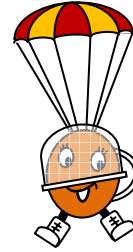


EGG LOFTER Challenge



Contest basics.

Target.

An EGG LOFTER is a rocket model who is able to carry a fresh hen's egg as payload, and the primary contest's target is to recovery the entire egg without damage after launching.

Participants.

The EGG LOFTER will be a Junior level competition, therefore all participants can be young people under 18 years old. They can participate alone or by teams, in this case, teams will designate a launcher. Participants must be supervised by an adult acting as a tutor.

Model rocket.

Model rocket can be a purchased EGG LOFTER kit, or a custom built one, which can be able to carry a fresh hen's egg. It must be a single staged rocket, and must have a parachute according to its weight and size. Model rocket can have a separate electronic bay to carry a small altimeter without possibility to lose it during the fly. If model rocket have not an electronic bay, the altimeter will be attached at the cone base where the parachute is, therefore the airframe must have enough hollow inside between the cone base and the parachute for the altimeter. For a good altimeter work, airframe must have two symmetric 0.12" drilled vent holes, or one 0.16" vent hole, at the electronic bay or rocket airframe between the cone base and recovery system.

Payload.

The payload will be a medium sized fresh hen's egg (about 0.12 or 0.14 oz.). This one will be supplied by the contest organization.

Avionics.

The EGG LOFTER will carry a mini barometric altimeter. This is the "AltimeterOne" builded by Jolly Logic®, and it will be provided by the contest organization at the launch pad. This altimeter fits into a 0.71" diameter tube, and its measures are: 0.47" x 0,64" x 1.93" (2.36" with the attaching clip), and weight 0.014 oz.



Engine.

Regardless of its trademark, the EGG LOFTER must be powered by a single use BP purchased engine class "C", having a delay and ejection charge. This engine will be provided by the participant, and it will be by his own choice based on the model flying features.

Scoring.

For scoring, is required to recover the whole egg safety without broke, and the rocket in correct conditions to fly safely again. The participant must perform at least one successful launch. In each successful launch performed, the score will be as following:

Altitude reached:..... Add as many points as meters reached.
Flight behaviour (judge's values):..... Add 30 points max.

The judge's values are described in the General Rules for competition.

Classification.

Each participant can use different models, but can only make a maximum of three launches at the same competition. The final classification will be the added total points averaged by the successful launches number of launches.

General Rules for Competition.

- 1 **Disqualification.**
Non-observance or non-compliance with this rules, will cause the participant disqualification.
- 2 **Payload.**
The payload must not move or leave out from model while it is into impulse and ascending phases. If the egg is broken by accident or bad launch in an EGG LOFTER competition, the participant will be entitled to receive a new egg from the contest organization in order to replace the broken one.
- 3 **Model rocket.**
Model rocket for competition can be a purchased kit, or a custom built one. The different basic parts of the model (nose cone, body, shoulders, fins, etc.) will be entirely builded with light non metallic materials. If model rocket is not a purchased kit, it must have its Centre of Pressure (CP) clearly indicated on the airframe. Model rocket can use a parachute or streamer as recovery system, according to its weight and size. The participant can participate in the same competition with only one or more model rocket.
- 4 **Engine.**
Regardless of his trademark, the model rocket must be powered by a single use BP purchased engine class "C", having a delay and ejection charge. This engine will be provided by the participant, and it will be by his own choice based on the model flying features.
- 5 **Avionics.**
Once the model rocket is ready for launch at the designated launch pad, the PAD manager will switch on the mini altimeter and reset it to zero, and put it into the electronic bay. If model rocket have not an electronic bay, then the PAD manager will attach the mini altimeter at the nose cone base. The nose cone base must have a strong loop for a secure altimeter attachment, without any possibility to lose it during the fly.
- 6 **Judges.**
Only for the Flight Behavior scores three TRA members will act as judges. Judge members will be designated by the contest organization before the competition start. Judge members designated will be impartial and will not have any familiar interests with the participants. The judges's score will be **final and unappealable**.
- 7 **Scores.**
To score is mandatory that the participant performs at least one successful flight, this means that the payload will be recovered with the whole egg without broke, and the model rocket will be able to fly again into safety way. If payload is broken or model rocket is severely damaged, there is no score for the participant, and the launch will be considered unsuccessful.

In each successful launch:
* Altitude score will be given by meters reached, it means that one point will be added by each meter reached.
* The Fly behaviour score will be given by judges. Each judge will give from 0 to 10 points regarding to the following observations:
 - Straight flying:..... From 0 to 3 points.
 - Recovery system's ejection near apogee:..... From 0 to 2 points.
 - Full recovery system's deployment:..... From 0 to 3 points.
 - Descent without swinging:..... From 0 to 2 points.
* Each judge's score will be added to the altitude reached score.
- 8 **Cato.**
In case of an engine cato, participant will be entitled to repeat the launch with another replaced model rocket in order to continue in contest. The participant can not use another model rocket provided by others. If the participant have not another model to replace, he/she shall not to continue in contest, but he/she will not be disqualified.
- 9 **Unstable flying.**
A model rocket's unstable flying will be considered an unsuccessful launch, and it will start an inquiry process by the judges who will determine the convenience of the model rocket must to fly again in safety way, but this will not cause the participant disqualification.
- 10 **Flying card.**
Participant must fill all data about the model rocket into the Flying Card, and this will be delivered to the RSO when the model is being weighting, balanced and Stability Margin checked at the Control Stand.
- 11 **Participant.**
The participant can participate alone or by teams, in this case, teams will designate a launcher. Junior participants must be always supervised by an adult acting as a tutor. In each competition, each participant can perform a maximum of three different launches, either with the same model or various models.
- 12 **Launcher.**
He is the participant who is going to launch the model rocket. Launcher will be registered in the Contest Check List before the launching. This Contest Participant List will be owned by the competition's judges. When the launcher pass by the Control Stand and receive the RSO's approval, the launcher will go with his/her model ready for launching to the designated launch pad accompanied by a PAD manager. If the participant is a junior, he/she can be accompanied by the tutor too.
- 13 **Recovery.**
The model rocket recovery will be made by the own participant, who will carry it to the RSO from the touchdown site. In a EGG LOFTER contest, the participant will present the payload without opening. In the case the participant manipulates the recorded altimeter information in order to falsify it, the participant will be disqualified.
- 14 **Final Rating.**
The Judge Score List will be in charge of the competition's judges. Nor other people outside contest organization nor participant can see the Classification List while the contest is performing. Only when the contest is ended, and the competition's judges signed it, the final Classification List will be public. First classified will be the participant who got the max score averaged by the successful launches performed. RSO can will, if it sees fit for security, to announce by speakers the scores achieved by the participant in each launching.