NOARLUNGA MODEL AERO SPORTS Inc.
Flying field and club rooms.
Gate S34.068 off Clisby Lane, Seaford Meadows.S.A. 5169
Postal: P.O. Box 44 Old Noarlunga, SA. 5168
www.facebook.com/NoarlungaModelAeroSports
www.nmas.info

Electrically Powered Model Aircraft – Safety

MOP NUMBER 14.1

(Originated 16/11/2015)

Table of Contents

This MOP should be read in conjunction with "NMAS – Pilots Recommended Safety Procedures, Electric."

Any reference in this MOP to a motor, battery or electronic speed control (esc) to mean one or more of that item.

1. NARRATIVE

This MOP relates to model aircraft powered by an electric motor. It is not intended to apply to helicopters or quadcopters.

Electrically powered model aircraft present a particular hazard to aero-modellers as, unlike internal combustion motors which must be deliberately started, an electric motor with its supply battery connected can start unexpectedly in some circumstances.

2. PURPOSE

To minimise safety hazards associated with electrically powered model aircraft

3. DEFINITIONS

1. **Safe:** When the motor supply battery is **not connected** to the esc of an electrically powered model it shall be considered as **Safe**.

2. **Live:** When the motor supply battery **is connected** to the esc of an electrically powered model it shall be considered as **Live** as the motor is potentially able to start and run.

3. **Disarmed**: Disarming is a secondary method of rendering the motor unable to rotate by some electronic means, as selected by a switch on either the model or its associated transmitter. The opposite of Disarmed is **Armed**.

4. NOTE

It is presumed here that making a model **Safe/Live** is a process which requires manipulation of relatively heavy duty connectors, and may for instance involve removal of a hatch or having the model upside down, and so is most conveniently and safely done with the model on a bench in the pits.

By comparison, **Disarmed/Armed** is selected by a switch which is likely to be small and accessible, and so can be readily operated at any suitable location.

5. POLICY

1. An electrically powered model must be capable of being made **Safe**.

2. Whenever an electrically powered model is in the **Safe** condition, this is to be confirmed and indicated by a green ribbon displayed with the model. It is recommended that the green ribbon be attached to a dummy plug fitted at the point of electrical disconnection.

3. An electrically powered model may only be made **Live**;
    a. In the Pit area or at the flight line, and
    b. With the model suitably restrained, and
    c. In preparation for imminent flight or testing, and
    d. With the pilot or instructor present.

4. It is recommended that an electrically powered model be also capable of being **Disarmed**. Where possible the model should be disarmed;
    a. In the pits when the model is **Live,** and
    b. During retrieval from the field, and
    c. When being moved between pits and flight line.

    It is recommended that any disarming switch be marked to indicate the armed and disarmed positions.

5. An electrically powered model must be made **Safe** as soon as practicable after returning to the pits.

6. EXAMPLES

An electrically powered model may be made **Safe** by:

a. Having the motor battery disconnected from the esc, (refer Fig. 1) or
b. Open circuiting one wire of the model's battery circuit by means of a suitable socket and removable link plug (refer Fig. 2).

An electrically powered model may be **Disarmed** by use of:

c. A transmitter switch programmed to hold the throttle to zero when that switch is in the appropriate position, or
d. An esc which incorporates a disarming switch by design, or
e. A model-mounted switch which interrupts and grounds the speed control signal wire of the esc.

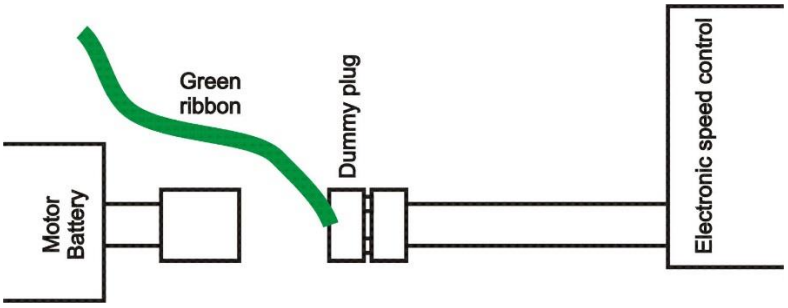

Figure 1

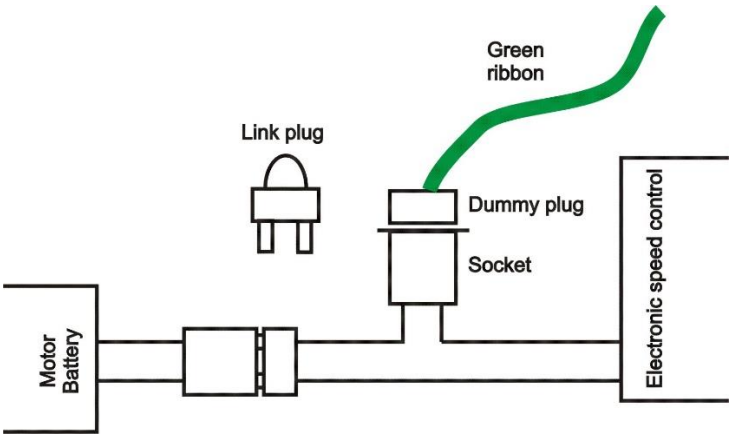

Figure 2

7. RESPONSIBILITY

It is the responsibility of all members to ensure that these procedures are complied with.