

# Your Ultimate Source for OEM Repair Manuals

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## 2013 NISSAN Pathfinder OEM Service and Repair Workshop Manual


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Monitor item	(Unit)	Remarks
		<ul style="list-style-type: none"> <li>Malfunction 1: Malfunction other than those related to overcharge, over-discharge, and overheating</li> <li>Malfunction 2: Malfunction of monitoring function (voltage, current, temperature, or other sensor, or CPU, power supply, etc.) for overcharge, over-discharge, and overheating</li> <li>Safety mode: An event occurred with resulted in overcharge, over-discharge, or overheating.</li> </ul>
Li-ion battery voltage	(V)	Displays the Li-ion battery voltage received from the Li-ion battery controller via EV system CAN.
Discharge request		Displays the discharge request received from the VCM via EV system CAN. <ul style="list-style-type: none"> <li>On: Discharge request is active</li> <li>Off: No discharge request</li> </ul>
Torque request	(Nm)	Displays the torque command value for the front traction motor received from the VCM via EV system CAN.
Inverter activation request		Displays the operation command for the inverter (front) from the VCM via EV system CAN. <ul style="list-style-type: none"> <li>Off: Inverter operation OFF</li> <li>On: Inverter operation ON</li> </ul>
Sleep/wake up request		Displays the wakeup/sleep request received from the VCM via EV system CAN.
Ignition signal (CAN)		Displays the power switch ON signal received from the VCM.
Communication diagnosis permission status		Displays the communication diagnosis permit status. <ul style="list-style-type: none"> <li>Prohibit 1/Prohibit 2/Prohibit 3/Prohibit 4: Communication diagnosis is prohibited due to the vehicle status.</li> <li>Permit: Communication diagnosis is permitted.</li> </ul>
Coolant flow	(l/min)	Displays the coolant flow volume received from the VCM via EV system CAN.
ODO	(km or mile)	Displays the total mileage received from the VCM via EV system CAN.
Safety maximum torque	(Nm)	Displays the safety maximum torque value received from the VCM via EV system CAN.
High voltage relay status		Displays the high voltage relay status received from the VCM. <ul style="list-style-type: none"> <li>Close</li> <li>Open</li> <li>Transitory state: OFF → ON (including pre-charge) or ON → OFF status change is in progress.</li> </ul>
OTA status		Displays the OTA execution status received from the VCM via EV system CAN. <ul style="list-style-type: none"> <li>No request</li> <li>OTA stopped</li> <li>OTA executing</li> <li>Error</li> </ul>
Drive prohibition signal		Displays the inverter (front) drive prohibit signal received from the VCM.

Monitor item	(Unit)	Remarks
		<ul style="list-style-type: none"> <li>• OK: No limitation</li> <li>• Zero-torque: Zero torque control</li> </ul>
Safety minimum torque	(Nm)	Displays the safety minimum torque value received from the VCM via EV system CAN.
Oil pump status		<p>Displays the internal status of the front traction motor oil pump.</p> <ul style="list-style-type: none"> <li>• OK: Normal</li> <li>• Performance degradation: Oil pump speed is lower than the command value.</li> <li>• Internal error (temporary): Oil pump stops temporarily. If the error continues for a certain time, it shifts to a 30% torque limit.</li> <li>• Internal error: Oil pump stops. (Does not recover unless power is switched OFF → ON.) If the error continues for a certain time, it shifts to a 30% torque limit.</li> <li>• Communication error: If the error continues for a certain time, a DTC is stored.</li> </ul>
Stator temperature	(degc)	Displays the stator temperature of the front traction motor.
Rotor temperature	(degc)	Displays the rotor temperature of the front traction motor.
Command oil pump speed	(rpm)	Displays the speed command value that is sent to the front traction motor oil pump.
Oil pump speed	(rpm)	Displays the speed of the front traction motor oil pump.
Motor speed 2	(rpm)	Displays the speed of the front traction motor that is sent from the inverter (front) via EV system CAN.
Inverter high voltage	(V)	Displays the high voltage value that is recognized by the inverter (front).
Motor oil temperature	(degc)	Displays the oil temperature inside the front traction motor.
Inverter direct current value	(A)	Displays the estimated DC current value of the inverter (front).
Motor maximum power	(kW)	Displays the maximum output of the front traction motor.
Motor power/regeneration status		Displays power and regeneration status of the front traction motor.
Inverter discharge status		Displays the discharge status of the inverter (front).
Inverter control status 2		<p>Displays the control status in the inverter (front) that is sent from the inverter (front) via EV system CAN.</p> <ul style="list-style-type: none"> <li>• OK: Normal</li> <li>• Zero-torque: Zero torque control in progress</li> <li>• Motor stopped: PWM cut state or state that is not traction mode</li> </ul>
Motor estimated torque	(Nm)	Displays the estimated torque value in the inverter (front).
Motor regeneration maximum torque	(Nm)	Displays the maximum regenerative torque of the front traction motor.
Motor power maximum torque	(Nm)	Displays the maximum output torque of the front traction motor.
Inverter sleep permission		Displays the sleep permit status in the inverter (front).
Motor normalization temperature	(%)	Displays the maximum normalized temperature of the front traction motor.
Inverter abnormality state		<p>Displays the error status of the inverter (front).</p> <ul style="list-style-type: none"> <li>• OK: No error</li> <li>• Malfunction 1: PWM cut state (driving not possible)</li> </ul>

Monitor item	(Unit)	Remarks
		<ul style="list-style-type: none"> <li>Malfunction 4: Error is detected however driving using the front traction motor is possible.</li> <li>Malfunction 5: Disconnection of stator temperature sensor (torque limit)</li> </ul>
Inverter status (CAN)		Displays the internal status of the inverter (front) that is sent from the inverter (front) via EV system CAN. <ul style="list-style-type: none"> <li>Power off: Other than READY state</li> <li>Power on 2: Traction mode (READY state)</li> </ul>
Inverter normalization temperature	(%)	Displays the maximum normalized temperature in the inverter (front).
Lamp lighting request 2		Displays the display request of the EV system warning (EV system stop) that is sent from the inverter (front).
Lamp lighting request 1		Displays the display request of the EV system warning (EV system malfunction) that is sent from the inverter (front).
Inverter coolant temperature	(degc)	Displays the coolant temperature in the inverter (front).
U current sensor offset value		Displays the offset value of the U-phase current sensor at the front traction motor.
V current sensor offset value		Displays the offset value of the V-phase current sensor at the front traction motor.
W current sensor offset value		Displays the offset value of the W-phase current sensor at the front traction motor.
Rotor current sensor 1 offset value		Displays the offset value of the rotor current sensor 1 at the front traction motor.
Rotor current sensor 2 offset value		Displays the offset value of the rotor current sensor 2 at the front traction motor.

## WORK SUPPORT

Item Name	Description
Writing Resolver Offset Value and Rotor Resistance Value	Write the front traction motor resolver offset value and rotor resistance value.
OTA status reset	 <b>NOTE:</b> <b>This item is displayed but not used.</b>

## ECU IDENTIFICATION

Displays the part number of the inverter (front).

## Diagnosis Description

SIEMD-7197113

This is an on-board trouble diagnosis system which automatically detects malfunction. Detected malfunction is memorized in ECU as DTC. Diagnosis information can be confirmed using CONSULT.

Sample

# Diagnosis Description

SIEMD-7197114

- DTC (P0A1B, P0A2A, P0A3F, etc.) are specified by SAE 2012/ISO 15031-6.
- Inverter (front) memorizes DTC and freeze frame data when malfunction is detected.
- Freeze frame data stored first and freeze frame data stored last remain for each DTC. Therefore, when occurring 3 times or more, the data in the middle do not remain.

Sample

# FRONT TRACTION MOTOR SYSTEM : Lubricant or/and Sealant


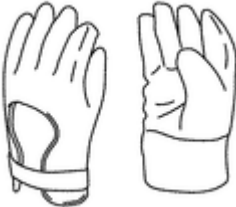




RDE-001931892

Name	Use
Lithium-based grease including molybdenum disulphide.	Apply it on the O-ring of the front traction motor shaft
Genuine NISSAN Matic S ATF or equivalent	Apply it on the O-ring of the front traction motor stator temperature sensor joint connector


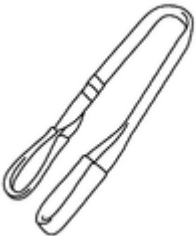

Sample

# FRONT TRACTION MOTOR SYSTEM : Commercial Service Tools or/and Repair Part

RDE-001931891

Tool name	Description
Insulated gloves   RDE-001931891-01-MCIA0149ZZ	Removing and installing high voltage components [Guaranteed insulation performance for 1000V/300A]
Leather gloves   RDE-001931891-02-PCIA0066ZZ	<ul style="list-style-type: none"> <li>• Removing and installing high voltage components</li> <li>• Protect insulated gloves</li> </ul> [Use leather gloves that can fasten the wrist tight]
Insulated safety shoes   RDE-001931891-03-PCIA0011ZZ	Removing and installing high voltage components
Safety glasses   RDE-001931891-07-PCIA0012ZZ	<ul style="list-style-type: none"> <li>• Removing and installing high voltage components</li> <li>• To protect eye from the spatter on the work to electric line</li> </ul> [ANSI Z87.1]
Face shield   RDE-001931891-08-PCIA0167ZZ	<ul style="list-style-type: none"> <li>• Removing and installing high voltage components</li> <li>• To protect face from the spatter on the work to electric line</li> </ul>
Insulated helmet   RDE-001931891-05-PCIA0013ZZ	Removing and installing high voltage components



Tool name	Description
Insulation resistance tester (Multi tester)	 <p>RDE-001931891-06-PCIA0014ZZ</p>
Sling belt	 <p>RDE-001931891-04-PCIA0021ZZ</p> <div data-bbox="826 506 1506 651" style="border: 1px solid green; padding: 5px;"> <p> <b>NOTE:</b>  <b>Withstand load over 500 kg (1102.5 lb)</b></p> </div>

Sample

**DTC DETECTION LOGIC**

DTC		CONSULT screen terms	DTC detection condition	
P3083	44	Immobilizer	Diagnosis condition	At inverter (front) start
			Signal	—
			Threshold	No data was written to internal memory
			Diagnosis delay time	Within 1 second

**POSSIBLE CAUSE**

Inverter (front)

**FAIL-SAFE**

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Sample