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2013 NISSAN NP300 Pickup King Cab OEM Service and Repair Workshop Manual

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2. Perform the DTC CONFIRMATION PROCEDURE.

Is a DTC related to the rear traction motor oil pump detected?

YES>>

Replace the inverter (rear). Refer to [.Removal and Installation.](#)

NO>>

INSPECTION END

Sample

1. INSPECTION OF THE HARNESS CONNECTOR 1

1. Turn OFF the power switch.
2. Check mating conditions of the harness connector for the inverter (rear).

Is the inspection result normal?

YES>>

[GO TO 2.](#)

NO>>

Repair or replace the malfunctioning parts.

2. INSPECTION OF THE HARNESS CONNECTOR 2

Check mating conditions of the harness connector for the rear traction motor.

Is the inspection result normal?

YES>>

[GO TO 3.](#)

NO>>

Repair or replace the malfunctioning parts.

3. INSPECTION OF THE CONNECTOR TERMINALS 1

1. Disconnect the harness connector of the inverter (rear).
2. Check the inverter (rear) connector for water intrusion, or damage or corrosion of the terminals.

Is the inspection result normal?

YES>>

[GO TO 4.](#)

NO>>

Repair or replace the malfunctioning parts.

4. INSPECTION OF THE CONNECTOR TERMINALS 2

1. Disconnect the harness connector of the rear traction motor.
2. Check the wiring harness connector of the rear traction motor for water intrusion, or damage or corrosion of the terminals.

Is the inspection result normal?

YES>>

[GO TO 5.](#)

NO >>

Repair or replace the malfunctioning parts.

5. INSPECTION OF THE REAR TRACTION MOTOR RESOLVER CIRCUIT 1

Check the resistance between the harness connector of the inverter (rear) and the body ground.

Inverter (rear)		—	Resistance
Connector	Terminal		
B297	12	Body ground	100 kΩ or more
	13		
	21		
	22		
	23		
	24		

Is the inspection result normal?

YES>>

[GO TO 6.](#)

NO>>

Repair or replace the malfunctioning parts.

6. INSPECTION OF THE REAR TRACTION MOTOR RESOLVER CIRCUIT 2

1. Inspect the resistance between the wiring harness connector for the inverter (rear) and the wiring harness connector for the rear traction motor.

Inverter (rear)		Rear traction motor		Resistance
Connector	Terminal	Connector	Terminal	
B297	12	B296	3	1 Ω or less
	13		2	
	21		5	
	22		4	
	23		1	
	24		6	

2. Inspect the wiring harness for a short circuit.

Inverter (rear)			Resistance
Connector	Terminal		
B297	12	13	100 kΩ or more
		21	
		22	
		23	
		24	
	13	21	
		22	
		23	

Inverter (rear)		Resistance
Connector	Terminal	
		24
	21	22
		23
		24
	22	23
		24
	23	24

Is the inspection result normal?

YES>>

[GO TO 7.](#)

NO>>

Repair or replace the malfunctioning parts.

7. INSPECTION OF THE REAR TRACTION MOTOR RESOLVER

Inspect the rear traction motor resolver. Refer to [Component Inspection](#).

Is the inspection result normal?

YES>>

Replace the inverter (rear). Refer to [Removal and Installation](#).

NO>>

Repair or replace the malfunctioning parts.

1. INSPECTION OF THE REAR TRACTION MOTOR RESOLVER

- 1. Disconnect the harness connector of the rear traction motor.
- 2. Check the resistance between terminals in the rear traction motor connector.

Rear traction motor		Resistance
Terminal		
2	3	34.6 - 42.4 Ω
4	5	37.6 - 46.0 Ω
1	6	8.5 - 12.7 Ω

Is the inspection result normal?

YES>>

INSPECTION END

NO>>

The rear traction motor resolver has malfunctioned. Replace the rear traction motor. Refer to [Removal and Installation](#).

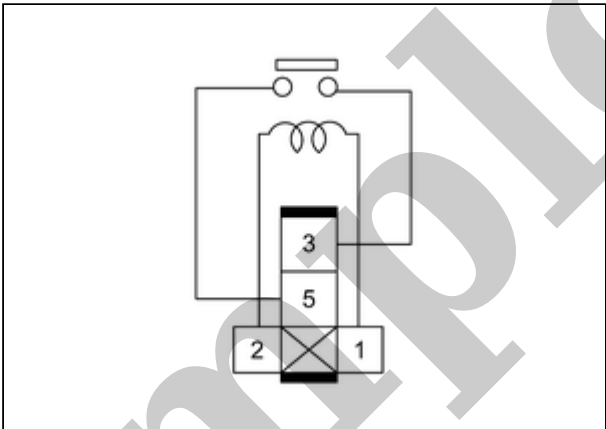
1. INSPECTION OF THE TRACTION MOTOR OIL PUMP RELAY

- 1. Power switch OFF.
- 2. Remove the traction motor oil pump relay. Refer to [Component Parts Location](#).
- 3. Apply 12V battery voltage between terminals 1 and 2 in the connector of the traction motor oil pump relay.

CAUTION:

- Do not cause a short circuit between the terminals.
- Incorporate a fuse between the terminals when applying voltage.

- 4. Check the continuity between terminals 3 and 5 in the connector of the traction motor oil pump relay.



SIEMD-7437798-MD-7025509-01-000314821OnOff-17D06E1F-000314821

Traction motor oil pump relay		Condition	Continuity
Terminal			
3	5	12V battery voltage is applied between terminals 1 and 2.	Existed
		12V battery voltage is not applied.	Not existed

Is the inspection result normal?

YES>>

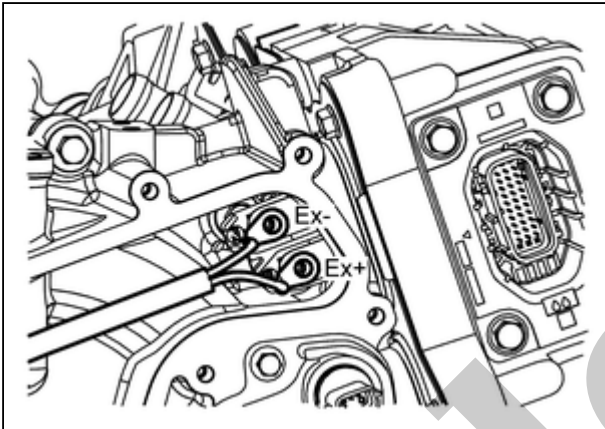
INSPECTION END

NO>>

Replace the traction motor oil pump relay.

1. CHECK OF THE ROTOR COIL RESISTANCE VALUE AT THE REAR TRACTION MOTOR

Check the rotor coil resistance value at the rear traction motor.



SIEMD-7504939-01-000415402

Rear traction motor		Resistance
Terminal		
Ex+	Ex-	5.80 – 6.54 Ω

Calculation Formula

- $R_{20} = R / [1 + 0.00393 \times (T - 20)]$
 - R20: Resistance value (Ω) when the outside temperature is 20°C (68°F)
 - R: Resistance value (Ω) for the outside temperature at the time of the inspection
 - T: Outside temperature at the time of the inspection

Is the inspection result normal?

YES>>

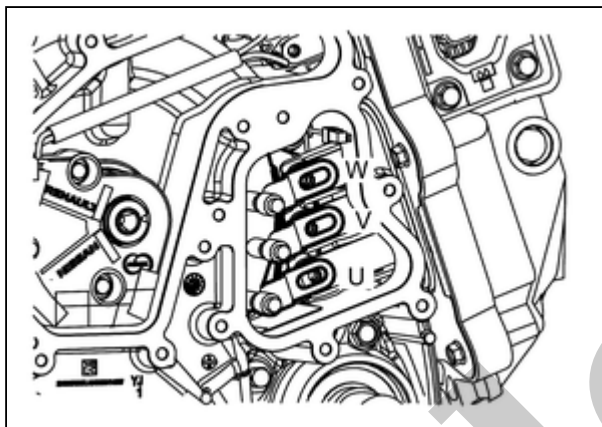
INSPECTION END

NO>>

The rotor coil has malfunctioned. Replace the rear traction motor. Refer to [Removal and Installation](#).

1. CHECK OF RESISTANCE VALUE AT THE REAR TRACTION MOTOR STATOR COIL

Use milli-ohm tester to inspect the resistance value in the stator coil for the rear traction motor.



SIEMD-7504785-01-000415403

CAUTION:

Since the resistance value of the stator coil is affected by the temperature, remove the service plug and wait for at least eight hours before starting the inspection.

Rear traction motor		Resistance*
Terminal		
U-phase	V-phase	15.36 – 16.64 mΩ
V-phase	W-phase	
W-phase	U-phase	

*: This resistance value is measured in an environment where the outside temperature is 20°C (68°F). Use the following formula and convert the resistance value by inputting the outside temperature at the time of the inspection.

Calculation Formula

- $R_{20} = R / [1 + 0.00393 \times (T - 20)]$
 - R₂₀: Resistance value (mΩ) when the outside temperature is 20°C (68°F)
 - R: Resistance value (mΩ) for the outside temperature at the time of the inspection
 - T: Outside temperature at the time of the inspection

Is the inspection result normal?

YES>>

INSPECTION END

NO>>

The stator coil has malfunctioned. Replace the rear traction motor. Refer to [Removal and Installation](#).

1. INSPECTION OF THE HARNESS CONNECTOR 1

1. Turn OFF the power switch.
2. Check mating conditions of the harness connector for the inverter (rear).

Is the inspection result normal?

YES>>

[GO TO 2.](#)

NO>>

Repair or replace the malfunctioning parts.

2. INSPECTION OF THE HARNESS CONNECTOR 2

Check mating conditions of the harness connector for the rear traction motor.

Is the inspection result normal?

YES>>

[GO TO 3.](#)

NO>>

Repair or replace the malfunctioning parts.

3. INSPECTION OF THE CONNECTOR TERMINALS 1

1. Disconnect the harness connector of the inverter (rear).
2. Check the inverter (rear) connector for water intrusion, or damage or corrosion of the terminals.

Is the inspection result normal?

YES>>

[GO TO 4.](#)

NO>>

Repair or replace the malfunctioning parts.

4. INSPECTION OF THE CONNECTOR TERMINALS 2

1. Disconnect the harness connector of the rear traction motor.
2. Check the wiring harness connector of the rear traction motor for water intrusion, or damage or corrosion of the terminals.

Is the inspection result normal?

YES>>

[GO TO 5.](#)

NO >>

Repair or replace the malfunctioning parts.