



## **AERO CLUB OF INDIA**

Established 1927

(Member : Federation Aeronautique Internationale, Switzerland)

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ACI/Aerosports/P-18B

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To  
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Sub: Issuance of Guidelines for Aeromodelling

Aeromodelling activity has today become a popular aerosport activity being pursued world over and is also becoming a popular aerosport in India also. Aero Club of India (ACI) being the nodal agency in the country for developing and advancement of aerosport activity had in the past acquired some aeromodels of various types and had distributed them 'free of cost', on loan basis to a few educational institutions for encouraging the young students to take up aeromodelling activity as a hobby and also as a sport.

Aeromodels today are available with precision dimension to scale, as of the actual size of aeroplane/helicopter, some of which can normally weigh from 8 kgs to 30 kgs, powered by appropriately rated propeller driven and Jet powered engines, and controlled in flight by high capacity and sensitive radio transmitter and receiver units.

In order to ensure that aeromodelling activity is carried out in an organized manner keeping into consideration safety and security concerns, ACI has brought out the first issue of "Guidelines for Aeromodelling" in the form of a booklet. A copy of the booklet is enclosed.

You are advised to adhere to the guidelines in conducting aeromodelling activity as contained in the booklet. Any clarification required on the guidelines may be sought from ACI as given at the end of the booklet.

Kindly acknowledge receipt.

Yours faithfully,

(K GOHAIN)  
ADVISOR (AVIATION)  
FOR AERO CLUB OF INDIA

Encls: Booklet on "Guidelines for Aeromodelling"



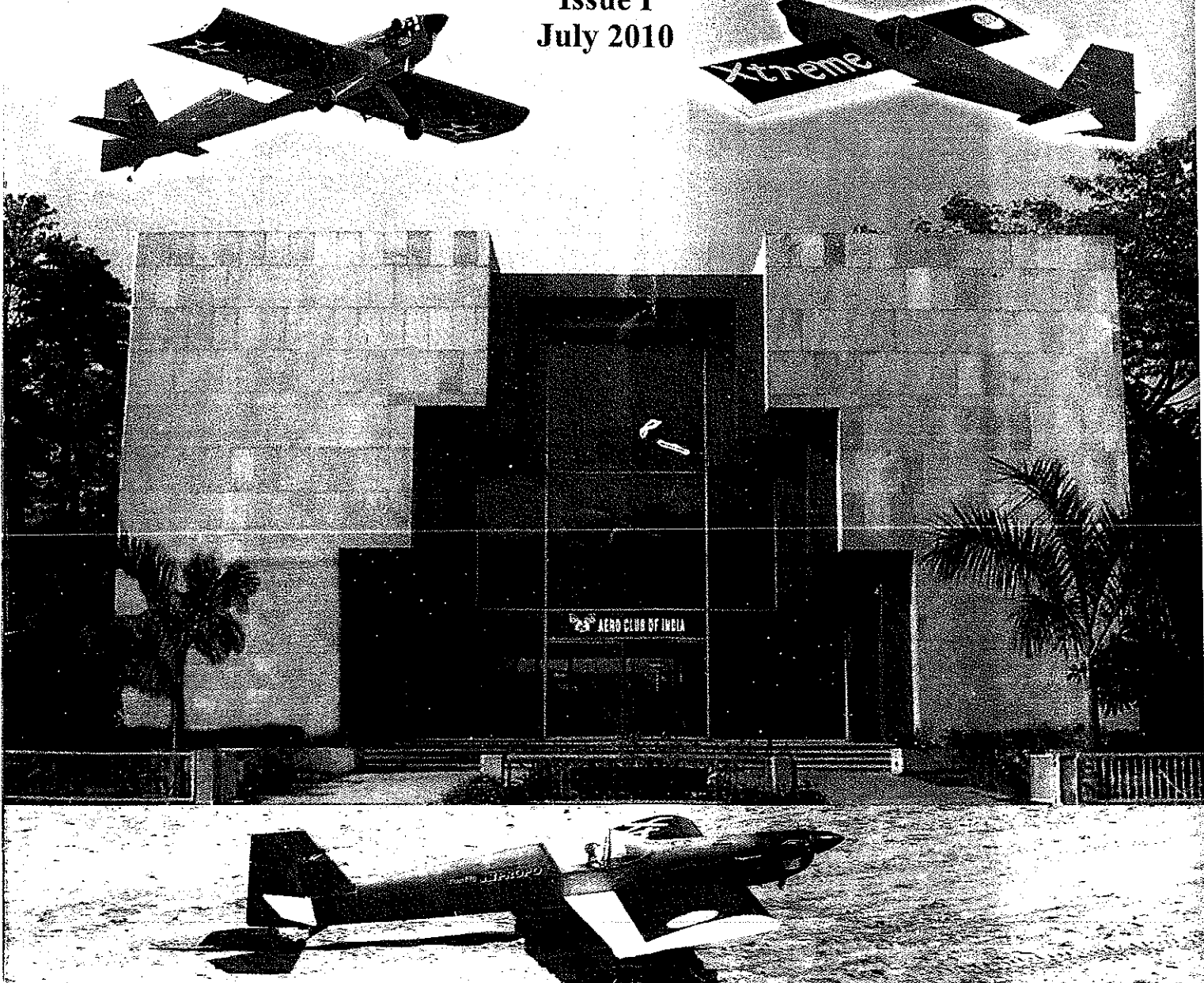
# AERO CLUB OF INDIA

(Established 1927)

New Delhi

## GUIDELINES FOR AEROMODELLING

Issue I  
July 2010





## APPLICABILITY OF AIRCRAFT RULES ON AEROMODELS

Aeromodels by their aerodynamic characteristics are flying machines deriving their support in the atmosphere from reactions of the air and are power driven- heavier than air, deriving its lift in flight mainly from aerodynamic reaction on surfaces which remain fixed under given conditions of flight. Aeromodels, besides being static and built to scale of live aeroplanes, are also available and operated both in fixed wing type (Aeroplanes) as well as in rotary wing type (Helicopters). *The aeromodels therefore as such can qualify to be defined as Aircraft / Aeroplanes & Helicopters, as contained in Part I of the Aircraft Rules.*

In view of the above, these guidelines are framed to facilitate the growth of aeromodelling activity as a hobby, while also adhering to the relevant provisions of the Aircraft Rules, amended from time to time.

## DEFINITION OF AEROMODEL

An Aeromodel can be an aeroplane or helicopter weighing not more than 50 Kgs weight without fuel, but including any article or equipment installed in or attached to it, for the sole purpose of operating the Aeromodel.

## CLASSIFICATION OF AEROMODELS

The Aero-models are classified in sizes in accordance with the weight of the individual Aero-model as under:

### A. CLASSIFICATION OF AERO-MODELS

SIZE	MODEL DESCRIPTION	WEIGHT CATEGORY
Park Flyers	Models made of foam/wood/balsawood having electric motor power or rubber power, normally operated as Free Flight	Maximum up to 2 kgs
Small	Models made of balsa wood/ wood having power derived from engines operating with fuel like petrol, glowfuel having nitromethane, and normally operated as a Control Line Flight	Between 2 kgs to 8 Kgs
Medium	These are normally operated by remote control, as because of its weight and size are not feasible for Control Line Flight.	Between 8 kgs to 30 Kgs.
Large	These are normally operated by remote control, as because of its weight and size are not feasible for Control Line Flight.	Between 30kgs to 50 Kgs
Xtra Large	Note: Would require Special Permission to build and fly in PublicPlaces	Above 50 kgs



**B.** The Aero-models can also be of the following types depending on the *nature of their propulsion and operational handling* as under:

- i) Static Type - not capable of flying
- ii) Free Flight types
- iii) Rubber Powered
- iv) Electric Powered
- v) Control Line Power Flight
- vi) Remote Control Power Flight

### **GUIDELINES FOR FORMING AERO-MODEL CLUBS/ORGANISATIONS**

Even though Aero-Modelling activity can be pursued by an individual as a personal hobby, with the interest generated and heavier/large size aero-models being built and available with precision dimension to scale, as of the actual size type aeroplane/helicopter, powered by appropriately rated propeller/rotor bladed engines including jet powered and availability of higher capacity and sensitive radio transmitter & receiver units for better remote control, the Aero-Modelling activity has today become a popular Aerosport activity being pursued world over and is also becoming popular in India. In view of the above, Aero Club Of India, being the nodal agency in the country for developing and advancement of Aerosport activity, suggests that Aeromodelling enthusiasts across the country could get together in groups to form Clubs/Associating organisation etc., so that this aerospots activity can further develop in an organized and broad based manner associating technological advancements and optimum utilization of expertise in this area. Schools and colleges can also pursue the aerospots activity for the benefit of the student following the operate safety guidelines in an organized manner.

The following **Guidelines** are issued with regard to formation of Aeromodelling Clubs organisation which would facilitate such clubs organisation in obtaining membership of Aero Club of India :

- i) The main aim and objectives of an Aero-modelling Club/organisation etc. should be to promote, develop, encourage education and training and advancement of aeromodelling as an Aerosports activity.
- ii) The Club/organisation etc. should have its own Memorandum and Article of Association defining the Objectives of the club, Membership eligibility requirements, Organisational structure & Functioning etc. and the Club could be registered with the concerned Government authorities.
- iii) The Club should prepare Rules and Regulations for their members pertaining to all forms of aeromodelling activity and with specific reference to the location normally to be used by them for such activity. Compilation of these Rules and Regulations to form a part of the "Articles of Association" of the Club, and a booklet on the same be made available to all the member aeromodellers of the club.
- iv) The Club/organisation etc. should provide for third party insurance against property damage and personal injury on account of the aeromodelling activity.
- v) The Club/organisation etc. should have a minimum of Seven members of which at least two members should be active Aeromodellers with adequate experience and credentials to provide their expertise in training & skill improvement, educate on the regulations and adherence to laid down procedures on aeromodelling to other members of the Club.



- vi) All Club/organisation etc. members should have an acceptable identity proof with latest residential address and contact numbers, the records of which shall be maintained and updated by the Club.
- vii) The Aeromodelling Club/organisation etc. should have proviso for providing guidance on skill improvement, techniques of flying and ensuring adherence to laid down procedures on aeromodelling activity.
- viii) The Club/organisation etc. should also have a training programme to train "Instructors" for aeromodel flying who could, after training, be utilized to train aeromodel enthusiasts in starting aeromodelling hobby.
- ix) In the event of any incident like damage to the aeromodel, damage/injury to outside parties and loss of the aeromodel, the Club/organisation etc. should ensure that such incidents involving their members are reported to the Club/organisation etc. management for which a reporting procedure should be laid down by the Club/organisation etc.

### OPERATIONAL GUIDELINES FOR AEROMODELLING

- i) New members who is ab-initio learning to do aeromodelling, shall **not fly an aeromodel unless** the said member has taken guidance on Safety as well as Operational Procedures for such activity from an experienced aeromodeller of that Club/organization.
- ii) Junior/ab-initio aeromodellers **must be supervised** at all times by responsible adult members. The level of supervision will depend on the age, maturity, proven capabilities and level of experience of the junior member.
- iii) Aeromodels flights should be conducted **only in fair weather** conditions and should be **clear of controlled airspace** unless prior permission has been obtained from the relevant ATC Unit.
- iv) The aeromodels shall **not be flown within 5 kms** of any active aerodrome and its flight path shall **not encroach** into the approach take off path of aircraft operating at that airport.
- v) All aeromodels are to be **flown at a suitable altitude** so that the aeromodeller maintains good visibility of the model in flight for proper orientation and maneuverability.
- vi) Aeromodels **shall not be used for dropping** from the air any article, whether or not attached to a parachute so as to endanger person and property on ground.
- vii) Aeromodels **shall not be used to carry or attached to it** any article which are of highly inflammable nature, explosives, oxidizing material and corrosive substances, compressed gas including tear-gas, radio active materials, poisonous substances or any other dangerous goods.
- viii) Aeromodels **shall not be used to carry or attach thereto** any Camera or other apparatus for recording photographic impressions until and unless written permission for taking photographs and the carriage of such photographic equipment is obtained from the authorities as mentioned in the Aircraft Rules.
- ix) All aeromodels, engaged in flying shall **carry identity tags** affixed at a suitable location on the model to enable identification of the owner/aeromodeller when required.



- x) Prior to operating flight, aeromodellers **should carry out routine range check** on the Radio equipment when installed in the models as per recommendations of the manufacturer. The aeromodeller should **carry out regular inspection of the Radio equipment** when installed in the model to prevent radio control failure in flight.
- xi) At any one given time for a particular site **only up to 4 aeromodels may be allowed** to fly in the air.
- xii) In case of aeromodels having Radio Control Unit, a **fails-safe mechanism for such units**, as recommended by the manufacturer, should be incorporated so that the system goes to fail-safe mode in the case of loss of Radio signal or due to interference in the Radio signals to the model.
- xiii) For aeromodels powered by gas turbine engines proviso a **fail-safe system**, of must be incorporated to **bring the engine to idle in the event of signal failure and also to shut off the fuel supply** in case of emergency.
- xiv) At the site of aeromodelling proper signage as "**Model Flying Site**" should be **prominently displayed** which should also contain information of Radio frequencies used, recommended distances for safety, runway requirements and information on position of Fire Extinguishers. **The district administration/police authorities be kept pre informed of the activity details, including the location.**
- xv) The **runway/longitude distances for operation of the model should be carefully ascertained** prior to any aeromodelling activity. In case of aeromodels which are weighing 30 kgs and more, the distances shall be 1.5 times the distance required for the model to its full stop position after accelerating to lift off and engine failure. Adverse runway conditions such as wet surface, tall grass etc. can have adverse effect on the take-off performance of the aeromodel.
- xvi) Care must be exercised **during take-off of the aeromodel to ensure safe clearance** from any obstacles in the flight path immediately after take-off.
- xvii) For Control Line aeromodels, all flights should be carried out **after ensuring spectators are clear from the intended flight path of the model** and in case of incursion into the control line area the model should be flown high above to avoid collision till the incursion is removed.
- xviii) **Prior to commencement of Radio controlled aeromodel flights**, all aeromodellers should check that there is no damage to the aeromodel and its power plant/propeller system and carry out the SMART preflight check system.
- S - SWITCH ON  
M - Model selection correct - Ensure  
A - Aerial secure - Ensure  
R - Rate switches all in correct position - Ensure  
T - Transmitter voltage correct and trims neutral - Check
- xix) **After completion of the flight** the following checks to be carried out by the aeromodellers :
- Receiver OFF followed by transmitter OFF.
  - Frequency Control System Check
  - Any damage to the airframe, propeller, undercarriage, wings including its fixing to the airframe Check .



## GENERAL SAFETY GUIDELINES FOR AEROMODELLING

- i) Aeromodel which are Remote/Radio Control are to **be flown away from Cell Phone Towers or Microwave Towers** to avoid short range interruption with the Radio equipment used for controlling the model in flight.
- ii) At the aeromodelling site **proper safety measures** at the location of **fuel storage**, particularly for petrol and glow-fuel should be ensured.
- iii) At the site of aeromodelling a **First Aid Kit needs to be made available** and it is preferred that a **list of telephone numbers of nearest hospital/doctor** is kept for use in any emergency situation.
- iv) The Club should issue advice to all its aeromodel members w.r.t **rechargeable batteries** such as Nicad, Cadmium, Ni-Cal metal hydride and Lithium Power Batteries. Instructions should also be developed and circulated to all members on **safety measures required to be taken for charging and disposal** of used batteries.
- v) Free Flight aeromodels should be **flown only in good visibility** on sites that are **clear and open with adequate open space downwind of the launch point** and after ensuring that **spectators are clear of the initial flight path of the model**.
- vi) Control Line aeromodels should be **flown on sites that are well clear of any overhead cables** and that the site is clear and open of the size suitable for flying the Line Control model.
- vii) Whenever aeromodel flying activity is in progress a **Safety Marshal**, who could be a senior aeromodeller, shall be nominated to **monitor the flying of the aeromodels**. His duties shall include warning the assembly of spectators not to come dangerously close to the aeromodels and their flying area and also advising them of the safest location from where to watch the aeromodel flying. The Safety Marshal shall also coordinate with the aeromodellers w.r.t the flight patterns, take-off and landing areas and safety procedures to be adopted. The Safety Marshal shall also keep a watch on lone aeromodel flyers or small groups operating aeromodels in that general area to avoid interference to other parties as this could result in collision of aeromodels in flight.

7. Separate Guidelines specific for operation of Radio Control Helicopters, Gas Turbine Power Models, Radio Control Silent Models (Gliders), Sea Planes etc. will be issued subsequently.

8. The above Guidelines are being issued by Aero Club of India, with references from Aircraft Rules (India) and CAA (UK). For any clarifications required on the above one may contact -

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