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2013 NISSAN Sunny OEM Service and Repair Workshop Manual

Go to manual page

SIEMD-7197684

1. REPLACEMENT OF THE INVERTER (FRONT)

Replace the inverter (front). Refer to INVERTER (FRONT) : Removal & Installation.

>>

END

DTC Description

SIEMD-7197727

CAUTION:
When installing the 12V battery into the vehicle, a DTC may be stored as a result of fluctuations in the voltage input into the inverter.

If a DTC remains in the past malfunctions, check the history of 12V battery removal and installation.

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detection condition	
P0D2D	17	Drive Motor A Inverter Voltage Sensor A	Diagnosis condition	READY state
			Signal	—
			Threshold	High voltage exceeded the upper limit where operation is possible at the inverter (front).
			Diagnosis delay time	Within 1 second

POSSIBLE CAUSE

- Inverter (front)
- System main relay
- Li-ion battery

FAIL-SAFE

Control of the front traction motor stops.

1. PREPARATION BEFORE OPERATION

If another "Confirmation Procedure" was performed immediately before this task, always power switch OFF exit the vehicle and close all doors (including the back door), and wait for at least 60 seconds until the combination meter turns off before starting the next test.

CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the auto ACC function.

>>

GO TO 2.

2. PERFORM THE DTC CONFIRMATION PROCEDURE

With CONSULT

1. Set the vehicle to READY and wait for at least 10 seconds.
2. Check the DTC.

Is “P0D2D-17 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

DTC Diagnosis Procedure

SIEMD-7197729

WARNING:

Since hybrid vehicles and electric vehicles contain a high voltage battery, there is the risk of electric shock, electric leakage, or similar accidents if the high voltage component and vehicle are handled incorrectly. Be sure to follow the correct work procedures when performing inspection and maintenance.

WARNING:

- **Be sure to remove the service plug in order to disconnect the high voltage circuits before performing inspection or maintenance of high voltage system harnesses and parts.**
- **The removed service plug must always be carried in a pocket of the responsible worker or placed in the tool box during the procedure to prevent the plug from being connected by mistake.**
- **Be sure to wear insulating protective equipment before beginning work on the high voltage system.**
- **Never allow workers other than the responsible person to touch the vehicle containing high voltage parts. To keep others from touching the high voltage parts, these parts must be covered with an insulating sheet except when using them.**
- **Refer to HIGH VOLTAGE PRECAUTIONS : Precautions.**

CAUTION:

Never bring the vehicle into the READY status with the service plug removed unless otherwise instructed in the Service Manual. A malfunction may occur if this is not observed.

1. CHECK FOR DTC RELATED TO THE HIGH VOLTAGE SYSTEM

With CONSULT

1. Power switch ON and wait at least 10 seconds.
2. Check the DTCs related to the high voltage system.

Is a DTC related to the high voltage system other than the inverter (front) detected?

YES>>

Check the detected DTC.

NO>>

GO TO 2.

2. 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 3.

3. INSPECTION OF THE HIGH VOLTAGE HARNESS

Inspect the high voltage harness between the Li-ion battery and the inverter (front).

Is the inspection result normal?

YES>>

GO TO 4.

NO>>

Repair or replace the malfunctioning parts.

4. INSPECTION OF THE SYSTEM MAIN RELAY CIRCUIT

Inspect the circuits of system main relays 1 and 2.

- System main relay 1: Refer to Diagnosis Procedure (66kWh Li-ion battery models) or Diagnosis Procedure (91kWh Li-ion battery models).
- System main relay 2: Refer to Diagnosis Procedure (66kWh Li-ion battery models) or Diagnosis Procedure (91kWh Li-ion battery models).

Is the inspection result normal?

YES>>

Replace the inverter (front). Refer to INVERTER (FRONT) : Removal & Installation.

NO>>

Repair or replace the malfunctioning parts.

SIEMD-7197736

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detection condition	
P2E28	01	Drive Motor A Excitation Current Sensor	Diagnosis condition	READY state
			Signal	—
			Threshold	Excitation module current is not flowing normally.
			Diagnosis delay time	Within 1 second

POSSIBLE CAUSE

- Inverter (front)
- Front traction motor

FAIL-SAFE

Control of the front traction motor stops.

1. PREPARATION BEFORE OPERATION

If another "Confirmation Procedure" was performed immediately before this task, always power switch OFF exit the vehicle and close all doors (including the back door), and wait for at least 60 seconds until the combination meter turns off before starting the next test.

CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the auto ACC function.

>>

GO TO 2.

2. PERFORM THE DTC CONFIRMATION PROCEDURE

With CONSULT

1. Set the vehicle to READY and wait for at least 10 seconds.
2. Increase the vehicle speed to 10 km/h (6 MPH).
3. Stop the vehicle.
4. Check the DTC.

Is “P2E28-01 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

1. DTC CHECK (MOTOR CONTROL)

With CONSULT

1. Set the vehicle to READY and wait for at least 10 seconds.
2. Check "Self Diagnostic Result" under "MOTOR CONTROL".

Is a DTC P2E28-01 detected at the same time as another DTC?

YES>>

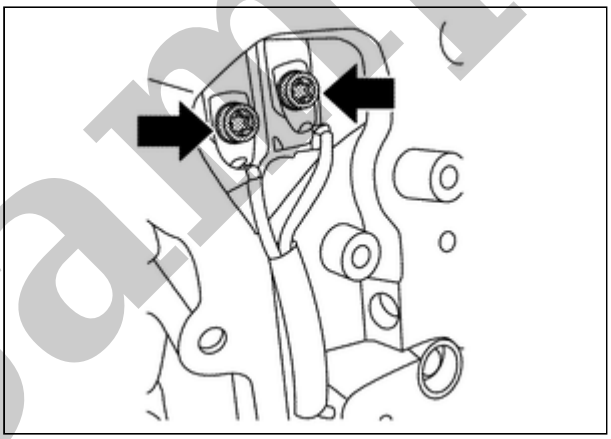
Check the DTC Inspection Priority Chart, and perform diagnosis for the DTC with the higher inspection priority. Refer to DTC Inspection Priority Chart.

NO>>

GO TO 2.

2. INSPECTION OF THE EXCITATION CIRCUIT

1. Remove the inverter (front) and front traction motor from the vehicle. Refer to INVERTER (FRONT) : Removal & Installation.
2. Remove the excitation cover and inspect the connection conditions of the bus bar and excitation harness of the inverter (front).



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Is the inspection result normal?

YES>>

GO TO 3.

NO>>

Repair or replace the malfunctioning parts.

3. CHECK OF THE ROTOR COIL RESISTANCE VALUE AT

Check the rotor coil resistance value at the front traction motor. Refer to Component Inspection.

Is the inspection result normal?

YES>>

Replace the inverter (front). Refer to INVERTER (FRONT) : Removal & Installation.

NO>>

Replace the front traction motor. Refer to FRONT TRACTION MOTOR : Removal & Installation.