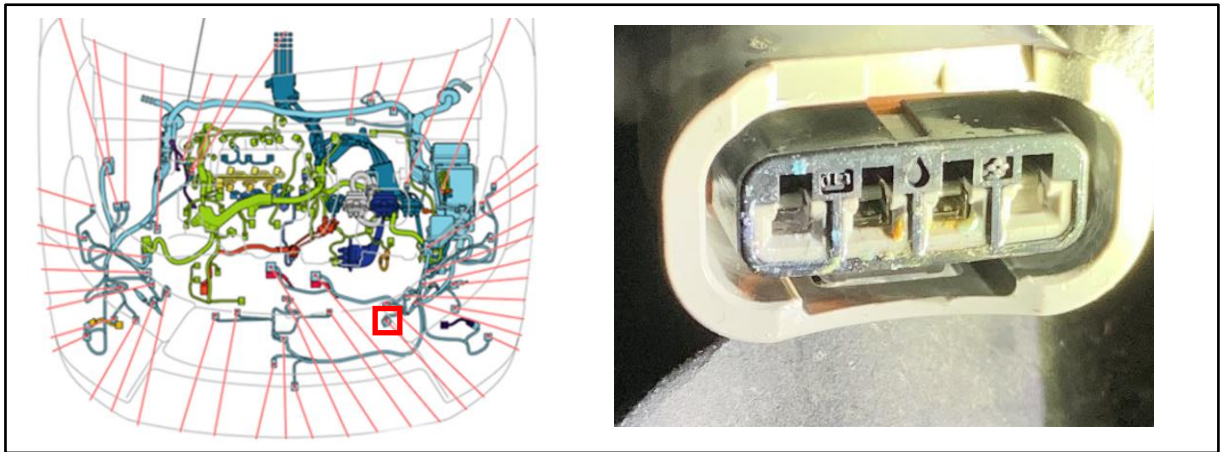
- **YES** — Go to step 5.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

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Repair Procedure (continued)

4. Remove the A9 inverter water pump with motor assembly connector.

Figure 2. A9 Connector Location and Corrosion



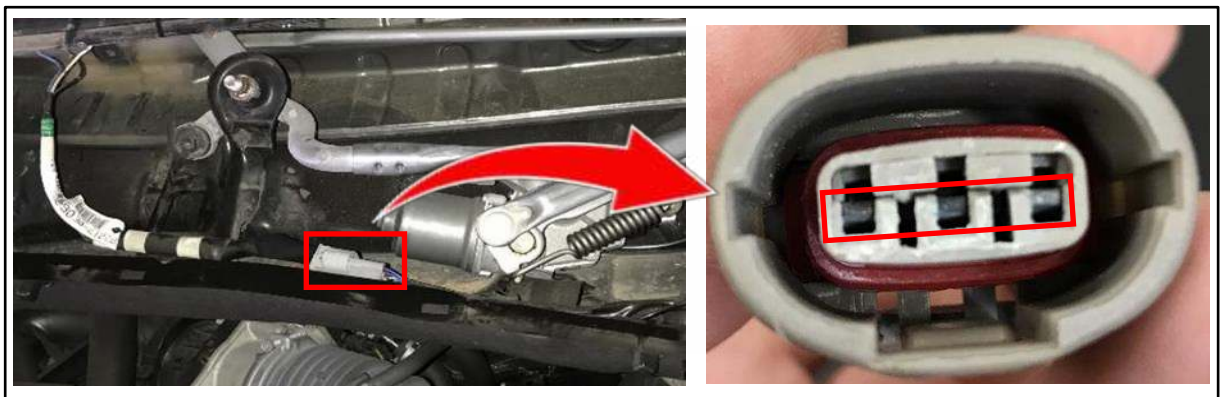
Is corrosion or water present?

- **YES** — Continue to step 5.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

5. Check for corrosion in the A33 front wiper deicer (windshield glass) connector (Highlander and Highlander HV).

Remove the A33 front wiper deicer (windshield glass) connector.

Figure 3. A33 Connector Location and Corrosion



Is corrosion or water present?

- **YES** — Continue to step 6.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

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Repair Procedure (continued)

6. Replace the components listed in the table below.

	NON-HYBRID VEHICLE	HYBRID VEHICLE
COMPONENT	ECM	Inverter Water Pump
	Engine Room Main Wire Harness	Engine Room Main Wire Harness
	Windshield	Windshield

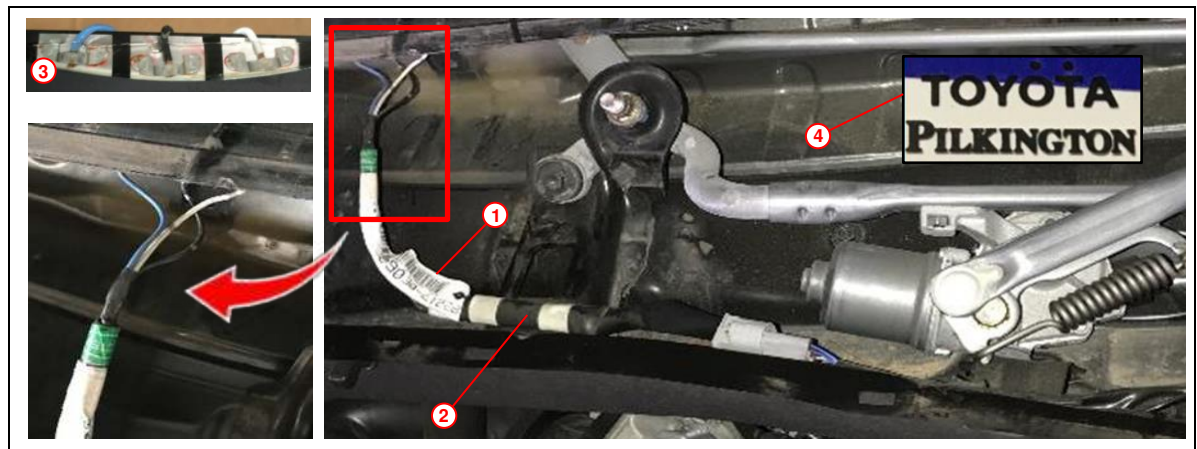
A. Windshield Replacement

NOTE

It is strongly recommended to replace the windshield with a Toyota genuine windshield. Toyota windshields utilize special seals to prevent water/moisture from entering the engine room main wire harness. Some aftermarket windshields do NOT have these seals.

Reference the figure below to identify Toyota genuine parts.

Figure 4.



1	Toyota Part Number and Markings
2	Toyota Genuine Deicer Harness
3	Underside of Deicer Harness Connection (Underside of Windshield)
4	Toyota and Pilkington Markings (Lower Corner of Driver Side Windshield)

- (1) Remove the windshield.

Refer to TIS, applicable model and model year Repair Manual:

- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Highlander:
Vehicle Exterior – Window/Glass – “Window / Glass: Windshield Glass: Removal”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Highlander HV:
Vehicle Exterior – Window/Glass – “Window / Glass: Windshield Glass: Removal”

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Repair Procedure (continued)

- (2) Install the NEW windshield.

Refer to TIS, applicable model and model year Repair Manual:

- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Highlander:
Vehicle Exterior – Window/Glass – “Window / Glass: Windshield Glass: Installation”
- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Highlander HV:
Vehicle Exterior – Window/Glass – “Window / Glass: Windshield Glass: Installation”

B. ECM Replacement (2GR-FKS)

- (1) Remove the ECM.

Refer to TIS, applicable model and model year Repair Manual:

- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Highlander:
Engine/Hybrid System – 2GR-FKS (Engine Control) – “2GR-FKS (Engine Control): ECM: Removal”

- (2) Install the NEW ECM.

Refer to TIS, applicable model and model year Repair Manual:

- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Highlander:
Engine/Hybrid System – 2GR-FKS (Engine Control) – “2GR-FKS (Engine Control): ECM: Installation”

C. ECM Replacement (1AR-FE)

- (1) Remove the ECM.

Refer to TIS, applicable model and model year Repair Manual:

- 2014 – 2018 Highlander:
Engine/Hybrid System – 1AR-FE (Engine Control) – [“1AR-FE \(Engine Control\): ECM: Removal”](#)

- (2) Install the NEW ECM.

Refer to TIS, applicable model and model year Repair Manual:

- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Highlander:
Engine/Hybrid System – 1AR-FE (Engine Control) – “1AR-FE (Engine Control): ECM: Installation”

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Repair Procedure (continued)

D. Engine Room Main Wire Harness Replacement

- (1) Unplug the harness from each connector on the vehicle. Make note of the harness routing.
- (2) Route and plug in the NEW harness, ensuring the connectors are fully installed into the mating connector.

E. Inverter Water Pump Replacement

NOTE

This step ONLY applies to Highlander Hybrid vehicles.

- (1) Remove the inverter water pump.

Refer to TIS, applicable model and model year Repair Manual:

- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Highlander HV:

Engine/Hybrid System – Hybrid/Battery Control – “Hybrid/Battery Control: Water Pump With Motor: Removal”

- (2) Install the NEW inverter water pump.

Refer to TIS, applicable model and model year Repair Manual:

- [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Highlander HV:

Engine/Hybrid System – Hybrid/Battery Control – “Hybrid/Battery Control: Water Pump With Motor: Installation”

7. Test-drive the vehicle to confirm the repair and normal operation.