**Prism Autostop Test Notes**

**988 - Missed footfalls**

To see full test profiles, view the text files in the folders for each test. They are too long to list out here

**Test 1 - Sana (~90 lbs.) in the SQA lab**

Low speed, Low/Med/High incline

30 minute test

1-3 MPH

0, 12.5, 6-8 incline

No missed footfalls

**Test 2 - Sana (~90 lbs.) in the EE lab**

Low speed, low incline

20 minute test

0.5-2 MPH

0-4.0 incline

No missed footfalls (~12 second period at the start of the test when it didn't detect her, expected)

**Test 3 - Harrison (~300 lbs.) in the EE lab**

Low speed, high incline

20 minute test

0.5-2.0 MPH

8.0-12.5 incline

No missed footfalls (~12 second period at the start of the test when it didn't detect him, expected)

**989 - False Footfalls**

To see full test profiles, view the text files in the folders for each test. They are too long to list out here

**Test 1 (SQA lab)**

~14 hours

1-10 MPH

0-12.5 Incline

Every whole incline (1.0, 2.0, 3.0 etc) was tested at each whole speed(1.0 MPH, 2.0 MPH, etc)

False footfalls were reported for a while at beginning and the end of the test. See MPH/Incline combinations that failed below:

1 MPH, 1-5 and 7 incline

9 MPH, 11.0 - 12.5 incline

**Test 2 (SQA lab)**

~14 hours

1.0 - 12.5 MPH

0 - 12.5 MPH

No false footfalls reported

**Test 3 (SQA lab)**

~14.5 hours

5-8 MPH

0-12.5 Incline

Every incline (0, 0.5, 1.0, 1.5 etc) at each half speed (8.0, 8.5, 9.0, 9.5 etc) between 5-8 MPH

No false footfalls reported

**Test 4 (SQA lab)**

~13 hours

Low speed with low incline and 9 MPH at high incline. See test profile for exact speeds and inclines tested. These targets were picked based on failures from test 1.

There was also a 10 minute rest period in between each speed setting

Very short period of false footfalls (6 seconds) near the beginning of the test at 1.0 MPH/0.5 Incline. Longer periods of false footfalls at

2.3 MPH/ 0 incline (23 seconds)

2.6 MPH/ 0 incline (20 seconds)

2.9 MPH/ 0 inclines (20 seconds)

Each of these was after the belt had started again after resting for 10 minutes.

**Test 5 (EE lab)**

14.7 hours

1.0-12.5 MPH

0-12.5 Incline

Several very short periods of false footfalls reported

~ 2 seconds while speed settled at 1.0 MPH/ 0 incline

~ 4 seconds while incline was moving down at 10.0 MPH/ 11.0 to 8.0 incline

~ 3 seconds while incline was moving down at 11.5 MPH/ 10.0 to 8.0 incline

~ 4 seconds while incline was moving down at 12.5 MPH/ 10.5 to 8.0 incline

**Test 6 (EE lab)**

~27 hours

0.5 - 12.5 MPH

0 - 12.5 Incline

This test did an interval of switching between high to low speed while keeping the incline steady until each speed had been tested at the incline. See test profile for full test targets.

Several periods of false footfalls reported

~11 seconds near the beginning of the test at 1.0 MPH/ 0 Incline

!!!!~1 hour and 6 minutes at 2.0 - 5.5 MPH and 7.5 - 12.0 8.0 MPH / 12.5 Incline!!!!

~20 seconds as speed decreased at 11.5 MPH to 6.0 MPH/ 12.5 Incline

~10.5 minutes at 12.5 MPH/ 12.5 Incline

**Summary**

988 – The system had no issues detecting low (90 lbs.) and high (300 lbs.) weight users under 3 mph.

Caveats: Not every incline was tested thoroughly, focus was on the low and high inclines. Total test time is low and only heavy and light users were tested formally. Andy (~180 lbs.) did some informal testing and didn’t see any issues with the user detect but not all inclines or speeds under 3 mph were tested in this manner. Sample size is low

989 – The system can potentially report false footfalls under certain conditions however the exact nature of these conditions is unclear. The system had more trouble with false footfalls in the EE lab vs the SQA. The EE lab is significantly warmer than the SQA lab.

Caveats: These were very long running tests which don’t represent a real use case. The program commands changes to the speed and incline which wouldn’t happen if there was no user present. In most cases false footfalls went away quickly (under 1 minute).