

Joint Assembly NEURO FLEX MAX Step Lock Function

This online tutorial shows the joint assembly for the locked system knee joint NEURO FLEX MAX with step lock function. This function enables a gradual locking of the system joint from a flexed position of 55° or 60° in 10° steps to the required flexed position (which is premounted at 5°). When using the lock lever and the fixing pawl, the system joint can even be permanently unlocked. This way, the patient can perform physiotherapeutic exercises or ride a bike and drive a car unhindered – without having to take off the orthosis.

You will find all important information on step lock pawls, extension stops and conversion options in the [instructions for use](#). The NEURO FLEX MAX is also available with a stepless [lock function](#). The system knee joint, with lock function as well as with step lock function, provides an [alternative function](#) by exchanging the step lock stop disc and cover plate.

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com



FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





These are the individual system components of the NEURO FLEX MAX system knee joint with step lock function.

FIOR & GENTZ

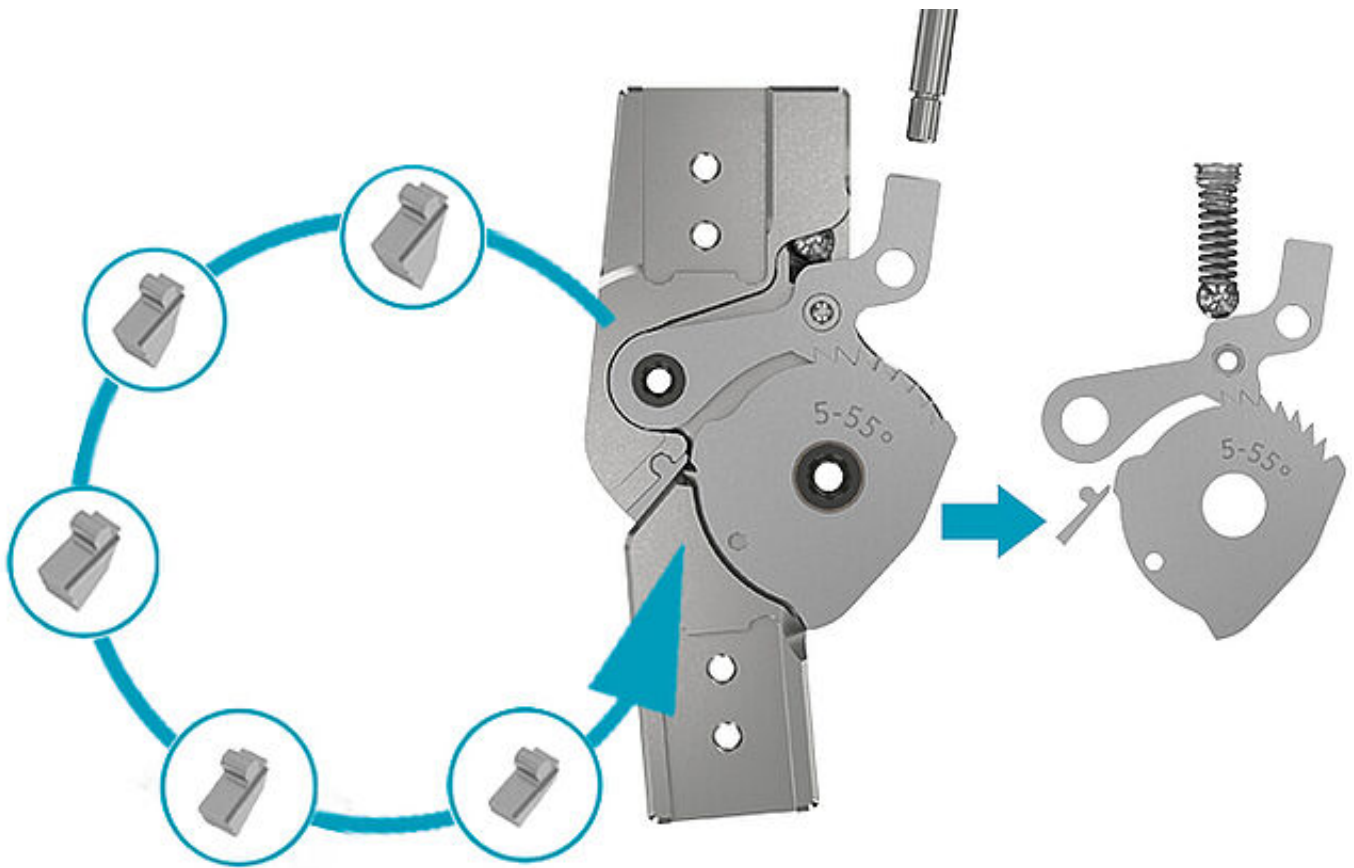
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





The locked system joint is used with a step lock function with locked flexion. This enables a gradual locking of the system joint from a flexed position of 55° or 60° via 10° steps to the required flexed position (which is premounted at 5°).

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com

FIOR & GENTZ
ORTHOPÄDIETECHNIK MIT SYSTEM



Disassemble the system joint. By doing so, secure the step lock pawl (permanent unlock function).

FIOR & GENTZ

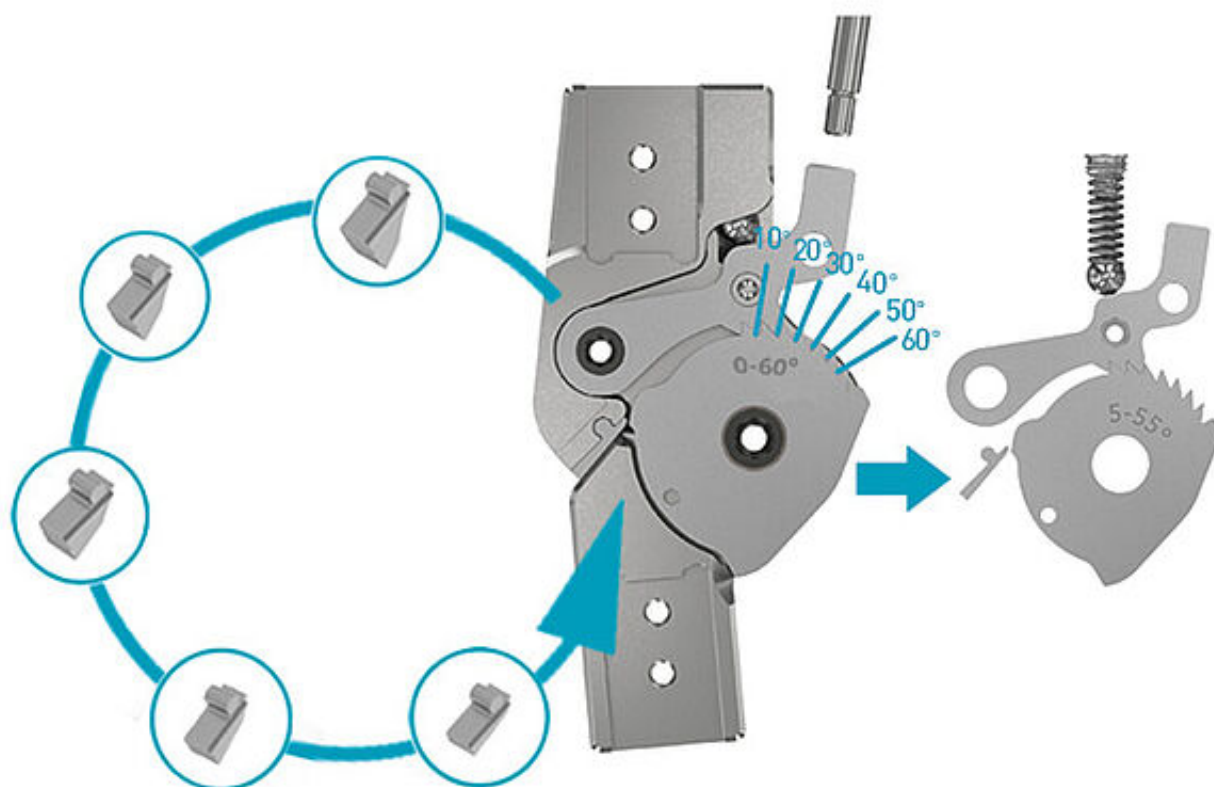
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





If you want to use the NEURO FLEX MAX with a different flexed position than the premounted 5°, exchange the premounted extension stop with a 15° or 25° extension stop. Or exchange the extension stop (10°, 20° or 30°) as well as the corresponding step lock stop disc for 0°, 10°, 20° or 30°. The system joint locks the first time in a flexed position of 60° and after that in 10° steps. You do not need an extension stop for a 0° knee flexion angle. *Note: You will find the article numbers of the extension stops in our [product catalogue](#) System Joints and Articulated System Side Bars.*

FIOR & GENTZ

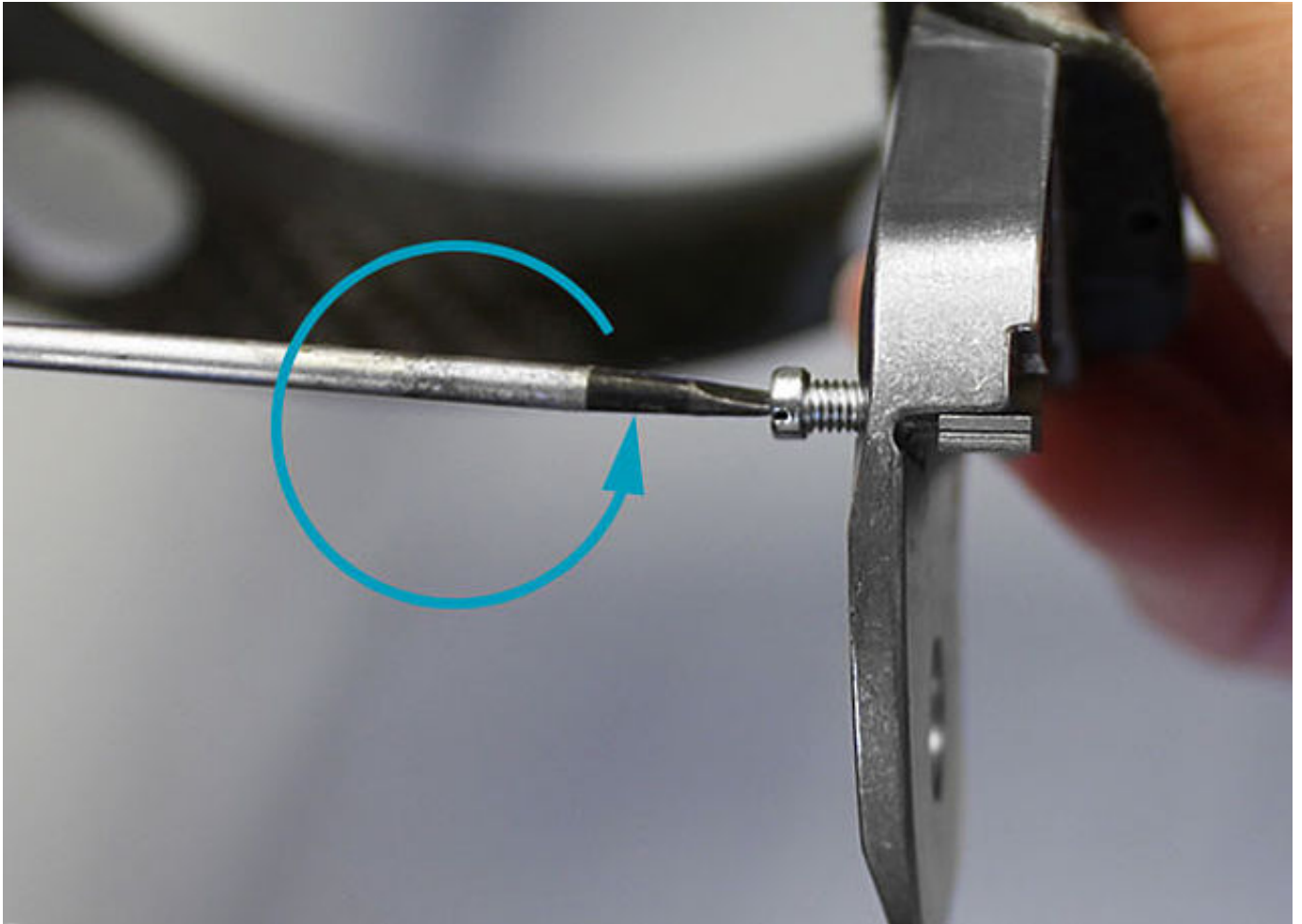
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com

FIOR & GENTZ
ORTHOPÄDIETECHNIK MIT SYSTEM



If you have to demount the extension stop, screw it out of the joint's upper part by using the pan head screw delivered with the system joint. If it is mounted correctly and you do not want to use a different extension stop, you do **not** have to demount it.

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Mount the extension stop to the joint's upper part.

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





If you want to exchange the extension stop, the step lock stop disc must be exchanged as well. Demount the step lock stop disc by clamping it in a vice and carefully lever it of the joint's lower part.

Note: Use a vice with plain or soft jaws in order not to affect the joint function.

FIOR & GENTZ

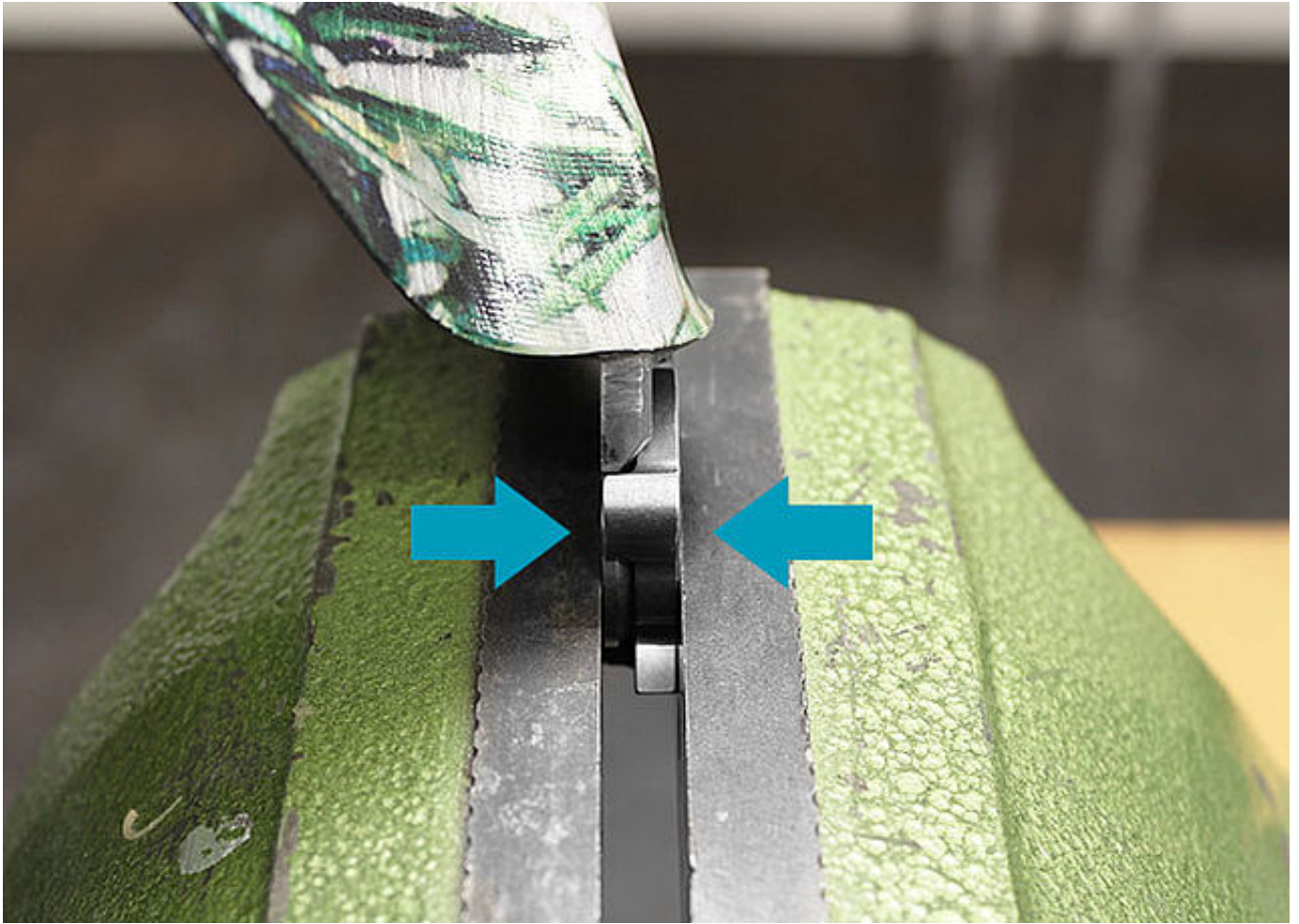
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Place the step lock stop disc on the joint's lower part and press both by using a vice.

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Apply spray adhesive to one side of the first sliding washer and adhere it to the cover plate. Grease the other side of the sliding washer slightly with orthosis joint grease.

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Insert the pressure spring by pushing it from below into the spring duct of the joint's upper part.

FIOR & GENTZ

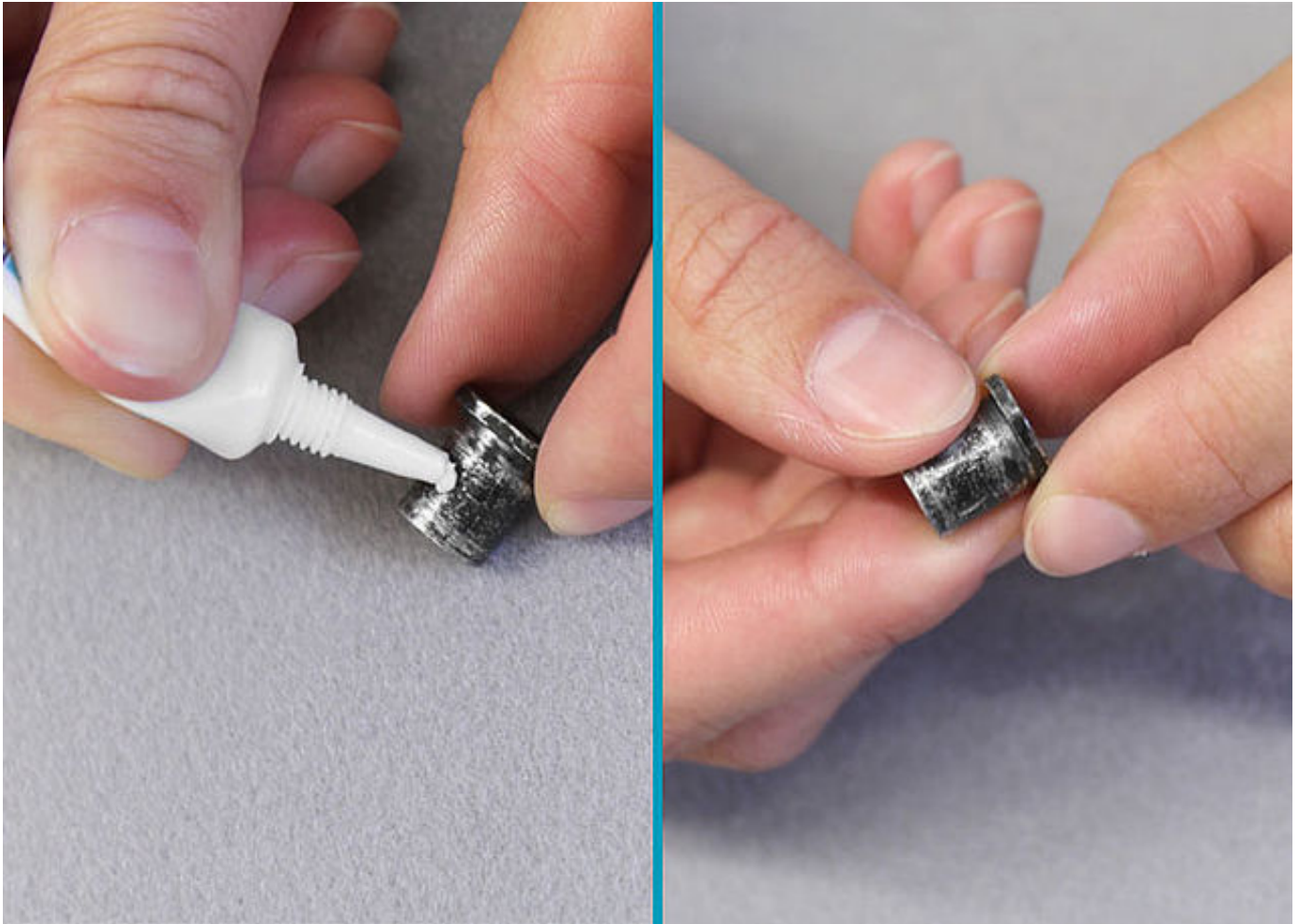
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Grease the axle bore of the step lock pawl and the friction surfaces of the bearing nut with orthosis joint grease.

FIOR & GENTZ

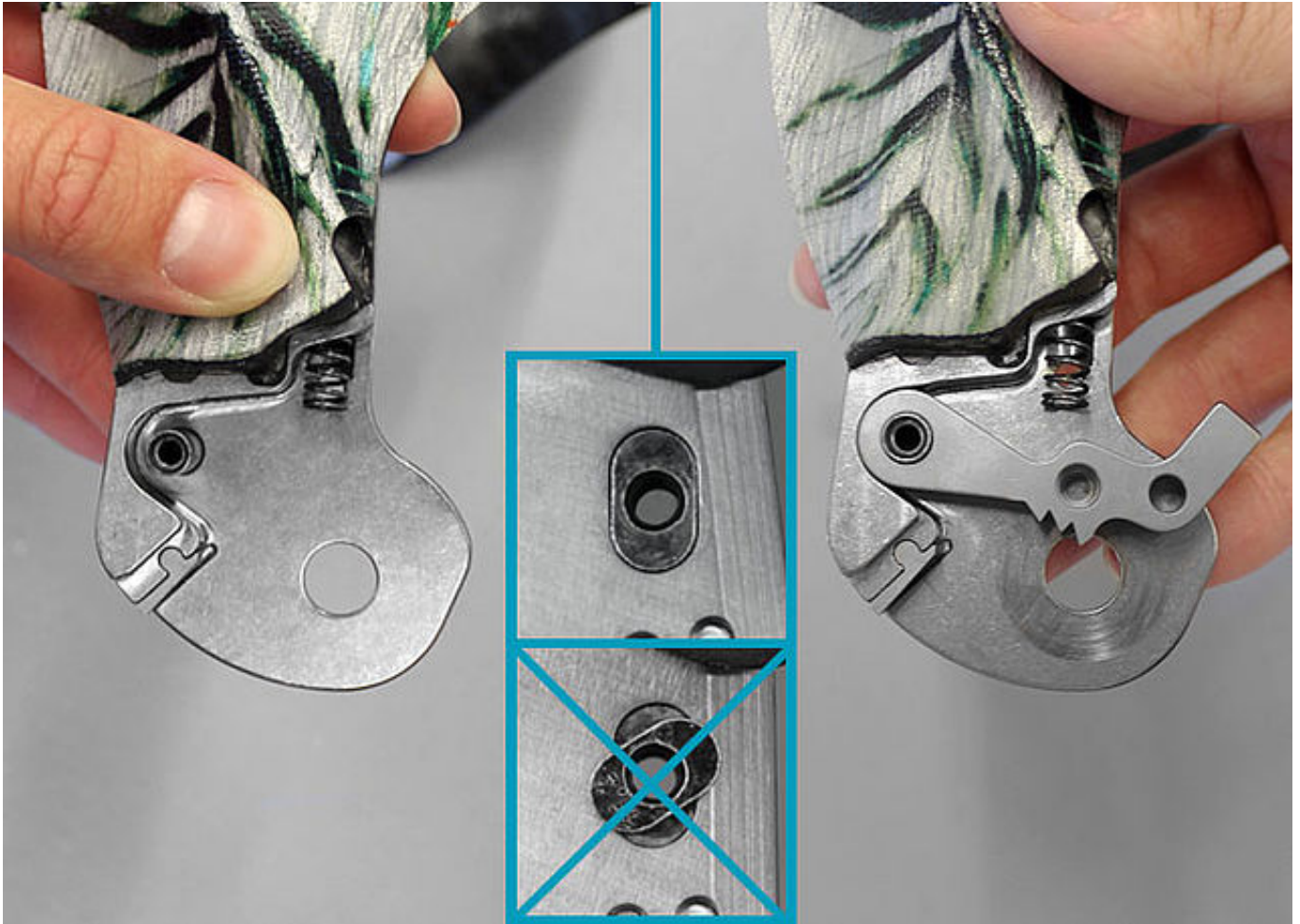
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Put the bearing nut into the intended opening of the joint's upper part and make sure that it is in the correct position. Secure the bearing nut with one finger. Mount the step lock pawl.

FIOR & GENTZ

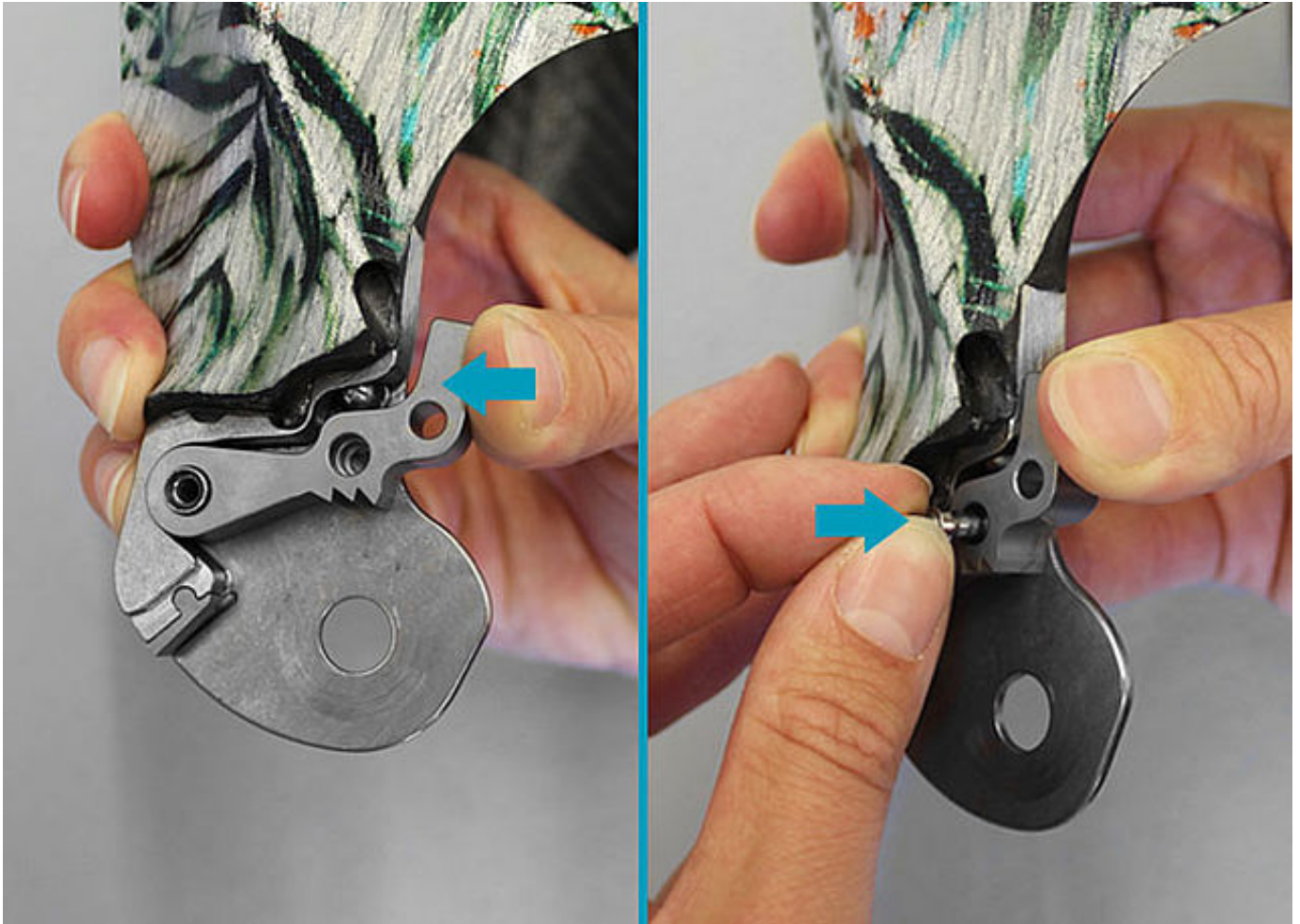
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com

FIOR & GENTZ
ORTHOPÄDIETECHNIK MIT SYSTEM



Place the ball and push the step lock pawl upwards. Insert the pressure spring and the locating pin for adjusting the permanent unlock function in the step lock pawl.

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com

FIOR & GENTZ
ORTHOPÄDIETECHNIK MIT SYSTEM



Push the locating pin against the spring force into the system joint until it snaps in the joint's upper part. The step lock pawl is now secured, which facilitates the further assembly of the system joint.

FIOR & GENTZ

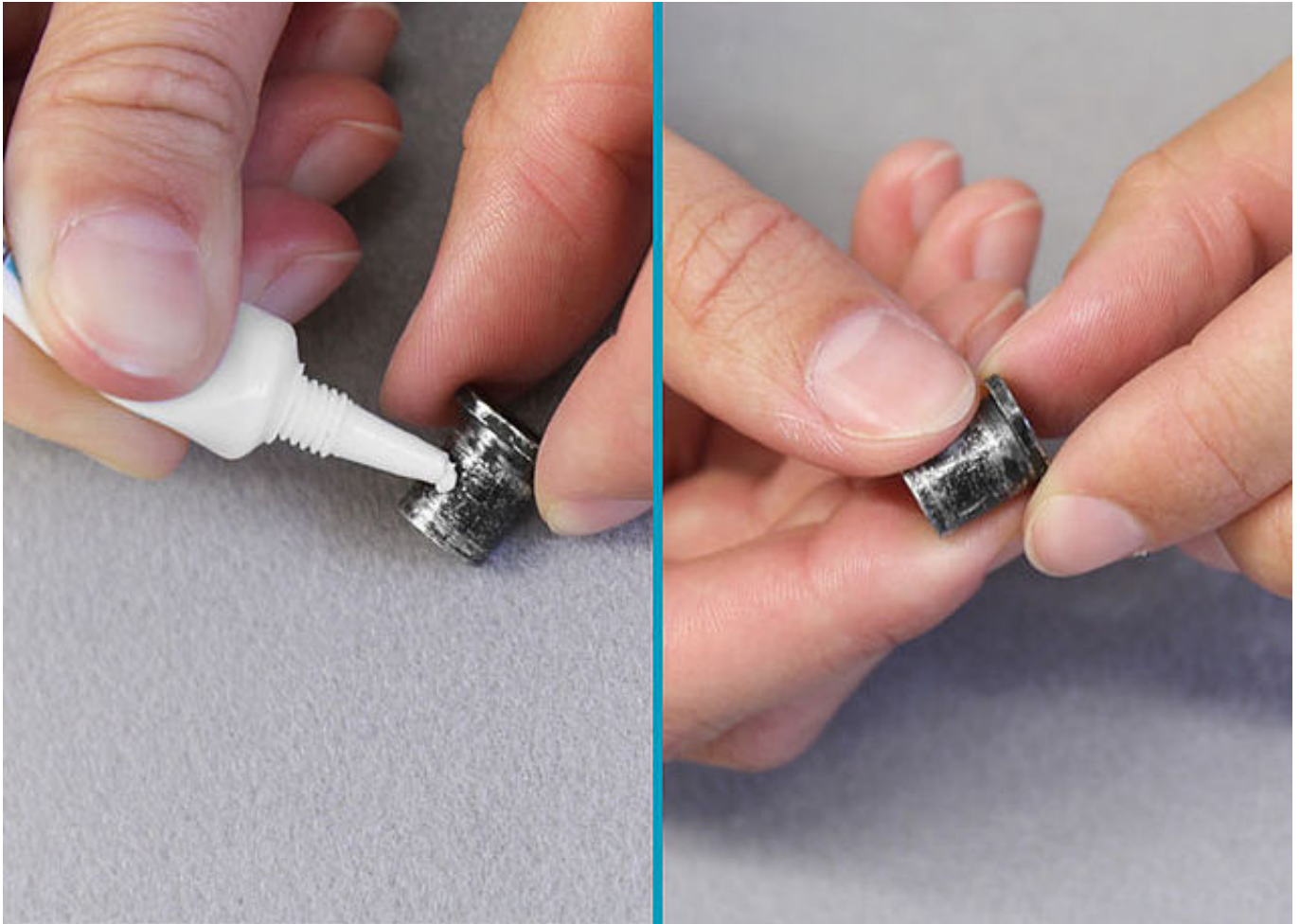
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Grease the axle bore of the joint axis and the friction surfaces of the bearing nut with orthosis joint grease.

FIOR & GENTZ

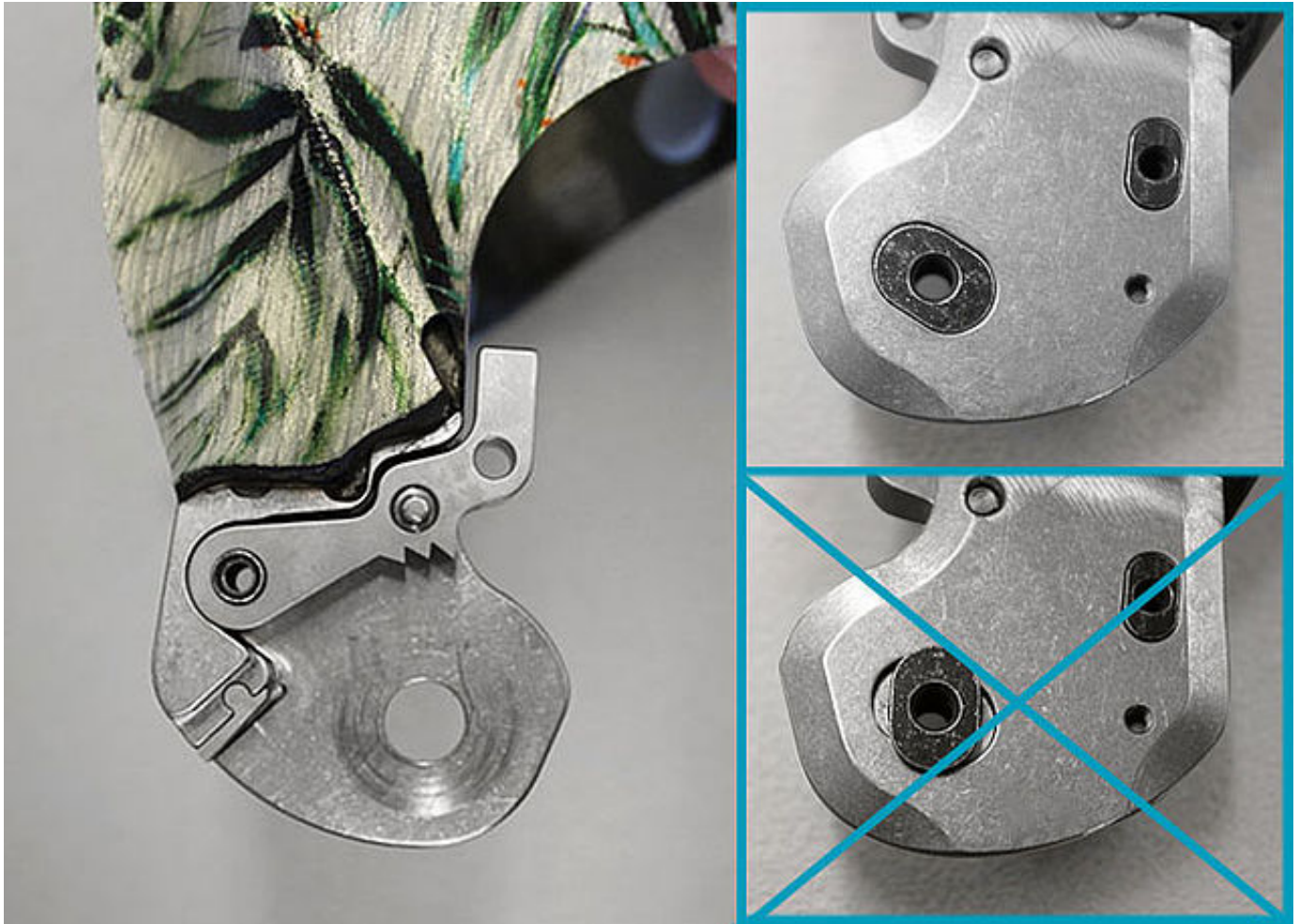
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Put the joint axis' bearing nut into the intended opening of the joint's upper part and make sure that it is in the correct position. Secure the bearing nut with one finger.

FIOR & GENTZ

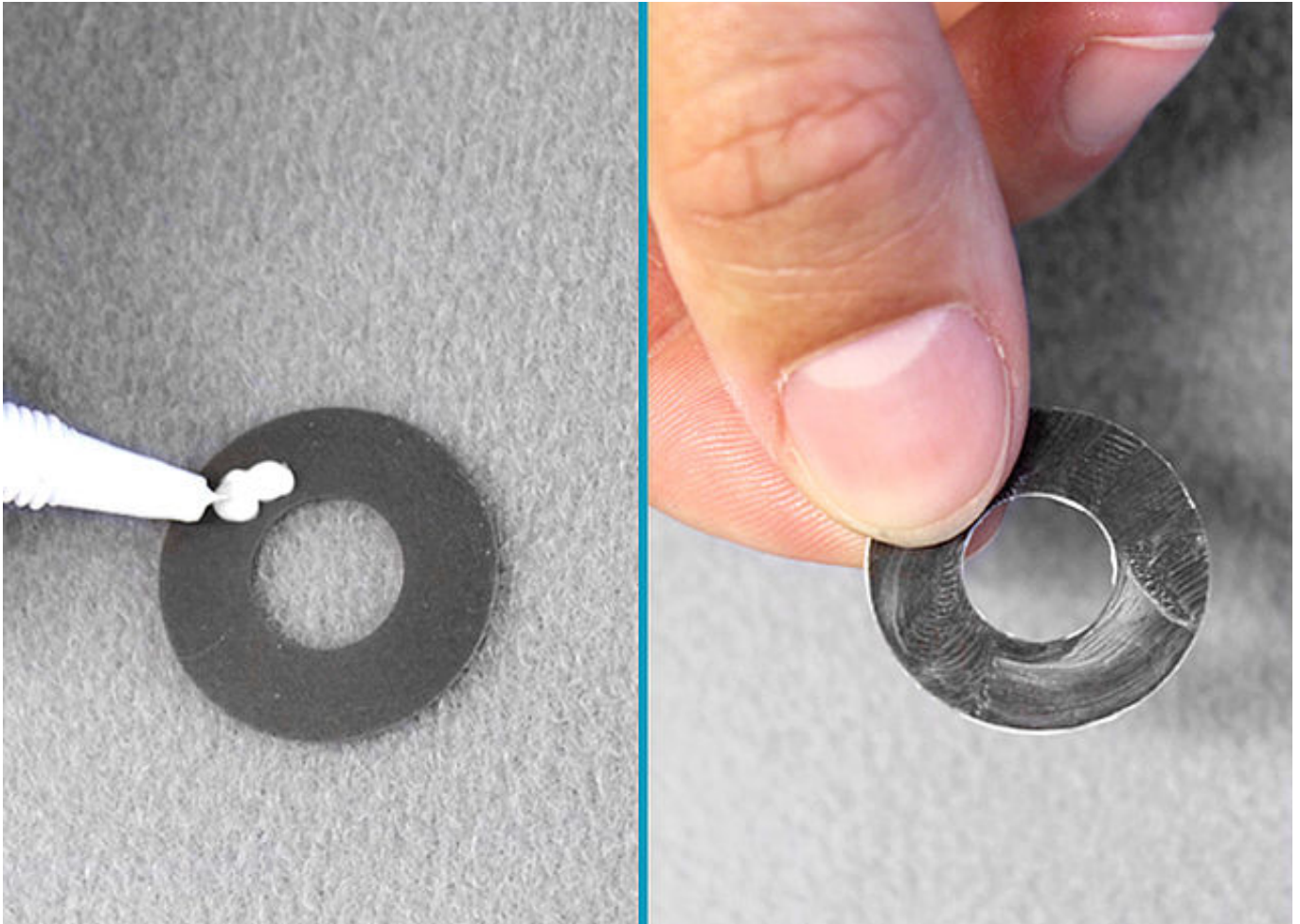
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Grease the second sliding washer slightly with orthosis joint grease.

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





While still securing the bearing nut, place the second sliding washer onto the joint's upper part and mount the joint's lower part.

FIOR & GENTZ

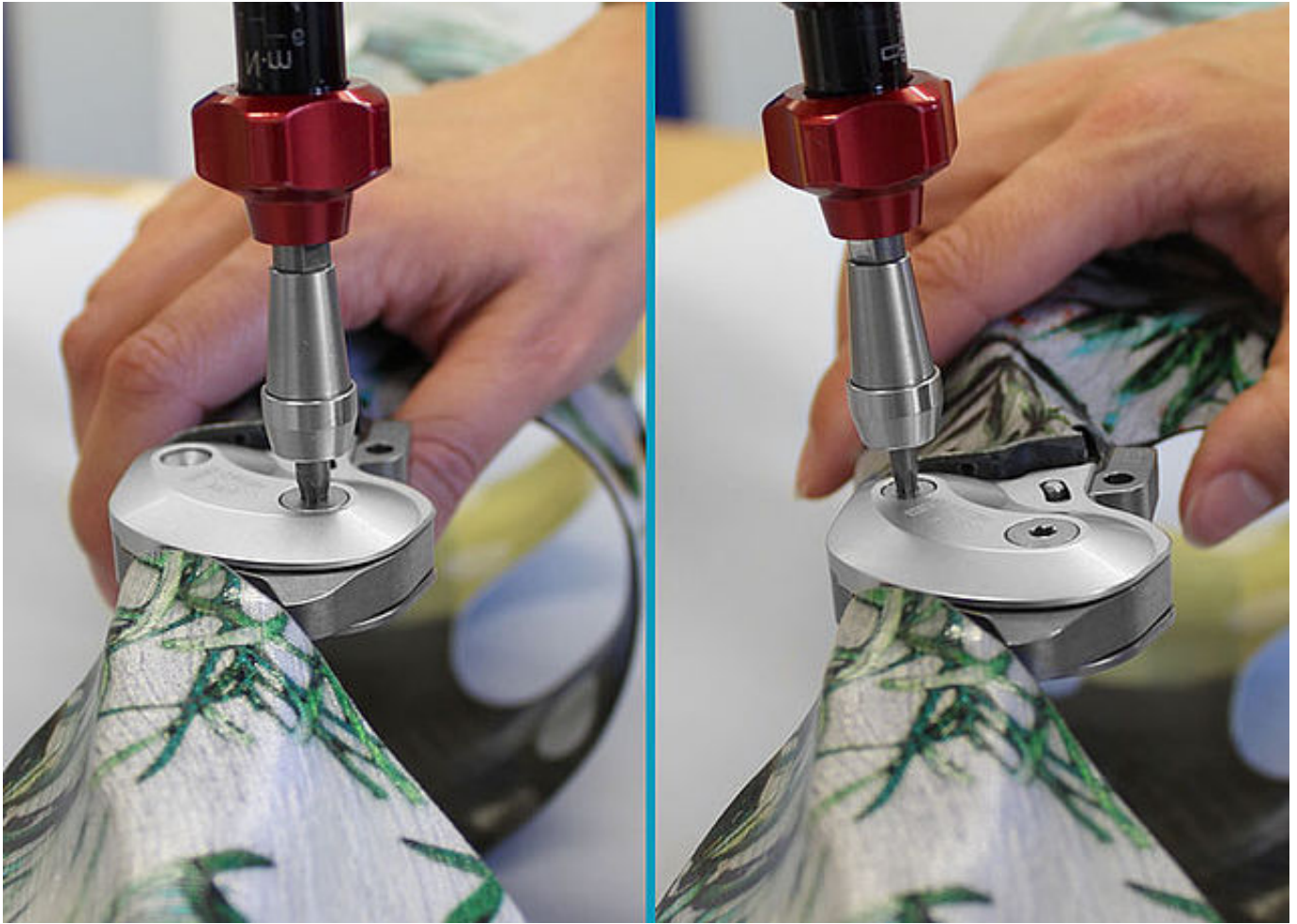
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Mount the cover plate. Screw in in the first countersunk flat head screw (axle screw). Continue with the second countersunk flat head screw while still securing the bearing nut.

Note: You can find the appropriate torque (Nm) on the cover plate of the system joint or in the [instructions for use](#).

FIOR & GENTZ

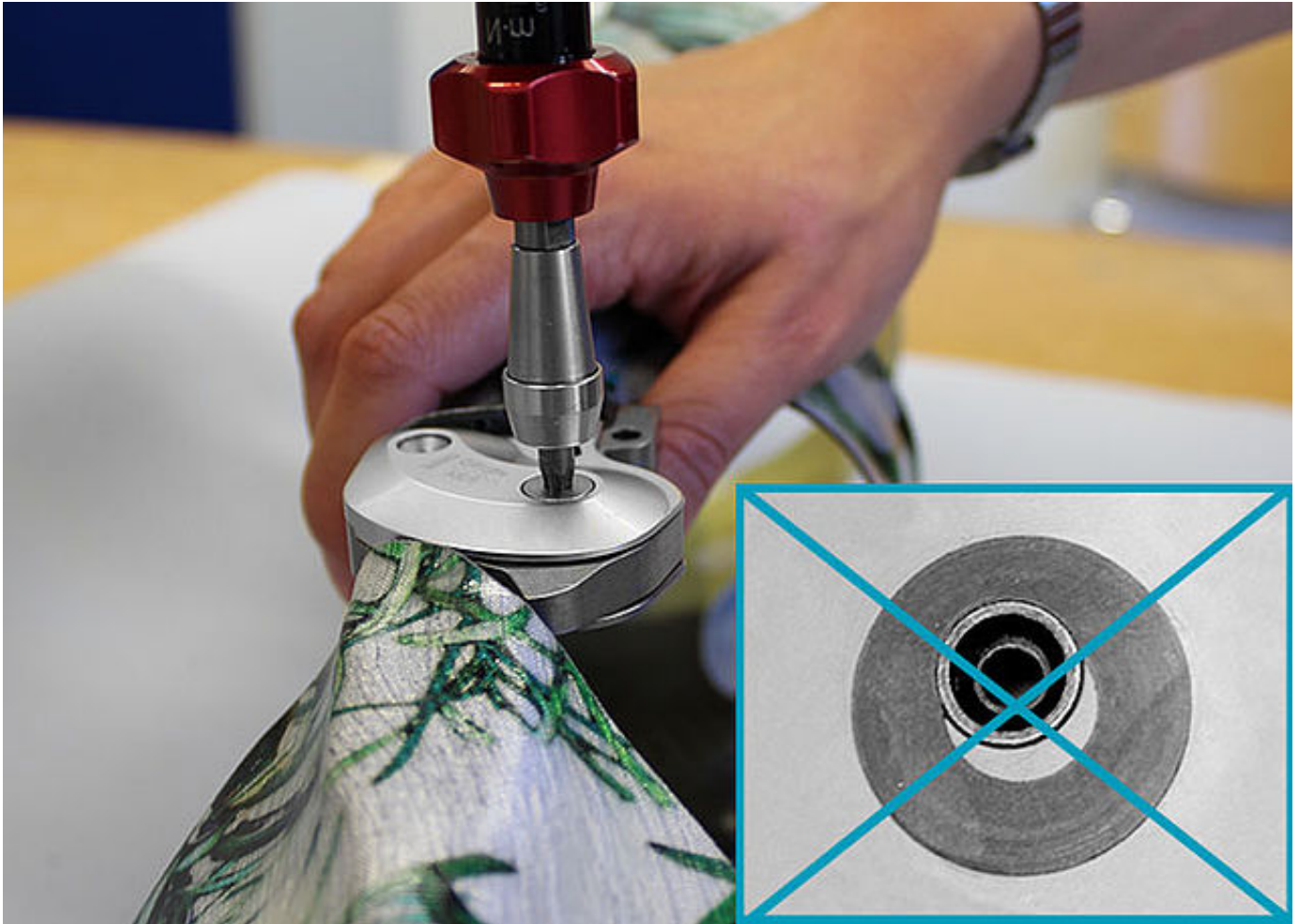
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Make sure not to damage the sliding washer during the assembly. Jammed sliding washer particles can cause lateral play in the system joint.

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Check if the bearing nuts are placed completely in the intended openings.

Note: The delivered screws are always matching the system joint. Even if the screws are not as long as the thread of the bearing nuts, that does not affect the joint's load capacity.

FIOR & GENTZ

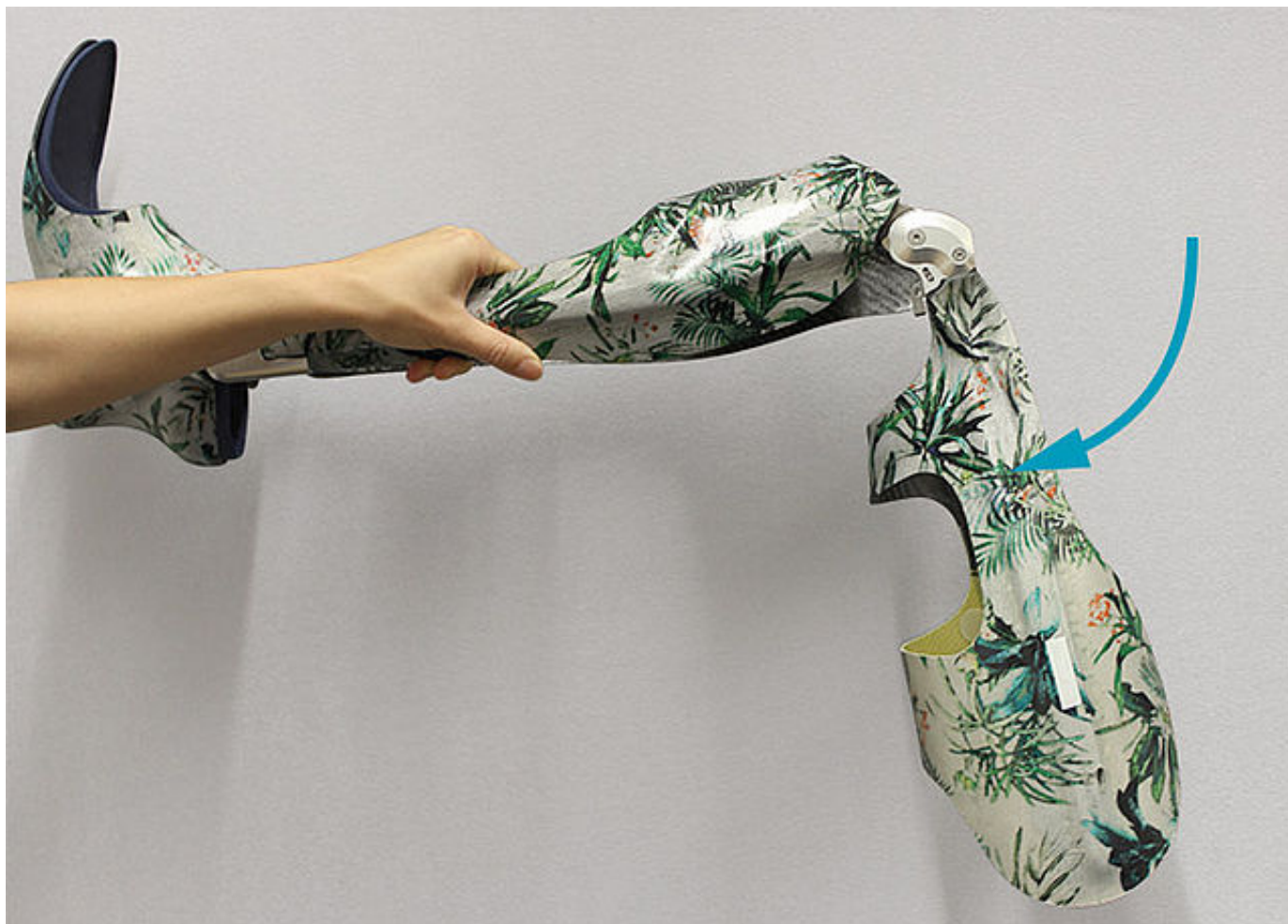
Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Check if the system joint moves freely. Bring the system joint in extension. In order to check the flexion, hold the orthosis in a horizontal position and then let go of the femoral shell. The femoral shell should smoothly fall downward up to the maximum possible flexion angle. If the joint does not move freely, mount the next thinner sliding washers, repeat all steps from step 10 onwards and check again.

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

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Check if the system joint moves without lateral play. Hold the tibial shell and try to move the femoral shell in varus-valgus. If the joint runs with lateral play, mount the next thicker sliding washers, repeat all steps from step 10 onwards and check again.

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com





If you are using a supporting joint, shorten the extension stop damper with a sharp knife. Now, the system joints reach the extension stop at the same time and the step lock pawl should lock without difficulty.

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

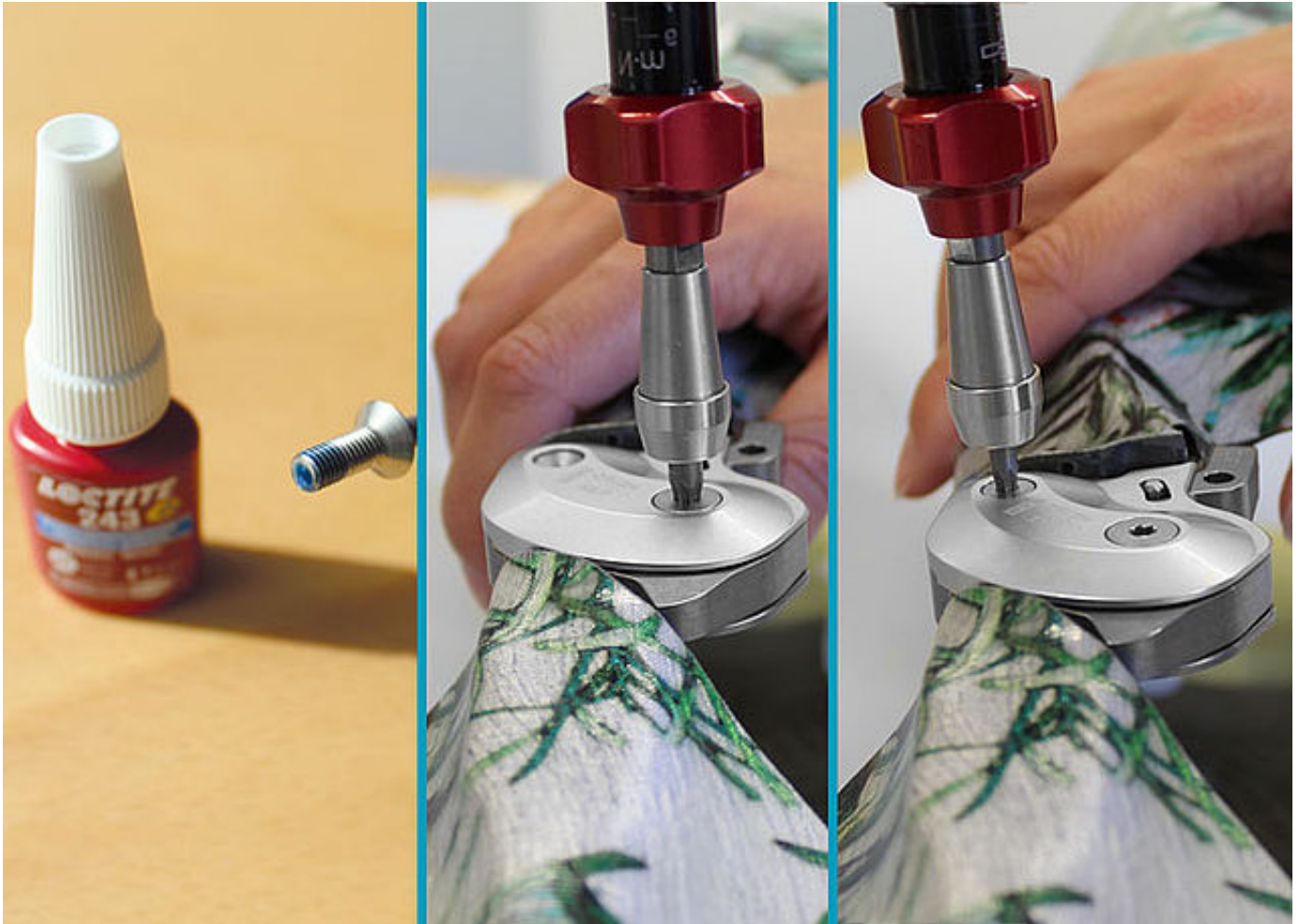
✉ info@fior-gentz.de
🌐 www.fior-gentz.com





Bring the system joint as far as possible in extension. Then, disable the permanent unlock function by pressing the step lock pawl against the joint's upper part. Check if the step lock function works properly. The step lock pawl should lock with each tothing up to the maximum set extension limitation. Then, hold the tibial shell and try to move the femoral shell against it. There should be no movement in the system joint. If necessary, replace the step lock pawl so that the system joint locks effectively.

Note: Mind the information on the step lock pawls in the [instructions for use](#).



Secure both screws with LOCTITE 243® medium strength and the torque corresponding to the system width. Let the adhesive harden (final strength after approx. 24 hours).

Note: Mind the [safety data sheet](#) when using LOCTITE® 243 medium strength.

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com



Last Update: 15 February 2023

Last Update: 16 June 2020

FIOR & GENTZ

Gesellschaft für Entwicklung und Vertrieb
von orthopädietechnischen Systemen mbH

Dorette-von-Stern-Straße 5
21337 Lüneburg (Germany)

☎ +49 4131 24445-0
☎ +49 4131 24445-57

✉ info@fior-gentz.de
🌐 www.fior-gentz.com

