

Modified Power-Distance Ergometer Test Battery – Able Bodied and Adaptive Rowers

The modified ergometer test battery has been proposed in order to satisfy a few of issues that became apparent after a number of completions of the full ergometer test battery week. The intent of the modified ergometer test battery remains the same but the order of the tests has been altered to meet the aims listed below;

1. Complete the required ergometer power profiles in less time (number of days) so that more time can be devoted to training and there is less disruption to the routine training flow.
2. Ensure the focus, intent and interpretation of the test battery is clear i.e. all tests included in the battery are anchored at only one variable (in this case that anchored variable is distance) and are maximal in nature.
3. Continue to monitor the 30 min fixed rate test as a training rather than maximal performance variable - thus remove it from the power-distance ergometer test battery but ensure it is completed within a week of the modified test battery (either preceding or following).

With these aims in mind the description below outlines the requirements and order of modified test protocol for both able bodied and adaptive rowers. Please remember that the 30 min fixed rate test must continue to be completed and reported on but flexibility is now provided for this test to be undertaken within a one week period of the power-distance ergometer profile and used as a training monitoring tool.

For consistency and comparability it is vital that the power-distance ergometer test battery is completed in an identical manner each time. This includes the training undertaken on the days in between ergometer measurements as well as the order in which the tests are completed. To avoid any confusion, the NRCE has prescribed the nature and flow of the testing week. The testing week will occur within a rest/recovery week and frequency and duration of activities are programmed accordingly. There will be minimal, if any, flexibility on the dates of the testing week (apart from the 30 min fixed rate test as previously outlined) and to ensure comparability both within and across programs all training groups will be asked to present to the testing week in similar physical states each time.

Laboratory Environment and Subject Preparation

Training

The athlete must **not** train on the Sunday preceding the first test on Monday morning. The table below outlines the time or distance, modality and intensity of the training in the sessions between each ergometer test.

Diet

A normal meal (incorporating a high carbohydrate component) should be eaten on the evening preceding each test and, if scheduling allows, also on the day of the test. No alcohol should be consumed in the 24 hours preceding the test. The athlete should give special attention to ensuring good hydration in the lead-up to each test.

Special Note: In order to make accurate comparisons within an individual across testing dates it has been decided that NO ergogenic aids will be permitted prior to undertaking any of the ergometer tests. Opportunities for Senior A athletes to trial ergogenic aids (caffeine, sodium bicarbonate, pseudoephedrine etc) or perfect previous ergogenic strategies will be encouraged to occur during internal training sessions or regattas only.

Testing order

Day	Time	Requirement
Saturday	PM	<ul style="list-style-type: none">• 90 min T2-T3
Sunday	All day	<ul style="list-style-type: none">• No training – only active recovery/stretching or walking
Monday	AM	<ul style="list-style-type: none">• 100m all-out followed in 20 min by 500m all-out (Able-bodied rowers) or 250m all-out (Adaptive rowers)• 10 km T2 row or 60 min T2 x-training equivalent
Monday	PM	<ul style="list-style-type: none">• Able bodied rowers - 6000m all out• Adaptive rowers – 3000m all out• S+C (no new exercise or changes in weights program)
Tuesday	AM	<ul style="list-style-type: none">• 15 km T2-T3 row
Tuesday	PM	<ul style="list-style-type: none">• 10-12 km T2 row (technique) / ergo prep
Wednesday	AM	<ul style="list-style-type: none">• Able bodied rowers - 2000m all-out• Adaptive rowers – 1000m all out• Resume normal training

Preparation

Equipment Checklist

- Concept IID or IIE rowing ergometer on Concept II sliders
- Heart rate monitor (can provide very useful information for some individuals)
- Stopwatch
- Lactate Pro analyser (can provide very useful information for some individuals)
- Data recording sheet or computer to access online data entry forms

Power-Distance Test Administration:

Athletes will be allowed to individualise their warm-up prior to each ergometer measurement but are asked to replicate as closely as possible the same specific warm-up adopted for each distance the next time they undertake the test.

The following list represents the order in which each test should be completed.

1. The athlete should weigh-in and report the weight to the supervising coach or scientist
2. Attach a heart rate monitor (if required) and ensure it is working correctly

3. Adjust the ergometer drag factor to that appropriate to your category (see Drag Factor Settings table below)
4. Undertake individual warm-up
5. Select the appropriate distance (or time for the 30 min test) for the ergometer test on the Concept work monitor
6. Start rowing when instructed by the coach or scientist
7. Complete the required distance in the shortest possible time
8. At the end of the test, the coach or scientist will record the relevant data from the work monitor (see Table 3)
9. An earlobe or fingertip blood sample can be collected and analysed at the completion and 4 min post completion of the test (if requested)

Ergometer Drag Factor Settings

Category	Drag Factor
Junior Female	95
Lightweight Female	95
Heavyweight Female	105
Junior Male	105
Lightweight Male	105
Heavyweight Male	115

Submission of ergometer test data

The NRCE now uses online data forms as the only way to submit power-distance ergometer test data and 30 min fixed stroke rate test data. Below are the hyperlinks where these online forms can be accessed (you may need to copy and paste these into the address bar of your browser). A separate form must be completed for each athlete and each individual test. If for any reason an athlete is unable to begin or complete any of the test battery (including the 30 min fixed rate test) this must be recorded using the 'incomplete test form' and an accompanying medical exemption forwarded to the Sports Medicine Coordinator (Ivan.Hooper@ausport.gov.au).

NRCE Power Profile data form

<https://spreadsheets.google.com/viewform?hl=en&formkey=dEhmTWdUYV92djRiTdNMOGd1VHlwNGc6MQ#gid=0>

NRCE 30 min Fixed Rate data form

<https://spreadsheets.google.com/viewform?hl=en&formkey=dGJZX2ZPZmtQRDcyMWxvME1uRVFPeFE6MA#gid=0>

NRCE incomplete test data form

<https://spreadsheets0.google.com/viewform?hl=en&formkey=dGxYY3RDWjFkcWdMNXRCC3VONzNjNnc6MA#gid=0>

