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Background

Model flying is an activity which is as old as manned aviation itself. Many of the aviation pioneers laid the basis of tests conducted using models and model aircraft remain an important element of a

Model flying is a diverse activity with aircraft ranging from free flight F1D aircraft weighing little more than a few grams to complex turbine powered aircraft up to 150Kg.

Model flying has been established as a popular sporting and recreational activity throughout the 20th century and model flyers currently account for 750,000 of the 1.5 million aviators represented by the FAI (722 FAI contests in 2016). Actual numbers of model flyers will be significantly higher than this :

them all. It is estimated that there are at least 500,000 within Europe.

In most member states, model flying is clearly defined and is regulated by established model flying associations in accordance with the regulatory authority. These local regulations are mostly considered to be fit for purpose by both the model flyers and the NAA's.

Conventional model aircraft (fixed wing and helicopters) require a large element of skill to operate successfully and over the years this has driven the formation of organisations/clubs where they can benefit from the knowledge of experienced pilots, receive appropriate training and become part of the community. They receive the correct advice about their legal responsibilities and in most cases gain insurance cover for their activities. This has also allowed the model flying community to maintain an excellent safety record internationally over many decades.

In recent years, the advent of multi-rotor 'drones' has created a number of problems in member states. These aircraft have functionality and performance similar to conventional model aircraft. The result of this is that they can be successfully operated by virtually anyone, without the need for training or instruction. This would be inappropriate for most model aircraft. As such, many pilots operating these aircraft are outside of the model flying community and therefore do not receive the advice, guidance and insurance they would otherwise receive. This has resulted in a number of reported incidents involving 'drones' being operated in populated environments and reports of conflict with manned aviation.

The capability and performance which comes as standard with many 'drones' is another contributory factor, which ultimately leads to them being operated well beyond VLOS (and beyond in some instances). There is little pleasure in operating a conventional model aircraft in this way and they therefore tend to be operated well within VLOS.

Many model flying organisations have incorporated 'drones' into their recognised operations and have helped ensure that those operating under their rules do so within the terms of their national regulations. This is evidenced by the fact that those prosecuted for illegal flights have all been members of the model flying community.

The model flying community shares many common goals with NAA's and EASA. All parties have a strong desire to maintain and improve safety through appropriate and proportional regulation. All parties also acknowledge the importance of educating pilots (and recognise the importance of the help in achieving this) and the benefit of some form of pilot registration (providing that it is agreed that existing association membership fulfils this aim).

EASA Technical Opinion & Model Flying

The Technical Opinion on Unmanned Aircraft provided the model flying community with some optimism that EASA would ensure that any rules established would not impact on established model flying activities. Many within the model flying community have expressed the view that much of the stated intent contained within the Technical Opinion has been omitted from the Prototype Rules.

EASA Prototype Rules & Model Flying

There are some widely voiced concerns within the model flying community with regard to the Prototype Rules as we related to you during our briefings specifically:

- There is a perception that the Prototype Rules have not given adequate regard to the needs of the largest SUA stakeholder group (with the potential for significant personal and/or commercial interests and influenced by sensationalised media coverage).
- The focus of the Prototype Rules is multi-rotor camera drones and EASA has then tried to apply them inappropriately to model flying.
- There is no obvious consideration given to some established forms of model flying for which the Prototype Rules are inappropriate (control line and gas turbine).
- Efforts have been made to minimise the impact on model flying through the provisions of Article 15. However, these have been read by many as a temporary measure rather than providing an enduring arrangement. Article 15 does make a reasonable attempt to introduce some flexibility for model flyers within the Prototype Rules, however, it is not clear how organisations to operate under a simplified authorisation procedure, however;
- The prototype rules lack clarity and some aspects remain ambiguous (such as the applicability of product requirements to model aircraft operation Category). This has caused concern within the model flying community that different NAA's may interpret the rules in different ways and model flying may be impacted.

disproportionate regulation of their equipment.

- The rules are not considered proportionate for model flying and the model flying community has not been provided with any convincing safety (than perceived risk) that there is a requirement for model flying to be included.
- The problems encountered to date with recreational 'drone' operators have involved pilots operating unlawfully as a result of existing regulations not being enforced. The prototype rules will do little to change this situation, but are likely to have the greatest impact on those who already operate lawfully.
- The Prototype Rules introduce a level of complexity way beyond the existing regulations in place in most member states. This is likely to make them unenforceable and potentially render them worthless.

For example:

1. If a model flyer operating outside of an Association (Open Category) builds their own aircraft weighing 251g which does not comply with the requirements and does not carry the appropriate CE markings, then he will be breaking the law. This would be completely unenforceable.
2. An individual operating in either the 'Open' or 'Specific' Categories would be required to operate an aircraft complying with the product specific requirements. However, with so much equipment purchased via the internet, the requirements could be easily by-passed. It is already easier to buy non-compliant equipment in the EU than it is to buy compliant equipment. This would be completely unenforceable.

These are just a couple of examples, but we hope that they illustrate our point.

Model flying within the 'Open' Category

EASA's objective for Open Category operations is to ensure safe operation by imposing performance limitations and requirements through specific product requirements.

The view of the model flying community is that the product specifications have been written principally for multi-rotor camera platforms which are not model aircraft and this view is reinforced by the requirement to display a symbol which depicts a multi-rotor aircraft:

There are already existing equipment standards in place for model flying, but these relate primarily to the radio control equipment in terms of spurious emissions, output and interference. There are no standards applied to the actual aircraft (often sold without the electronic components) and the imposition of such standards or market requirements would be strongly opposed by the model flying community and the model trade.

Many model aircraft are not manufactured in large volumes, but are produced in relatively low numbers by small enterprises, in many cases as 'kit' aircraft with no control equipment installed. The imposition of market requirements and product specifications on this activity would be inapplicable and of great detriment to model flying.

The product specifications could potentially place functionality requirements on model aircraft such as Geo-fencing which would only be appropriate for manned aircraft (such as multi-rotor drones). The report from the EASA Geo-Limitation Task Force published on the 2nd September acknowledged the need for geo-fencing for model aircraft and further states that 'member states are best placed to deal with this particular segment of unmanned aviation'.

At the present time, it is largely the model flying associations who voluntarily ensure that their members comply with existing equipment standards. This has proved far more effective at 'self policing' than the member states have been in directly ensuring compliance.

The model flying community is unconvinced that the product specifications will provide an effective method of controlling safety and believes this to be impossible to enforce whilst being imposed disproportionately and inappropriately on model aircraft.

It is difficult to envisage that any conventional model flying activities could be conducted within the 'Open' Category, because all of the product requirements for Class O) require functionality not found in model aircraft (such as active systems for limiting the attainable height and geo-fencing systems for Class C).

Model flying within the 'Specific' Category

The only logical place for model flying to fit within the Prototype Rules is the 'Specific' Category and EASA have indicated that any concessions to model flying are to be incorporated into the Prototype Rules through Article 15. It is acknowledged that EASA has made a genuine attempt to introduce some flexibility into the Prototype Rules to permit continuation of established model flying activities with minimum impact through a simplified authorisation procedure and the use of 'transitional' provisions. However, the term 'transitional' has been interpreted by many as indicating that the provisions would be temporary rather than enduring.

Further, Article 15 only permits model flying to benefit from deviations to Sub Part B of Annex 1. It is therefore assumed that all other elements of the Prototype Rules impose unnecessary and disproportionate regulations and product specifications. It is recognised at the bottom of page 8 of the explanatory text that 'it may be difficult to comply with by mass produced model aircraft', but we would argue that they would be difficult to comply with by any model aircraft. Therefore, our suggestion is that a mechanism is found to either remove model aircraft from these requirements entirely (perhaps by amending the Prototype Rules) or to introduce some additional flexibility into Article 15 to allow the Competent Authority to determine which (if any) elements should apply. As such, our suggestion is that the Prototype Rules should be amended to allow the Competent Authority to determine which (if any) elements should apply. As such, our suggestion is that the Prototype Rules should be amended to allow the Competent Authority to determine which (if any) elements should apply.

would be as follows:

Article 15

Model Aircraft

For recreational operations of UA, such as leisure flights, air displays, sport or competition activities, conducted in the frame of associations or clubs, the following rules shall apply:

1. The competent authority shall issue operational authorisations to associations or clubs for the operations which would otherwise require an operational authorisation under Subpart B of Annex I to this Regulation. For associations or clubs in operation before the entry into force of this Regulation, these operational authorisations shall be issued within 3 years of the entry into force of this regulation.
2. An operational authorisation can be issued without the need to conduct the operational risk assessment referred to in UAS.SPEC.60.
3. Operational authorisations issued under this Article shall define the conditions, limitations and deviations from the requirements of Annex I or II based on the safety records of model flying performed under national systems before this Regulation enters into force and existing best practice.

This would enable the competent authority to allow the activity of model flying to continue as it does now, but also allow model flyers to continue with existing regulations rather than disproportionate new ones.

If the prototype rules are to include model flying (and model aircraft), then only by increasing the flexibility provided by Article 15 could the stated objective (not to implement anything to the detriment of model flying) be achieved.

However, to fully enable this, an amendment to Article 14 would probably also be required and EASA has indicated that they will only consider it if it benefits the model flying community on Article 15.

Model Aircraft and Model Flying Defined

Perhaps the only effective way of ensuring that model flying (and model aircraft) are not caught up within disproportionate regulations intended for other types of aircraft (essentially 'Camera Drones' operated by individual leisure users or on a commercial basis), would be to define them so that they could then be exempted from the Rules, in a similar way to the situation with FAA in the US;

The FAA Precedent

The preference of the model flying community would be for EASA to identify a way of removing model flying from the Prototype Rules entirely and a precedent set by the FAA's equivalent rules would seem to offer an appropriate mechanism:

The FAA's Part 107 drone rules do not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112-95.

SEC. 336. SPECIAL RULE FOR MODEL AIRCRAFT.

(a) IN GENERAL.—Notwithstanding any other provision of law relating to the incorporation of unmanned aircraft systems into Federal Aviation Administration policies, including this subtitle, the Administrator of the Federal Aviation Administration may not promulgate any rule or regulation regarding a model aircraft developed as a model aircraft, if—

- (1) the aircraft is flown strictly for hobby or recreational use;*
- (2) the aircraft is operated in accordance with a community based set of safety guidelines and within the programming of a nationwide community-based organization;*
- (3) the aircraft is limited to not more than 55 pounds unless otherwise certified through a design, construction, inspection, flight test, and operational approval administered by a community-based organization;*
- (4) the aircraft is operated in a manner that does not interfere with and gives way to any manned aircraft; and*
- (5) when flown within 5 miles of an airport, the operator of the aircraft provides the airport operator and the airport air traffic control tower (when located at the airport) with prior notice of the operation (model aircraft operators flying from a permanent location within 5 miles of an airport should establish an operating procedure with the airport operator and the airport air traffic control tower (when an air traffic facility is located at the airport)).*

(b) STATUTORY CONSTRUCTION.—Nothing in this section shall be construed to limit the authority of the Administrator to pursue enforcement actions against any person operating model aircraft who endangers the safety of the national airspace system.

(c) MODEL AIRCRAFT DEFINED.—In this section, the term “model aircraft” means an unmanned aircraft that is—

- (1) capable of sustained flight in the atmosphere;*
- (2) flown within visual line of sight of the person operating the aircraft; and*
- (3) flown for hobby or recreational purposes.*

We would suggest that within the EU, the definition in 336(c) above, together with some points in 336(a), could be used to exempt model aircraft from the Regulation.

Conclusions

As has probably become apparent from the responses you have received to the comment email address from individual model flyers and associations, the proposed Prototype Rules have not been welcomed by the model flying community. It is no doubt also apparent that many within the community have ver-

At the present time, the European model flying community is seeking to unite in a way in which they have never been compelled to do in the past. They share a common belief that EASA needs to do more to safeguard the established rights of those within the model flying community and believe that if unchallenged, EASA seems likely to rush into imposing disproportionate regulations on them which are based on an inaccurate perception of risk and which will ultimately fail to address the issue of individuals operating unlawfully regardless.

We hope that EASA will take on board these views and take steps to turn this into a 'good news story'. We believe that all parties would welcome a solution for model flying and EAS & FAI would like to continue to work in collaboration with EASA to help achieve this.

Dave Phipps

On behalf of Europe Air Sports & the Fédération Aéronautique Internationale

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