

NEW SOUTH WALES ROCKETRY ASSOCIATION INC. (NSWRA)



MPR ACCREDITATION PROCEDURE

June 2013

INTRODUCTION

This document outlines the procedure to gain accreditation to launch mid power rockets (MPR) with NSWRA. Accreditation is a means to progress to higher powered and larger rockets through an assessment/approval process. The aim is to promote good modelling practices, safe operating procedures and reliable construction techniques.

This procedure does not replace local, state, and federal laws.

All NSWRA members are entitled to fly rockets with motors up to a total impulse of 20Ns (equivalent to black powder "D" motors), and black powder "E" motors. (Low Power Rocketry)

Members need to have MPR Accreditation to fly rockets using composite motors in the range "E" to "G" (impulse greater than 20Ns, up to 160Ns)

To use motors "H" and above (ie High Power Rocketry), individuals need to be certified by the Tripoli Rocketry Association (separate to NSWRA)

DUTIES OF INDIVIDUALS

NSWRA committee member

The NSWRA Committee Member ensures that this procedure is followed. Committee members can recommend a suitable approving member

Approving Member

The approving member administers flight tests and mentors individuals applying for MPR Accreditation.

Only current NSWRA members who are MPR accredited are qualified to administer the flight test.

The approving member should not be a person acting as LCO (Launch Control Officer) or RSO (Range Safety Officer) at the time of launch, due to interference with range duties.

Member applying for MPR Accreditation

A member applying for MPR Accreditation must be a NSWRA member in good standing.

The member should be able to provide evidence of experience in low power rocketry and demonstrate that they are capable of successfully making, launching and recovering small model rockets.

Evidence could include rocketry log books and flight records.

The member should know the meaning of any terms used in this procedure.

Procedure for applicant:

1. Provide evidence of experience in low power rocketry to a committee member
2. Determine the weight of your completed rocket.
If the rocket is scratch-built, the CP location must be known and/or marked on the rocket
3. Determine a motor appropriate for the rocket, and which is suitable for the launch site restrictions.
Ensure that the weight of the rocket ready for launch is not greater than the maximum weight recommended for the rocket motor
4. On the launch day, complete section 1 of the Application form.
Give the form to an approving member
5. Present your rocket for inspection by the RSO.
The RSO will assess the rocket and its construction, including ensuring that its stability is greater than 1 calibre (CP must be known if the rocket is scratch-built). The RSO will check that the total weight of the rocket is less than the maximum weight recommended for the motor, and that the rocket will not exceed the permitted altitude. The RSO has the final decision if a rocket can be launched
6. Assemble the motor (if a reload) under the supervision of the approving member
7. Launch and recover your rocket
8. Present the rocket to the approving member
9. The approving member completes section 2 of the application form and gives it to a committee member.
10. If the flight is successful, the applicant's membership card will be re-issued showing MPR Accreditation

Details:

Airframe – The rocket must be built by the flyer and must be of a 'conventional' rocket design. Odd rockets including flying pyramids, saucers and flying spools will not be allowed for an Accreditation flight. The rocket may be either a kit or scratch-built. The applicant may be asked for construction details of the rocket, including materials and adhesives used. The location of the CP and how it was determined (eg design software) must be known and/or marked on the rocket (if not a kit).

Recovery - Standard parachute recovery is required. Non-parachute recovery methods (e.g. tumble, helicopter, gliding, etc) are not permitted for accreditation flights. Note: If the rocket is a kit, and the kit specifies recovery by streamer, this may be allowed

Motor – The accreditation flight must be with a single certified motor (total impulse between 20.01Ns and 160Ns). Black powder "E" motors, due to their low thrust, are not acceptable. Staged and/or clustered rockets may not be used for accreditation flights. The flyer shall be observed by the approving member during the assembly (if a reload or hybrid) and preparation of the motor.

Accreditation Flight – The accreditation flight may take place at any authorised launch. The approving member must be present and witness the accreditation flight. The rocket must ascend in a stable manner and descend in stabilized manner controlled by the recovery system.

Post-Flight Inspection – If the rocket cannot be recovered, but can be inspected in place (power lines, tree, etc.) this is acceptable. The approving member shall inspect the rocket for excessive damage. Excessive damage shall be considered damage to the extent that the rocket cannot be launched again safely without a repair. Damage caused by wind dragging will not cause a disqualification.

Non-Accreditation – Any of the following will result in non-accreditation:

- Motor failure ("CATO")
- Excessive Damage
- Failure or partial failure of recovery system. (A slight twisting of cords may be accepted if rocket lands intact.)
- Rocket drifting outside the specified launch range
- Components coming down not attached to the recovery system.
- Any violation of safety codes associated with this particular flight.
- Any other legitimate reason the Approving Member deems merits non-accreditation.
Examples – Abusive or unsafe behaviour, disregard for other people, property or rules.

* Check "Site Reference Book" for more information

MPR Accreditation Application Form

Section 1. Applicant to complete

Name	
Date	
Membership Number	
Name of Rocket	
Motor & delay	
Expected altitude	
GLOW	

(Gross Lift-Off Weight ie Total weight of rocket with recovery device & motor, ready for launch)

Section 2. Approving Member to complete

Membership current?	
Motor assembly OK?	
Rocket OK for launch?	
Stable/safe flight?	
Recovery system deployed?	
Safe recovery?	
Vehicle intact and no major damage evident?	
Motor retained in airframe?	
Accreditation approved (Y/N)	

Comments:

Name of Approving member: _____

Signature: _____

Date: ____/____/____