TOYOTA SERVICE BULLETIN

Group: 04 No.: 12 Date: Aug,13

Land Cruiser VDJ76/78/79

Correction to Repair manual RM0584E

Please ensure these pages are distributed to all relevant staff for their information; and a copy made available for future reference, with the above repair manual.

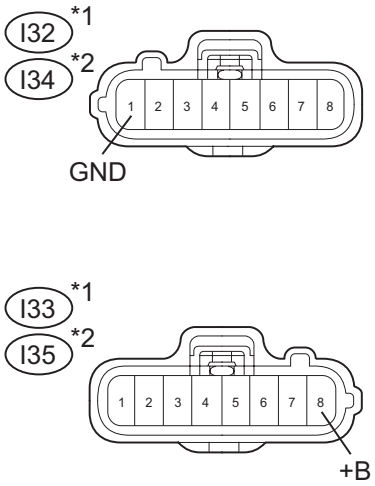
Section	Title	Paragraph
1VD-FTV ENGINE CONTROL SYSTEM	ECD SYSTEM	P062D (2007/01 - 2009/07)
		P062D (2009/07 - 2012/08)
		P062D (2012/08 -)

The revised pages listed above are attached.
(The corrected parts are indicated by arrows.)

This Bulletin does not cause the Flat Rate Manual to be changed.

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Front view of wire harness connector:
(to EDU)



*1: No. 1

*2: No. 2

A130531E04

(b) Disconnect the I34 and I35 No. 2 injector driver (EDU) connectors.

(c) Measure the voltage according to the value(s) in the table below.

Standard voltage

No. 1

Tester Connection	Switch Condition	Specified Condition
I33-8 (+B) - I32-1 (GND)	Ignition switch ON	11 to 14 V

No. 2

Tester Connection	Switch Condition	Specified Condition
I35-8 (+B) - I34-1 (GND)	Ignition switch ON	11 to 14 V

NG → **Go to step 7**

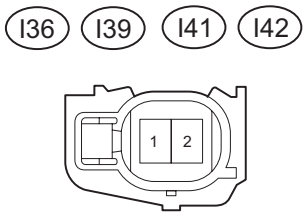
ES

[Corrected]

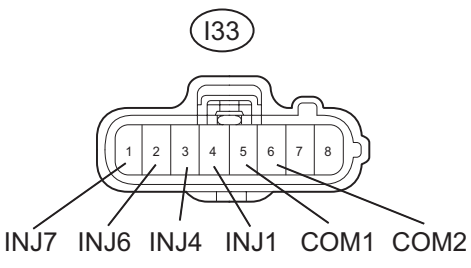
OK

2 CHECK HARNESS AND CONNECTOR (INJECTOR - EDU)

Front view of wire harness connector:
(to Injector)



Front view of wire harness connector:
(to No. 1 EDU)



A165912E09

(a) Disconnect the I36, I39, I41 and I42 injector connectors.

(b) Disconnect the I33 No. 1 EDU connector.

(c) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)

No. 1

Tester Connection	Condition	Specified Condition
I36-2 - I33-4 (INJ1)	Always	Below 1 Ω
I39-2 - I33-3 (INJ4)	Always	Below 1 Ω
I41-2 - I33-2 (INJ6)	Always	Below 1 Ω
I42-2 - I33-1 (INJ7)	Always	Below 1 Ω
I36-1 - I33-5 (COM1)	Always	Below 1 Ω
I39-1 - I33-5 (COM1)	Always	Below 1 Ω
I41-1 - I33-6 (COM2)	Always	Below 1 Ω
I42-1 - I33-6 (COM2)	Always	Below 1 Ω

Standard resistance (Check for short)

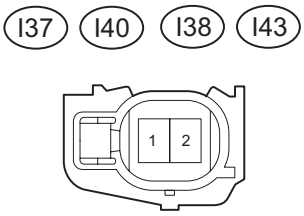
No. 1

Tester Connection	Condition	Specified Condition
I36-2 or I33-4 (INJ1) - Body ground	Always	10 kΩ or higher
I39-2 or I33-3 (INJ4) - Body ground	Always	10 kΩ or higher
I41-2 or I33-2 (INJ6) - Body ground	Always	10 kΩ or higher
I42-2 or I33-1 (INJ7) - Body ground	Always	10 kΩ or higher

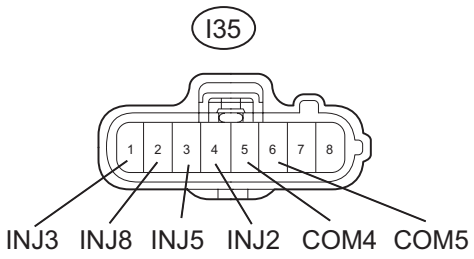
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Tester Connection	Condition	Specified Condition
I36-1 or I33-5 (COM1) - Body ground	Always	10 kΩ or higher
I39-1 or I33-5 (COM1) - Body ground	Always	10 kΩ or higher
I41-1 or I33-6 (COM2) - Body ground	Always	10 kΩ or higher
I42-1 or I33-6 (COM2) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Injector)



Front view of wire harness connector:
(to No. 2 EDU)



A165912E10

(d) Disconnect the I37, I40, I38 and I43 injector connectors.
(e) Disconnect the I35 No. 2 EDU connector.
(f) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)
No. 2

Tester Connection	Condition	Specified Condition
I37-2 - I35-4 (INJ2)	Always	Below 1 Ω
I40-2 - I35-3 (INJ5)	Always	Below 1 Ω
I38-2 - I35-1 (INJ3)	Always	Below 1 Ω
I43-2 - I35-2 (INJ8)	Always	Below 1 Ω
I37-1 - I35-5 (COM4)	Always	Below 1 Ω
I40-1 - I35-5 (COM4)	Always	Below 1 Ω
I38-1 - I35-6 (COM5)	Always	Below 1 Ω
I43-1 - I35-6 (COM5)	Always	Below 1 Ω

Standard resistance (Check for short)
No. 2

Tester Connection	Condition	Specified Condition
I37-2 or I35-4 (INJ2) - Body ground	Always	10 kΩ or higher
I40-2 or I35-3 (INJ5) - Body ground	Always	10 kΩ or higher
I38-2 or I35-1 (INJ3) - Body ground	Always	10 kΩ or higher
I43-2 or I35-2 (INJ8) - Body ground	Always	10 kΩ or higher
I37-1 or I35-5 (COM4) - Body ground	Always	10 kΩ or higher
I40-1 or I35-5 (COM4) - Body ground	Always	10 kΩ or higher
I38-1 or I35-6 (COM5) - Body ground	Always	10 kΩ or higher
I43-1 or I35-6 (COM5) - Body ground	Always	10 kΩ or higher

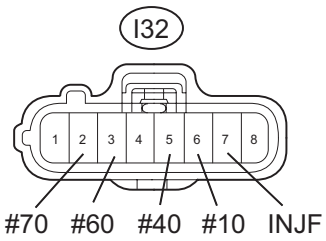
NG → **Go to step 10**

OK

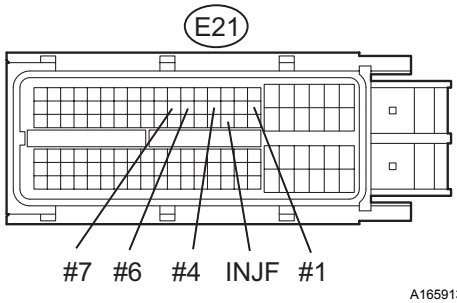
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3	CHECK HARNESS AND CONNECTOR (EDU - ECM)

Front view of wire harness connector:
(to No. 1 EDU)



Front view of wire harness connector:
(to ECM)



(a) Disconnect the I32 No. 1 EDU connector.
(b) Disconnect the E21 ECM connector.
(c) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)
No. 1

Tester Connection	Condition	Specified Condition
I32-6 (#10) - E21-40 (#1)	Always	Below 1 Ω
I32-5 (#40) - E21-37 (#4)	Always	Below 1 Ω
I32-3 (#60) - E21-35 (#6)	Always	Below 1 Ω
I32-2 (#70) - E21-34 (#7)	Always	Below 1 Ω
I32-7 (INJF) - E21-61 (INJF)	Always	Below 1 Ω

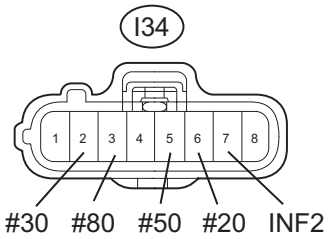
Standard resistance (Check for short)
No. 1

Tester Connection	Condition	Specified Condition
I32-6 (#10) or E21-40 (#1) - Body ground	Always	10 kΩ or higher
I32-5 (#40) or E21-37 (#4) - Body ground	Always	10 kΩ or higher
I32-3 (#60) or E21-35 (#6) - Body ground	Always	10 kΩ or higher
I32-2 (#70) or E21-34 (#7) - Body ground	Always	10 kΩ or higher
I32-7 (INJF) or E21-61 (INJF) - Body ground	Always	10 kΩ or higher

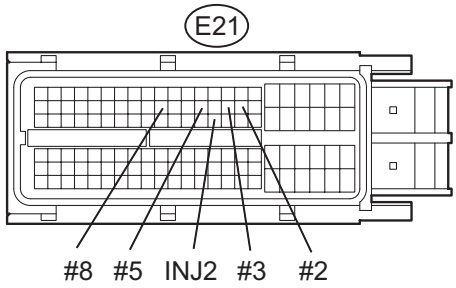
ES

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Front view of wire harness connector:
(to No. 2 EDU)



Front view of wire harness connector:
(to ECM)



(d) Disconnect the I34 No. 2 EDU connector.
(e) Disconnect the E21 ECM connector.
(f) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)
No. 2

Tester Connection	Condition	Specified Condition
I34-6 (#20) - E21-39 (#2)	Always	Below 1 Ω
I34-2 (#30) - E21-38 (#3)	Always	Below 1 Ω
I34-5 (#50) - E21-36 (#5)	Always	Below 1 Ω
I34-3 (#80) - E21-33 (#8)	Always	Below 1 Ω
I34-7 (INF2) - E21-60 (INF2)	Always	Below 1 Ω

Standard resistance (Check for short)
No. 2

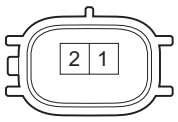
Tester Connection	Condition	Specified Condition
I34-6 (#20) or E21-39 (#2) - Body ground	Always	10 kΩ or higher
I34-2 (#30) or E21-38 (#3) - Body ground	Always	10 kΩ or higher
I34-5 (#50) or E21-36 (#5) - Body ground	Always	10 kΩ or higher
I34-3 (#80) or E21-33 (#8) - Body ground	Always	10 kΩ or higher
I34-7 (INF2) or E21-60 (INF2) - Body ground	Always	10 kΩ or higher

NG → **Go to step 10**

OK

4 INSPECT INJECTOR ASSEMBLY

Component without harness connected:
(Injector)



(a) Disconnect the I36, I37, I38, I39, I40, I41, I42 and I43 injector connectors.
(b) Measure the resistance according to the value(s) in the table below.

Standard resistance

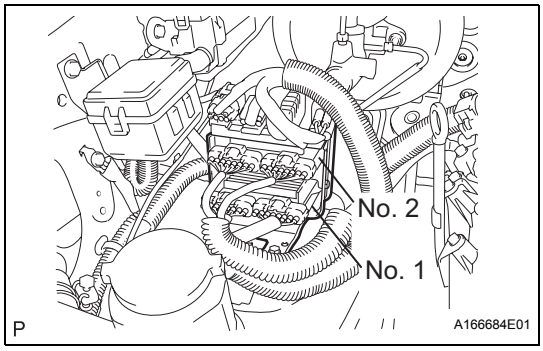
Tester Connection	Condition	Specified Condition
1 - 2	20°C (68°F)	0.85 to 1.05 Ω

NG → **Go to step 9**

OK

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5	CHECK DTC



(a) Interchange the No. 1 and No. 2 EDU connectors.
(b) Connect the intelligent tester to the DLC3.
(c) Turn the ignition switch ON and turn the tester ON.
(d) Clear DTCs.
NOTICE:
Before deleting the DTCs, write them down.
(e) Start the engine.
(f) Enter the following menus: Powertrain / Engine and ECT / DTC.
(g) Read the DTCs.
Result

Result	Proceed to
DTCs do not change	A
DTCs change (change in malfunctioning cylinder or EDU code)	B

ES

B → **Go to step 8**

A

6	REPLACE ECM

(a) Replace the ECM (See page ○○-○○).

NEXT → **Go to step 11**

7	GO TO INJECTOR CIRCUIT

(a) Go to the injector circuit (See page ES-799).

NEXT → **Go to step 11**

8	REPLACE INJECTOR DRIVER

(a) Replace the injector driver (See page ○○-○○).

NEXT → **Go to step 11**

9	REPLACE INJECTOR ASSEMBLY

(a) Replace the injector assembly (See page ○○-○○).

NEXT → **Go to step 11**

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10	REPAIR OR REPLACE HARNESS OR CONNECTOR

NEXT

11	CONFIRM WHETHER MALFUNCTION HAS BEEN SUCCESSFULLY REPAIRED

(a) Connect the intelligent tester to the DLC3.
(b) Clear the DTCs (See page ES-96).
(c) Turn the ignition switch off.
(d) Start the engine and idle it for 10 seconds.
(e) Enter the following menus: Powertrain / Engine and ECT / DTC.
(f) Confirm that the DTC is not output again.

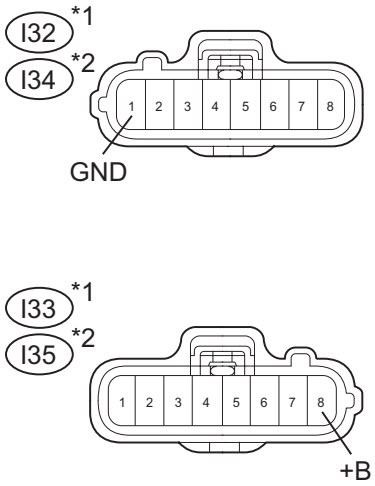
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NEXT

END

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Front view of wire harness connector:
(to EDU)



*1: No. 1

*2: No. 2

A130531E04

(b) Disconnect the I34 and I35 No. 2 injector driver (EDU) connectors.

(c) Measure the voltage according to the value(s) in the table below.

Standard voltage

No. 1

Tester Connection	Switch Condition	Specified Condition
I33-8 (+B) - I32-1 (GND)	Ignition switch ON	11 to 14 V

No. 2

Tester Connection	Switch Condition	Specified Condition
I35-8 (+B) - I34-1 (GND)	Ignition switch ON	11 to 14 V

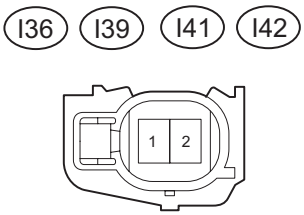
NG → **Go to step 7**

OK

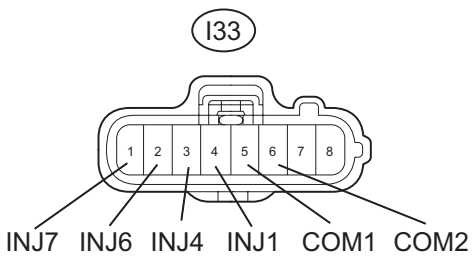
[Corrected]

2 CHECK HARNESS AND CONNECTOR (INJECTOR - EDU)

Front view of wire harness connector:
(to Injector)



Front view of wire harness connector:
(to No. 1 EDU)



A165912E09

(a) Disconnect the I36, I39, I41 and I42 injector connectors.

(b) Disconnect the I33 No. 1 EDU connector.

(c) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)

No. 1

Tester Connection	Condition	Specified Condition
I36-2 - I33-4 (INJ1)	Always	Below 1 Ω
I39-2 - I33-3 (INJ4)	Always	Below 1 Ω
I41-2 - I33-2 (INJ6)	Always	Below 1 Ω
I42-2 - I33-1 (INJ7)	Always	Below 1 Ω
I36-1 - I33-5 (COM1)	Always	Below 1 Ω
I39-1 - I33-5 (COM1)	Always	Below 1 Ω
I41-1 - I33-6 (COM2)	Always	Below 1 Ω
I42-1 - I33-6 (COM2)	Always	Below 1 Ω

Standard resistance (Check for short)

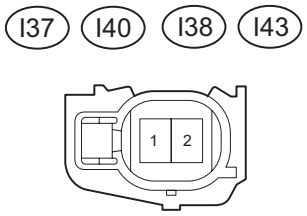
No. 1

Tester Connection	Condition	Specified Condition
I36-2 or I33-4 (INJ1) - Body ground	Always	10 kΩ or higher
I39-2 or I33-3 (INJ4) - Body ground	Always	10 kΩ or higher
I41-2 or I33-2 (INJ6) - Body ground	Always	10 kΩ or higher
I42-2 or I33-1 (INJ7) - Body ground	Always	10 kΩ or higher

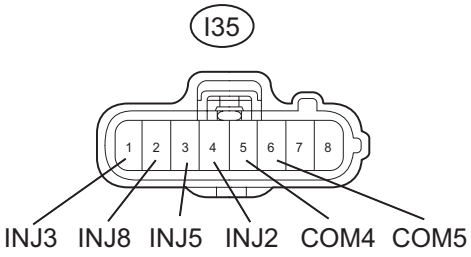
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Tester Connection	Condition	Specified Condition
I36-1 or I33-5 (COM1) - Body ground	Always	10 kΩ or higher
I39-1 or I33-5 (COM1) - Body ground	Always	10 kΩ or higher
I41-1 or I33-6 (COM2) - Body ground	Always	10 kΩ or higher
I42-1 or I33-6 (COM2) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Injector)



Front view of wire harness connector:
(to No. 2 EDU)



A165912E10

(d) Disconnect the I37, I40, I38 and I43 injector connectors.
(e) Disconnect the I35 No. 2 EDU connector.
(f) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)
No. 2

Tester Connection	Condition	Specified Condition
I37-2 - I35-4 (INJ2)	Always	Below 1 Ω
I40-2 - I35-3 (INJ5)	Always	Below 1 Ω
I38-2 - I35-1 (INJ3)	Always	Below 1 Ω
I43-2 - I35-2 (INJ8)	Always	Below 1 Ω
I37-1 - I35-5 (COM4)	Always	Below 1 Ω
I40-1 - I35-5 (COM4)	Always	Below 1 Ω
I38-1 - I35-6 (COM5)	Always	Below 1 Ω
I43-1 - I35-6 (COM5)	Always	Below 1 Ω

Standard resistance (Check for short)
No. 2

Tester Connection	Condition	Specified Condition
I37-2 or I35-4 (INJ2) - Body ground	Always	10 kΩ or higher
I40-2 or I35-3 (INJ5) - Body ground	Always	10 kΩ or higher
I38-2 or I35-1 (INJ3) - Body ground	Always	10 kΩ or higher
I43-2 or I35-2 (INJ8) - Body ground	Always	10 kΩ or higher
I37-1 or I35-5 (COM4) - Body ground	Always	10 kΩ or higher
I40-1 or I35-5 (COM4) - Body ground	Always	10 kΩ or higher
I38-1 or I35-6 (COM5) - Body ground	Always	10 kΩ or higher
I43-1 or I35-6 (COM5) - Body ground	Always	10 kΩ or higher

NG → **Go to step 10**

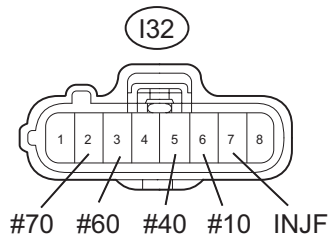
OK

ES

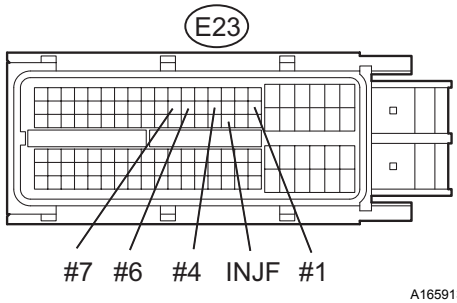
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3	CHECK HARNESS AND CONNECTOR (EDU - ECM)

Front view of wire harness connector:
(to No. 1 EDU)



Front view of wire harness connector:
(to ECM)



(a) Disconnect the I32 No. 1 EDU connector.
(b) Disconnect the E23 ECM connector.
(c) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)
No. 1

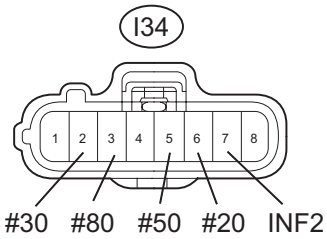
Tester Connection	Condition	Specified Condition
I32-6 (#10) - E23-40 (#1)	Always	Below 1 Ω
I32-5 (#40) - E23-37 (#4)	Always	Below 1 Ω
I32-3 (#60) - E23-35 (#6)	Always	Below 1 Ω
I32-2 (#70) - E23-34 (#7)	Always	Below 1 Ω
I32-7 (INJF) - E23-61 (INJF)	Always	Below 1 Ω

Standard resistance (Check for short)
No. 1

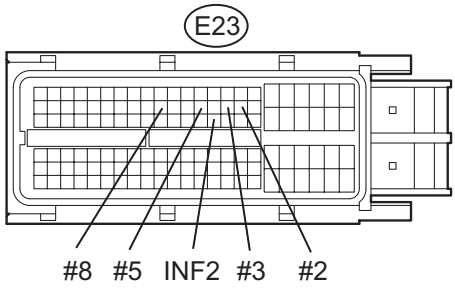
Tester Connection	Condition	Specified Condition
I32-6 (#10) or E23-40 (#1) - Body ground	Always	10 kΩ or higher
I32-5 (#40) or E23-37 (#4) - Body ground	Always	10 kΩ or higher
I32-3 (#60) or E23-35 (#6) - Body ground	Always	10 kΩ or higher
I32-2 (#70) or E23-34 (#7) - Body ground	Always	10 kΩ or higher
I32-7 (INJF) or E23-61 (INJF) - Body ground	Always	10 kΩ or higher

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Front view of wire harness connector:
(to No. 2 EDU)



Front view of wire harness connector:
(to ECM)



(d) Disconnect the I34 No. 2 EDU connector.
(e) Disconnect the E23 ECM connector.
(f) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)
No. 2

Tester Connection	Condition	Specified Condition
I34-6 (#20) - E23-39 (#2)	Always	Below 1 Ω
I34-2 (#30) - E23-38 (#3)	Always	Below 1 Ω
I34-5 (#50) - E23-36 (#5)	Always	Below 1 Ω
I34-3 (#80) - E23-33 (#8)	Always	Below 1 Ω
I34-7 (INF2) - E23-60 (INF2)	Always	Below 1 Ω

Standard resistance (Check for short)
No. 2

Tester Connection	Condition	Specified Condition
I34-6 (#20) or E23-39 (#2) - Body ground	Always	10 kΩ or higher
I34-2 (#30) or E23-38 (#3) - Body ground	Always	10 kΩ or higher
I34-5 (#50) or E23-36 (#5) - Body ground	Always	10 kΩ or higher
I34-3 (#80) or E23-33 (#8) - Body ground	Always	10 kΩ or higher
I34-7 (INF2) or E23-60 (INF2) - Body ground	Always	10 kΩ or higher

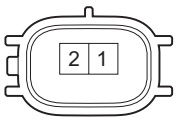
ES

NG → **Go to step 10**

OK

4 INSPECT INJECTOR ASSEMBLY

Component without harness connected:
(Injector)



(a) Disconnect the I36, I37, I38, I39, I40, I41, I42 and I43 injector connectors.
(b) Measure the resistance according to the value(s) in the table below.

Standard resistance

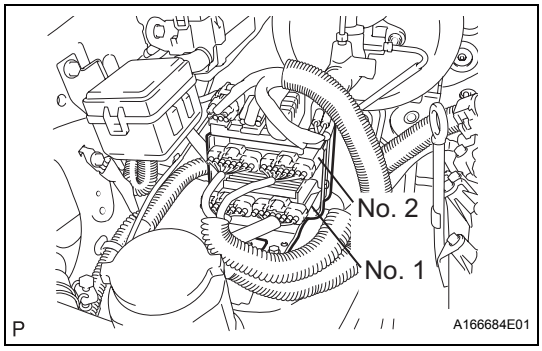
Tester Connection	Condition	Specified Condition
1 - 2	20°C (68°F)	0.85 to 1.05 Ω

NG → **Go to step 9**

OK

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5	CHECK DTC



(a) Interchange the No. 1 and No. 2 EDU connectors.
(b) Connect the intelligent tester to the DLC3.
(c) Turn the ignition switch ON and turn the tester ON.
(d) Clear DTCs.
NOTICE:
Before deleting the DTCs, write them down.
(e) Start the engine.
(f) Enter the following menus: Powertrain / Engine and ECT / DTC.
(g) Read the DTCs.
Result

Result	Proceed to
DTCs do not change	A
DTCs change (change in malfunctioning cylinder or EDU code)	B

B → **Go to step 8**

A

6	REPLACE ECM

(a) Replace the ECM (See page ○○-○○).

NEXT → **Go to step 11**

7	GO TO INJECTOR CIRCUIT

(a) Go to the injector circuit (See page ES-806).

NEXT → **Go to step 11**

8	REPLACE INJECTOR DRIVER

(a) Replace the injector driver (See page ○○-○○).

NEXT → **Go to step 11**

9	REPLACE INJECTOR ASSEMBLY

(a) Replace the injector assembly (See page ○○-○○).

NEXT → **Go to step 11**

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10	**REPAIR OR REPLACE HARNESS OR CONNECTOR**

NEXT

11	**CONFIRM WHETHER MALFUNCTION HAS BEEN SUCCESSFULLY REPAIRED**

(a) Connect the intelligent tester to the DLC3.
(b) Clear the DTCs (See page ES-97).
(c) Turn the ignition switch off.
(d) Start the engine and idle it for 10 seconds.
(e) Enter the following menus: Powertrain / Engine and ECT / DTC.
(f) Confirm that the DTC is not output again.

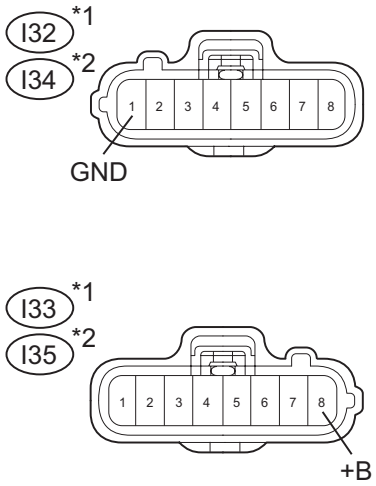
NEXT

ES

END

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Front view of wire harness connector:
(to EDU)



*1: No. 1

*2: No. 2

A130531E04

(b) Disconnect the I34 and I35 No. 2 injector driver (EDU) connectors.

(c) Measure the voltage according to the value(s) in the table below.

Standard voltage

No. 1

Tester Connection	Switch Condition	Specified Condition
I33-8 (+B) - I32-1 (GND)	Ignition switch ON	11 to 14 V

No. 2

Tester Connection	Switch Condition	Specified Condition
I35-8 (+B) - I34-1 (GND)	Ignition switch ON	11 to 14 V

NG → **Go to step 7**

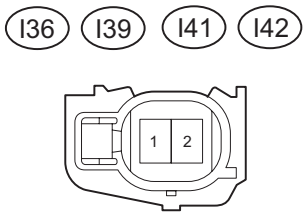
ES

OK

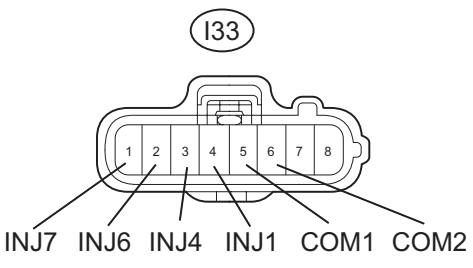
[Corrected]

2 CHECK HARNESS AND CONNECTOR (INJECTOR - EDU)

Front view of wire harness connector:
(to Injector)



Front view of wire harness connector:
(to No. 1 EDU)



A165912E09

(a) Disconnect the I36, I39, I41 and I42 injector connectors.

(b) Disconnect the I33 No. 1 EDU connector.

(c) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)

No. 1

Tester Connection	Condition	Specified Condition
I36-2 - I33-4 (INJ1)	Always	Below 1 Ω
I39-2 - I33-3 (INJ4)	Always	Below 1 Ω
I41-2 - I33-2 (INJ6)	Always	Below 1 Ω
I42-2 - I33-1 (INJ7)	Always	Below 1 Ω
I36-1 - I33-5 (COM1)	Always	Below 1 Ω
I39-1 - I33-5 (COM1)	Always	Below 1 Ω
I41-1 - I33-6 (COM2)	Always	Below 1 Ω
I42-1 - I33-6 (COM2)	Always	Below 1 Ω

Standard resistance (Check for short)

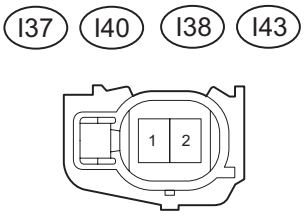
No. 1

Tester Connection	Condition	Specified Condition
I36-2 or I33-4 (INJ1) - Body ground	Always	10 kΩ or higher
I39-2 or I33-3 (INJ4) - Body ground	Always	10 kΩ or higher
I41-2 or I33-2 (INJ6) - Body ground	Always	10 kΩ or higher
I42-2 or I33-1 (INJ7) - Body ground	Always	10 kΩ or higher

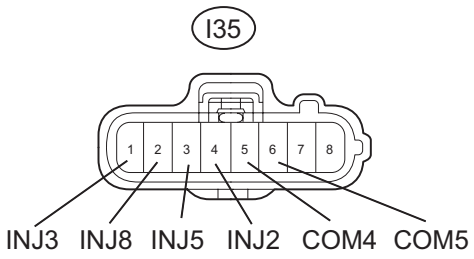
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Tester Connection	Condition	Specified Condition
I36-1 or I33-5 (COM1) - Body ground	Always	10 kΩ or higher
I39-1 or I33-5 (COM1) - Body ground	Always	10 kΩ or higher
I41-1 or I33-6 (COM2) - Body ground	Always	10 kΩ or higher
I42-1 or I33-6 (COM2) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Injector)



Front view of wire harness connector:
(to No. 2 EDU)



A165912E10

(d) Disconnect the I37, I40, I38 and I43 injector connectors.
(e) Disconnect the I35 No. 2 EDU connector.
(f) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)
No. 2

Tester Connection	Condition	Specified Condition
I37-2 - I35-4 (INJ2)	Always	Below 1 Ω
I40-2 - I35-3 (INJ5)	Always	Below 1 Ω
I38-2 - I35-1 (INJ3)	Always	Below 1 Ω
I43-2 - I35-2 (INJ8)	Always	Below 1 Ω
I37-1 - I35-5 (COM4)	Always	Below 1 Ω
I40-1 - I35-5 (COM4)	Always	Below 1 Ω
I38-1 - I35-6 (COM5)	Always	Below 1 Ω
I43-1 - I35-6 (COM5)	Always	Below 1 Ω

Standard resistance (Check for short)
No. 2

Tester Connection	Condition	Specified Condition
I37-2 or I35-4 (INJ2) - Body ground	Always	10 kΩ or higher
I40-2 or I35-3 (INJ5) - Body ground	Always	10 kΩ or higher
I38-2 or I35-1 (INJ3) - Body ground	Always	10 kΩ or higher
I43-2 or I35-2 (INJ8) - Body ground	Always	10 kΩ or higher
I37-1 or I35-5 (COM4) - Body ground	Always	10 kΩ or higher
I40-1 or I35-5 (COM4) - Body ground	Always	10 kΩ or higher
I38-1 or I35-6 (COM5) - Body ground	Always	10 kΩ or higher
I43-1 or I35-6 (COM5) - Body ground	Always	10 kΩ or higher

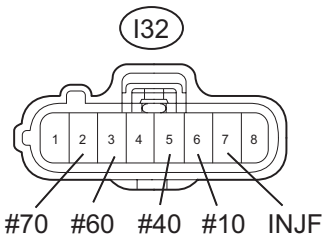
NG → **Go to step 10**

OK

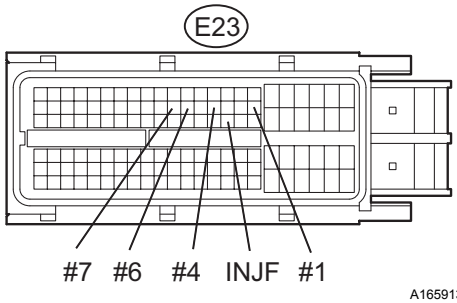
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3	CHECK HARNESS AND CONNECTOR (EDU - ECM)

Front view of wire harness connector:
(to No. 1 EDU)



Front view of wire harness connector:
(to ECM)



(a) Disconnect the I32 No. 1 EDU connector.
(b) Disconnect the E23 ECM connector.
(c) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)
No. 1

Tester Connection	Condition	Specified Condition
I32-6 (#10) - E23-40 (#1)	Always	Below 1 Ω
I32-5 (#40) - E23-37 (#4)	Always	Below 1 Ω
I32-3 (#60) - E23-35 (#6)	Always	Below 1 Ω
I32-2 (#70) - E23-34 (#7)	Always	Below 1 Ω
I32-7 (INJF) - E23-61 (INJF)	Always	Below 1 Ω

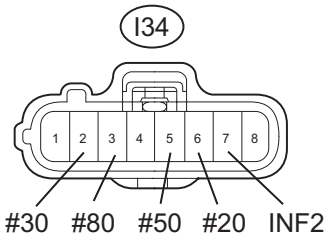
Standard resistance (Check for short)
No. 1

Tester Connection	Condition	Specified Condition
I32-6 (#10) or E23-40 (#1) - Body ground	Always	10 kΩ or higher
I32-5 (#40) or E23-37 (#4) - Body ground	Always	10 kΩ or higher
I32-3 (#60) or E23-35 (#6) - Body ground	Always	10 kΩ or higher
I32-2 (#70) or E23-34 (#7) - Body ground	Always	10 kΩ or higher
I32-7 (INJF) or E23-61 (INJF) - Body ground	Always	10 kΩ or higher

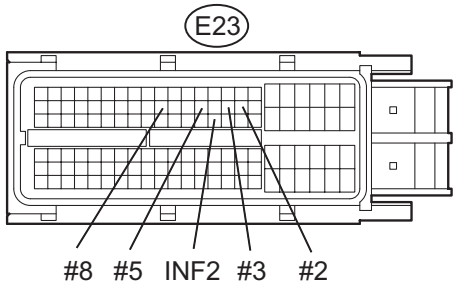
ES

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Front view of wire harness connector:
(to No. 2 EDU)



Front view of wire harness connector:
(to ECM)



(d) Disconnect the I34 No. 2 EDU connector.
(e) Disconnect the E23 ECM connector.
(f) Measure the resistance according to the value(s) in the table below.

Standard resistance (Check for open)
No. 2

Tester Connection	Condition	Specified Condition
I34-6 (#20) - E23-39 (#2)	Always	Below 1 Ω
I34-2 (#30) - E23-38 (#3)	Always	Below 1 Ω
I34-5 (#50) - E23-36 (#5)	Always	Below 1 Ω
I34-3 (#80) - E23-33 (#8)	Always	Below 1 Ω
I34-7 (INF2) - E23-60 (INF2)	Always	Below 1 Ω

Standard resistance (Check for short)
No. 2

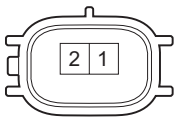
Tester Connection	Condition	Specified Condition
I34-6 (#20) or E23-39 (#2) - Body ground	Always	10 kΩ or higher
I34-2 (#30) or E23-38 (#3) - Body ground	Always	10 kΩ or higher
I34-5 (#50) or E23-36 (#5) - Body ground	Always	10 kΩ or higher
I34-3 (#80) or E23-33 (#8) - Body ground	Always	10 kΩ or higher
I34-7 (INF2) or E23-60 (INF2) - Body ground	Always	10 kΩ or higher

NG → **Go to step 10**

OK

4 INSPECT INJECTOR ASSEMBLY

Component without harness connected:
(Injector)



(a) Disconnect the I36, I37, I38, I39, I40, I41, I42 and I43 injector connectors.
(b) Measure the resistance according to the value(s) in the table below.

Standard resistance

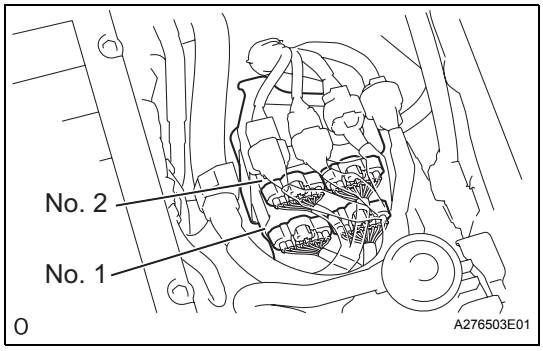
Tester Connection	Condition	Specified Condition
1 - 2	20°C (68°F)	0.85 to 1.05 Ω

NG → **Go to step 9**

OK

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5	CHECK DTC



(a) Interchange the No. 1 and No. 2 EDU connectors.
(b) Connect the intelligent tester to the DLC3.
(c) Turn the ignition switch ON and turn the tester ON.
(d) Clear DTCs.
NOTICE:
Before deleting the DTCs, write them down.
(e) Start the engine.
(f) Enter the following menus: Powertrain / Engine and ECT / DTC.
(g) Read the DTCs.
Result

Result	Proceed to
DTCs do not change	A
DTCs change (change in malfunctioning cylinder or EDU code)	B

ES

B → **Go to step 8**

A

6	REPLACE ECM

(a) Replace the ECM (See page ○○-○○).

NEXT → **Go to step 11**

7	GO TO INJECTOR CIRCUIT

(a) Go to the injector circuit (See page ES-811).

NEXT → **Go to step 11**

8	REPLACE INJECTOR DRIVER

(a) Replace the injector driver (See page ○○-○○).

NEXT → **Go to step 11**

9	REPLACE INJECTOR ASSEMBLY

(a) Replace the fuel injector assembly (See page ○○-○○).

NEXT → **Go to step 11**

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10	REPAIR OR REPLACE HARNESS OR CONNECTOR

NEXT

11	CONFIRM WHETHER MALFUNCTION HAS BEEN SUCCESSFULLY REPAIRED

(a) Connect the intelligent tester to the DLC3.
(b) Clear the DTCs (See page ES-98).
(c) Turn the ignition switch off.
(d) Start the engine and idle it for 10 seconds.
(e) Enter the following menus: Powertrain / Engine and ECT / DTC.
(f) Confirm that the DTC is not output again.

ES

NEXT

END

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