



Appendix (A) RADAR Overview:

RADAR provides rowers and coaches with information to assess their progress on the High Performance pathway. It allows coaches and athletes to assess their training programs through a series of regular testing where progress can be measured, and hopefully to identify potential areas of weakness the athlete and coach can work on to improve for the following set of tests.

The RADAR battery of testing captures 2 testing periods, one transitioning into winter training and a second at the end of winter training. Results can be used to assess training effectiveness, training zones and progress against the rest of the testing pool.

Testing Parameters:

Completion of RADAR testing must fit into the following parameters.

1. Testing should be completed over a six-day period, also known as RCA's RADAR Week. Please see RADAR week section, for the order of tests and prescribed training.
2. Testing can be completed and submitted at any point within the designated submission period. Coaches should review their training program and determine how to best fit this testing into their loading and unloading phases and training cycles.
3. Once all tests are completed information should be submitted into the athlete monitoring database. Questions regarding the athlete monitoring database should be addressed to Chuck McDiarmid at cmcdiarmid@rowingcanada.org
4. All testing must be witnessed and verified by a coach.

The following tables outline the tests required for each RADAR submission

Test	<i>Olympic Program</i>	<i>Paralympic Program</i>		
		PR3	PR2	PR1
Peak Power - 190 Drag Factor	✓	✓	✓	✓
1 Minute	✓	✓	✓	✓
2000 Meter	✓	✓	✓	✓
6000 Meter	✓	✓		
20 Minute			✓	✓

Submission Date Ranges: There are *two submission periods* throughout the year. Testing can be completed and submitted at any time within the date range. We encourage athletes and coaches to complete the testing earlier in the submission period, as this will allow for athletes to redo tests or reschedule due to illness or injury. In the case of multiple submissions during the date range the highest performance will be used for circulation.

RADAR Week:

To move towards a consistent testing program, Rowing Canada Aviron is requiring that coaches use the following schedule to deliver the RADAR tests to their athletes. The work completed during this week is a useful training effort. This prescribed schedule takes into account the training undertaken on the days in between ergometer measurements, and the order in which the tests are completed. This procedure will be considered RCA's RADAR Week. The RADAR Week should occur within a rest/recovery week and frequency and duration of activities should be programmed accordingly. To further ensure comparability within and across programs the RADAR Week must be completed within the time approved time frame.

Prescribed RADAR Week Schedule:

Day	Time	Event
2 Days Prior to RADAR	Session 1	90 Minute Cat 6
1 Day Prior to RADAR	Rest Day	No training – Only active recovery / stretching
1	Session 1	6000m all out – Olympic and Paralympic Class 20 minute all out – PR2, and PR1
	Session 2	15 km Cat 5-6 row / erg or 60 minute Cat 5-6 cross training
2	Session 1	Peak Power MDF test - followed in 20 minutes by 1 Minute all out test 10 km Cat 6 row or 60 minute Cat 6 cross training
	Session 2	10-12 Km Cat 6 row (technique) / Erg Prep
3	Session 1	2000m all out
Post RADAR		Return to Regularly scheduled training

Weight Requirements for Lightweight Rowers: Athletes seeking consideration as a lightweight must submit a current weight for the following tests.

1. 2000m ergometer submission
2. 6000m ergometer submission
3. Water based submissions

Weigh-in will occur on the day of test not less than 1 hour and not more than 2 hours prior to the start of the test. Weigh-in must be witnessed by the athlete's designated coach.

The following are the Maximum allowable weights for each RADAR submissions

	Light Women (LW)	Light Men (LM)
September 1 st – November 30 th / Period 1	60 kg	74 kg
February 15 th – March 31 st / Period 2	59 kg	72.5 kg

How Results will be used:

The information will be distributed to all participating athletes and coaches. The range of scores and individual athlete scores will be provided to illustrate strengths and weaknesses relative to their peers.

The collection, analysis, and evaluation of the data collected serves RCA's primary goal of better servicing and managing its Targeted Talent. The following are examples of how some results may be used through the year.

*** The following Documents should be referenced for details on the use of RADAR specific to these programs**

- **RCA Carding Criteria (Athlete Assistance Program)**
- **RCA's Selection Criteria**

Training program monitoring and development: The results of the RADAR submissions will allow RCA programs to work closely with Targeted Athletes and their program coaches to help individualize training programs.

ERG PROTOCOLS

All ergometer tests should be completed on a Concept 2 without the use of sliders.

Peak Power

Purpose: Assess the ability to develop peak power.

Equipment:

- Concept II ergometer - *The CII should be placed on a non-slip surface or held in place by weights or the tester.
- Clipboard
- Pen
- Data sheet

Set-up: Use 190 Drag Factor (Max Drag Factor) for all athletes. For stroke length assessment, a piece of black electrical tape should be placed across the rail at the point where the athlete reaches full compression. This will provide the assessor a guide to see if the athlete is rowing full slide. The C2 monitor should be set to just row and adjusted so that Watts are displayed on the screen.

Warm Up: Warm up is ten minutes of easy ergometer rowing with 2-3 maximal two stroke efforts interspersed through the ten minutes. Maximal stroke efforts should be done at both drag factors.

The test: Each athlete will perform two 10-stroke trials. The highest power, in Watts, seen for any of the ten strokes is recorded on the data sheet as the Peak Power. At least 90 seconds but not more than 180 seconds of rest is provided between each of the trials. This test is best done in groups of 2-3 so that one athlete can be testing while the others are resting for their next trial.

Performance: The athlete sits in a full compressed ready position at the catch. The assessors positions themselves so that they can see the ergometer display and record the required data. During the performance the athlete will pull ten strokes as hard as possible, trying to row as close to full slide as they are capable. Rest break: 90-180 seconds before repeating the same procedure again.

1 minute / 2000m / 6000m / 1000m / 20 minute

Equipment:

- Concept II ergometer, Model C or later - *The CII should be placed on a non-slip surface or held in place by weights or the tester.
- Clipboard
- Pen

- Data sheet

Set-up: The test will be done using Testing Drag Factor (as seen in the table below).

Warm Up: Athletes should perform a standard pre race warm up that supports performance at the prescribed testing distance.

The test: The athlete will start each test in the catch position. The ergometer monitor should be set in a countdown mode specific to the test being completed. At the completion of each test the following results should be recorded

- Average Watts
- Average split
- Average Stroke rate
- Final time or distance results

Further information can be downloaded for those seeking detailed information on athlete race strategy and tactics. This can be done by setting the recall mode on the monitor to the desired time or distance.

Drag factors

Category	Testing DF*	Max DF
Junior Women	110	190
Lightweight Women	110	190
Open Women	110	190
Junior Men	120	190
Lightweight Men	120	190
Open Men	130	190
PR3 Men	120	190
PR3 Women	110	190
PR1 & PR2	Preferred	190

* The Testing Drag Factors should be use for all ergometer submissions other than the dedicated Peak Power testing