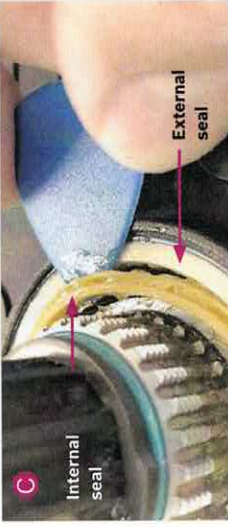


# Replacing BDU4xx bearing protection rings



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## Work steps

To increase the robustness of the drive unit, two bearing protection rings are installed. These do not require maintenance. They can be replaced if necessary. A service kit is available for this purpose.

- Wear protective goggles during work
- Do not use magnetized tools in the area of the crank shaft. This can result in permanent malfunction of the drive unit sensors
- It is not always absolutely necessary to remove the drive unit when fitting the bearing protection rings, but it is recommended, since this makes clean working easier
- All instructions and notes required for removal and installation are contained in the relevant assembly instructions for the BDU4xx drive unit on the Dealer Portal [bosch-ebike.net](https://portal.bosch-ebike.net)

1. Remove the cranks and chainring as described in the assembly instructions for the drive unit
- Replacing L3 bearing protection ring, motor side, right (1.270.020.156):**
2. Position the circlip pliers with flat, external jaws on the outer tips of the circlip. Carefully open the circlip and remove it over the bottom bracket shaft teeth **A**
  - Due to its shape, the circlip (1.270.016.114) can only be reliably expanded and removed using the circlip pliers described above
  3. Clean the area around the bottom bracket shaft using a clean, lint-free cloth. Do not allow any dirt to enter the area below the bearing protection ring
  4. Slide the supplied lever tool under the black outer sealing lip (dust cap). Lever the sealing lip of the dust cap upwards all the way round until it can be removed over the bottom bracket shaft teeth **B**
  5. Carefully push the internal seal inwards in the direction of the bottom bracket shaft teeth using the lever tool, lever it out and remove it **C**
  - The bonded-in external seal must not be damaged
  6. Clean the area between the outer seal and the bottom bracket shaft with a clean, lint-free cloth
  7. Before fitting the new bearing protection ring, apply a sufficient quantity of the supplied grease all around the area between the inner seal and the black outer sealing lip of the bearing protection ring **D**

8. Apply a sufficient quantity of the supplied grease between the outer seal and the bottom bracket shaft all around the bottom bracket **E**
9. Fit the new, now pre-greased bearing protection ring. Position it over the bottom bracket shaft teeth and push it axially into its mechanical stop
- During this process, grease should escape all around. If this is not the case, add more grease **F**
10. Remove the grease that has escaped with a lint-free cloth
11. Position the circlip pliers on the outer tips of the new circlip supplied in the kit (1.270.016.114). Carefully expand the circlip and then fit it over the bottom bracket shaft teeth and into the appropriate groove **G**

## Replacing L3 bearing protection ring, cable side, left (1.270.020.157):

- All working steps correspond to those for replacing the L3 bearing protection ring, motor side, right
- Conventional circlip pliers can be used for the circlip (1.270.016.112)
12. Install the cranks and chainring as described in the assembly instructions for the drive unit. Observe the screw tightening torques specified by the crank manufacturer

## Tools

- Allen key, size 8
- Standard crank-puller
- Spider tool
- Torque wrench
- Lever tool
- Circlip pliers with flat, external jaws
- Conventional circlip pliers

## Tightening torques

- Spider nut: **25 – 30 Nm**
- Crank: according to manufacturer's specification

## Ordering the service kit

- Order number **1.270.020.160** (available via Service partners). Includes:
  - 1 x L3 bearing protection ring, motor side, right (1.270.020.156)
  - + 1 x circlip (1.270.016.114)
  - 1 x L3 bearing protection ring, cable side, left (1.270.020.157)
  - + 1 x circlip (1.270.016.112)
  - 1 x Bearing protection grease (1.270.014.101)
  - 1 x Lever tool (1.270.016.129)