

Common Motor Supply for Spacemodel Contests

1. SUMMARY

A challenge for spacemodel competitions is access to spacemodel motors at the contest. Shipping motors across international boundaries can present transportation and import/export legal issues. Having multiple sources of motors requires extensive testing time to certify that all motors comply with performance limits.

One approach to solve these issues is a Common Motor Supply. The contest organizer would acquire motors for selected events in advance of the contest. All competitors would use motors from this common supply. This minimizes or eliminates the need for competitors to transport motors. It also provides a level playing field for competitors by using the same motors.

This document provides a specification for a Common Motor Supply.

2. PRE-CONTEST ACTIVITIES

2.1. Events

The Contest Director shall decide if a contest will use a Common Motor Supply (CMS) and which events shall use the CMS. All events except S2/P and S7 may use a Common Motor Supply.

2.2. Announcement

A contest that uses a Common Motor Supply shall publish an announcement in the pre-contest Bulletin. The Bulletin shall be published at least three (3) months in advance for World Cup events and at least six (6) months in advance for Continental and World Championships. The CMS announcement in the Bulletin shall define:

- Events that will use the CMS
- Motors that will be provided for the CMS
- Technical specification for the motors including the motor designation, length, diameter, mass, and total impulse.

2.3. Procurement

The contest organizer shall procure motors and igniters (including spare igniters for misfires) prior to the contest. Team managers or contestants will submit a list of motors and quantities desired for the contest. Costs for the CMS (including related charges such as shipping and transportation) will be paid by the teams/contestants in advance or at the contest. Black powder (for ejection charges) and extra igniters should also be available for purchase.

2.4. Testing

The contest organizer shall measure, weigh, and perform static testing of the motors to verify that they comply with motor specifications.

3. OPERATIONS AT CONTESTS

3.1. Motor Control

The contest organizer will mark each motor with an official mark for the contest. The organizer will issue motors by random selection for the requested type and delay from the CMS to contestants prior to flight. For Continental and World Championships, flight motors should be stored and controlled in a locked box for each team.

For S1 and S5 flights, the spent motor cases must be returned following flight for verification of official markings.

3.2. Motor Usage

For events using a CMS, competitors shall use only motors from the CMS. Competitors shall not use any other motors for the CMS events. Use of a non-CMS motor for a CMS event shall result in expulsion of the competitor from the contest.