

Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

2012 NISSAN Note OEM Service and Repair Workshop Manual

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2WD models

A monitoring system for decrease of insulation resistance is built-in to the Li-ion battery. The VCM receives an insulation resistance decrease signal from the LBC and monitors the insulation resistance of the high voltage circuit.



NOTE:

- Even if the insulation between the quick charge relay and the quick charge port decreases, the DTC “P0AA6-23” is not detected. In that case, when quick charge is performed, the insulation check that is performed by the quick charger becomes NG and quick charge does not start.
- Even if the insulation between the normal charge port and the PDM (Power Delivery Module) decreases, the DTC “P0AA6-23” is not detected. In that case, when normal charge is performed, the “Fault” lamp of the EVSE control box starts blinking and normal charge does not start.

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detecting condition	
P0AA6	23	High voltage battery voltage system isolation	Diagnosis condition	Set to the conditions below and wait at least 100 seconds <ul style="list-style-type: none"> • Turn the power switch ON without depressing the brake pedal.
				Set to the conditions below and wait at least 100 seconds <ul style="list-style-type: none"> • READY • Shift position P range • A/C OFF
				Set to the conditions below and wait at least 100 seconds <ul style="list-style-type: none"> • READY • Shift position P range • A/C ON (Full cold)
				Set to the conditions below and wait at least 100 seconds <ul style="list-style-type: none"> • READY • Shift position P range • A/C ON (Full hot)
				1. Shift position D range 2. Continuous driving with a vehicle speed of at least 15 km/h for at least 100 seconds

DTC		CONSULT screen terms	DTC detecting condition	
				1. Power switch OFF 2. Connect the charger coupler to the normal charge port 3. Start normal charge and wait for at least 100 seconds
			Signal	CAN signal
			Threshold	Less than 150 kΩ
			Detection time	—

POSSIBLE CAUSE

- High voltage harness and connector
- Inverter (front)
- Front traction motor
- On-board charger
- High voltage junction box
- DC/DC converter
- Li-ion battery
- Electric compressor
- PTC heater
- Battery coolant heater
- VCM
- LBC

FAIL-SAFE

Restart is prohibited

AWD models

A monitoring system for decrease of insulation resistance is built-in to the Li-ion battery. The VCM receives an insulation resistance decrease signal from the LBC and monitors the insulation resistance of the high voltage circuit.



NOTE:

- Even if the insulation between the quick charge relay and the quick charge port decreases, the DTC “P0AA6-23” is not detected. In that case, when quick charge is performed, the insulation check that is performed by the quick charger becomes NG and quick charge does not start.
- Even if the insulation between the normal charge port and the PDM (Power Delivery Module) decreases, the DTC “P0AA6-23” is not detected. In that case, when normal charge is performed, the “Fault” lamp of the EVSE control box starts blinking and normal charge does not start.

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detecting condition	
P0AA6	23	High voltage battery voltage system isolation	Diagnosis condition	Set to the conditions below and wait at least 100 seconds <ul style="list-style-type: none"> • Turn the power switch ON without depressing the brake pedal.
				Set to the conditions below and wait at least 100 seconds <ul style="list-style-type: none"> • READY • Shift position P range • A/C OFF
				Set to the conditions below and wait at least 100 seconds <ul style="list-style-type: none"> • READY • Shift position P range • A/C ON (Full cold)
				Set to the conditions below and wait at least 100 seconds <ul style="list-style-type: none"> • READY • Shift position P range • A/C ON (Full hot)
				1. Shift position D range 2. Continuous driving with a vehicle speed of at least 15 km/h for at least 100 seconds
				1. Power switch OFF 2. Connect the charger coupler to the normal charge port 3. Start normal charge and wait for at least 100 seconds
			Signal	CAN signal
			Threshold	Less than 150 kΩ
Detection time	—			

POSSIBLE CAUSE

- High voltage harness and connector
- Inverter (front)
- Front traction motor
- On-board charger
- High voltage junction box
- DC/DC converter
- Li-ion battery

- Electric compressor
- PTC heater
- Battery coolant heater
- VCM
- LBC
- Inverter (rear)
- Rear traction motor

FAIL-SAFE

Restart is prohibited

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-1

With CONSULT

1. Turn the power switch ON without depressing the brake pedal and then wait for at least 100 seconds.
2. Check self-diagnostic result in “EV/HEV”.

Is DTC detected?

YES>>

Refer to [DTC Diagnosis Procedure](#).

NO>>

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3. PERFORM DTC CONFIRMATION PROCEDURE-2

With CONSULT

1. Set the vehicle to the conditions below and wait at least 100 seconds.

Power switch	READY
Shift position	P range
A/C	OFF

2. Check self-diagnostic result in “EV/HEV”.

Is DTC detected?

YES>>

Refer to [DTC Diagnosis Procedure](#).

NO>>

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4. PERFORM DTC CONFIRMATION PROCEDURE-3

 With CONSULT

1. Set the vehicle to the conditions below and wait at least 100 seconds.

Power switch	READY
Shift position	P range
A/C	ON (Full cold)

2. Check self-diagnostic result in “EV/HEV”.

Is DTC detected?

YES>>

Refer to [DTC Diagnosis Procedure](#).

NO>>

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5. PERFORM DTC CONFIRMATION PROCEDURE-4

 With CONSULT

1. Set the vehicle to the conditions below and wait at least 100 seconds.

Power switch	READY
Shift position	P range
A/C	ON (Full hot)

2. Check self-diagnostic result in “EV/HEV”.

Is DTC detected?

YES>>

Refer to [DTC Diagnosis Procedure](#).

NO>>

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6. PERFORM DTC CONFIRMATION PROCEDURE-5

 With CONSULT

1. Shift the shift position to D range.
2. Continuously drive with a vehicle speed of at least 15 km/h for at least 100 seconds.

CAUTION:
Always prioritize safe driving.

3. Check self-diagnostic result in “EV/HEV”.

Is DTC detected?

YES>>

Refer to [DTC Diagnosis Procedure](#).

NO>>

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7. PERFORM DTC CONFIRMATION PROCEDURE-6

 With CONSULT

1. Power switch OFF.
2. Connect the charger coupler to the normal charge port.
3. Start normal charge (the charging status indicator starts blinking) and wait for at least 100 seconds.
4. 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 HIGH VOLTAGE PARTS

1. Power switch OFF.
2. Check high voltage parts visually for damages.

Is the inspection result normal?

YES>>

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NO>>

Repair or replace error-detected parts.

2. IDENTIFY THE MODE USED AT THE OCCURRENCE OF INSULATION RESISTANCE DECREASE

Check in which mode of the DTC confirmation procedure DTC is detected.

In which mode of the DTC confirmation procedure is DTC detected?

CONFIRMATION PROCEDURE-1>>

Replace Li-ion battery. Refer to [Removal & Installation](#)(66kWh LI-ION BATTERY), [Removal & Installation](#)(91kWh LI-ION BATTERY).

CONFIRMATION PROCEDURE-2>>

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CONFIRMATION PROCEDURE-3>>

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CONFIRMATION PROCEDURE-4>>

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CONFIRMATION PROCEDURE-5>>

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CONFIRMATION PROCEDURE-6>>

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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.](#)

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4. CHECK ELECTRIC COMPRESSOR INSULATION RESISTANCE

Check electric compressor insulation resistance. Refer to [Insulation Resistance Check.](#)

CAUTION:

- Since the tester is polarized, check the polarity of the tester that is used and connect it in the forward direction of the circuit.
- If the inspection result has no continuity, check that the parts are properly installed.

Is the inspection result normal?

YES>>

INSPECTION END

NO>>

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5. CHECK A/C REFRIGERANT GAS

Interview the customer and check maintenance records to confirm if there is a possibility that an A/C refrigerant gas other than EV specific refrigerant gas has been mixed in with the A/C refrigerant gas.



NOTE: