



The Orion Rail Physical Test forms part of the selection process, you will be required to undertake physical tests which aim to assess your level of fitness, strength and manual dexterity as well as your level of confidence in simulated exercises relevant to rail works.

The following tests are designed to reflect operational practice and may change from time to time. Candidates will be asked to complete a Medical Screening Form prior to undertaking many of these tests, this is to ensure that individuals are fit enough to undertake them.

1. Ladder Climb
2. Equipment Carry/Farmers Walk
3. Enclosed Spaces
4. Equipment Assembly
5. Seated Press
6. Sledgehammer tyre hits
7. Sledge pulls
8. Box jump
9. Bleep test

Ladder Climb

This is a test of confidence whilst working at height. Candidates must demonstrate the correct 'leg lock' at ground level before commencing the test. Wearing full Personal Protective Equipment (PPE), including a harness, candidates must ascend a fully extended 13.5 metre ladder to approximately second storey height and demonstrate a 'leg lock'.

The candidate will then be required to lean back with arms outstretched and describe a symbol shown on the floor. The candidate will then descend.

Equipment Carry

This is a test of aerobic fitness, muscular strength, and stamina. Candidates will be required to:

- Farmers walk 40kg for 25 metres, then walk back 25 metres
- Pick up and carry 2 water drums for 100 metres
- Carry 1 bag of sand at chest height for 25 metres, and then walk back 25 metres
- Pick up and carry a bag of cement for 100 metres (weighing approximately 25kgs).

In each of the above tests you will be given full instructions and will be required to complete them

within a specified time.

Enclosed Space

This is a test of confidence, agility and possible claustrophobia whilst working in an enclosed space. Candidates in full Rail PPE will be required to negotiate a measured crawl way. You will be required to perform specific tasks during this test.

Equipment Assembly

This is a test of manual dexterity. Candidates will be required to assemble and disassemble an item of equipment and follow the colour coded diagrams provided.

Seated Press

This is a test of strength. Candidates will be required to press 50kg. This is to replicate flipping coppas on the rail platform.

Sledgehammer Tyre Hits

This is a test of aerobic fitness, muscular strength, and stamina. Candidates will be required to:

Pick up the sledgehammer and successfully hit the tyre 10 times to replicate hitting a coppa into place.

Sledge Pulls

This is a test of aerobic fitness, muscular strength, and stamina.

The candidate is required to push the sled out to 10m, walk back 10m and pull the sled back x 4

The sled Push/Pull can replicate almost every free weight and machine upper body exercise you can think of. This is to replicate pushing a rail trolley that requires good all over body strength.

Box Jumps

This is a test of explosive power. The Candidate is required to jump from the standing still position up onto a box and a height of 4ft. This is to replicate jumping onto a platform in an emergency.

Bleep Test

This is a test of VO2 max.

When you do any aerobic exercise, you use oxygen to help generate power. Your VO2 Max is the maximum ability of your body to take oxygen from the air and pump it via your heart to your muscles. It is measured in millilitres of oxygen per kilogramme of bodyweight per minute of exercise, and it is considered by many trainers to be the best indicator of a person's cardiovascular fitness.

Generally, the fitter you are, then the higher your VO2 max is which means that you are able to work and exercise at a higher intensity than someone who is not as well conditioned. The amount of energy that can be released aerobically from your body depends on two things:

1. The ability of the muscles to use oxygen in breaking down fuels
2. The ability of the body to transport the oxygen to the muscles.

Applicants to Orion will invariably be tested on their VO2 max so it is a good idea to test yourself to check you are at the required standard.

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To get an accurate reading of your VO2 Max you need to be hooked up to a machine that can monitor your oxygen intake while running on a treadmill or cycling on a static bike. However, there is a simple method of working out your approximate VO2 Max using the results from your 12-minute run test.

Take your distance achieved in your 12-minute run test in metres and subtract 504.9. Then divide the result by 44.73. This is your approximate VO2 Max. As your cardiovascular fitness improves, this figure will go up, although it is limited by your genetic inheritance. In other words, we blame the parents.

Compare your result with the tables below. It can be accepted that men score 40-60% higher than women.

VO2 Max ratings (age 20-29)

- 49.5 and over = Excellent
- 45 to 49.4 = Good
- 41 to 44.9 = Above Average
- 35.5 to 40.9 = Average
- 35.4 and over = Poor

VO2 Max ratings (age 30-39)

- 48 and over = Excellent
- 43.8 to 47.9 = Good
- 39 to 43.7 = Above Average
- 33.6 to 38.9 = Average
- 33.5 and lower = Poor

Like most things, your VO2 max score can be improved upon, so take regular exercise and monitor your score. A good way to improve your score is to train at a higher intensity 3 or 4 times a week and aim to keep your heart rate elevated to above 75-80% of your maximum heart rate as this will accustom your body to working at a higher intensity and training the body to use and transport oxygen more efficiently.

There is plenty of advice within the site to help you, so do not be too despondent if you score poorly on your first test.