

# Ibex XD

Product Manual

*Fillauer*®

# Instructions

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The Ibex XD is designed to be maintenance free. The foot is water resistant; however, if the foot is submerged in water, the foot and foot shell should be rinsed with fresh water and dried immediately. The Ibex XD should be inspected every 6 months for signs of abnormal wear and that the attachment/alignment screws are secure.

## Instructions to the Practitioner

- Please review the indications, contraindications, and FAQ sections of the manual before use of the foot. These instructions should be read prior to fitting and followed to ensure the proper integration of the Ibex XD into the patient's prosthetic system.
- The foot stiffness is based on weight and activity level. Please provide accurate patient information so that the appropriate foot may be selected.

# Product Specifications

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## Indications

- Moderate to active BK or AK Amputees as defined by functional K3 and K4 levels
- Unilateral or bilateral patients
- Patients that would benefit from greater energy return and multi-axial function
- Patients weighing up to 440 lbs. (200 kg)

## Contraindications

- Build height below 7.63 in. (19 cm)
- Patients weighing over 440 lbs. (200 kg)

## Product Specifications

- Patient weight: Up to 440 lbs. (200 kg)
- Foot weight: 21.2 oz. (602 g)
- Build height: 7.63 in. (19.4 cm)
- Functional level: K3 – K4
- Durable; meets ISO-22675 standard

## Warranty

- 36 months from date of patient fitting
- Foot Shell (sold separately) - 6 months from date of patient fitting

The Ibex XD has been designed and manufactured for specific patient weights. Failure to follow the weight guidelines and/or overload conditions caused by the patient, such as heavy lifting, high impact sports, or abusive activities that would otherwise damage the natural limb, may void the warranty.

## Satisfaction Guarantee

- 60 days from date of patient fitting

# Installation

## Product Description

The Ibex XD foot uses two carbon composite elements that conform to terrain while storing and releasing energy during gait. The Ibex XD foot is designed to be used with most pyramid receiver devices (Figure 1). The pyramid dome for the Ibex XD foot is permanently attached to the composite spring and should not be removed.

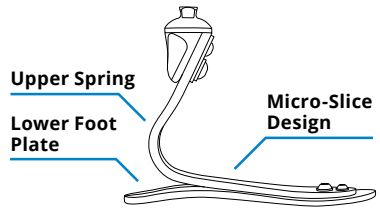


Figure 1

## Heel Wedge Installation

The heel stiffness and heel deflection of the Ibex XD foot are affected by alignment and the position of the heel wedge. To install it in the initial position, slide the wedge into the split in the lower foot plate so that the small side is under the heel and the larger plastic side is on top of the lower foot plate. Some rubbing alcohol or talc will help the wedge slide into position. Slide it forward so the front edge of the wedge is in contact with the pylon and lower foot plate creating a bumper between the two. This is the initial position for the wedge during set up and alignment as shown in Figure 2. Secure the wedge temporarily by securing the black band around the heel just behind the wedge.

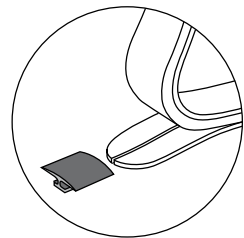


Figure 2

## Static (Bench) Alignment

Standard bench alignment techniques may be used for the Ibex XD foot. Before aligning, the initial heel height should be established. The Ibex XD is designed for a  $\frac{3}{8}$  in. or 1 cm heel height. The initial heel height can be established with a simple spacer under the heel. The top of the pyramid should be parallel with the work surface before proceeding with alignment. A backward leaning pylon indicates that the heel height is too low and will make late stance rollover difficult.

## Transtibial Bench Alignment

The socket should be set in the proper amount of inset found in the evaluation. When using an integrated shuttle lock/distal attachment component, the plum line from the bisection of the socket at the proximal brim in the frontal and sagittal plane should bisect the ankle pyramid.

When using separate suspension and attachment components, the foot may be slightly inset 1 – 12 mm depending on the limb length. Short limb lengths

are set with very little inset of 2 – 3 mm and longer limb lengths may tolerate a greater varus thrust at 10 – 12 mm. The longitudinal axis of the foot will be outset approximately 5° by aligning the medial border of the foot with the line of progression.

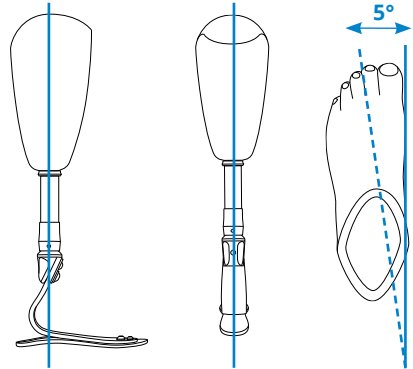


Figure 3

## Transfemoral Bench Alignment

Standard TKA alignment can be utilized with the trochanter line bisecting the distal ankle. The knee is set 3 – 6 mm posterior to the TKA line. A plum line may also be used from the proximal sagittal socket bisection, falling 10 mm anterior to the knee axis (or through the knee axis for an SNS unit) and the 10 – 15 mm posterior to the mid-foot. The knee and foot should both be aligned with 5° of toe out and external rotation respectively. The socket should also be set in the proper adduction angle of 7 – 12° and the flexion angle should be 5° more than the hip flexion contracture if present.

## Dynamic Alignment

The Ibex XD foot is flexible and conforms to uneven terrain. This characteristic may mask forefoot loading anomalies during static alignment

that may then become more noticeable during dynamic alignment. Small alignment changes will smooth the transition from heel to toe, and optimize gait. Patient feedback during this process is essential. Adjustments of the plantarflexion and dorsiflexion angles will help the patient achieve a smooth transition from heel to toe. The pylon should remain vertical in the frontal plane throughout gait.

- Check for smoothness of gait and ground contact throughout the stance phase of gait.
- If the tibial progression is slowed from heel strike to midstance, or the heel compression is too great, dorsiflexion of foot may correct this problem. If this does not, see the section on changing the heel stiffness.
- If the socket progresses rapidly forward from heel strike to midstance or the heel seems too hard, plantarflexion of the foot may solve this problem. If not, see the section on changing the heel stiffness.
- If the foot progresses too quickly from midstance to toe loading, increased plantarflexion may solve this issue.
- If the foot hesitates from midstance to toe loading, dorsiflexion may be indicated.
- Check to make sure pylon is vertical throughout gait. If there is a medial lean, tighten proximal medial screw; if there is a lateral lean tighten proximal lateral screw.

## Special Considerations

Due to the torsion compliance of the IbeX XD, it is very important to establish the proper external rotation of the foot in relationship to the socket. If the foot rotates too far internally or externally, it may feel less stable to the patient. Making an external rotation adjustment during the dynamic alignment should fine-tune the stability of the forefoot and improve the rollover characteristics of the foot.

## Changing the Heel Stiffness

If the heel is too soft or the foot is slow to transition to midstance, moving the heel wedge forward may increase the heel firmness and smooth the transition from heel to midstance. This will speed up transition from heel to midstance. If the patient transitions too rapidly from midstance to forefoot, move the wedge posterior or plantar-flex the foot. If the heel is still too soft, then check the pylon angle and A/P position of the socket to ensure alignment has been established as described in Static (Bench) Alignment above and correct if indicated. Generally, moving the socket more anterior

will cause the heel to feel firmer and the toe to be softer.

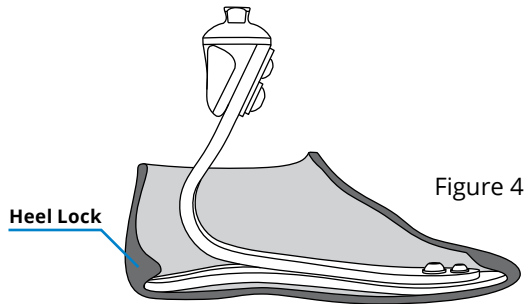
## Securing the Wedge After Alignment

Before the patient takes the delivery, the heel wedge should be glued into place. To do so, clean the elastomer and heel plate with 70% isopropyl alcohol and place two drops of Superglue® on the bottom surface of the heel wedge and reinstall the position determined as optimal in the section on changing the heel stiffness.

## Foot Shell Installation and Removal

The Ibex XD foot features a unique cosmetic foot shell that is flexible and durable. Use care in the installation and removal of the foot shell to maintain its appearance and durability.

**NOTE: Never use a sharp edged tool such as a screwdriver to install or remove the foot shell.**



## Installation

- Pull the Spectra sock provided onto the foot from toe to heel, pulling excess material to the ankle so that it does not bunch under the heel or toe of the foot.
- Insert the forefoot into the foot shell as far as possible. Set the heel on a supportive surface with the toe up and push the shell onto the foot until the toe is in position.
- Rotate the foot side to side to allow the foot shell to slide onto the heel
- Push foot shell up onto heel, or if necessary insert shoehorn into foot shell, and allow heel to slide down shoehorn into the heel lock.

**IMPORTANT: The heel of the Lower Foot Plate must slide into the heel lock in the foot shell for proper alignment and to secure the foot in the foot shell (Figure 4).**

## Removal

- Place the foot on the bench so that the heel is hanging over the edge of the bench.
- Apply downward force to the top portion of the foot shell at the heel and the heel plate should pop out of the heel lock, allowing removal of the foot shell by hand.
- If foot shell is too tight, a smooth edged shoe horn may be used to

disengage the heel lock.

## Frequently Asked Questions

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### What can the practitioner do if the heel or toe is too soft or too firm?

The deflection load and rollover of the heel may be increased or decreased by sliding the heel wedge anterior or posterior as discussed in the section on changing the heel stiffness. In addition, the heel and toe rollover resistance may also be fine tuned during the dynamic alignment by plantarflexing or dorsiflexing the forefoot.

### How long should the foot shell last?

The Ibex XD shell is designed to provide realistic appearance and maximum performance of the Ibex XD. The life of the foot shell will depend on level of activity and degree to which it is protected from wear and damage with socks and shoes.

### Can the pyramid be removed so that the foot can be bolted directly to the socket or other attachment?

No, the pyramid attachment should not be removed or altered in any way. Doing so will void the warranty and could put the patient at risk of injury.

## Daily Care for the Patient

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- Patients should clean the prosthetic foot shell with a soft cloth and a soap and water solution and should inspect the shell for the presence of sand or other debris weekly. The foot shell may also be cleaned with rubbing alcohol (70%). **Do not use acetone. It will damage the foot shell.**
- If the foot performance changes or if it makes noise, the patient should immediately contact his or her practitioner.

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