

NEW BALANCE PUSH TEST AUTOMATION

1. BACKGROUND

The Push Test is a test performed by the operators who assemble the Made in USA New Balance shoes.

Try it! To perform the Push Test, press on the leather along the edge of the sole and inspect to see if the sole and leather separates. The separation is an error called a gap.



2. GOAL

Did you try the Push test? How many times do you think you could press on the shoe before your thumbs start to hurt?

Our mission was to ensure consistent force application and reduce the risk of repetitive strain injuries by automating the Push Test.



3. PROCESS

We ran a series of experiments to determine the most effective method for opening gaps.

With our insights gained from the Three Point Push Test we designed a prototype with three pneumatic pistons to press on the toe of the shoe.

We took this prototype to the New Balance factory and the Quality Team tested the prototype. We gained valuable insight from the Quality Team that shaped our final design.



Three Point Push Test
Applies pressure individually across several key locations.



Testing at New Balance
Oliver and Mateo set up the prototype for the Quality Team to try using.

4. FINAL DESIGN

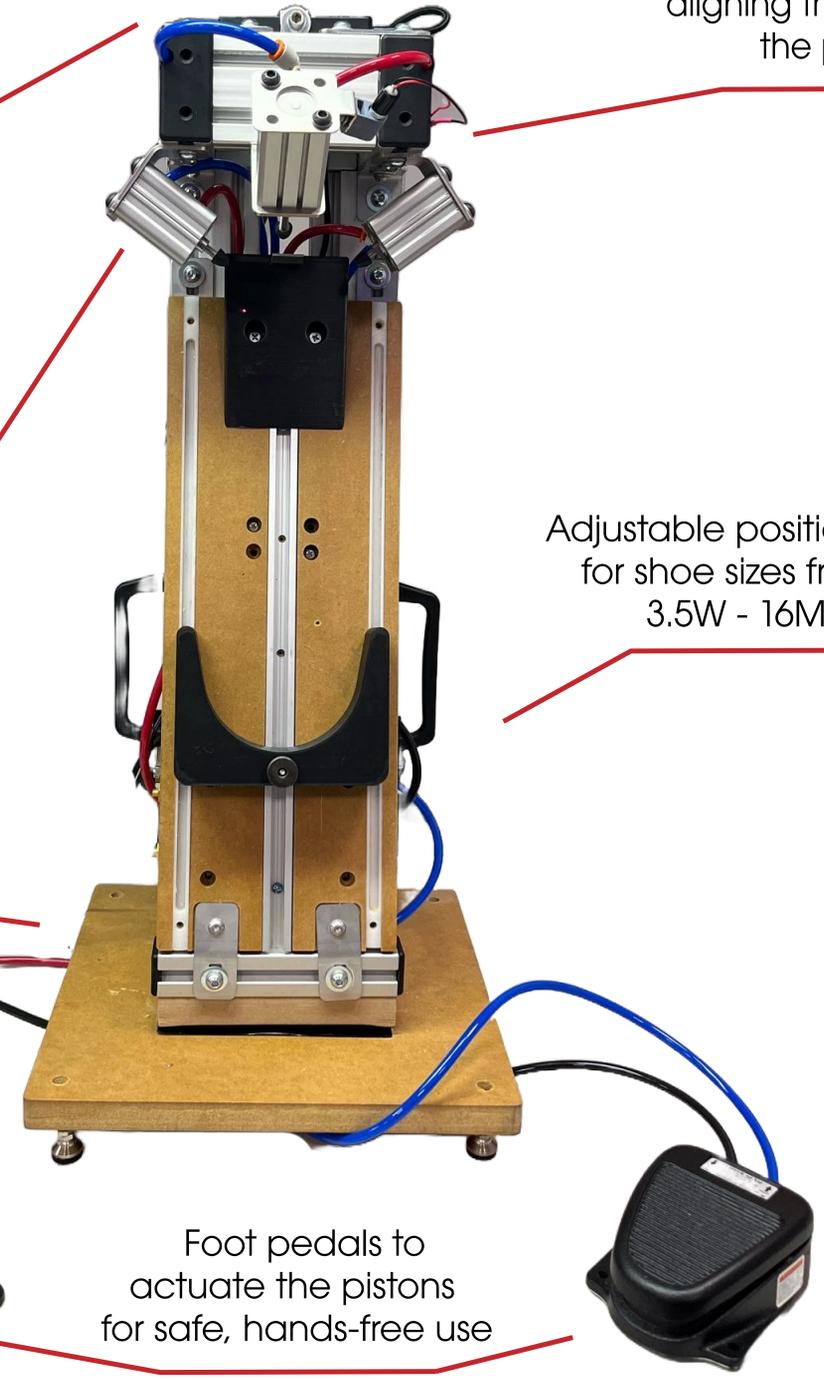
Integrated lighting to enhance the visibility of gaps

Laser guidance to support operators in aligning the shoe with the pistons

3 pneumatic pistons that press on the toe

Adjustable positioning for shoe sizes from 3.5W - 16M

Rotating base so that operators have easy sightlines to the side of the shoe



Foot pedals to actuate the pistons for safe, hands-free use



OLIN SCOPE TEAM



FACULTY ADVISOR



LIASIONS

