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2013 NISSAN Titan King Cab OEM Service and Repair Workshop Manual

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Question Sheet					
	□ Other				
Shift position	□ Not affected				
	□ P position	□ R position	□ N position	□ D position	□ B position
	□ ECO mode				
Driving conditions	□ Not affected				
	□ Power switch ON → OFF		□ Power switch OFF → ON		□ READY (stop the vehicle)
	□ While cruising	□ While decelerating	□ Just before stopping	□ Just after stopping	□ D position (stop the vehicle)
	□ While recharging		□ Other		
	□ Vehicle speed [km/h (MPH)]		□ Accelerator pedal (/ 8)		
	□ Battery level (Low / Middle / High)				
Moments when malfunction disappears	□ Disappears while driving		□ Disappears when stopped		□ Disappears with select operation
	□ Disappears when power switch is pushed OFF		□ Disappears when battery charge is stopped		□ Does not disappear
	□ Other				
Other					

1. OBTAIN INFORMATION ABOUT SYMPTOM

Refer to Diagnostic Work Sheet and interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred) as much as possible when the customer brings in the vehicle. Refer to Diagnostic Work Sheet.

>>

GO TO 2.

2. CHECK DTC IN INVERTER (FRONT)

1. Before checking the malfunction, check whether any DTC exists.
2. If DTC exists, perform the following operations.
    - Record the DTC and freeze frame data. (Print out the data using CONSULT and affix them to the Work Order Sheet.)
    - Erase DTCs.
    - Check the relationship between the cause that is clarified with DTC and the malfunction information described by the customer.

Do malfunction information and DTC exist?

Malfunction information and DTC exists. >>

GO TO 3.

Malfunction information exists, but no DTC. >>

GO TO 4.

No malfunction information, but DTC exists. >>

GO TO 5.

3. REPRODUCE MALFUNCTION SYMPTOM

Check any malfunction described by a customer, except those with DTC on the vehicle.

Also investigate whether the symptom is a fail-safe or normal operation. Refer to Fail-safe.

When a malfunction symptom is reproduced, the question sheet is effective. Refer to Diagnostic Work Sheet.

Verify the relationship between the symptom and the conditions in which the malfunction described by the customer occurs.

>>

GO TO 5.

4. REPRODUCE MALFUNCTION SYMPTOM

Check the malfunction described by the customer on the vehicle.

Also investigate whether the symptom is a normal operation. Refer to Protection Function.

When a malfunction symptom is reproduced, the question sheet is effective. Refer to Diagnostic Work Sheet.

Verify the relationship between the symptom and the conditions in which the malfunction described by the customer occurs.

>>

GO TO 7.

5. PERFORM “DTC CONFIRMATION PROCEDURE”

Perform “DTC CONFIRMATION PROCEDURE” of the appropriate DTC to check if DTC is detected again.

Refer to DTC Inspection Priority Chart when multiple DTCs are detected, and then determine the order for performing the diagnosis. Refer to DTC Inspection Priority Chart.

NOTE:
If no DTC is detected, refer to the freeze frame data.

Is any DTC detected?

YES>>

GO TO 6.

NO>>

Check according to Intermittent Incident. Refer to Intermittent Incident.

6. REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the detected malfunctioning parts.

Reconnect parts or connector after repairing or replacing, and then erase DTC if necessary.

>>

GO TO 7.

7. FINAL CHECK

Perform “DTC CONFIRMATION PROCEDURE” again to make sure that the repair is correctly performed.

Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 3 or 4.

Is DTC or malfunction symptom reproduced?

YES>>

GO TO 2.

NO>>

Before delivering the vehicle to the customer, make sure that DTC is erased.

Description

After the inverter (front) are replaced, the following operations need to be conducted. Refer to Work Procedure.

- Performing recommunication with the intelligent key unit
- Writing resolver offset value and rotor resistance value

1. PERFORMING RECOMMUNICATION WITH THE INTELLIGENT KEY UNIT

Perform recommunication with the intelligent key unit. Refer to Work Procedure.

>>

GO TO 2.

2. WRITING RESOLVER OFFSET VALUE AND ROTOR RESISTANCE VALUE

Writing resolver offset value and rotor resistance value. Refer to Work Procedure.

>>

WORK END

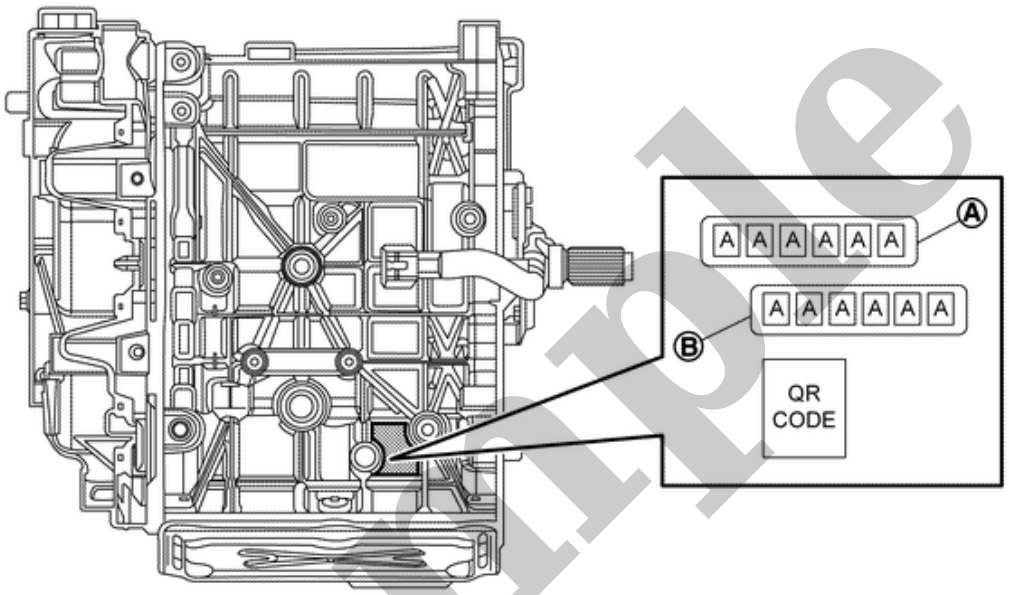
Description

SIEMD-7201701

When one of the following operations is conducted, resolver offset value and rotor resistance value for the front traction motor need to be written into the inverter (front). (For details, refer to Work Procedure.)

- Replacement of the front traction motor
- Replacement of the inverter (front)
- Replacement of the front traction motor and inverter (front)

MARKING POSITION OF THE FRONT TRACTION MOTOR RESOLVER OFFSET VALUE AND ROTOR RESISTANCE VALUE



SIEMD-7201701-02-000405169

Ⓐ	Resolver offset value	Ⓑ	Rotor resistance value

SIEMD-7197118

CAUTION:
After the inverter (front) was replaced, when the power switch is turned ON, the EV system warning lamp turns ON and DTC "P3081-44" and "P3082-44" are detected. After writing of the resolver offset value and rotor resistance value for the front traction motor is completed, check that the EV system warning lamp turns OFF and erase DTC "P3081-44" and "P3082-44".

1. CHECK BEFORE WRITING THE OFFSET VALUE AND THE ROTOR RESISTANCE VALUE FOR FRONT TRACTION MOTOR

Check the parts that were replaced.

Which parts were replaced?

Front traction motor>>

GO TO 2.

Inverter (front)>>

GO TO 3.

Front traction motor and inverter (front)>>

GO TO 3.

2. WRITING THE OFFSET VALUE AND THE ROTOR RESISTANCE VALUE FOR FRONT TRACTION MOTOR

With CONSULT

1. Power switch ON.
2. Select "Work support" under "MOTOR CONTROL".
3. Select "Writing Resolver Offset Value and Rotor Resistance Value".
4. Enter the resolver offset value and rotor resistance value that are printed on the front traction motor into the "Write value of resolver offset value and rotor resistance value" field.

   CAUTION:
   After entering the resolver offset value and rotor resistance value, check that the entered values are correct.

5. Touch "Write".

Is "Writing is complete." displayed?

YES>>

1. Power switch OFF.
2. Power switch ON and wait at least 2 seconds.
3. Check that the value input in "Writing Resolver Offset Value and Rotor Resistance Value" has been applied.
4. Power switch OFF and finish the task.

NO>>

Perform Step 2 again.

3. WRITING THE OFFSET VALUE AND THE ROTOR RESISTANCE VALUE FOR FRONT TRACTION MOTOR

With CONSULT

1. Power switch ON.

> **NOTE:**
> **The EV system warning lamp turns ON.**

2. Select "Work support" under "MOTOR CONTROL".
3. Select "Writing Resolver Offset Value and Rotor Resistance Value".
4. Enter the resolver offset value and rotor resistance value that are printed on the front traction motor into the "Write value of resolver offset value and rotor resistance value" field.

> **CAUTION:**
> **After entering the resolver offset value and rotor resistance value, check that the entered values are correct.**

5. Touch "Write".

Is "Writing is complete." displayed?

YES>>

GO TO 4.

NO>>

Perform Step 3 again.

4. WORK AFTER WRITING THE OFFSET VALUE AND THE ROTOR RESISTANCE VALUE FOR FRONT TRACTION MOTOR

With CONSULT

1. Power switch OFF.
2. Power switch ON and wait at least 2 seconds.
3. Check that the EV system warning lamp turns OFF.
4. Select "Work support" under "MOTOR CONTROL".
5. Select "Writing Resolver Offset Value and Rotor Resistance Value".
6. Check that "Current resolver offset value and rotor resistance value" has changed to the value that was input.
7. Select "Self Diagnostic Result" under "MOTOR CONTROL".
8. Clear DTC "P3081-44" and "P3082-44".
9. Power switch OFF.

>>

WORK END

Symptom Description

SIEMD-7197797

The electromagnetic noise of the front traction motor may become more noticeable when accelerating on a steep slope (large output torque).

This occurs when the IGBT switching frequency is lowered by the inverter (front) due to high temperature of the IGBT inside the inverter (front). This does not indicate a problem with the inverter (front) characteristics or control.

This phenomenon is one of the protective controls. Refer to Protection Function.