

# Your Ultimate Source for OEM Repair Manuals

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## 2014 NISSAN 370Z Roadster OEM Service and Repair Workshop Manual

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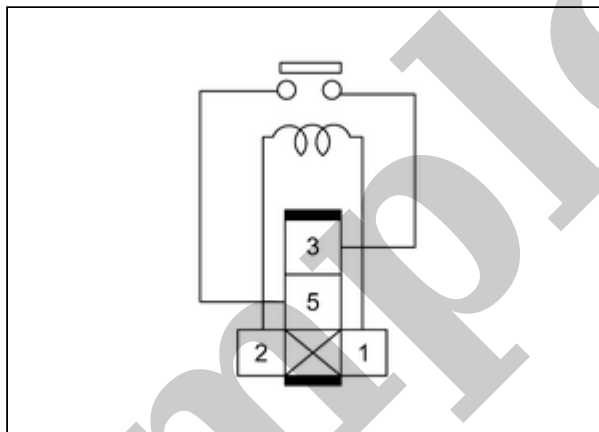
## 1. INSPECTION OF THE TRACTION MOTOR OIL PUMP RELAY

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-7197796-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>>

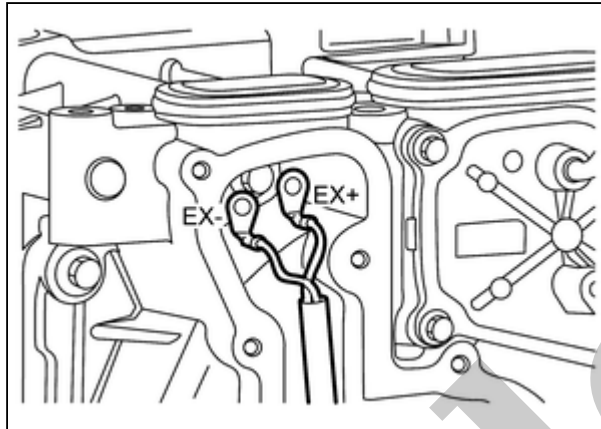
INSPECTION END

NO>>

Replace the traction motor oil pump relay.

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

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



SIEMD-7197788-02-000359725

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

Calculation Formula

- $R_{20} = R / [1 + 0.00393 \times (T - 20)]$ 
  - R<sub>20</sub>: 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>>

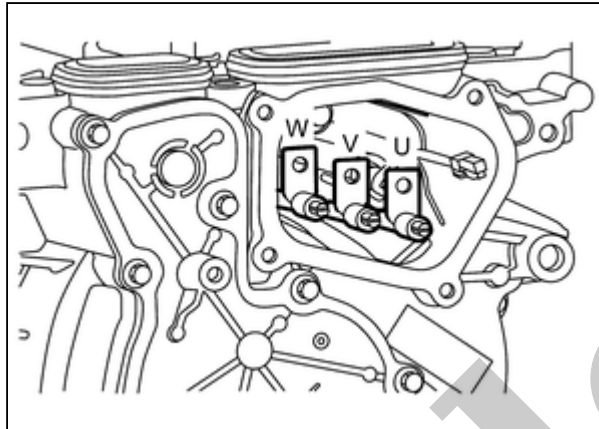
INSPECTION END

NO>>

The rotor coil has malfunctioned. Replace the front traction motor. Refer to [FRONT TRACTION MOTOR : Removal & Installation](#).

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

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



SIEMD-7197787-01-000359726

**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.

Front 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

- $R_{20} = R / [1 + 0.00393 \times (T - 20)]$ 
  - R<sub>20</sub>: 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 front traction motor. Refer to [FRONT TRACTION MOTOR : Removal & 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 (front).

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 front 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 (front).
2. Check the inverter (front) 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 front traction motor.
2. Check the wiring harness connector of the front 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 TEMPERATURE SENSOR CIRCUIT OF THE FRONT TRACTION MOTOR 1

---

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

Inverter (front)		—	Resistance
Connector	Terminal		
F14	2	Body ground	200 kΩ or more
	3		

Is the inspection result normal?

YES>>

[GO TO 6.](#)

NO>>

Repair or replace the malfunctioning parts.

## 6. INSPECTION OF THE TEMPERATURE SENSOR CIRCUIT OF THE FRONT TRACTION MOTOR 2

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

Inverter (front)		Front traction motor		Resistance
Connector	Terminal	Connector	Terminal	
F14	2	F16	12	1 Ω or less
	3		11	

2. Inspect the wiring harness for a short circuit.

Inverter (front)		Front traction motor		Resistance
Connector	Terminal	Connector	Terminal	
F14	2	F16	11	100 kΩ or more
	3		12	

Is the inspection result normal?

YES>>

[GO TO 7.](#)

NO>>

Repair or replace the malfunctioning parts.

## 7. INSPECTION OF THE TEMPERATURE SENSOR OF THE FRONT TRACTION MOTOR

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Inspect the temperature sensor of the front traction motor. Refer to [Component Inspection](#).

Is the inspection result normal?

YES>>

Replace the inverter (front). Refer to [INVERTER \(FRONT\) : Removal & Installation](#).

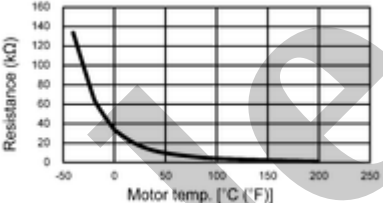
NO>>

Repair or replace the malfunctioning parts.

Sample

## 1. INSPECTION OF THE TEMPERATURE SENSOR OF THE FRONT TRACTION MOTOR

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

Front traction motor		Resistance
Terminal		
11	12	<p>Within <math>\pm 50\%</math> of the temperature characteristics chart</p>  <p style="text-align: center;">SIEMD-7197792-01-000379917</p>

Is the inspection result normal?

YES>>

INSPECTION END

NO >>

The temperature sensor of the front traction motor has malfunctioned. Replace the front traction motor. Refer to [FRONT TRACTION MOTOR : Removal & 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 (front).

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 front 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 (front).
2. Check the inverter (front) 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 front traction motor.
2. Check the wiring harness connector of the front 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 OIL TEMPERATURE SENSOR CIRCUIT OF THE FRONT TRACTION MOTOR 1

---

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

Inverter (front)		—	Resistance
Connector	Terminal		
F14	1	Body ground	200 kΩ or more
	11		

Is the inspection result normal?

YES>>

[GO TO 6.](#)

NO>>

Repair or replace the malfunctioning parts.

## 6. INSPECTION OF THE OIL TEMPERATURE SENSOR CIRCUIT OF THE FRONT TRACTION MOTOR 1

---

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

Inverter (front)		Front traction motor		Resistance
Connector	Terminal	Connector	Terminal	
F14	1	F18	10	1 Ω or less
	11		9	

2. Inspect the wiring harness for a short circuit.

Inverter (front)		Front traction motor		Resistance
Connector	Terminal	Connector	Terminal	
F14	1	F18	9	100 kΩ or more
	11		10	

Is the inspection result normal?

YES>>

[GO TO 7.](#)

NO>>

Repair or replace the malfunctioning parts.

## 7. INSPECTION OF THE OIL TEMPERATURE SENSOR OF THE FRONT TRACTION MOTOR

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Inspect the oil temperature sensor of the front traction motor. Refer to [Component Inspection](#).

Is the inspection result normal?

YES>>