

Prosthetic Leg Length Adjustment System

08/24/2026



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Products, Materials & ServicesProsthetics

Abstract

Conventional prosthetic legs have fixed lengths, which limits stability on uneven terrain and creates discomfort in seated positions. The Prosthetic Leg Length Adjustment System introduces an actuated telescoping mechanism that allows users to extend or shorten the prosthetic at the push of a button. This adaptive capability improves gait on sloped or irregular surfaces and reduces residual limb strain when seated, providing a more comfortable and functional mobility solution.

What It Is

A prosthetic leg system incorporating an actuated extending mechanism that enables rapid, user-controlled adjustment of limb length.

Value Proposition

The innovative system improves stability on uneven terrain and reduces residual-limb loading during seated postures, addressing two major limitations of fixed-length prosthetics.

Applicable Markets

Lower-limb prosthetics, veteran and military rehabilitation programs, and sports and mobility prosthetics.

Benefit

People with leg amputations often experience pain or instability when walking on uneven or slanted surfaces due to the fixed-length, non-adaptive geometry of conventional prosthetic legs. During seated postures, fixed-length prosthetics often remain suspended, generating undesirable distal loading on the residual limb. This can be extremely uncomfortable for users, making adjustability imperative.

The Prosthetic Leg Length Adjustment System solves both limitations through an actuated extending mechanism that enables rapid, user-controlled modification of prosthesis length. At the push of a button, the device extends or retracts to match environmental conditions or user posture.

This dynamic adjustability enhances stability on slanted or irregular ground and significantly reduces residual-limb pressure when seated. The system provides a more adaptive, comfortable, and efficient prosthetic-leg experience.

Researchers

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USU Reference No. C23013

Intellectual Property

Not yet filed