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2010 NISSAN Tiida/Versa OEM Service and Repair Workshop Manual

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2WD models

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detecting condition	
P1692	19	Precharge relay	Diagnosis condition	When switching precharge relay ON⇒OFF
			Signal	—
			Threshold	Current exceeds the specified value during pre charge
			Detection time	—

POSSIBLE CAUSE

- High voltage harness and connector
- High voltage junction box
- Inverter (front)
- DC/DC converter
- Electric compressor
- PTC heater
- Battery heater (PTC)

FAIL-SAFE

High-voltage system is normally stopped

AWD models

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detecting condition	
P1692	19	Precharge relay	Diagnosis condition	When switching precharge relay ON⇒OFF
			Signal	—
			Threshold	Current exceeds the specified value during pre charge
			Detection time	—

POSSIBLE CAUSE

- High voltage harness and connector
- High voltage junction box
- Inverter (front)
- DC/DC converter

- Electric compressor
- PTC heater
- Battery heater (PTC)
- Inverter (rear)

FAIL-SAFE

High-voltage system is normally stopped

Sample

1. PRECONDITIONING

1. Press the power switch for at least 2 seconds to turn the high voltage system OFF and then check that the charging status indicator is not illuminated.

**NOTE:**

When the high voltage system is turned ON, the charging status indicator blinks green with a frequency of 1 second.

2. After the high voltage system is turned OFF, open the driver's side door, get out of the vehicle, close the driver's side door and wait for at least 5 minutes.

CAUTION:

- **Since the auto ACC function causes the accessory power to be turned ON, do not perform any vehicle operation including locking the doors or opening and closing of the doors during the standby state.**

If an operation is performed, wait an additional 5 minutes from that time.

- **Check that 12V battery voltage is 11 V or more.**

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2. PERFORM DTC CONFIRMATION PROCEDURE

 With CONSULT

1. Set the vehicle to READY and wait at least 10 seconds.
2. Check self-diagnostic result in "EV/HEV".

Is DTC detected?

YES>>

Refer to [DTC Diagnosis Procedure](#).

NO-1>>

To check malfunction symptom before repair: Refer to [Intermittent Incident](#).

NO-2>>

Confirmation after repair: INSPECTION END

2WD models

WARNING:

Hybrid vehicles and electric vehicles equipped with high voltage batteries may cause an electric shock or a short circuit if handled in an inappropriate way. When you inspect and service a vehicle, follow the work procedure and perform the correct tasks.

WARNING:

- When you inspect and service the high voltage wiring harnesses and components, make sure to remove the service plug in order to shut off the high voltage circuit.
- When you have removed the service plug, be sure to carry it in your pocket, or store it in the tool box in order to keep someone from accidentally connecting it during work.
- When performing high voltage system operation, be sure to wear insulating protective equipment.
- During tasks involving high voltage systems, clarify a person in charge of the tasks and do not let others touch the vehicle. When the vehicle is not being serviced, use protective items such as an electric-proof cover sheet for covering the high voltage components so as to keep someone from accidentally touching the vehicle.
- Refer to [HIGH VOLTAGE PRECAUTIONS : Precautions](#).

CAUTION:

- Setting the vehicle to the READY state with the service plug removed may cause malfunctioning. Avoid setting the vehicle to the READY state unless otherwise specified in the service manual.
- When you turned the power switch ON with the service plug removed, be sure to erase all the DTCs after trouble diagnosis.

1. CHECK DTC PRIORITY

If DTC P1692-92 is displayed with P168A-11, P168A-12, P168A-13, P168B-73, P168C-72, P168D-11, P168D-12, P168D-13, P168D-73, P168E-11, P168E-12, P168E-13 or P168E-73, first perform the trouble diagnosis for P168A-11, P168A-12, P168A-13, P168B-73, P168C-72, P168D-11, P168D-12, P168D-13, P168D-73, P168E-11, P168E-12, P168E-13 or P168E-73.

Is applicable DTC detected?

YES>>

Perform trouble diagnosis for applicable DTC. Refer to [DTC Index](#).

NO>>

[GO TO 2](#) .

2. PERFORM SELF-DIAGNOSIS OF INVERTER (FRONT)

 With CONSULT

Check self-diagnostic result in "MOTOR CONTROL".

Is DTC detected?

YES>>

Perform diagnosis for detected DTC. Refer to [DTC Index](#).

NO>>

[GO TO 3 .](#)

3. PRECONDITIONING

WARNING:

Follow the instructions below before starting the procedure.

1. Disconnect high voltage circuit. Refer to [HOW TO DISCONNECT HIGH VOLTAGE : Precautions.](#)
2. Check voltage in high voltage circuit. Refer to [CHECK VOLTAGE IN HIGH VOLTAGE CIRCUIT : Precautions.](#)

>>

[GO TO 4 .](#)

4. CHECK HIGH VOLTAGE HARNESS CONNECTOR INSTALLATION CONDITION

Check high voltage harness connector installation condition visually and tactually.

CAUTION:

When reconnecting the high voltage harness connector, insert it slowly and directly.

Is the inspection result normal?

YES>>

[GO TO 5 .](#)

NO>>

Repair or replace error-detected parts.

5. CHECK HIGH VOLTAGE HARNESS CONNECTOR

1. Disconnect high voltage harness connector (H5) from Li-ion battery.
2. Check high voltage harness connector installation condition visually and tactually.

Is the inspection result normal?

YES>>

[GO TO 6 .](#)

NO>>

Replace error-detected parts.

6. CHECK HIGH VOLTAGE CIRCUIT

Check for continuation between Li-ion battery harness connector and high voltage junction box harness connector.

+		-		Continuation
Li-ion battery		High voltage junction box		
Connector	Terminal	Connector	Terminal	Existing
H5	37	H10	N	

Is the inspection result normal?

YES>>

[GO TO 7](#) .

NO>>

Replace the error-detected part between the Li-ion battery and the high voltage junction box.

7. CHECK HIGH VOLTAGE HARNESS-1

1. Disconnect high voltage junction box harness connector (H11).
2. Check for short between high voltage junction box harness connector terminals.

Connection point	High voltage junction box			Resistance
	Connector	+	-	
		Terminal		
Electric compressor	H11	18	19	Larger than 3 kΩ

Is the inspection result normal?

YES>>

[GO TO 9](#) .

NO>>

[GO TO 8](#) .

8. CHECK ELECTRIC COMPRESSOR

1. Disconnect electric compressor high voltage harness connector (H9).
2. Check for short between electric compressor connector terminals.

Electric compressor		Resistance
+	-	
Terminal		
7	8	Larger than 3 kΩ

Is the inspection result normal?

YES>>

Replace the error-detected high voltage harness, [GO TO 18](#) .

NO>>

Replace electric compressor, [GO TO 18](#) . Refer to [Removal & Installation](#).

9. CHECK HIGH VOLTAGE HARNESS-2

1. Disconnect high voltage junction box harness connector (H1).
2. Check for short between high voltage junction box harness connector terminals.

Connection point	High voltage junction box			Resistance
	Connector	+	-	
		Terminal		
PTC heater	H1	13	14	Larger than 3 kΩ

Is the inspection result normal?

YES>>

[GO TO 11](#) .

NO>>

[GO TO 10](#) .

10. CHECK PTC HEATER

1. Disconnect PTC heater high voltage harness connector (H2).
2. Check for short between PTC heater terminals.

PTC heater		Resistance
+	-	
Terminal		
1	2	Larger than 3 kΩ

Is the inspection result normal?

YES>>

Replace the error-detected high voltage harness, [GO TO 18](#) .

NO>>

Replace PTC heater, [GO TO 18](#) . Refer to [Removal & Installation](#).

11. CHECK HIGH VOLTAGE HARNESS-3

1. Disconnect Li-ion battery high voltage harness connector (H5).
2. Check for short between Li-ion battery high voltage harness connector terminals.

Connection point	Li-ion battery			Resistance
	Connector	+	-	
		Terminal		
Inverter (front)	H5	38	37	Larger than 3 kΩ

Is the inspection result normal?

YES>>

[GO TO 12](#) .

NO>>

[GO TO 13](#) .

12. CHECK BATTERY COOLANT HEATER (BATTERY PTC HEATER)

1. Disconnect battery coolant heater (battery PTC heater) high voltage harness connector (LB24).



NOTE:

For battery coolant heater (battery PTC heater) connector position. Refer to [Harness Layout](#)(66kWh LI-ION BATTERY), [Harness Layout](#)(91kWh LI-ION BATTERY).

2. Check for short between battery coolant heater (battery PTC heater) terminals.

Battery coolant heater (battery PTC heater)		Resistance
+	-	
Terminal		
P	N	Larger than 3 kΩ

Is the inspection result normal?

YES>>

Since there is a possibility that the Li-ion battery internal high voltage circuit is shorted, check the Li-ion battery internal high voltage circuit, [GO TO 18](#) .

NO>>

Replace battery heater, [GO TO 18](#) . Refer to [Disassembly & Assembly](#)(66kWh LI-ION BATTERY), [Disassembly & Assembly](#)(91kWh LI-ION BATTERY).

13. CHECK HIGH VOLTAGE JUNCTION BOX

1. Remove high voltage junction box. Refer to [HIGH VOLTAGE JUNCTION BOX : Disassembly & Assembly](#).

2. Check for short between high voltage junction box terminals.

High voltage junction box		Resistance
+	-	
Terminal		
P	N	Larger than 3 kΩ

Is the inspection result normal?

YES>>

[GO TO 14](#) .

NO>>

Replace high voltage junction box, [GO TO 18](#) . Refer to [HIGH VOLTAGE JUNCTION BOX : Disassembly & Assembly](#).

14. CHECK ON-BOARD CHARGER

1. Remove on-board charger. Refer to [ON-BOARD CHARGER : Disassembly & Assembly](#).

2. Check for short between on-board charger terminals.

On-board charger		Resistance
+	-	
Terminal		
13	14	Larger than 3 kΩ

Is the inspection result normal?

YES>>

[GO TO 15](#) .

NO>>

Replace on-board charger, [GO TO 18](#) . Refer to [ON-BOARD CHARGER : Disassembly & Assembly](#).

15. CHECK DC/DC CONVERTER

1. Remove DC/DC converter. Refer to [DC/DC CONVERTER : Disassembly & Assembly](#).
2. Check for short between DC/DC converter terminals.

DC/DC converter		Resistance
+	-	
Terminal		
8	9	Larger than 3 kΩ

Is the inspection result normal?

YES>>

[GO TO 16](#) .

NO>>

Replace DC/DC converter, [GO TO 18](#) . Refer to [DC/DC CONVERTER : Disassembly & Assembly](#).

16. CHECK HIGH VOLTAGE HARNESS-4

1. Disconnect inverter (front) harness connector (H6).
2. Check for short between inverter (front) harness connector terminals.

Connection point	Inverter (front)			Resistance
	Connector	+	-	
		Terminal		
Li-ion battery	H6	P	N	Larger than 3 kΩ

3. Disconnect inverter (front) harness connector (H12).
4. Check for short between inverter (front) harness connector terminals.

Connection point	Inverter (front)			Resistance
	Connector	+	-	
		Terminal		
High voltage junction box	H12	P	N	Larger than 3 kΩ

Is the inspection result normal?

YES>>

[GO TO 17](#) .

NO>>

Replace the error-detected high voltage harness, [GO TO 18](#) .