

## Maintenance NEURO HiTRONIC

This online tutorial shows the maintenance of our hydraulic system knee joint:

- NEURO HiTRONIC

The system components must be checked for wear and functionality every six months. Here, we give you a detailed overview of the work steps to be taken at every maintenance. You will find further information on the system knee joint in the [instructions for use](#).

Furthermore, you can find the online tutorial [Joint Assembly NEURO HiTRONIC](#) under the “Producing the Orthosis” area. If you want to reorder system components, you can find those in the [maintenance plan](#) as well as a guide for the documentation of the maintenance.



Step 1/22



You can find information on system components that have to be checked particularly carefully during maintenance in the [instructions for use](#) under "Maintenance".

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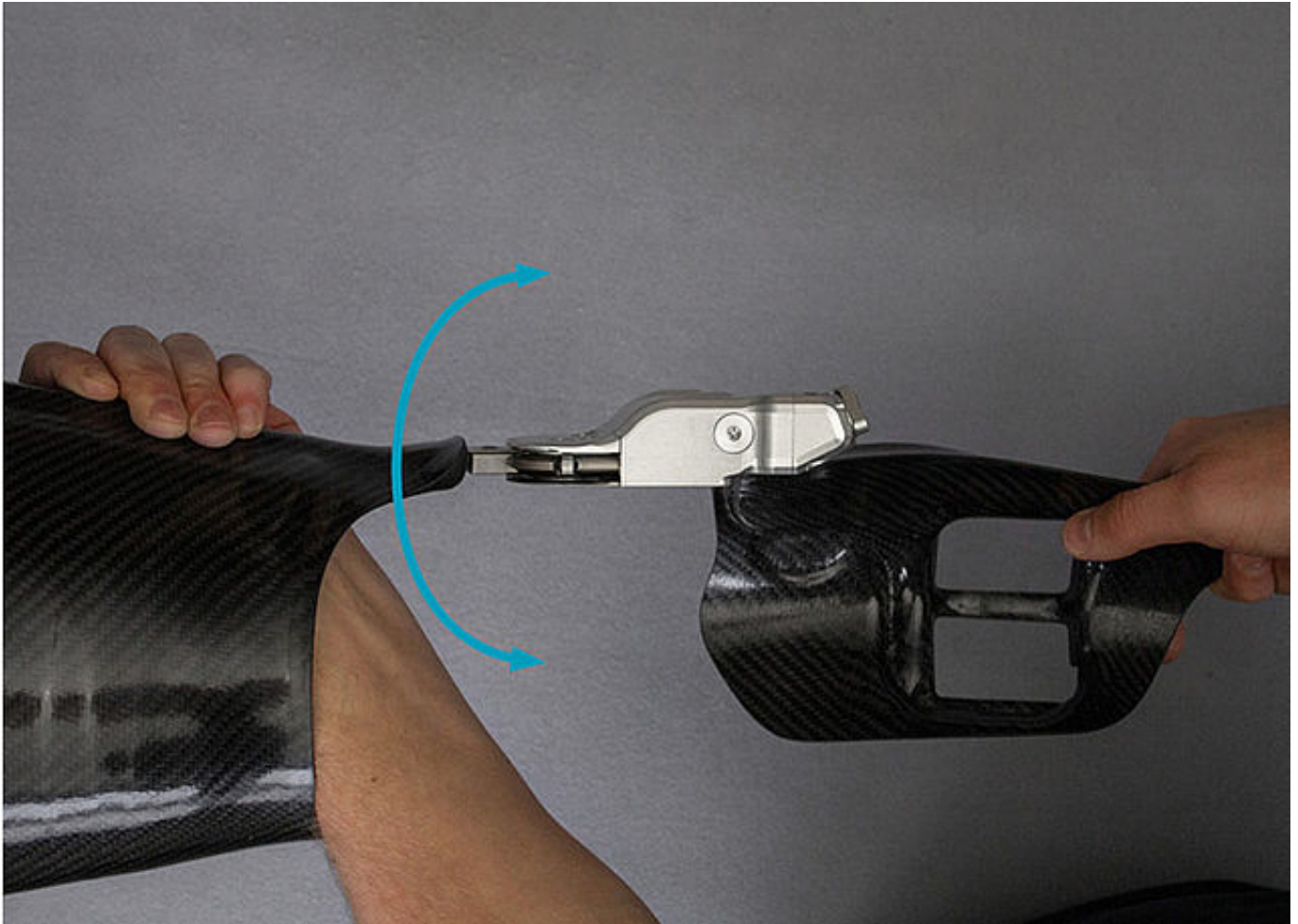
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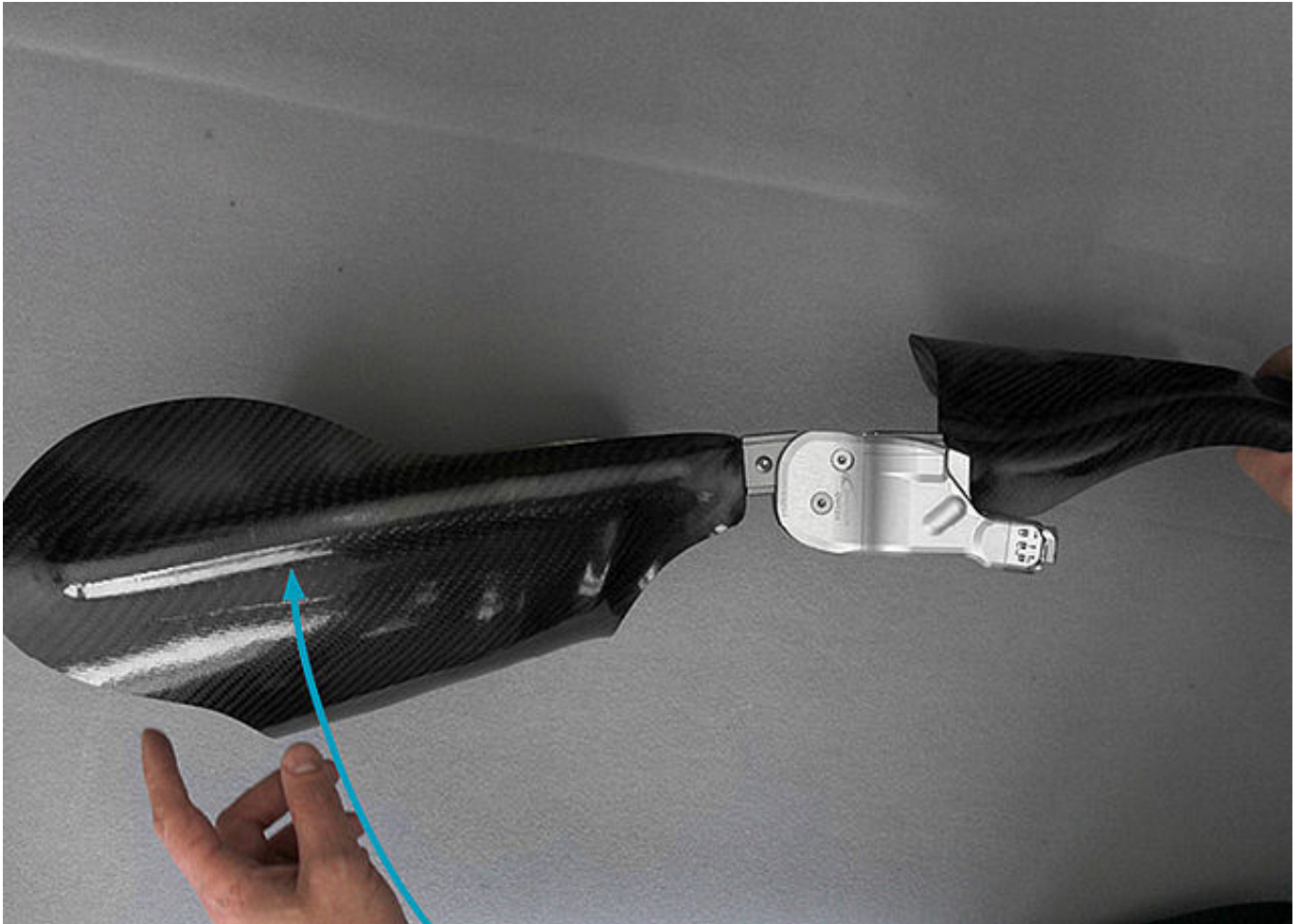




Check if the system joint moves without lateral play. If there is play, tighten the screws again and/or replace worn sliding washers.



Check if there is play around the axis. If there is play, replace the bearing nut and the sliding bushing or put them in.



Check if the system joint moves freely. Hold the orthosis horizontally in front of you. The tip of the foot points away from you. Pull the thigh shell towards you to bring the orthosis into flexion. Then, release the thigh shell. With the aid of the hydraulic system, the system knee joint should extend smoothly. If the system joint does not move freely, mount the next thinner sliding washers.

*Note: at a bilateral orthosis, only check one system joint at a time.*



Disassemble the system joint completely.

Remove the cover plate.

Remove the screws of the functional unit.



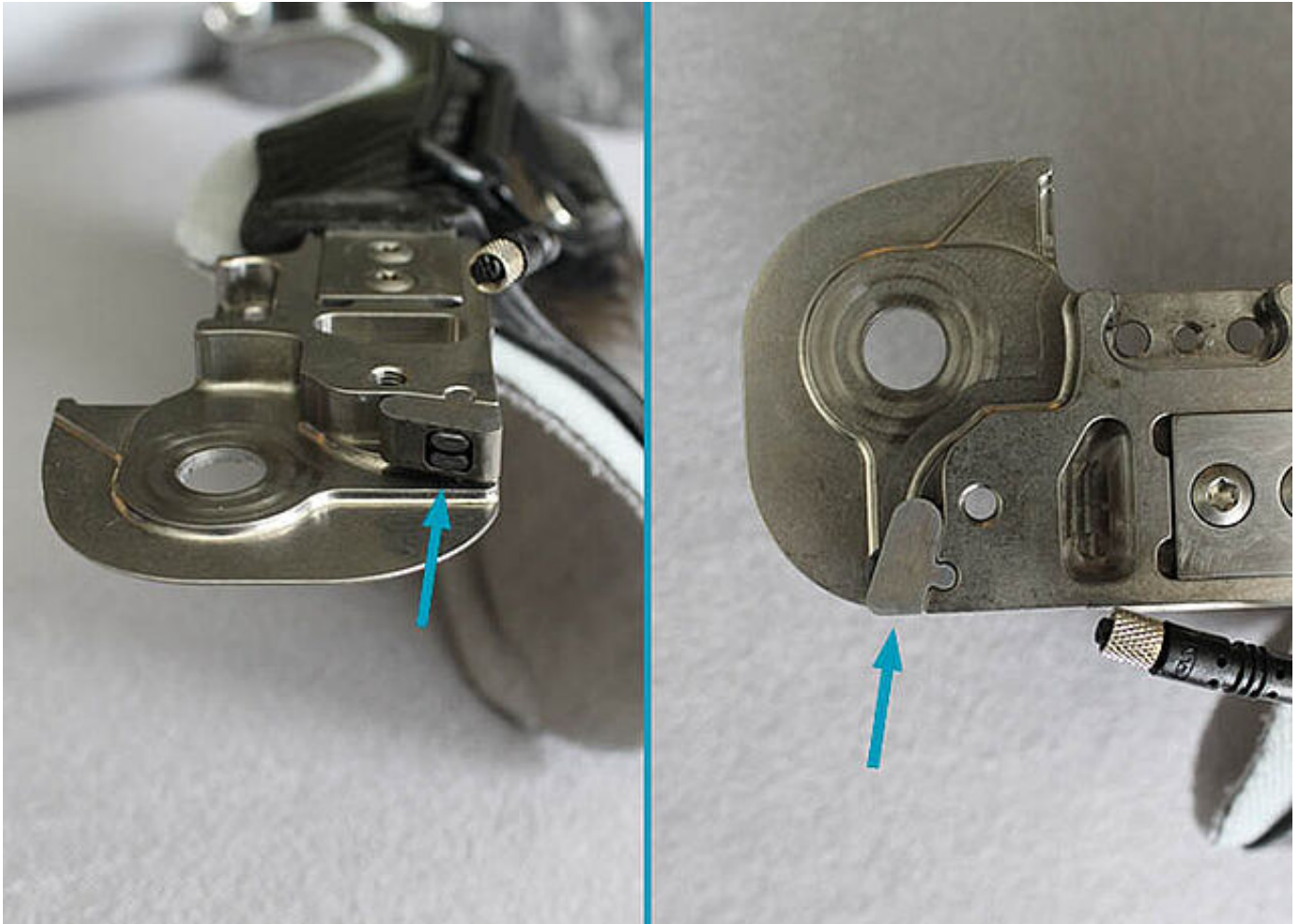
Demount the cable cover and loosen the plug connection.



Demount the functional unit. Turn a screw in the middle bore in order to raise the functional unit, until it can carefully be taken off.

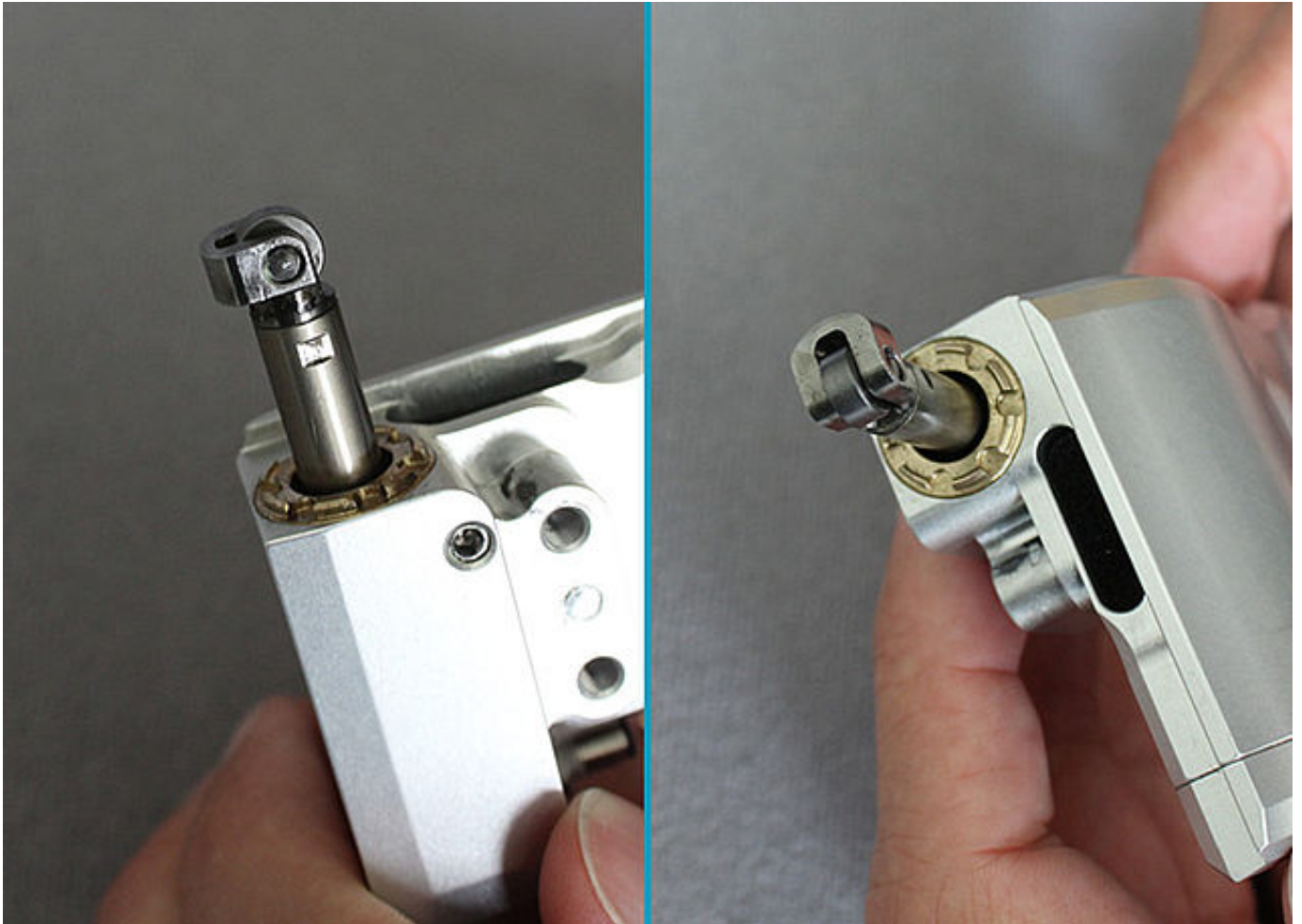


Clean all parts and thoroughly test them for wear.

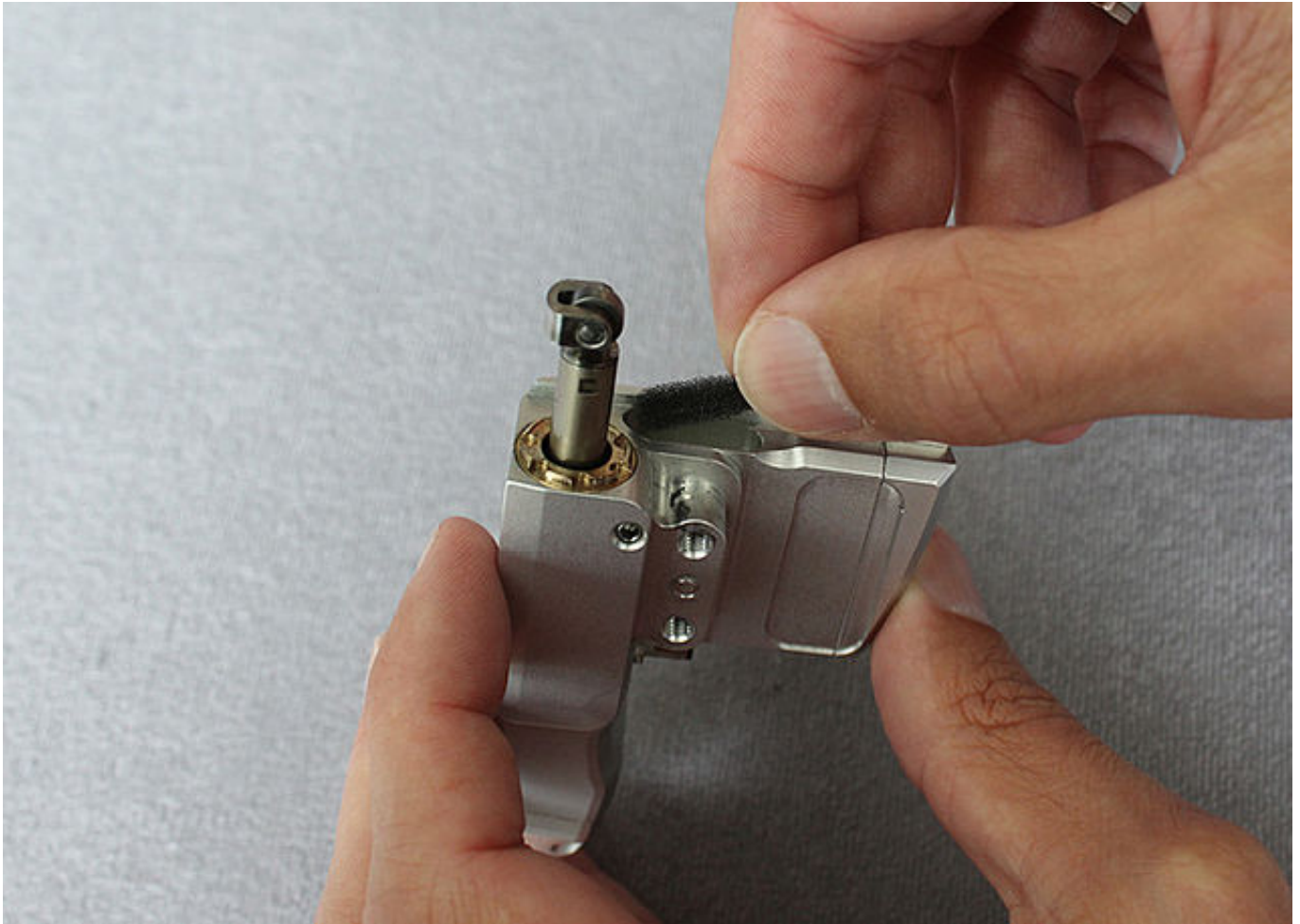


Check the O-ring dampers for wear.

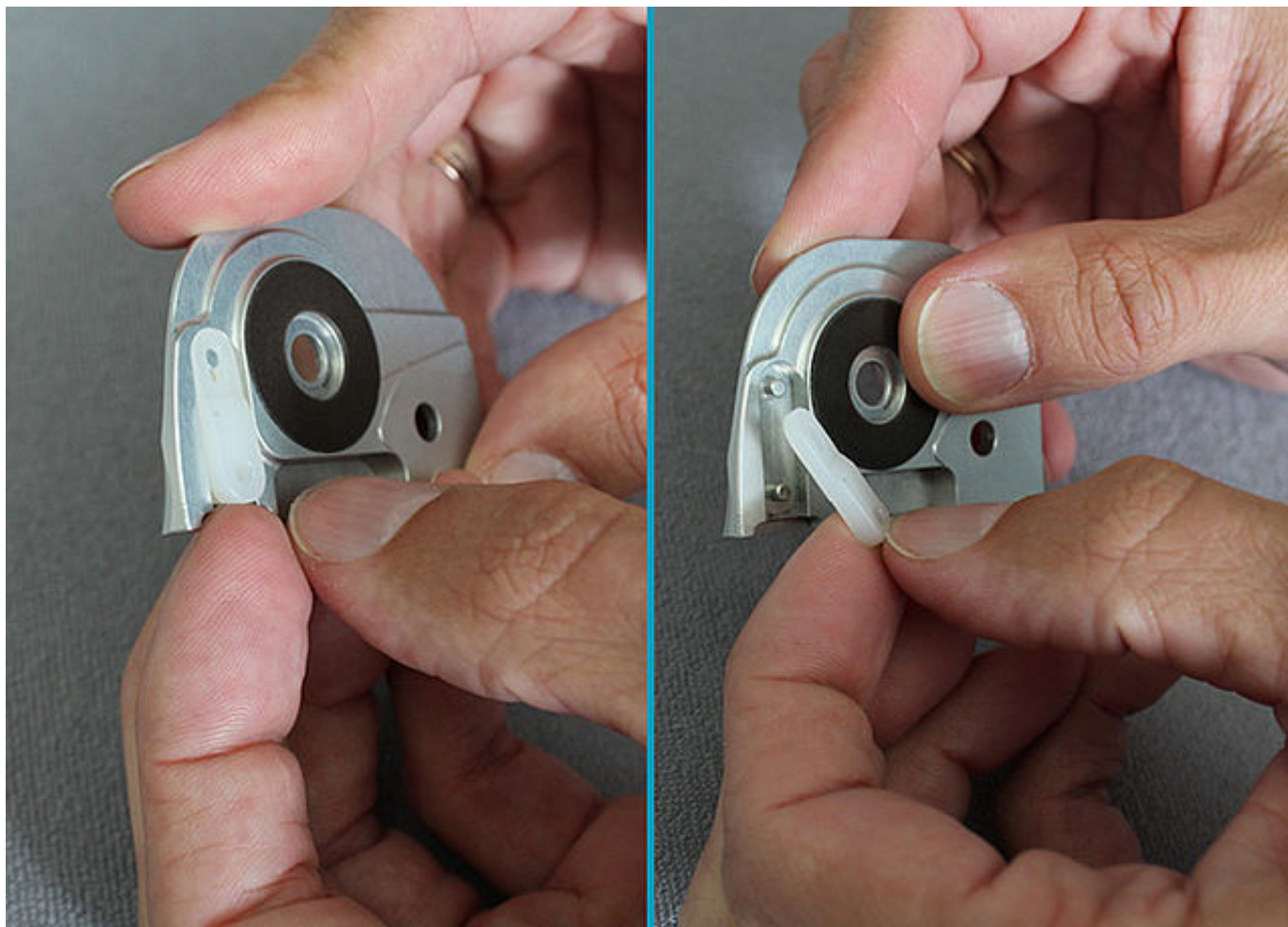
Also check the extension stop itself for wear. Replace worn parts.



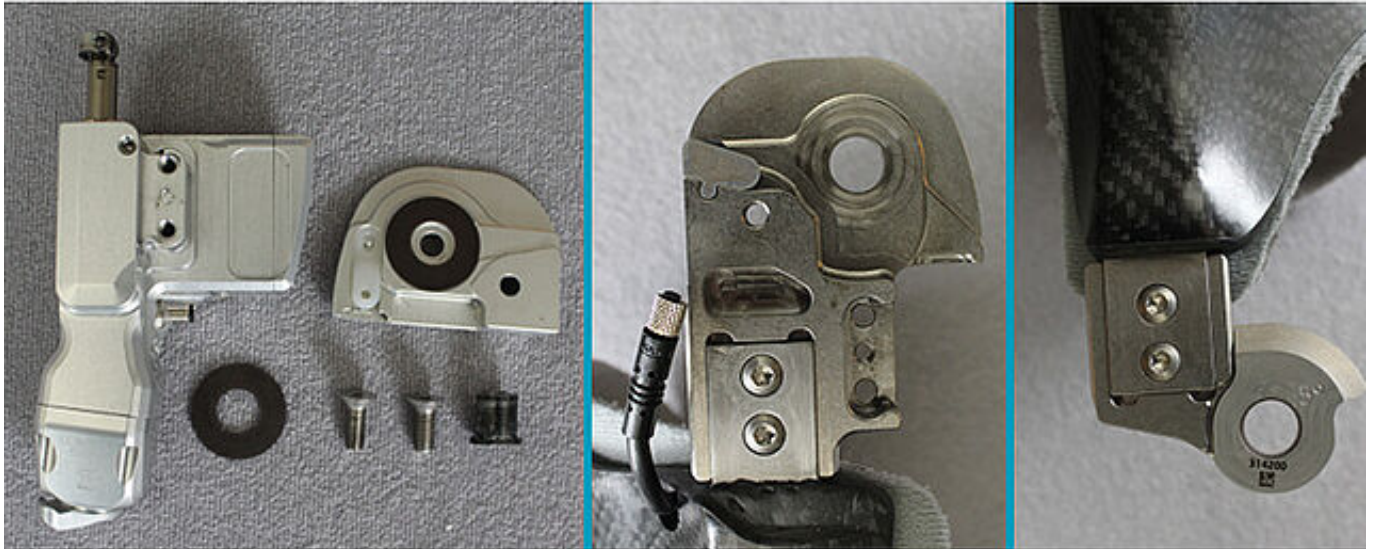
Check the roll unit for damages and wear. Exchange it, if necessary.



Remove the air filter and check it for soiling. Clean the air filter or replace it, if necessary.



Remove the guide piece and check it for soiling and wear. Clean the guide piece or replace it, if necessary.

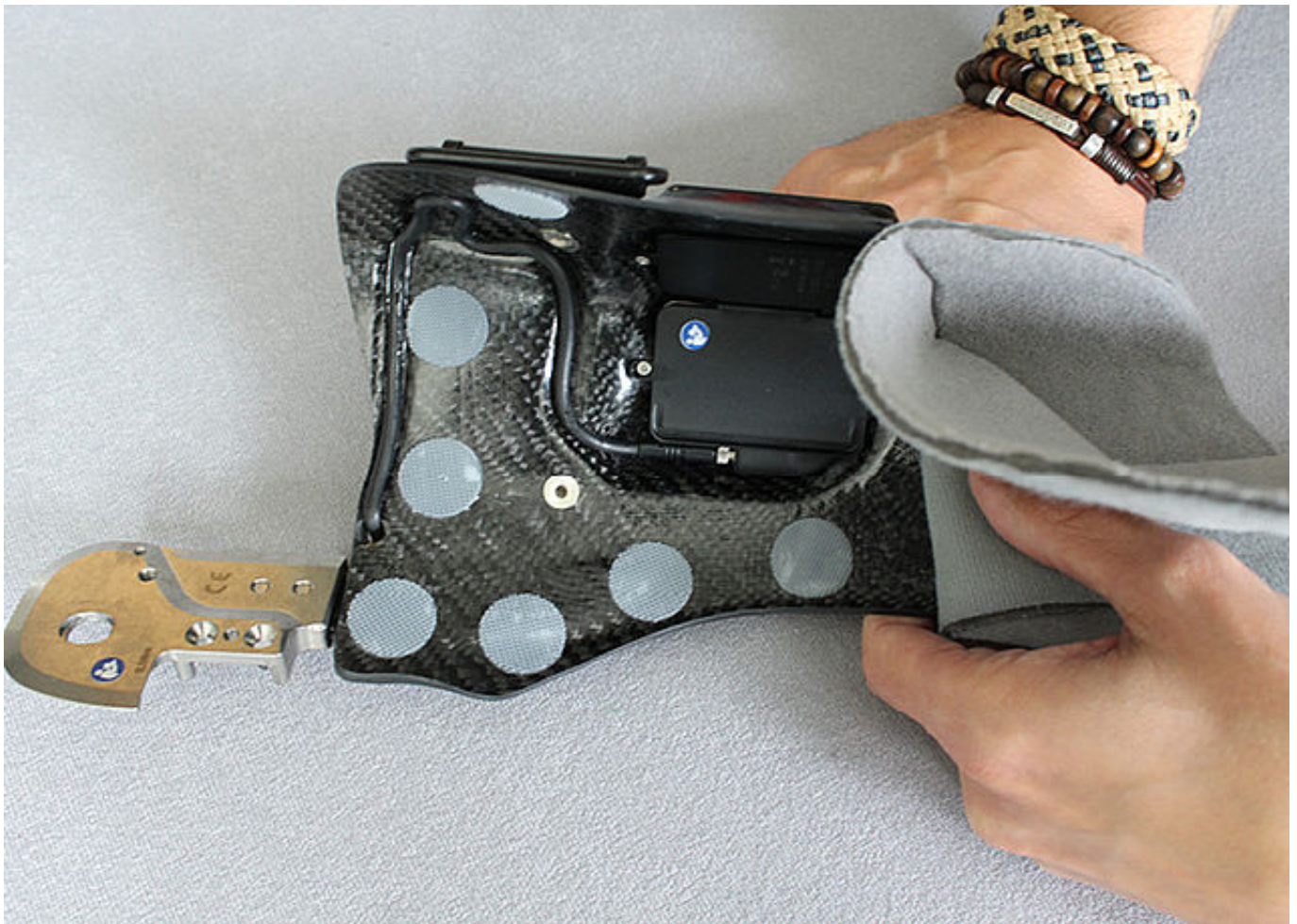


Check the cover plate for wear. Replace worn screws, sliding washers and bearing nuts. Clean all parts.

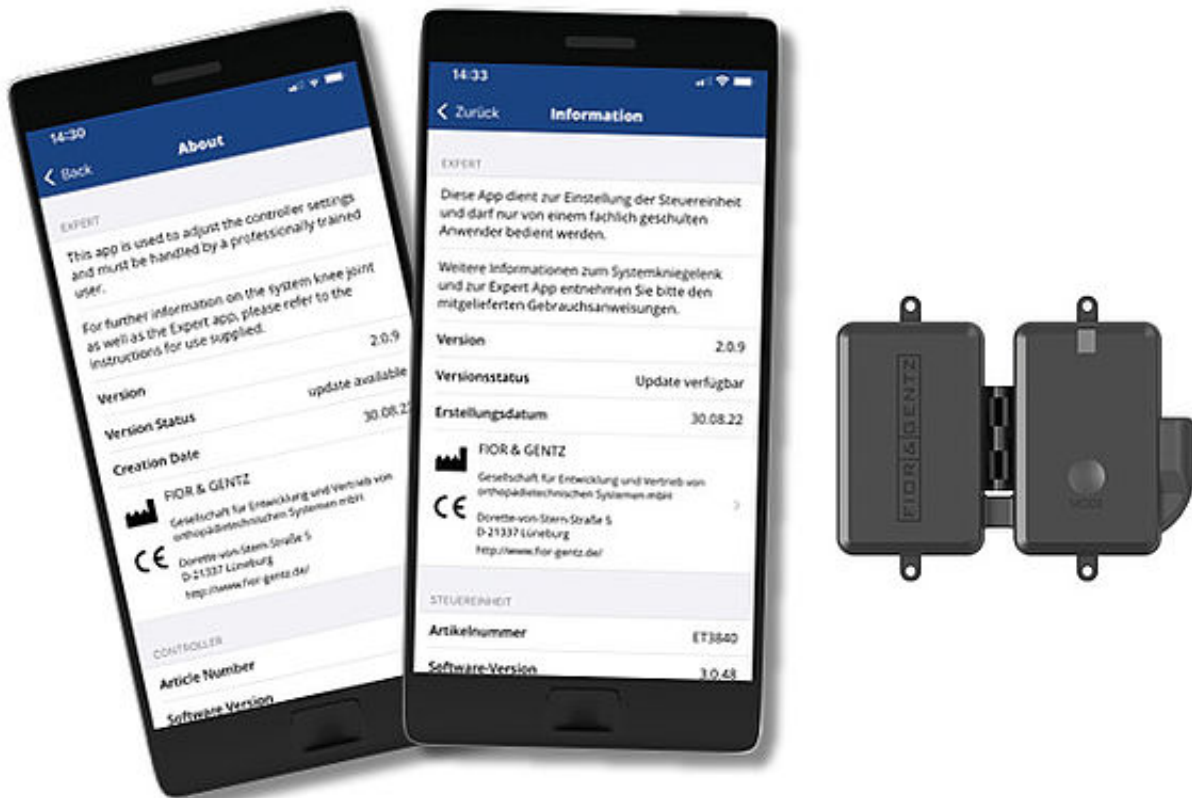
Check the flexion stop disc and sliding bushing for wear and replace them, if necessary.



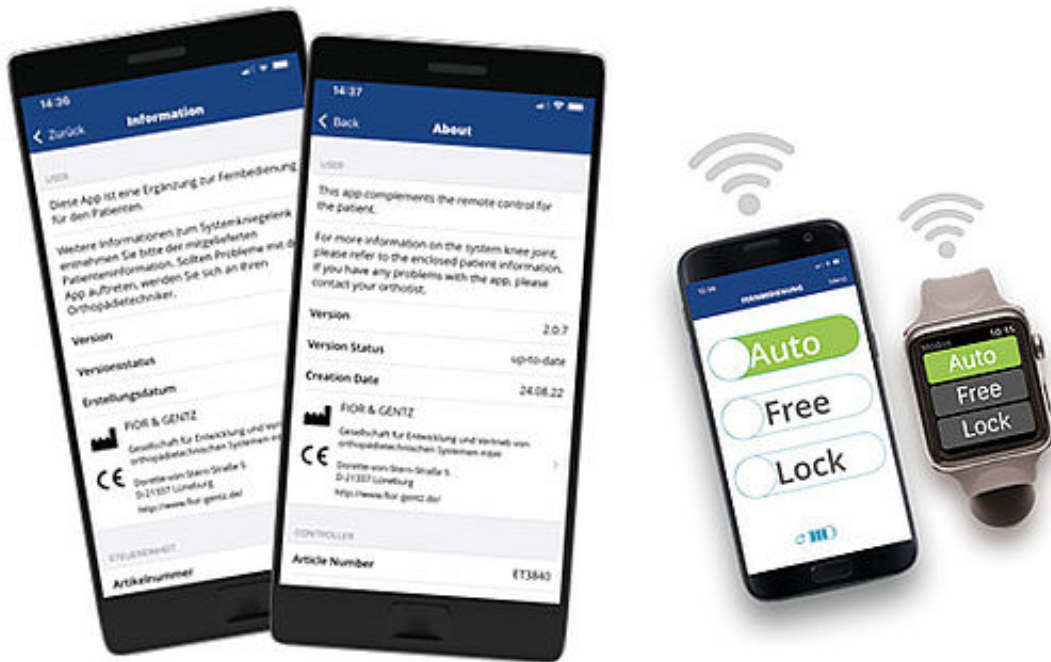
Check the system anchors for play in the laminate. Clamp the joint's lower or upper part into a vice with plain jaws. Try to move the laminate against the system joint. In case of a loosening, there often also arise noises alongside motions. If the system anchor is no longer securely fixed in the laminate or damaged, build a new orthosis.



Check all cables, plugs and connections. If necessary, connect the cables anew and replace brittle or damaged cables and plugs.



Connect the Expert app to the controller. Check the battery health and if the software is up-to-date. Replace the controller in case of a bad battery health and update the software, if applicable.



The User app updates automatically if it has not been turned off manually. If need be, ascertain if the app is up-to-date.



If the software of the remote control needs an update, this is shown under the menu item “Update remote control's software”.

Update the software, if necessary.



Note the online tutorial for the [Joint Assembly NEURO HiTRONIC](#), when you reassemble the system joint.

Check for play in ml and ap direction. Adjust the plunger guide ring, if necessary.

Step 20/22



Check the functional unit. Set the Free mode using the remote control/app and try to flex the system joint. This should be possible.

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Set the Lock mode using the remote control/app and try to flex the system joint again. This should not be possible.

## Step 22/22

Set the rotary switch to the rightmost symbol (the opened lock). The orthosis is now permanently unlocked. Make sure that you can see the plunger during this test. Bend the system joint to 90° and quickly bring it into full extension. While doing so, the plunger must not lose contact to the flexion stop disc.

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Last Update: 10 September 2024

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