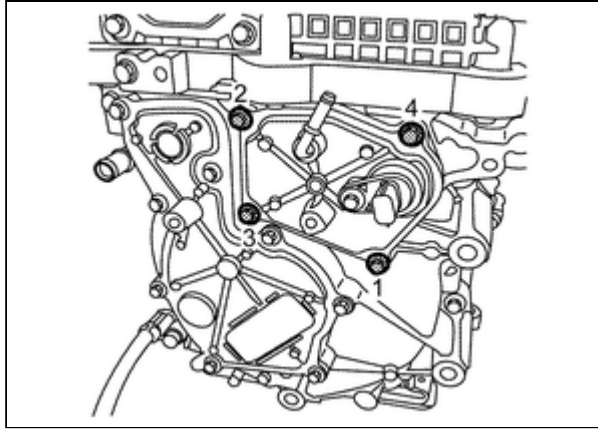


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FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

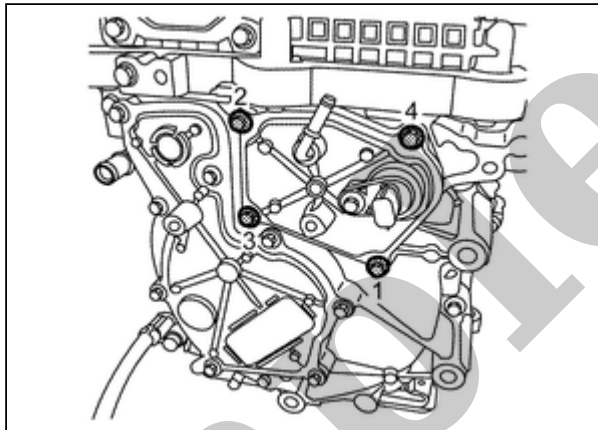
2013 Nissan Xterra Service and Repair Manual

[Go to manual page](#)



RPR-001931899-40-000359718

3. Fully tighten the three-phase bus bar cover mounting bolts in the order of 1 → 4 shown in the figure.

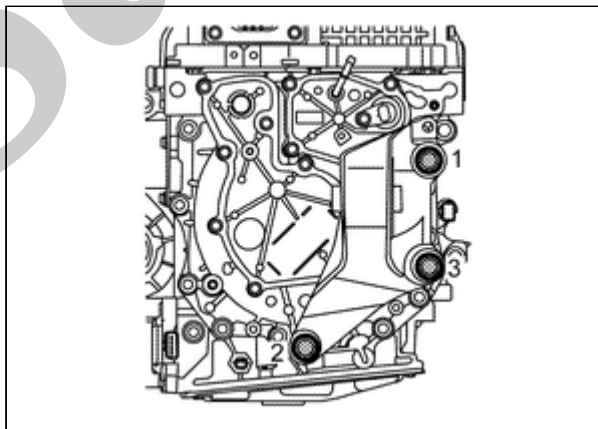


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Motor Mounting / Mounting Bracket Installation Procedure

Motor mounting RH

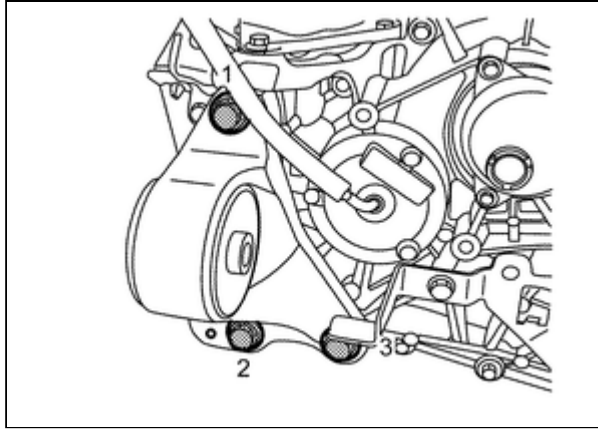
- Partially tighten mounting bolt 1 in the figure for the motor mounting RH, then fully tighten in the order of 2 → 3, and finally fully tighten 1.



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Motor mounting LH

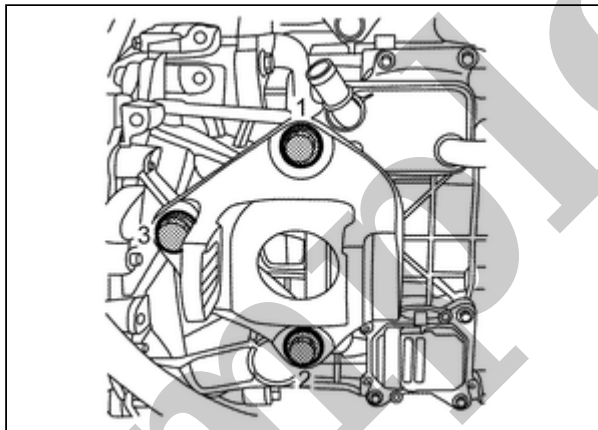
- Partially tighten mounting bolt 1 in the figure for the motor mounting LH, then fully tighten in the order of 2 → 3, and finally fully tighten 1.



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Motor mounting bracket rear

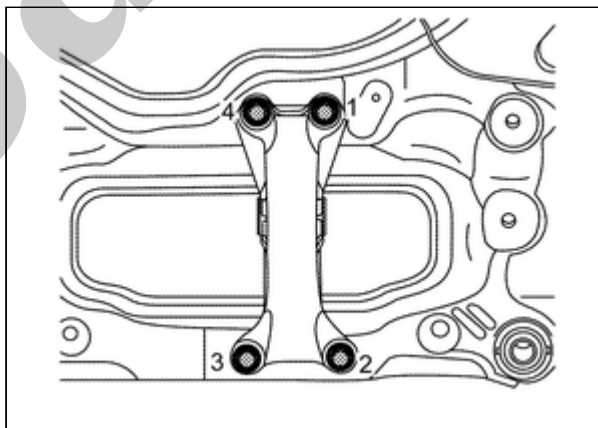
- Partially tighten mounting bolt 1 in the figure for the motor mounting bracket rear , then fully tighten in the order of 2 → 3, and finally fully tighten 1.



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When motor mounting rear is removed from suspension member

- Tighten motor mounting rear mounting bolts to the specified torque in numerical order shown in the figure.



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Installation Procedure when Installing the Suspension Member

1. Partially tighten the fastening bolts for the motor mounting bracket rear and motor mounting rear.
2. Partially tighten the fastening bolts of the motor mounting RH and motor mounting LH onto the suspension member.
3. Fully tighten the fastening bolts of the motor mounting bracket rear and motor mounting rear.
4. Fully tighten the fastening bolts of the motor mounting RH and motor mounting LH onto the suspension member.
5. When no external force is applied, check that there is no abnormal sagging or twisting of the mounts.

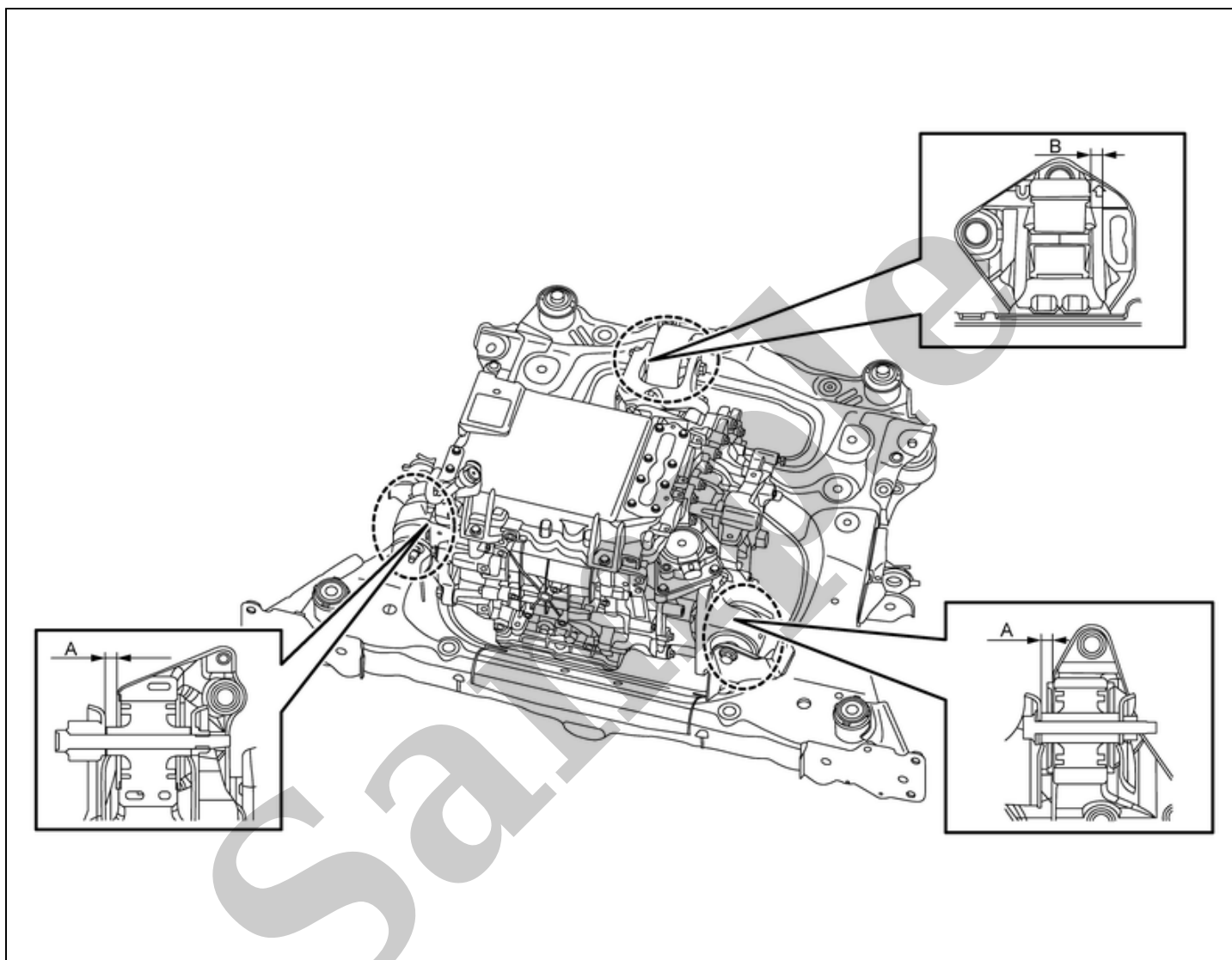
Checking After Suspension Member Installation

After installing the suspension member, check that each clearance is within the range of A and B.

If the clearance is outside the range, adjust so that it is within the range.

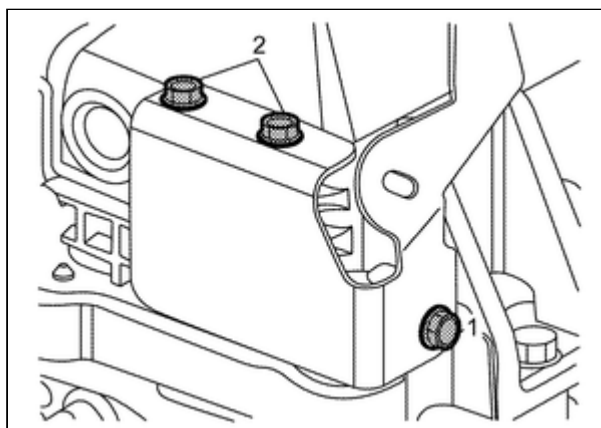
Dimension A : 11.0 ± 1.0 mm (0.433 \pm 0.039 in)

Dimension B : 10.0 ± 1.0 mm (0.394 \pm 0.039 in)



RPR-001931899-19-000360034

- Partially tighten the bracket mounting bolts, then fully tighten them in the order of 1 → 2 shown in the figure.



RPR-001931899-42-000359720

INSPECTION AFTER INSTALLATION

After installing the front traction motor, perform the following equipotential inspection.

- Between front traction motor and other high voltage system.
- Between front traction motor and body.

WARNING:



To prevent electric shock hazards, be sure to put on insulating protective gear before beginning work on the high voltage system.



Between front traction motor and ground to body

: less than 0.1 Ω

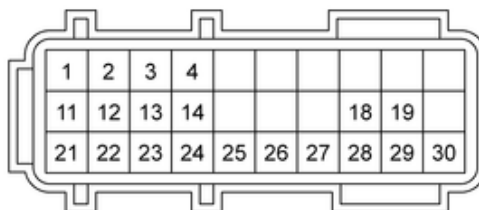
If result deviates from standard values, check that no paint, oil, dirt, or other substance is adhering to bolts or conductive mounting parts. If any such substance is adhering, clean the surrounding area and remove the substance.

Adjustment after installation

When the front traction motor is replaced, it is necessary to write the resolver offset value and rotor resistance value into the inverter (front). Refer to [Work Procedure](#).

Sample

TERMINAL LAYOUT

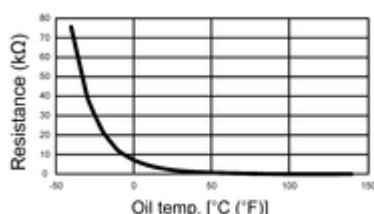
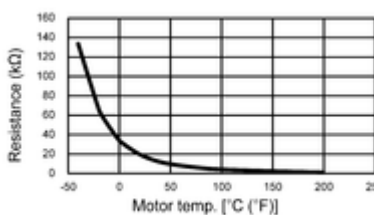


SIEMD-7197120-MD-6823690-02-000359585OnOff-301E0482-000359585

PHYSICAL VALUES

CAUTION:

- Disconnect the inverter (front) connector and measure it using wiring harness connector on the vehicle side. While doing so, do not touch the connector terminals on the inverter (front).
- If the power switch is switched ON when the inverter (front) connector is disconnected, the other control modules may detect that there is an error with the inverter (front).

Terminal No. (Wire Color)		Item		Condition	Value (Approx.)
+	-	Signal name	Input/Output		
1 (BR)	11 (GR)	Motor oil temperature sensor	Input	—	Within ±50% of the temperature characteristics chart  SIEMD-7197120-02-000379916
3 (BG)	2 (V)	Motor temperature sensor	Input	—	Within ±50% of the temperature characteristics chart  SIEMD-7197120-01-000379917
4 (B)	Ground	Ground 2	—	Always	0 V

Terminal No. (Wire Color)		Item		Condition	Value (Approx.)
+	-	Signal name	Input/Output		
13 (R)	12 (L)	Motor resolver signal (S1 - S3)	Input	—	34.6 - 42.4 Ω
14 (B)	Ground	Ground 1	—	Always	0 V
18 (SB)	Ground	12V battery power supply	Input	Always	9 – 16 V
22 (Y)	21 (W)	Motor resolver signal (S2 - S4)	Input	—	37.6 - 46.0 Ω
24 (G)	23 (BR)	Motor resolver signal (R1 - R2)	Output	—	8.5 - 12.7 Ω
25* (R)	—	—	—	—	—
26 (G)	Ground	EV system CAN-L	Input/Output	—	—
27 (L)	Ground	EV system CAN-H	Input/Output	—	—
28 (P)	Ground	12V battery power supply	Input	Always	9 – 16 V
29 (Y)	19 (W)	Motor oil pump communication signal	Input/Output	—	—
30 (LG)	Ground	Power switch ON signal	Input	Power switch: ON	9 – 16 V
				Power switch: OFF	0 V

*: Not used for control.


NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item	Condition	Value/Status
Motor speed 1	READY state (vehicle is stopped)	Approx. 0 rpm
	During driving	The value changes depending on the vehicle speed.
Inverter input voltage (High voltage)	READY (stop the vehicle) and during driving	Approximately the same as the Li-ion battery voltage
Rotor current value 1	READY state (vehicle is stopped)	Approx. 0 rpm
	During driving	0 - 17.5 A (The value changes depending on the vehicle speed.)
Rotor current value 2	READY state (vehicle is stopped)	Approx. 0 rpm
	During driving	0 - 17.5 A (The value changes depending on the vehicle speed.)
Ignition signal	Power switch ON	Ignition power supply on
Inverter power module temperature	READY state (vehicle is stopped)	Same as the cooling water temperature once the temperature is saturated
	During driving	The temperature changes depending on the vehicle running
Resolver offset value	—	—
Rotor resistance value	—	—
Inverter initial diagnosis	READY state (vehicle is stopped)	Not diagnosed
Inverter high voltage circuit diagnosis result	READY state	OK
Inverter torque control function diagnosis result	READY state	OK
Inverter abnormality judgement 1	READY state	OK
Inverter abnormality judgement 2	READY state	OK
Rotor current diagnosis result	READY state	OK
Stator current diagnosis result	READY state	OK
Inverter over voltage malfunction (High voltage)	READY state	OK
Inverter control status 1	READY state (vehicle is stopped)	Traction
	During driving	Traction
12V battery voltage	Power switch ON	9 – 16 V
Re-programming judgement result	—	—
Key available	—	—
Inverter temperature	READY state	The temperature changes depending on the vehicle running (including when stopped).
Inverter power module high arm IGBT status	READY state	OK

Monitor item	Condition	Value/Status
Inverter power module low arm IGBT status	READY state	OK
Li-ion battery abnormality state	READY state	OK
Li-ion battery voltage	Power switch ON	269 – 402 V
Discharge request	READY state	Off
Torque request	READY state (vehicle is stopped)	Approx. 0.0 Nm
	During driving	Changes depending on the vehicle acceleration or deceleration
Inverter activation request	Power switch ON	Off
	READY state	On
Sleep/wake up request	Power switch ON	Wake up request
Ignition signal (CAN)	Power switch ON	Ignition power on
Communication diagnosis permission status	READY state	Permit
Coolant flow	READY state	Changes depending on the vehicle state.
ODO	Power switch ON	Approximately the same as the combination meter ODO
Safety maximum torque	During driving	Changes depending on the vehicle acceleration or deceleration
High voltage relay status	Power switch ON	Close
OTA status	Power switch ON (no OTA request)	No request
Drive prohibition signal	Power switch ON	OK
Safety minimum torque	During driving	Changes depending on the vehicle acceleration or deceleration
Oil pump status	Power switch ON	OK
Stator temperature	READY state (vehicle is stopped)	Same as the cooling water temperature once the temperature is saturated
	During driving	The temperature changes depending on the vehicle running
Rotor temperature	READY state (vehicle is stopped)	It is an estimated value and declines gradually when vehicle is stopped.
	During driving	The temperature changes depending on the vehicle running
Command oil pump speed	READY state (vehicle is stopped)	500 - 3800 rpm (Changes depending on the front traction motor temperature and oil temperature.)
Oil pump speed	READY state (vehicle is stopped)	500 - 3800 rpm (Changes depending on the front traction motor temperature and oil temperature.)
Motor speed 2	READY state (vehicle is stopped)	Approx. 0 rpm
	During driving	The value changes depending on the vehicle speed.
Inverter high voltage	READY (stop the vehicle) and during driving	Approximately the same as the Li-ion battery voltage
Motor oil temperature	READY state (vehicle is stopped)	Same as the cooling water temperature once the temperature is saturated
	During driving	The temperature changes depending on the vehicle running
Inverter direct current value	READY state (vehicle is stopped)	Approx. 0.0 A