

400 Metre Control Test (Brian McKenzie - Strength Performance Bulletin)

Required Resources

To undertake this test you will require:

- 400 metre track
- Cones to mark 150 metre, 300 metre and 600 metre points
- Stop watch
- Assistant



How to conduct the test

- The athlete undertakes three separate runs over 150 metres, 300 metres and 600 metres, in this order, from a standing start
- A recovery of eight minutes is allowed between each test
- The assistant records the time for the athlete to complete each distance

Analysis

Analysis of the result is by comparing it with the results of previous tests. It is expected that, with appropriate training between each test, the analysis would indicate an improvement.

400 metre Control Test calculations

- Speed Endurance Index = $300\text{m time} - (2 \times 150\text{m time})$
- Target Index Value = $-11.54156 + (1.1226216 \times "150\text{m time}") + ("150\text{m time}" \times "150\text{m time}" \times 0.015101)$
- Strength & General Endurance Index = $600\text{m time} - (2 \times 300\text{m time})$
- Target Index Value = $-0.733763 + (0.2408302 \times "300\text{m Time}") + ("300\text{m Time}" \times "300\text{m Time}" \times 0.0008366)$

Example

150m = 15 seconds; 300m = 32 seconds; 600m = 71 seconds

- Speed Endurance Index = 2.0
- Target Index Value = 1.9
- Strength & General Endurance Index = 7.0
- Target Index Value = 7.83



Speed Endurance Index

If the athlete's speed endurance index is greater than the target index value, and provided the 150 metre time is in line with training targets, then more speed endurance work (lactic anaerobic) is indicated.

Strength & General Endurance Index

If the athlete's strength & general endurance index is greater than the target index value, and provided the 300 metre time is in line with training targets, then more strength and general endurance work (aerobic) is indicated.

Target Group

This test is suitable for sprinters and those who have to sprint as part of their sport, such as footballers, and hockey players.

Trying Hard does make a Difference