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Schaeffler E-Axle RepSystem-M

Part no. 762 0003 10
Repair solution for e-axle
disassembly/assembly

Nissan Leaf EM61 (model year 2010 to 2013)

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August 2025

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Disassembly and assembly
Nissan Leaf EM61 (model year 2010 to 2013)

- The vehicle manufacturer's specifications and safety instructions must be observed when removing and installing the drive unit
- Work on electric vehicles may only be carried out in compliance with country-specific legal regulations
- Repairs may only be carried out by specialist staff and using suitable garage equipment
- The bearing seats and the seats of the rotary shaft seals need to be cleaned
- Cleanliness must be ensured throughout the entire repair process
- The rotor and stator must not touch each other during the disassembly or assembly processes. Failure to comply with this may result in unwanted noise generation and malfunctions
- Due to the high magnetic forces, the rotor must be protected against surrounding metal particles/chips

- **Risk of fatal injury from electrical and magnetic fields** Electrical and magnetic fields are created on the high-voltage system. There is a risk of death or serious injury due to malfunction of active implants (e.g. pacemakers, insulin pumps, hearing aids). Persons with active implants must not carry out any work on the high-voltage system.

- Drain the transmission oil
- Tighten the oil drain plug to 34.5 Nm
- Remove the drive unit in accordance with the vehicle manufacturer's specifications
- Separate the reduction gearbox from the engine in accordance with the vehicle manufacturer's specifications
- Remove the attachment parts

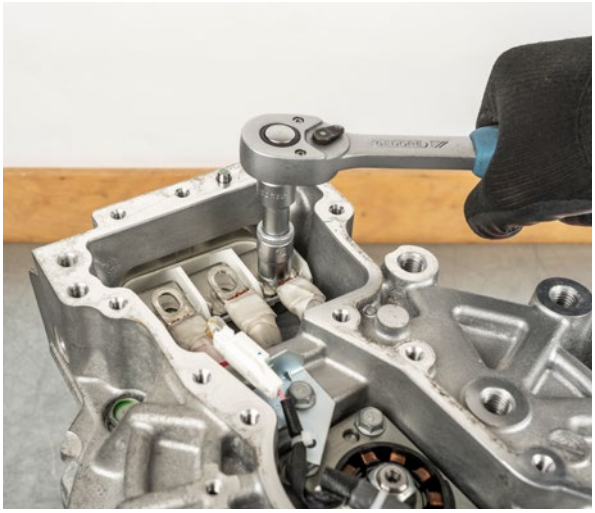
- Position the motor with the rotor position sensor facing upward and ensure that the motor is appropriately supported

- Remove the small rotor position sensor cover, remove the seal

- Remove the large rotor position sensor cover, remove the seal

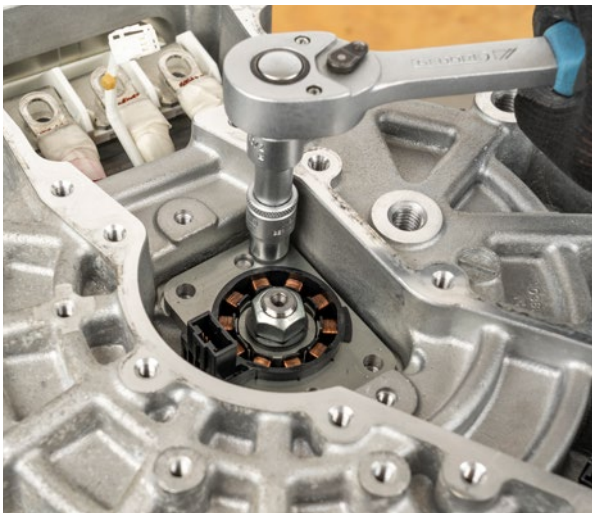
Note:
A Torx TR insert (T30) is required

- Remove the screws of the high-voltage connection

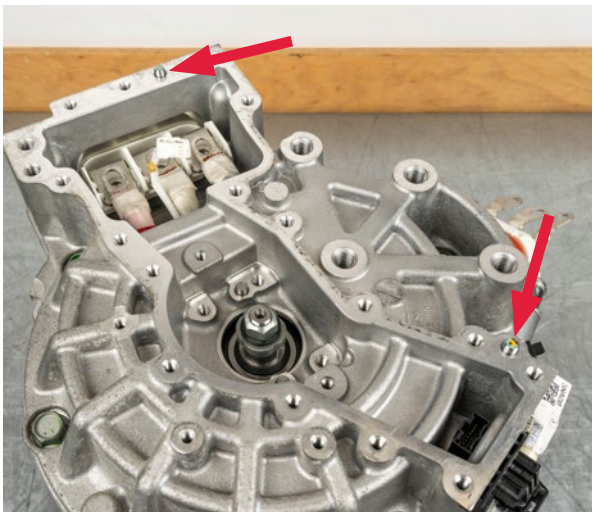


- Remove the wiring harness for the rotor position sensor and engine temperature sensor

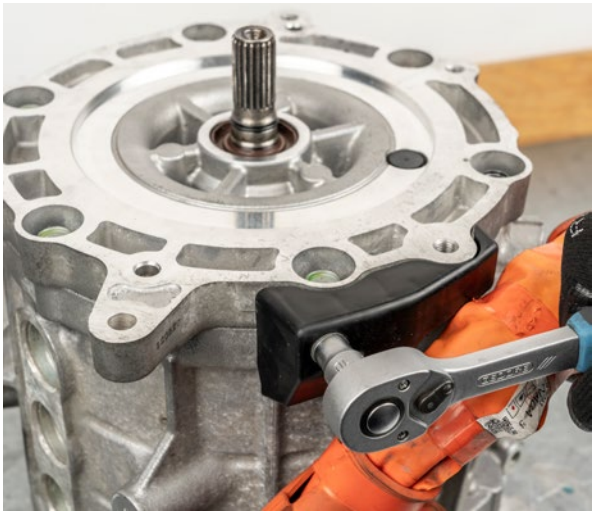
- Remove the rotor position sensor



- Remove the alignment pins



- Remove the wire protection



- A suitable device must be used to disassemble the rotor, such as the Schaeffler E-Axle Repair Tool, to ensure that the rotor and stator do not touch each other

- Remove the screws of the housing cover
- Note the installation position of the housing cover
- Remove the rotor from the stator housing

Note:
A Torx TR insert (T50) is required

Important:
Due to the high magnetic forces, the rotor must be protected against surrounding metal particles/ chips

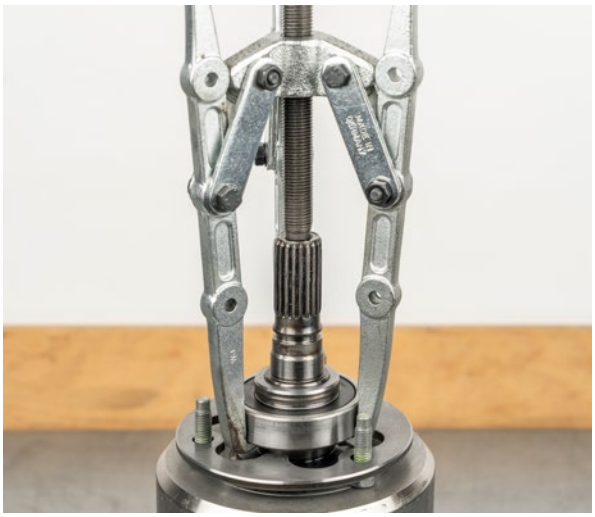
- Place the rotor on the workbench and support it accordingly
- Remove the O-ring
- Remove the shaft seal ring

Note:
Note the installation depth of the shaft seal ring

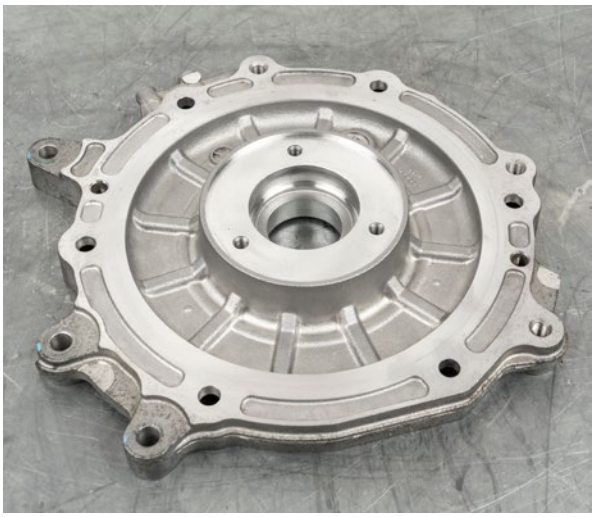
- Turn the rotor and support it accordingly
- Dismantle the engine-side bearing

- Gradually loosen the screws of the bearing shield until the rotor can be removed from the housing cover

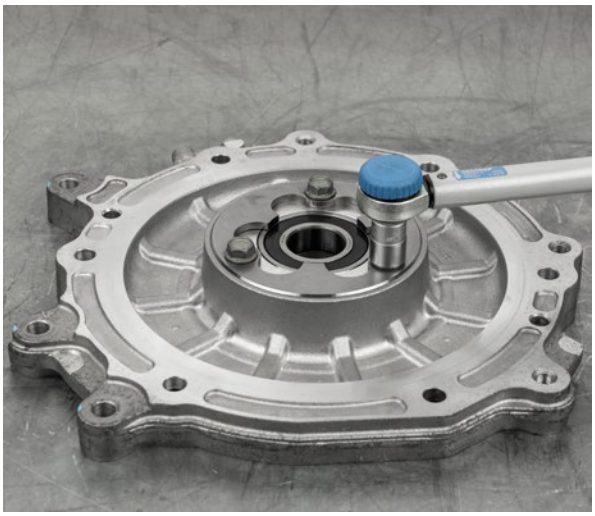
- Remove the transmission-side bearing together with the metal ring



- Clean the sealing surface of the housing cover



- Insert the new bearing into the housing cover, mount the bearing shield and tighten the screws to 30 Nm



- Press the housing cover onto the rotor via the inner bearing ring

- Press on the metal ring

- Press on the new engine-side bearing

- Place the stator housing on a workbench
- Remove the O-ring on the transmission side

- Remove the spring washer
- Clean the sealing surface

Note:
Dirt must not enter the engine

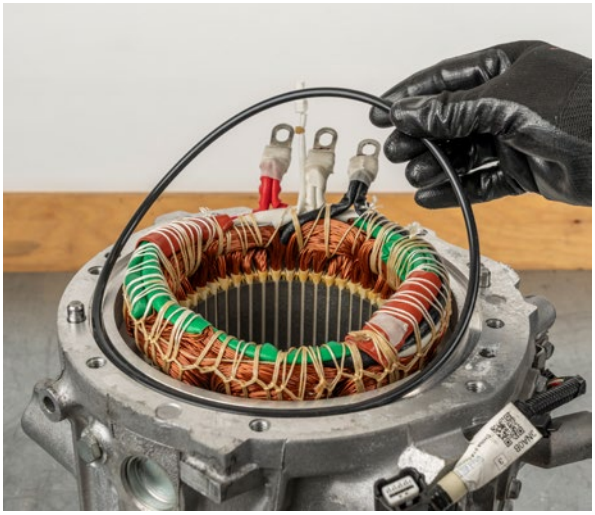
- Turn the stator housing and support it accordingly
- Disconnect the plugin connector

- Remove the housing cover

Note:
A Torx TR insert (T50) is required

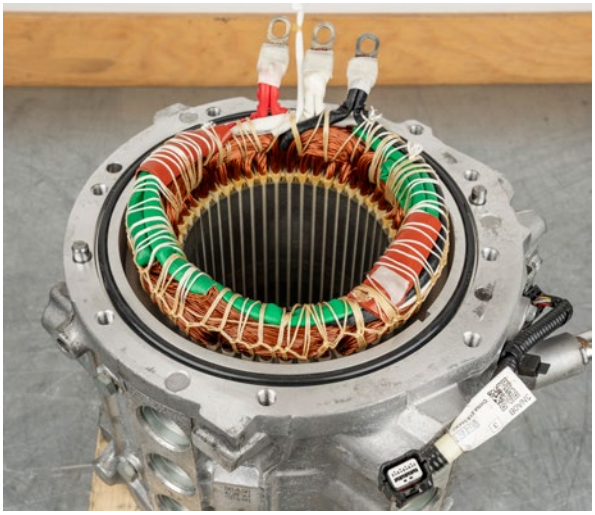
- Remove the O-ring
- Clean the sealing surface

Note:
Dirt must not enter the engine



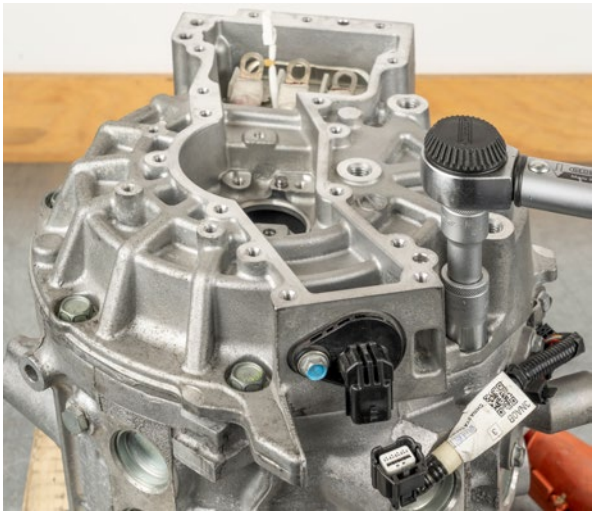
- Clean all the sealing surfaces of the housing cover

- Insert the new O-ring

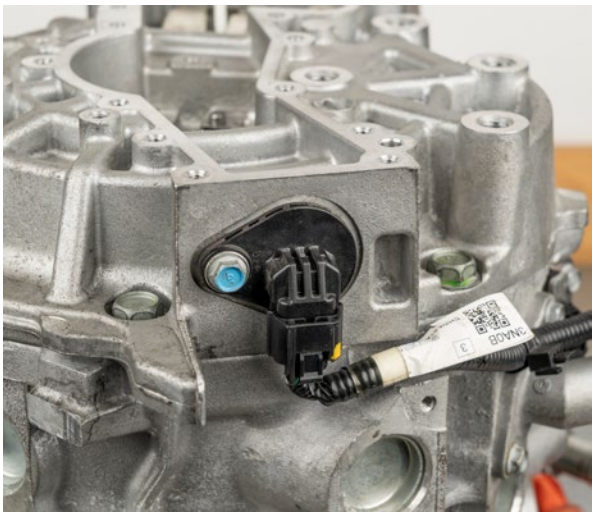


- Mount the housing cover and tighten the screws to 70 Nm

Note:
A Torx TR insert (T50) is required



- Connect the plug



- Turn the stator housing and support it accordingly
- Place the spring washer in the bearing seat

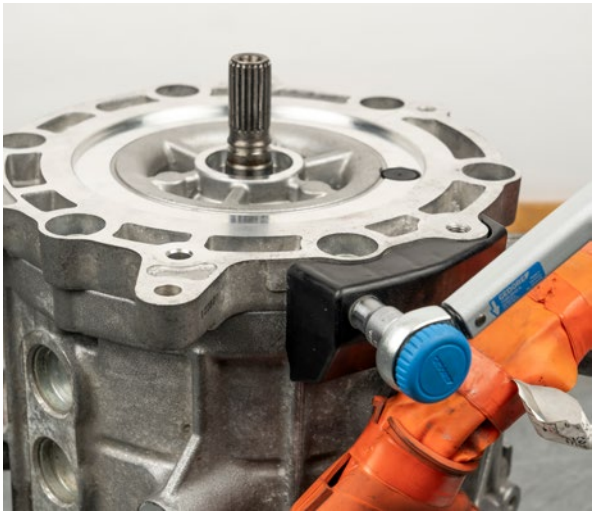
- Insert the new O-ring

- A suitable device must be used to assemble the rotor, such as the Schaeffler E-Axle Repair Tool, to ensure that the rotor and stator do not touch each other.

- Install the rotor in the stator housing
- Note the installation position of the housing cover
- Install the housing cover screws and tighten to 55 Nm

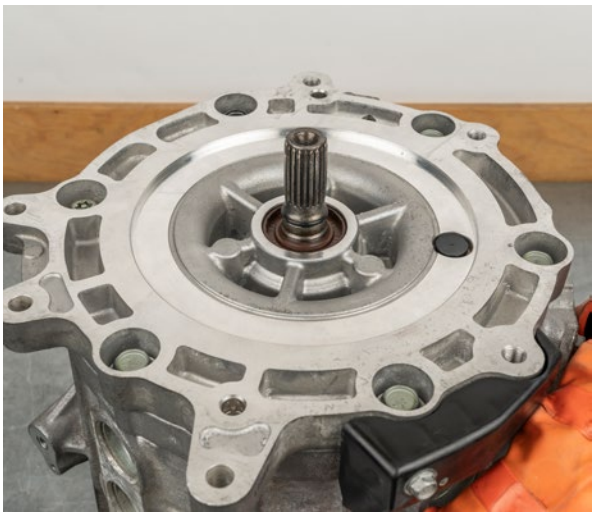
Note:
A Torx TR insert (T50) is required

- Mount the wire protection and tighten to 12 Nm

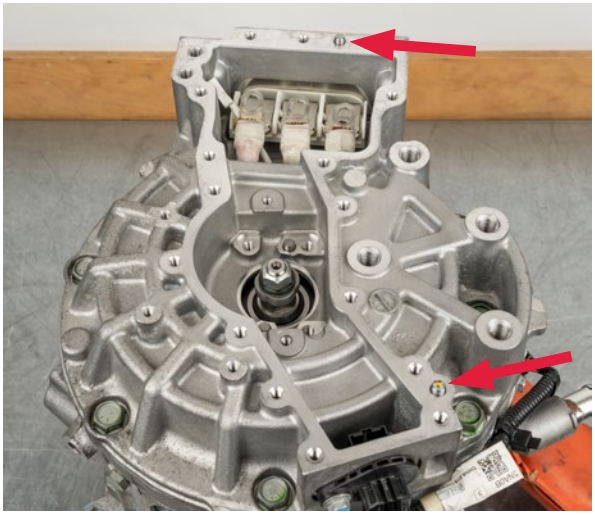


- Insert the shaft seal ring to the previous installation depth
- Mount the O-ring

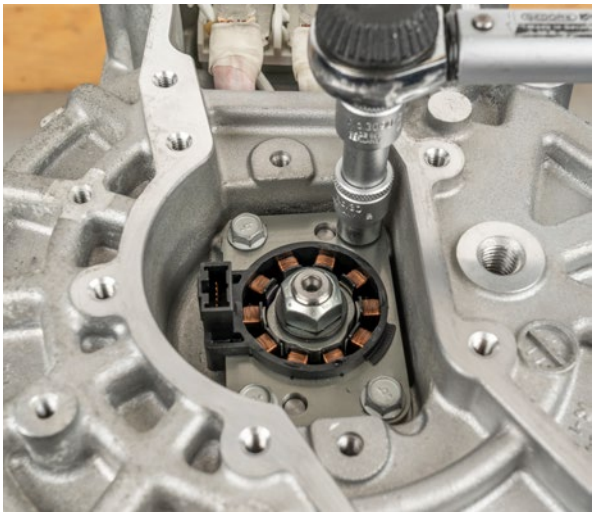
Note:
Do not damage the O-ring on the toothing



- Turn the engine upside down
- Mount the alignment pins

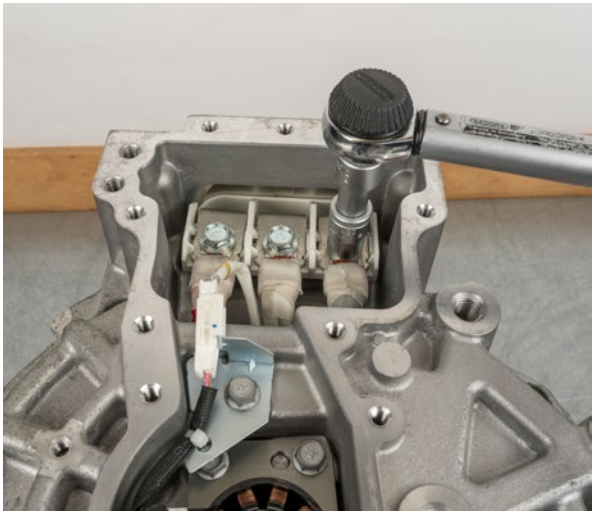


- Mount the rotor position sensor; tightening torque 12 Nm



- Mount the wiring harness, tightening torque 12 Nm

- Secure the high-voltage cables, tightening torque 20 Nm



- Clean all the sealing surfaces of the large rotor position sensor cover
- Insert the new seal
- Mount the cover and tighten the screws to 12 Nm

Note:
A Torx TR insert (T30) is required

- Clean the sealing surface of the small rotor position sensor cover
- Insert the new seal
- Mount the cover and tighten the screws to 12 Nm

- Mount the reduction gearbox on the engine in accordance with the vehicle manufacturer's specifications
- Mount the attachment parts.
- Install the drive unit in accordance with the vehicle manufacturer's specifications
- Top up the transmission oil
- Oil specification: Nissan Matic Fluid S
- Oil filling quantity: 1.1 l
- Tightening torque for oil checking screw: 34.5 Nm
- Recommission the drive unit in accordance with the vehicle manufacturer's specifications