

Schaeffler E-Axle RepSystem-M

Art-No. 762 0001 10

Repair Solution for E-Axles

Disassembly / Assembly

Hyundai Ioniq AE-EV (model year 2016 – 2019 EM09 / 88kW)



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Disassembly and assembly Hyundai Ioniq AE-EV (model year 2016-2019 EM09 / 88kW)

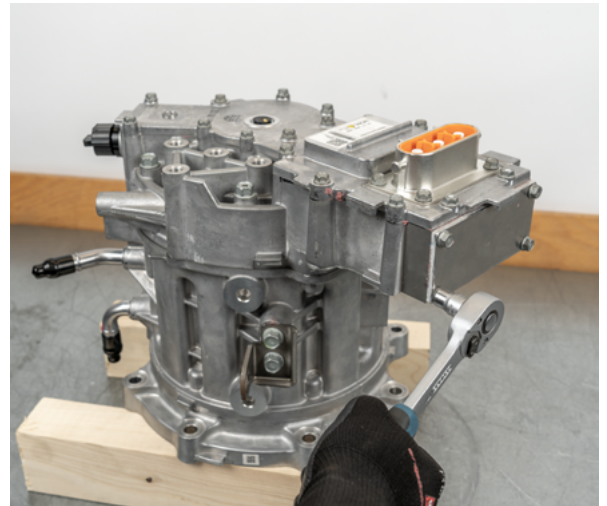
- When removing and installing the drive unit, the specifications and safety instructions of the vehicle manufacturer must be observed
 - Work on electric vehicles may only be carried out in compliance with the country-specific legal regulations
 - Repairs may only be carried out by qualified personnel and with suitable workshop equipment
 - The bearing seats and the seats of the oil seals must be cleaned
 - Cleanliness must be ensured throughout the repair work
 - The rotor and stator must not come into contact during disassembly/assembly. If this is not observed, it can lead to noise development and malfunction.
-
- **Danger to life due to electric and magnetic fields**
The high-voltage system generates electric and magnetic fields. Death or serious injury due to malfunction of active implants (e.g., pacemaker, insulin pump, hearing aids) is possible. Persons with active implants must not perform any work on the high-voltage system.



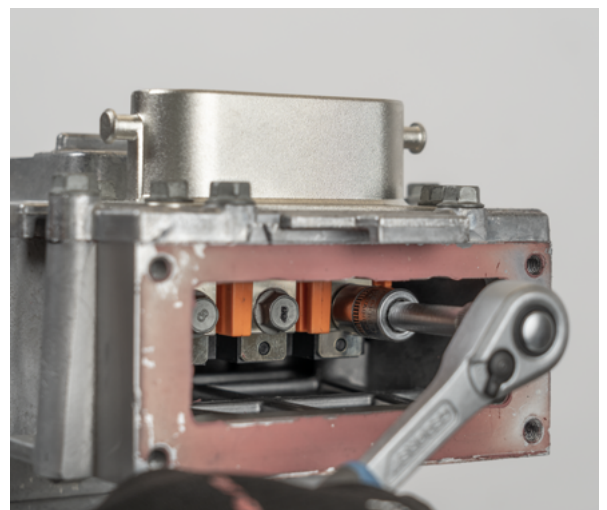
- Disassemble the motor according to the vehicle manufacturer's specifications
- Remove the accessory parts around the motor



- Position the motor with the rotor position sensor side facing up and provide appropriate support
- Remove the four bolts and take off upper cover



- Remove the bolts of the high-voltage connection



- Remove the bolts of the rotor position sensor cover
- Lift the cover evenly using suitable tools (e.g. pry bar)

Note:

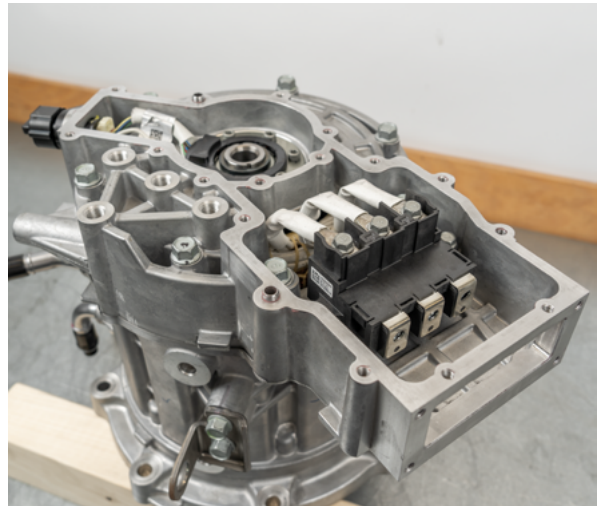
Note the different bolt lengths



- Clean all sealing surfaces

Note:

No gasket residue should fall into the interior of the motor



- Remove both guide sleeves using a suitable tool



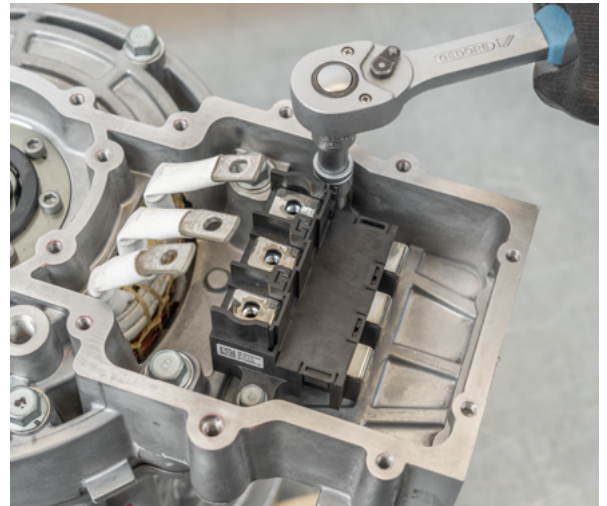
- Remove the high-voltage connections of the stator from the high-voltage terminal

Note:

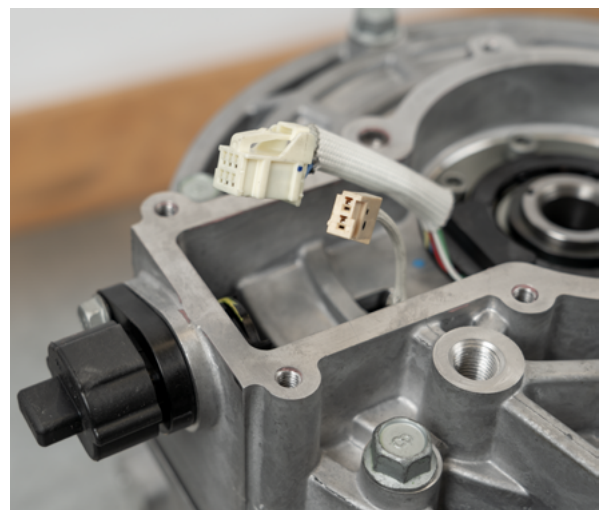
Note the connectors position



- Remove the high-voltage terminal



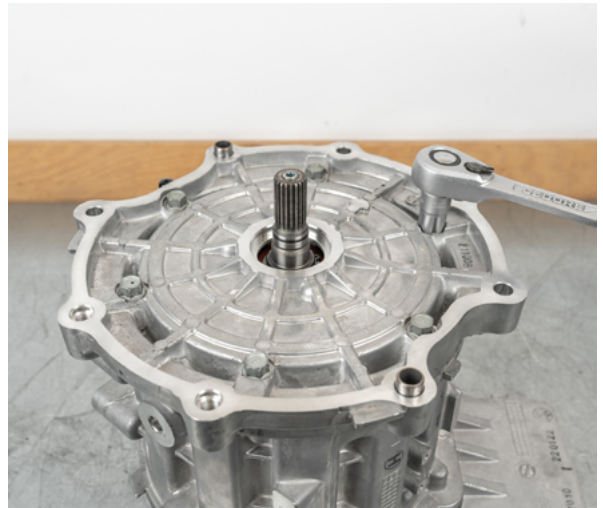
- Disconnect the connectors of the rotor position sensor and the temperature sensor
- Separate the connector housings



- Turn the motor over
- Remove the sealing ring from the rotor shaft



- Remove the bolts of the housing cover



- Remove the rotor from the stator housing

Note:

An appropriate device must be used to carry out the disassembly to ensure that the two components do not touch each other



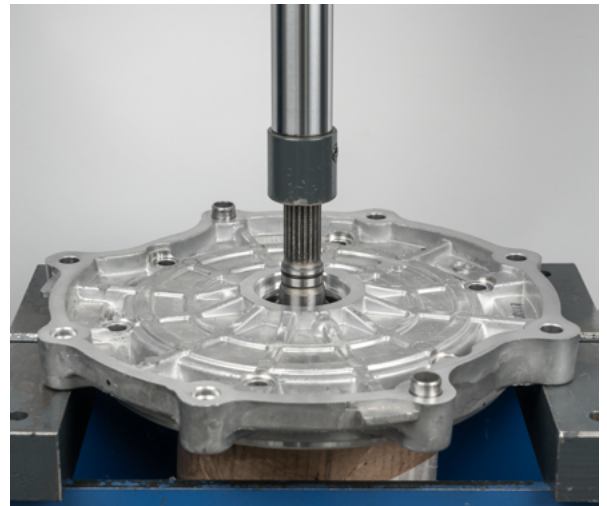
- Place the rotor on the workbench
- Remove the snap ring of the rotor shaft



- Push the rotor out of the housing cover

Note:

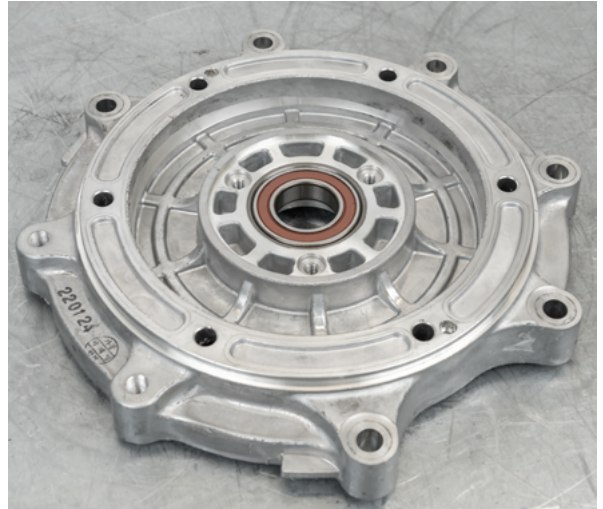
The rotor is highly magnetic and must not be damaged on the press table



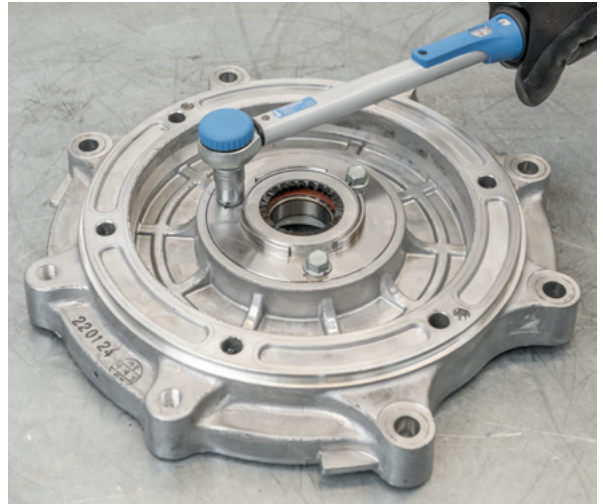
- Clean the sealing surfaces of the housing cover
- Remove the bolts holding the bearing plate
- Remove the bearing plate



- Remove the old bearing
- Install the new bearing with the designation F-585273.06.6007



- Mount the bearing plate
- Tighten the bolts to 15 Nm



- Remove the bearing, rotor position sensor encoder, and snap ring from the rotor shaft

Note:

Mark the installation position of the rotor position sensor encoder



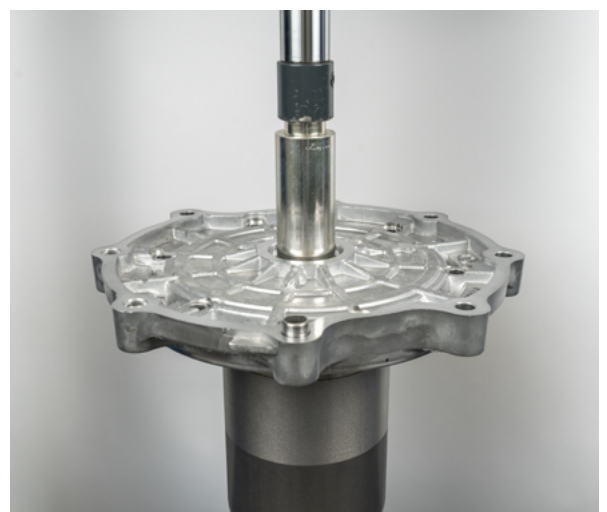
- Press on the new bearing with the designation F-585273.09.6007-AM



- Mount the rotor position sensor encoder onto the rotor shaft in the previously marked position
- Press on the snap ring



- Press the bearing with the housing cover onto the rotor



- Mount the snap ring



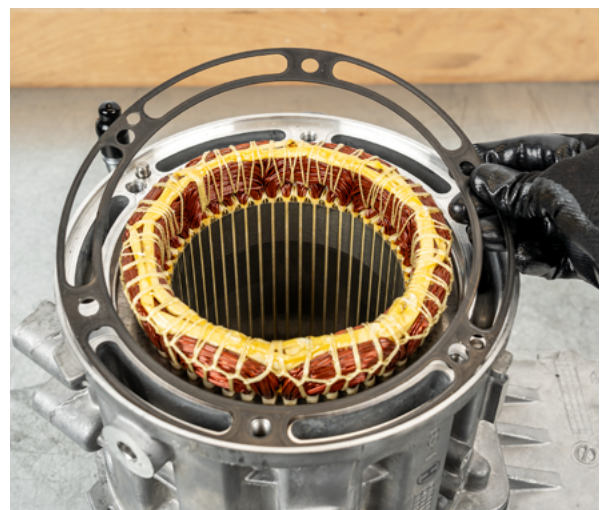
- Install the new sealing ring on the rotor shaft



- Remove the gasket
- Clean the sealing surface of the stator housing

Note:

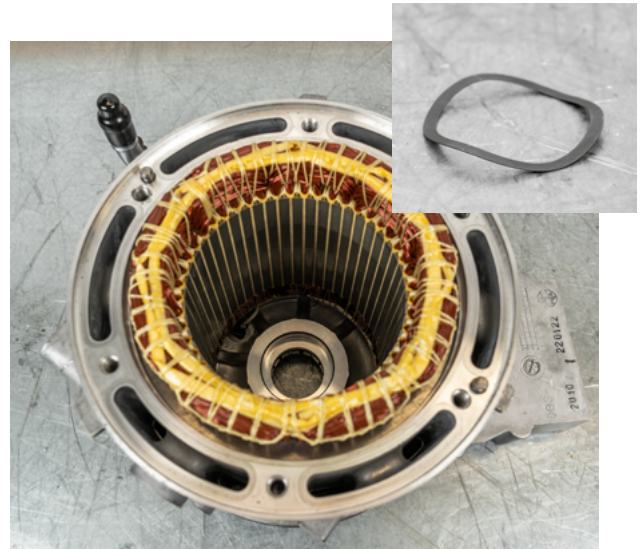
No gasket residue should fall into the interior of the stator housing



- If present:
Remove the spring washer from the lower bearing seat

Note:

In some motors, no spring washer is installed



- Turn the stator housing over and support it at the housing

Note:

The stator windings must not be damaged



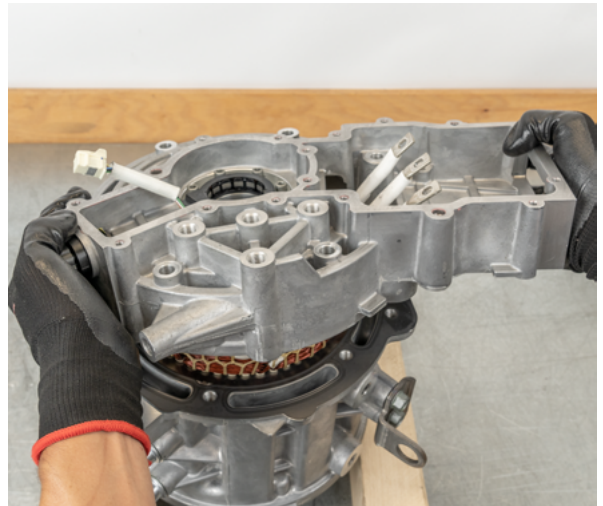
- Loosen the cable fixing



- Remove the bolts of the housing cover



- Lift and remove the housing cover



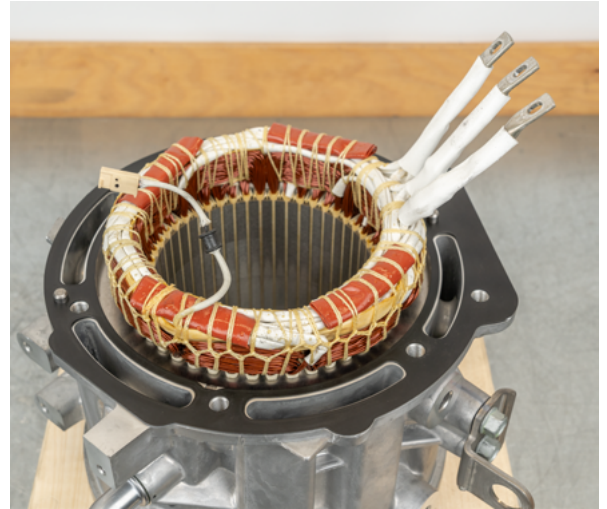
- Remove the gasket
- Clean the sealing surfaces on the stator housing and cover

Note:

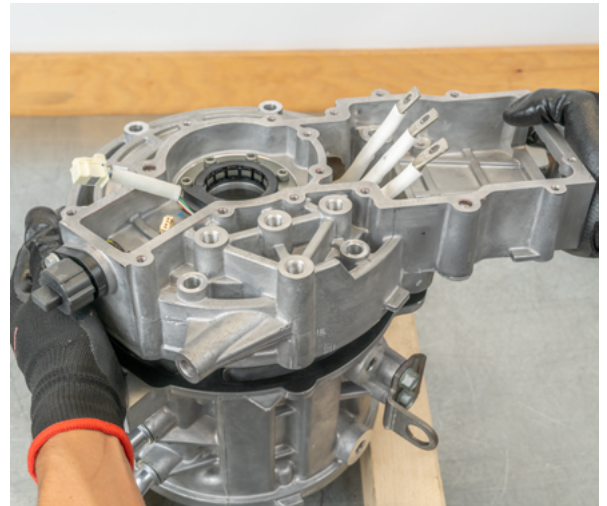
No seal residue may fall into the inside of the stator housing.



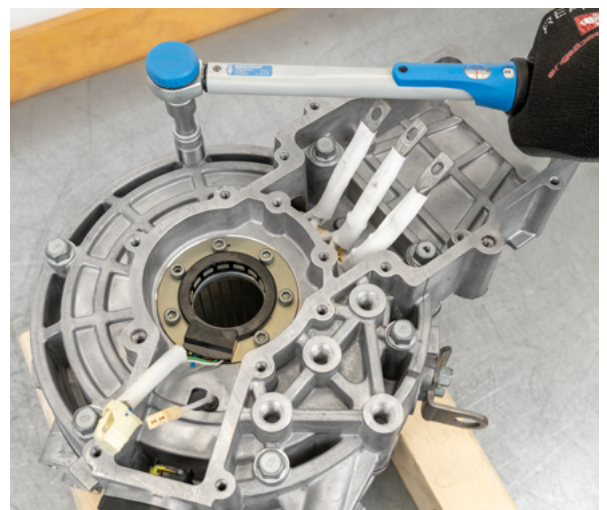
- Place the new gasket



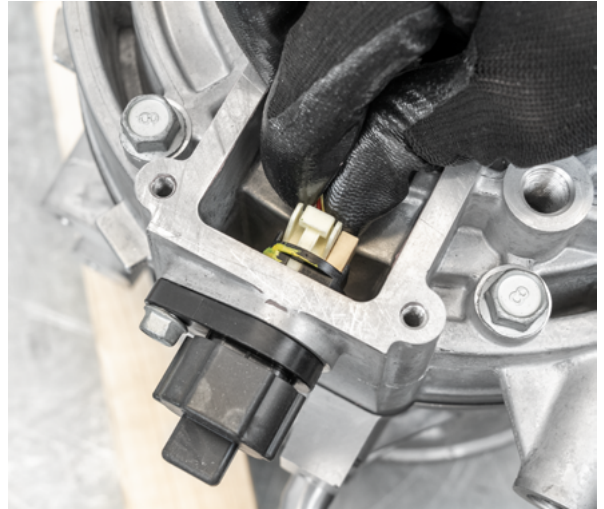
- Pass the high-voltage connections of the stator and the motor temperature sensor cable through the housing cover
- Mount housing cover
- Secure the temperature sensor cable



- Tighten the bolts of the housing cover to 42 Nm



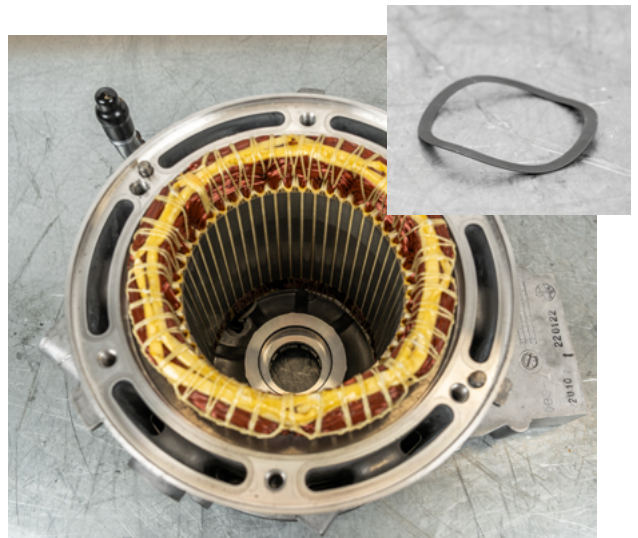
- Plug the connectors of the temperature sensor and rotor position sensor and attach them to the coupling
- Turn the stator housing over



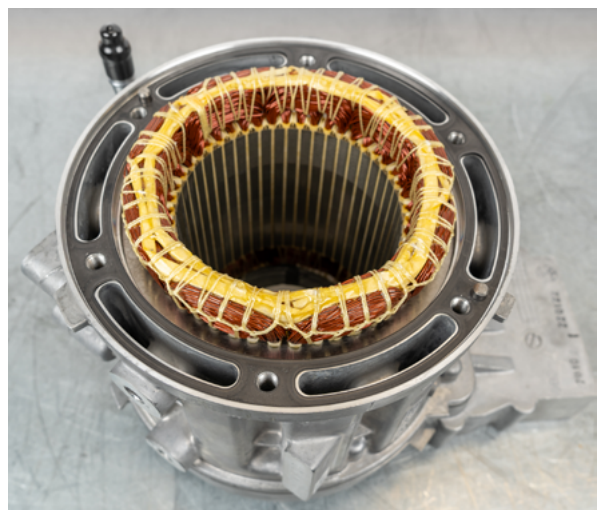
- If a spring washer was installed:
Reinsert the spring washer into the lower bearing seat

Note:

In some motors, no spring washer is installed



- Place the new gasket



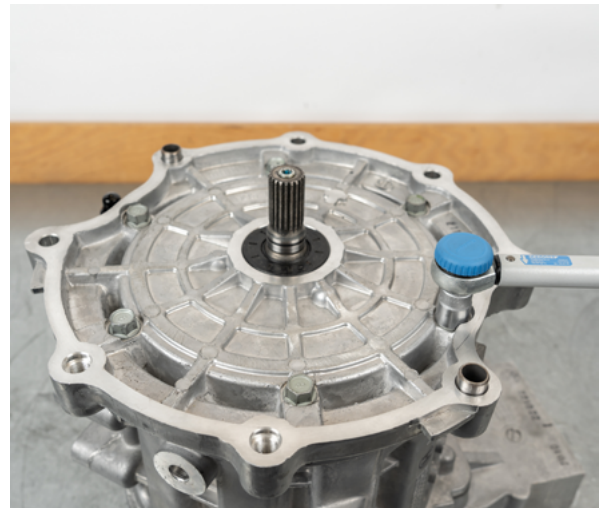
- Install the rotor in the stator housing

Note:

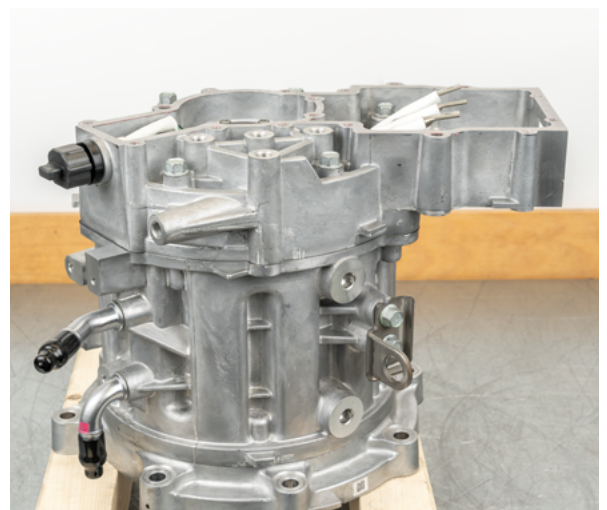
An appropriate device must be used to carry out the assembly to ensure that the two components do not touch each other



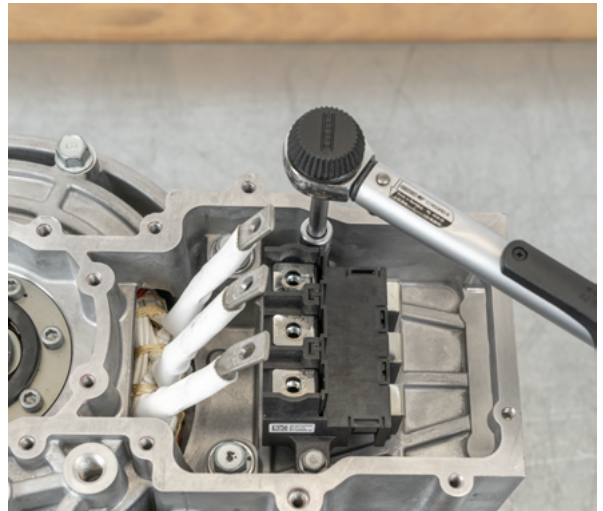
- Tighten the bolts of the housing cover to 42 Nm



- Turn the motor over and support it



- Mount the high-voltage terminal and tighten it to 10 Nm



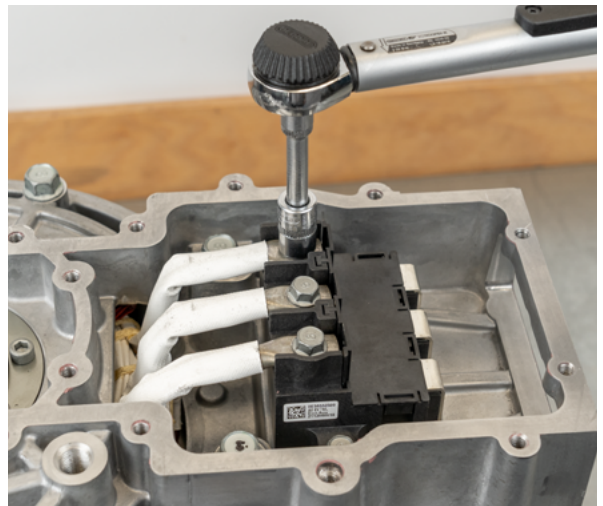
- Mount the high-voltage connections of the stator to the high-voltage terminal and tighten to 10 Nm

Note:

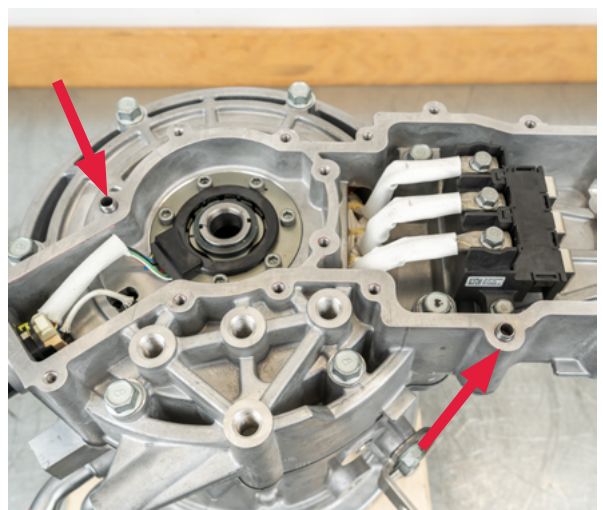
Note the connectors position

Important:

All contact surfaces on the high-voltage terminal, the high-voltage connections, and the cover for the rotor position sensor must be cleaned before assembly



- Mount both guide sleeves



- Clean the sealing surfaces with a suitable cleaner, e.g., Loctite SF 7063
- Apply the sealing compound



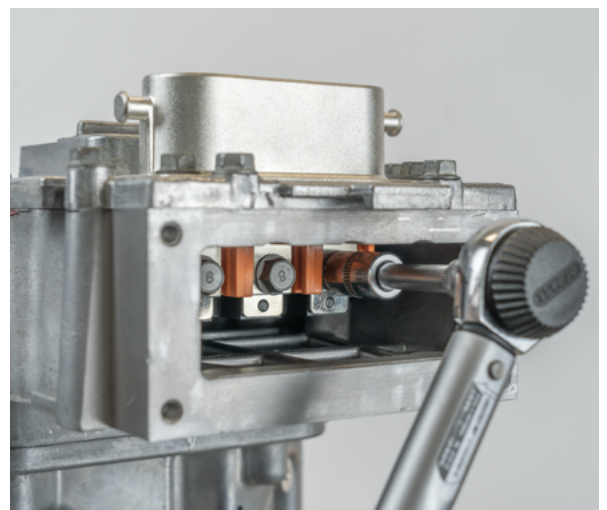
- Mount the bolts of the rotor position sensor cover and tighten to 11 Nm

Note:

Note the different bolts lengths



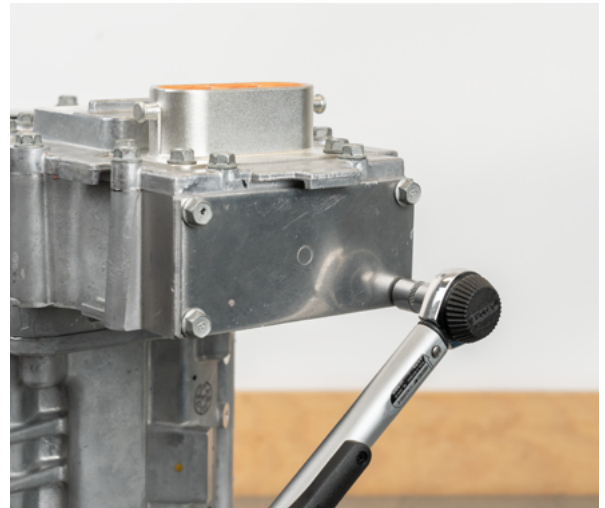
- Mount the bolts of the high-voltage connection and tighten to 10 Nm



- Clean sealing surfaces with a suitable cleaner, e.g., Loctite SF 7063
- Apply the sealing compound



- Mount the upper cover and tighten the bolts to 11 Nm



- Remove the O-ring from the rotor shaft
- Clean the spline of the rotor shaft
- Replace the O-ring
- Apply grease to the spline of the rotor shaft (for example, CASMOLY L9508)



- Mount the accessory parts around the motor
- Install the motor according to the vehicle manufacturer's specifications

Note:

Tightening torque for the bolts of the transmission and motor: 47 Nm

Important:

The vehicle manufacturer recommends performing the initialization of the automatic resolver correction calibration



