

# Durable Medical Equipment

## TRIPPING HAZARD AVERTED

### CUSTOMER CHALLENGE

The customer is a manufacturer of indoor electric chair stairlifts used in single-family homes. The stairlift, which travels up and down a flight of stairs, brings independence to people with limited mobility. However, the design was challenged with a tripping hazard created by a portion of the electric rail protruding beyond the bottom stair.

### SOLUTION

To alleviate the tripping hazard, a portion of the rail needed to be hinged and folded up. This would move it out of the way once the lifting chair cleared that portion of the rail. The customer redesigned the rail with a hinge and activated the folding motion using a customized Duff-Norton LT50S-2-333E linear actuator. Along with signal-sending limit switches to notify the user whether the rail was extended or retracted, a slower motor was also included giving better control of the stairlift. The tripping hazard was fully resolved.

### DUFF-NORTON ADVANTAGE

The key Duff-Norton advantages for this project were providing a custom length (333 mm) linear actuator required to fit into the customers existing design, signal-sending limit switches to ensure the rail was in the correct position for safe use, and a slower motor for better control of the stairlift operation overall.



Indoor electric stairlift positioned at the bottom of the staircase.

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Duff-Norton Product:  
Customized LT50S-2-333E  
linear actuator  
Limit switches  
Motor



The portion of rail shown here is folded up into a safe position once the chair has cleared the area, removing a potential tripping hazard. (Image shown for illustrative purposes only)

