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Low Profile Maintenance & Care Guide

V1.2



Precision myoelectric components, designed & assembled in New Zealand.



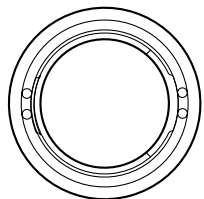
Introduction

The TASKA Low Profile Wrist is a lightweight, waterproof alternative to the Quick Disconnect Wrist. With a lower build height and a fully waterproof connection, this is suited for trans-radial patients with long residual limbs, or those who desire a waterproof connection across the wrist. The Low Profile Wrist is unique to the TASKA Hand and is available in all TASKA Hand sizes.

The wrist has 90 degrees of manual rotation and 7 set positions. The hand is to be attached or detached from the socket by the prosthetist only, so it cannot be removed by the patient and will not disconnect from the socket unexpectedly.

Components used

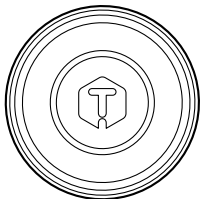
The following components are supplied with each Low Profile TASKA Hand. Replacement parts can be purchased from your local TASKA agent.



TASKA-LPLC-01

Low Profile Lamination Ring

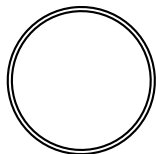
- Knurled lamination area
- 6x notches for rotational lamination support
- Grooved features for maximised bonding area to lamination.



152-09-012

Low Profile Wrist Masking Plug

Protects delicate components on the Low Profile Lamination Ring during the laminating process.

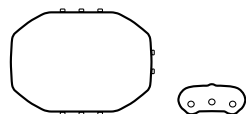


152-08-021

Low Profile Wrist O-ring

This will come pre-assembled on the Low Profile Lamination Ring.

Replace if worn, damaged or missing to maintain a waterproof seal.



152-20-014

Switch Block

This connects the Power Switch and up to 2 sensor inputs (EMG or otherwise) to the hand.

See figure 3 (page 11) for the correct wiring detail.



152-08-070

Low Profile Wrist Lubricant

Apply after laminating as per the following instructions to ensure the best possible performance of the product.



152-08-061

Low Profile Wrist Set Screw

Used to secure the hand to the Lamination Ring. 1 extra is provided per hand.

Caution statements

When laminating the wrist interface unit, take the following precautions:

- ▲ Do not laminate the wrist with the hand attached.
- ▲ Ensure the Masking Plug is used to protect the rotational features of the Wrist Connector.
- ▲ Verify the dorsal alignment of the hand and socket is correct prior to laminating. The dorsal midline of the hand will align with the centre of the rotation notch when the hand is in a neutral position. Ensure the lamination ring is in the correct orientation prior to lamination. Incorrect lamination will likely result in re-fabrication of the forearm. See the lamination procedure for further details.
- ▲ Use the supplied Low Profile Wrist Lubricant after the lamination process to ensure the running surfaces move smoothly. Follow the process as described in the section Lubrication and cleaning later in this guide.
- ▲ It is recommended to clean and lubricate the Low Profile Wrist each time the hand is removed. This must be done at a minimum of once per year to ensure the best performance of the product.
- ▲ Only use denatured alcohol or dish detergent in water as the cleaning solution. Other chemicals could contaminate the plastic and cause damage.
- ▲ Do not connect the COM line to the Power Switch (Battery Power). This may damage the circuitry of the hand. Only connect the Power Switch to the Switch Block (see page 11, figure 3 for the correct wiring detail).

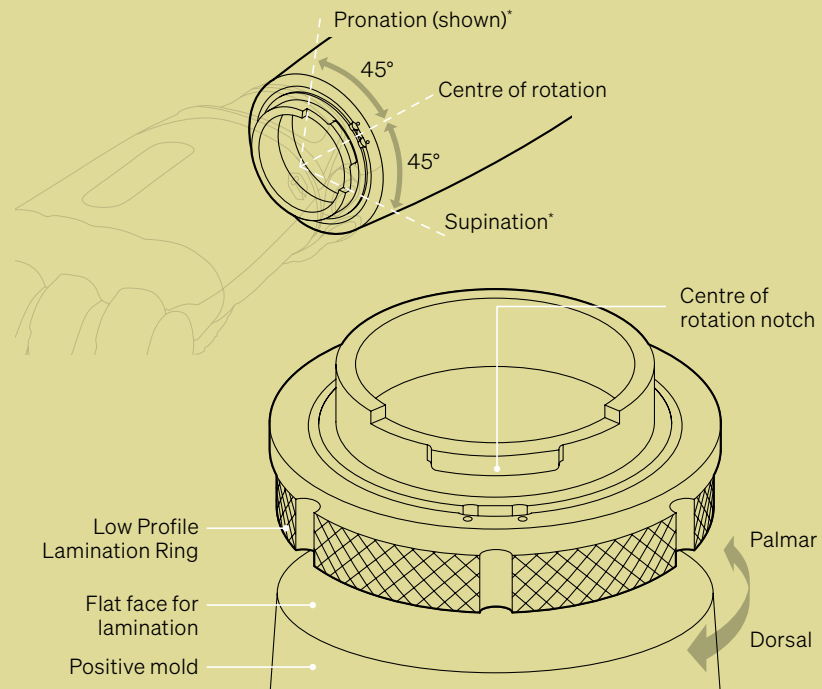


Figure 1: Low Profile alignment features.

Lamination procedure

The lamination process is unique to each prosthesis and will vary depending on the local technique used.

Position the Lamination Ring in an orientation that provides the user with the maximum benefit from the 90° of rotation available. The dorsal midline of the hand aligns with the centre of the rotation notch when the hand is in the centre of rotation, 45° of pronation or supination is available on either side of this.

An example orientation is shown in figure 1; in this orientation the palm faces directly down in the fully pronated position, and horizontally in the fully supinated position. The clinician may choose alternative orientations to suit the individual needs of the wearer.

Use the Masking Plug to protect the mechanism during the lamination.

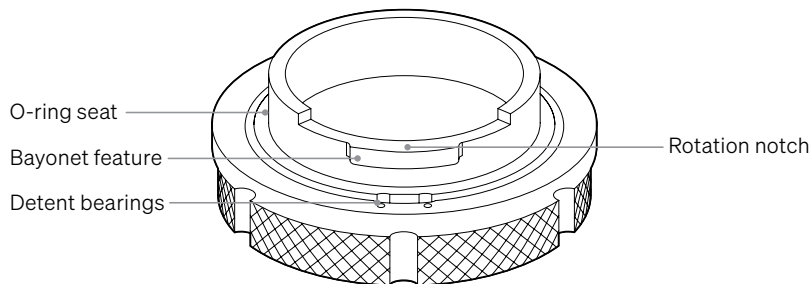


Figure 2: Low Profile Lamination Ring key features.

Lubrication and cleaning

Cleaning and lubricating the running surfaces of the Low Profile Wrist must be performed annually, and is recommended each time the hand is removed from the prosthesis after extended use. This is to ensure the best possible user experience with the product and to help maintain the functionality of the wrist rotation.



Lamination Ring before cleaning.



Cleaning and inspecting O-ring.



Lubricating new O-ring.

1. Carefully remove the O-ring from the Lamination Ring and remove any dirt or old lubricant using denatured alcohol or dish detergent.
2. Check the O-ring for damage or degradation to the smooth surface. Discard and replace if there is sign of wear, tears, degradation or damage at a minimum of once per year.
3. Re-lubricate the O-ring using the provided Low Profile Wrist Lubricant. Smear this around the O-ring to create a light film.



Cleaning Lamination Ring.



Clean Lamination Ring ready for lubrication.



Installing lubricated O-ring.

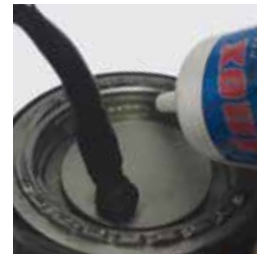
4. Remove excess dirt and dust from the mechanical surfaces of the Lamination Ring as shown. The features around the ball bearings are difficult to clean. Removing only the excess debris is sufficient.
5. Once the Lamination Ring is clean, re-install the O-ring by rolling over the two bayonet features as shown above. Push the O-ring down into the corner.



Lubricating features.



Cleaning the Lamination Ring.



Applying lubricant to groove.

6. Use the Low Profile Wrist Lubricant to lubricate the bayonet and ball bearing features as shown. Ensure the features are well coated in lubricant.
7. Clean the interface plate on the hand. Remove residual grease and dirt from the detent surfaces and inside the bayonet fitting.
8. Apply the Low Profile Lubricant to the groove of the Lamination Ring as shown. A bead around the perimeter will suffice.

Installing hand

1. Connect the 4-pin plug, Sensors and Power Switch to the Switch Block (see figure 3 below).
2. If using a pattern recognition system, connect its 2-pin half-moon connector to the COM input line. **Do not** connect this to the Power Switch.
3. Power on the hand and check the sensors are both functional. Power the hand **OFF** before continuing.
4. Guide the wires through the centre bore of the Lamination Ring. Take care not to pinch the wires.

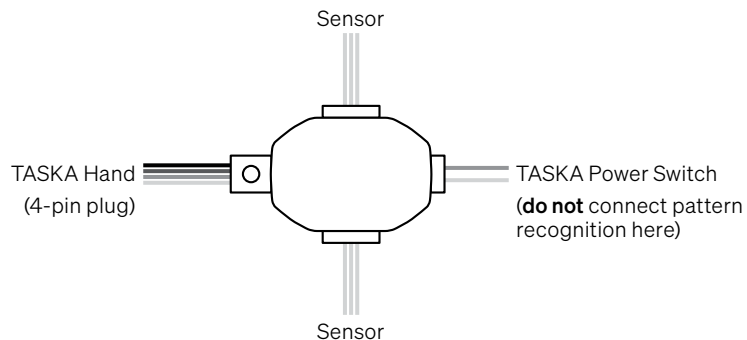


Figure 3: connecting 4-pin plug, sensors and Power Switch to Switch Block.

5. Rotate the hand 90 degrees from the centre of the rotation lock and guide the hand onto the collar (see figure 4 below). Take care to not catch loose wires.
6. Press the hand firmly into the Lamination Ring and rotate 90 degrees to secure the hand to the rest of the prosthesis (see figure 5 below). The Top Faceplate should be in the centre of the wrist range of motion.
7. Apply a small amount of Low Profile Wrist Lubricant to the thread of the Low Profile Wrist Set Screw.
8. Pull the silicone boot back and thread the screw into the hole (see figure 5 below). The screw (which provides an end-stop for the rotation) is intended to bottom out before the head is flush with the collar. Do not overtighten.
9. Verify the hand can rotate 45 degrees each way and is secure to the socket.

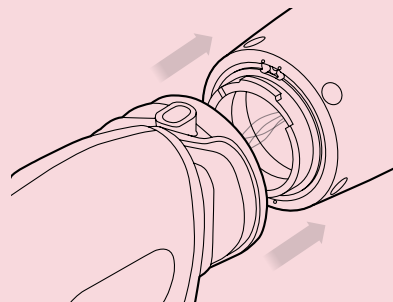


Figure 4: alignment and attachment of the hand.

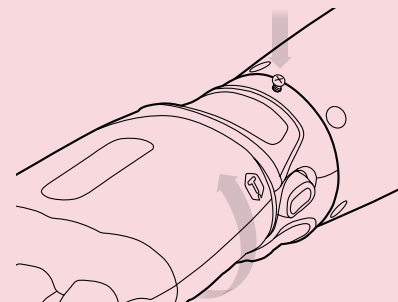



Figure 5: inserting Set Screw (boot to be pulled back).



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