

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

CERTIFICATE OF WAIVER ~~XXXXXXXXXXXX~~

ISSUED TO

**Harold Cliver
Top Gun, Inc.**

ADDRESS

**P. O. Box 90236
Albuquerque, New Mexico 87199
(214) 801-7038**

This certificate is issued for the operations specifically described hereinafter. No person shall conduct any operation pursuant to the authority of this certificate except in accordance with the standard and special provisions contained in this certificate, and such other requirements of the Federal Aviation Regulations not specifically waived by this certificate.

OPERATIONS AUTHORIZED

Balloon flying events, as described in Attachment D, Top Gun Inc., Balloon Flight Operations Manual.

AREA OF OPERATION

Within a 9 nautical mile radius of ABQ VOR 025° Radial and 12 nautical mile fix (intersection of McMahon Boulevard, S.W., and Golf Course Road., Albuquerque, New Mexico) to the Application for Certificate of Waiver, the AAAA Flying Events Schedule; surface up to and including 10,000 feet MSL.

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE:

14 CFR, section 91.119 (b) and (c)

STANDARD PROVISIONS

1. A copy of the application made for this certificate shall be attached to and become a part hereof.
2. This certificate shall be presented for inspection upon the request of any authorized representative of the Administrator of the Federal Aviation Administration, or of any State or municipal official charged with the duty of enforcing local laws or regulations.
3. The holder of this certificate shall be responsible for the strict observance of the terms and provisions contained herein.
4. This certificate is nontransferable.

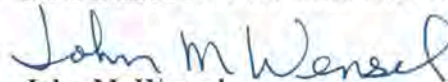
NOTE— This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any State law or local ordinance.

SPECIAL PROVISIONS

SPECIAL PROVISIONS: Numbers 1 to 22 inclusive. See Attachment C.

This certificate is effective from May 25 thru 27, 2019, 6:00 a.m. to 10:00 a.m. Mountain Time (MT); June 16, 2019, 6:00 a.m. to 10:00 a.m. MT; July 21, 2019, 6:15 a.m. to 10:15 a.m. MT; August 17 & 18, 2019, 6:30 a.m. to 10:30 a.m. MT; September 22, 2019, 6:45 a.m. to 10:45 a.m. MT; October 20, 2019, 7:15 a.m. to 11:15 a.m. MT; November 16 & 17, 2019, 6:45 a.m. to 10:45 a.m. MT; and December 22, 2019, 7:15 a.m. to 11:15 a.m. MT; inclusive, on the specific dates listed on Attachment A ONLY; and is subject to cancellation at any time, upon notice by the Administrator or his authorized representative.

BY DIRECTION OF THE ADMINISTRATOR



**John M. Wensel
Manager**

**April 26, 2019
ABQ FSDO SW-01**



U.S. Department
of Transportation
**Federal Aviation
Administration**

Aviation Safety

Flight Standards District Office
1601 Randolph Road, S.E., Suite 200N
Albuquerque, New Mexico 87106
(505) 764-1200, Fax (505) 764-1233

April 26, 2019

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Harold Cliver, Responsible Person
Top Gun, Inc.
P.O. Box 90236
Albuquerque, NM 87199

Dear Mr. Cliver:

Enclosed is the Certificate of Waiver (FAA Form 7711-1), and Attachments A through E, for the Top Gun, Inc., balloon flying events, from May 25, 2019, through December 22, 2019.

The Balloon Flight Operations Manual for Top Gun, Inc., flying events you submitted, located in Attachment D of the Certificate of Waiver, has been found ACCEPTABLE, as of April 26, 2019.

If a waiver is needed for the following year, the FAA Form 7711-2, Application For Certificate of Waiver or Authorization, and supporting documents must be received by October 15, 2019. Waivers will only be granted for no more than one (1) year period, possibly less.

Please continue to keep this office informed as changes occur over time. If you have any questions or concerns, please feel free to contact me at (505) 764-1256, or Gary.Medina@faa.gov.

Documentation may be submitted to this office, by e-mail, through the FSDO mailbox: *9-abq-fsdo-electronicdocs@faa.gov*. There are limits to the file size that can be submitted. Excessively large files may be rejected by the system and may have to be submitted as several smaller files.

Sincerely,

Gary L. Medina
Aviation Safety
Aviation Safety Inspector

Enclosures

No certificate may be issued unless a completed application form has been received (14 C.F.R. 91. 101. and 105).



US Department of Transportation
Federal Aviation Administration

**APPLICATION FOR
CERTIFICATE OF WAIVER
OR AUTHORIZATION**

From Approved: O.M.B. No.2120-0027 08/31/2008

APPLICANTS - DO NOT USE THESE SPACES

Region SW-01 Date 26 APR 2019

Action
 Approved Disapproved - "Explain under "Remarks"

Signature of authorized FAA representative
Gary L. Medina

INSTRUCTIONS

Submit this application in triplicate (3) to any FAA Flight Standards district office.

Applicants requesting a Certificate of Waiver or Authorization for an aviation event must complete all the applicable items on this form and attach a properly marked 7.5 series Topographic Quadrangle Map(s), published by the U.S. Geological Survey (scale 1:24,000), of the proposed operating area. The map(s) must include scale depictions of the flightlines, showlines, race courses, and the location of the air event control point, Police dispatch, ambulance, and fire

fighting equipment. The applicant may also wish to submit photographs and scale diagrams as supplemental material to assist in the FAA's evaluation of a particular site. Application for a Certificate of Waiver or Authorization must be submitted 45 days prior to the requested date of the event.

Applicants requesting a Certificate of Waiver or Authorization for activities other than an aviation event will complete items 1 through 10 only and the certification, item 17, on the reverse.

1. Name of organization Top Gun, Inc.	2. Name of responsible person Harold Cliver
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3. Permanent mailing address P.O. Box 90236	House number and street or route number	City Albuquerque	State and ZIP code New Mexico	Telephone No. 214-801-7038
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4. State whether the applicant or any of its principal officers/owners has an application for waiver pending at any other office of the FAA.
No Other Pending Waiver Applications are Pending

5. State whether the applicant or any of its principal officers owners has ever had its application for waiver denied, or whether the FAA has ever withdrawn a waiver from the applicant or any of its principal officers/owners.
Top Gun, Inc. had a Certificate of Waiver which was withdrawn in 2018

6. FAR section and number to be waived
91.119 (b) and 91.119 (c)

7. Detailed description of proposed operation (Attach supplement if needed)
Top Gun Balloon Club, Incorporated, operates club flight activities and is seeking a Certificate of Waiver and/or Authorization for its members to operate at altitudes lower than those prescribed in CFR 14, Part 91.119 (b) and (c) during monthly club flights. Top Gun, Inc. is seeking a Waiver for 91.119 (b) and (c) which shall be conducted according to the Top Gun Operations Manual as attached to this application. Any common launch or target areas used will have secured appropriate landowner permissions prior to use.

8. Area of operation (Location, altitudes, etc.)
Within a nine (9) nautical mile radius on the ABQ VOR 025 degree radial and 12 DME fix.

9a. Beginning (Date and hour) 25 May 2019 6:00 a.m	b. Ending (Date and hour) 22 December 2019 11:15 a.m.
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10. Aircraft make and model (a)	Pilot's Name (b)	Certificate number and rating (c)	Home address (Street, City, State) (d)
TBD	TBD	TBD	TBD

ITEMS 11 THROUGH 16 TO BE FILLED OUT FOR AIR SHOW/AIR RACE WAIVER REQUESTS ONLY.

11. The air event will be sponsored by:

12. Permanent mailing address	House number and street or route number	City	State and ZIP code	Telephone No.:
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13. Policing (Describe provisions to be made for policing the event.)

14. Emergency facilities (Mark all that will be available at time and place of air event.)

Physician Fire truck Other - Specify _____
 Ambulance Crash wagon _____

15. Air Traffic control (Describe method of controlling traffic, including provision for arrival and departure of scheduled aircraft.)

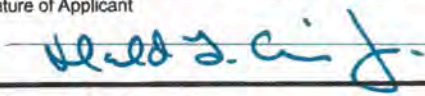
16. Schedule of Events (include arrival and departure of scheduled aircraft and other periods the airport maybe open.)

Hour (a)	Date (b)	Event (c)			
Launch Time *		DATE	REGISTRATION	BRIEFING	FLIGHT OPERATIONS
6:00 a.m.	May 25-27	May 25 – 27, 2019	5:15am	5:45am	6:00-10:00 a.m.
6:00 a.m.	June 16	June 16, 2019	5:15am	5:45am	6:00-10:00 a.m.
6:15 a.m.	July 21	July 21, 2019	5:30am	6:00am	6:15-10:15 a.m.
6:30 a.m.	August 17-18	August 17 – 18, 2019	5:45am	6:15am	6:30-10:30 a.m.
6:45 a.m.	September 22	September 22, 2019	6:15am	6:30am	6:45-10:45 a.m.
7:15 a.m.	October 20	October 20, 2019	6:30am	7:00am	7:15-11:15 a.m.
6:45 a.m.	Nov 16-17	November 16 – 17, 2019	6:00am	6:30am	6:45-10:45 a.m.
7:00 a.m.	Dec 22	December 22, 2019	6:30am	7:00am	7:15-11:15 a.m.
* Time Launch Window Open					

If sufficient space is not available, the entire schedule of events may be submitted on separate sheets, in the order and manner indicated above.

Please Read > The undersigned applicant accepts full responsibility for the strict observance of the terms of the Certificate of Waiver or Authorization, and understands that the authorization contained in such certificate will be strictly limited to the above described operation.

17. Certification - I CERTIFY that the foregoing statements are true.

Date	Signature of Applicant
01/28/2019	

Remarks

ATTACHMENT A

2019 Top Gun

Club Practice Schedule

<u>Date</u>	<u>Registration</u>	<u>Briefing</u>	<u>Flight Hours</u>
May 25 – 27, 2019	5:15 a.m.	5:45 a.m.	6:00-10:00 a.m.
June 16, 2019	5:15 a.m.	5:45 a.m.	6:00-10:00 a.m.
July 21, 2019	5:30 a.m.	6:00 a.m.	6:15-10:15 a.m.
August 17 – 18, 2019	5:45 a.m.	6:15 a.m.	6:30-10:30 a.m.
September 22, 2019	6:15 a.m.	6:30 a.m.	6:45-10:45 a.m.
October 20, 2019	6:30 a.m.	7:00 a.m.	7:15-11:15 a.m.
November 16 – 17, 2019	6:00 a.m.	6:30 a.m.	6:45-10:45 a.m.
December 22, 2019	6:30 a.m.	7:00 a.m.	7:15-11:15 a.m.

ISSUED TO: Top Gun, Inc.
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ISSUED BY: Albuquerque, New Mexico ABQ FSDO SW-01

ATTACHMENT B

TOP GUN, INC.

LIST OF REGULATIONS WAIVED BY SECTION AND TITLE

Title 14 of the Code of Federal Regulations (14 CFR), section 91.119(b): Minimum Safe Altitudes over a Congested Area.

14 CFR, section 91.119(b), is waived to allow balloon flight over any congested area of a city, town, or settlement, or over an open air assembly of persons at an altitude of 500 feet above the highest obstacle within a horizontal radius of 500 feet from the balloon.

NOTE: Launching a balloon anywhere in, into, or over a congested area, or an open air assembly of persons, shall require the pilot to be in a continuous normal rate of climb until an altitude of 500 feet AGL is attained.

In addition, 14 CFR, section 91.119(b), is waived to allow flight over, but no closer than 75 feet to, persons in designated spectator areas that are under the direct control of the Holder of the Certificate of Waiver.

NOTE: The designated spectator area shall be a minimum of 200 feet in radius from any designated/declared goal or target.

14 CFR, section 91.119(c): Minimum Safe Altitudes over Other Than Congested Areas

14 CFR 91.119(c), is waived to allow flight over open water or sparsely populated areas no closer than 200 feet from any non-participating person, vessel, or structure.

Deviations from the following sections of 14 CFR are authorized by an agreement with the Albuquerque International Sunport (ABQ) Air Traffic Control Tower (ATCT).

14 CFR, section 91.130(c)(1): Operations in Class C Airspace - Communications

Notwithstanding 14 CFR, section 91.130(c)(1), flight operations are authorized within the Class C Airspace designated for Albuquerque International Sunport (ABQ) without establishing communications prior to entering that airspace and maintaining communications while in that airspace.

14 CFR, section 91.130(d): Operations in Class C Airspace - Equipment Requirements

Notwithstanding 14 CFR, section 91.130(d), flight operations are authorized within the Class C Airspace designated for Albuquerque International Airport (Sunport), ABQ, without complying with the applicable equipment requirements specified in section 91.215.

ISSUED TO: Top Gun, Inc.

DATE ISSUED: April 26, 2019

VALID: May 25, 2019, through December 22, 2019

ISSUED BY: Albuquerque, New Mexico ABQ FSDO SW-01

ATTACHMENT C

Special Provisions

Note: This Certificate of Waiver (CoW) constitutes a waiver of only those regulations stated, to the degree and for the period of time specified in the certificate. The CoW does not constitute a waiver of any state law or local ordinance. Should the proposed operation conflict with any state law, local ordinance, or required permission of local authorities or property owners, it shall be the applicant's responsibility to resolve the difficulty. The provisions of the waiver shall apply, regardless of the statements contained in the application for CoW. The waiver shall be considered void upon completion of the authorized schedule of events or at the latest time shown on the face of the CoW, whichever occurs earlier.

Note: Failure to comply with any standard or special provision is a violation of the terms of this CoW and justification for cancellation of this certificate and constitutes a violation of Title 49 of the United States Code (49 U.S.C.), section(s) 44711 (a)(2)(B) and/or 44711 (a)(5).

1. Section 91.119, (b) and (c), are waived to the extent necessary to allow participating balloons to compete in the Top Gun, Inc., flying events under the terms and conditions set forth in the Federal Aviation Administration (FAA) accepted procedures section of the Top Gun, Inc., Balloon Flight Operations Manual.
2. The Top Gun, Inc., Balloon Flight Operations Manual is incorporated into this CoW and becomes a special provision, thereof. Any action contrary to the terms, controls, procedures, and conditions pertaining to safety set forth in the FAA accepted procedures is grounds for cancellation of this waiver.
3. Mr. Harold Cliver or the current Flying Events Board liaison of Top Gun, Inc., shall ensure that each participating event crewmember has been briefed on, and understands the FAA accepted procedures section of the Top Gun, Inc., Balloon Flight Operations Manual and the special provisions of this CoW.
4. The FAA has the authority to cancel or delay any or all events if the safety of persons or property on the ground or in the air is in jeopardy, or there is a violation of the terms of this CoW. (Ref. Vol. 6, Ch. 11, Sec. 10)
5. Mr. Harold Cliver or the current Flying Events Board liaison of Top Gun, Inc., may delegate his/her authority, as described in this CoW, but he/she shall retain sole responsibility for compliance with it.
6. Mr. Harold Cliver or the current Flying Events Board liaison of Top Gun, Inc., shall retain sole responsibility for safeguarding persons and property on the surface of Top Gun, Inc., launch sites and designated off-field targets.

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7. Mr. Harold Cliver or the current Flying Events Board liaison of Top Gun, Inc., will notify the FAA Leidos Flight Service (AFSS) at (877) 487-6867, of the date, time, place, area, altitudes, nature of the activity, and duration of the operation and request that a Notice to Airmen (NOTAM) be issued.
 - a. Each notice will be made at least 48 hours before the event and no more than 72 hours before the event.
 - b. A copy of the CoW will be provided to the Leidos FAA AFSS.
8. Mr. Harold Cliver or the current Flying Events Board liaison of Top Gun, Inc., must ensure that participants are thoroughly briefed on special field rules, manner, and order of events, and special provisions of the CoW, before beginning the activities each day.
 - a. No person may participate in any event listed on the CoW unless that person has signed a statement stating they have received a briefing on the provisions of this waiver. (See Attachment E)
9. All civil aircraft and pilots participating in the aviation event shall provide the requested data to establish qualifications and airworthiness to the event organizer and if required be available for FAA inspection at the time and place agreed upon by Mr. Harold Cliver or the current Flying Events Board, and the FAA IIC.

NOTE: FAA Checklists, Status Forms, and Job Aids can be used to gather data in advance to establish performer qualifications and aircraft airworthiness.

NOTE: CoW special provisions never supersede aircraft airworthiness operating limitations. Pilots should review their aircraft operating limitations prior to participating in an aviation event to ensure they are familiar and can comply with the requirements as specified.
10. Only pilot and flight crewmembers, as described in the Top Gun, Inc., Balloon Flight Operations Manual, may be carried onboard any balloon operating under this CoW.
11. Balloons operating for hire are not authorized to operate under this CoW.
12. Balloons conducting flight instruction for a certificate, rating, or operating privilege, are authorized to operate under this CoW; however, student pilot solo flights are not authorized.
13. Top Gun, Inc., must ensure that prior to registration of any experimental balloon (such as a special shape), that the ABQ FSDO has validated the certification and airworthiness of each such balloon.
14. Top Gun, Inc., must ensure that prior to registration and participation of any foreign certificated or licensed pilot that the ABQ FSDO has validated each foreign pilot certificate or license.

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15. 14 CFR, section 91.155, Flight Visibility and Distance from Clouds requirements **are not waived.**
16. A control point shall be established where the certificate holder or responsible person shall direct the demonstration. Mr. Harold Cliver or the current Flying Events Board liaison of Top Gun, Inc., shall be continuously available to the FAA IIC or designated representative and is the person designated as responsible for the overall safety of the event.
17. Adequate communication capability (electronic or visual) must be provided to maintain a safe operation, to control spectators, and to advise participants that the competition or event has been halted or cancelled.
18. A target area marking (man-made or natural) clearly visible to the pilots must be provided to assist the pilots in compliance with the approved distances from any spectator area.
19. A crowd line consisting of a physical barrier or adequate policing shall be provided to deny spectators access to designated target areas.
20. When Mr. Harold Cliver or the assigned and duly trained Event Director, is replaced as the person responsible to the FAA for compliance with this Certificate of Waiver, Top Gun, Inc., must provide the name and telephone number of the person who will assume responsibility for Top Gun, Inc., events to the FAA Albuquerque FSDO not less than five (5) days prior to Top Gun, Inc.'s next scheduled event. This information must be provided via email to the ABQ FSDO's mailbox at 9-abq-fsdo-electronicdocs@faa.gov.
21. After each Top Gun, Inc., flying event, Mr. Harold Cliver or the assigned and duly trained Event Director, must provide the full legal name of each participating pilot, pilot telephone number, pilot certificate number, and pilot certificate level (private or commercial), and N-number of the balloon flown, within five (5) days after the flying event has concluded. This information must be provided via email to the ABQ FSDO's mailbox at 9-abq-fsdo-electronicdocs@faa.gov in PDF format.
22. Mr. Harold Cliver, or the assigned and duly trained Event Director, must provide within 24 hours prior to each scheduled flying event the exact location from which each flying event is going to originate, for example, Balloon Fiesta Park, etc., and the location of the target(s). This information must be provided via email to the ABQ FSDO's mailbox at 9-abq-fsdo-electronicdocs@faa.gov.

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Top Gun, Inc.

Balloon Flight Operations Manual

Attachment D1



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I. Purpose

The purpose of this manual is to establish responsibilities and operational guidelines for the Top Gun Balloon Club, Inc. (hereinafter known as Top Gun) for the following purposes:

- Issuance of a Certificate of Waiver/Authorization regarding 14 CFR, Subpart B, 91.119 (b) and (c).
- Insure there is an added level of safety provided during club activities
- Meet the requirements and guidance contained in The US DOT, FAA order 8900.1.

This manual is submitted as a part of an application for a waiver of Title 14 of the Code of Federal Regulations (14 CFR) part 91, §§ 91.119(b) and 91.119(c), by the Top Gun Balloon Club for operations in conjunction with competition training flights by its members. Specifically, the waiver will allow officially registered balloons who are members of the club to operate at an altitude of no less than 200 feet above the highest obstacle within a 200-foot radius of the balloon en route to the target within a 2 nautical mile radius of the designated launch field or goal. It will also allow for officially registered balloons to operate at 75 feet AGL over secondary spectators and to set goals and/or targets at a minimum distance of 500 feet from physical barriers provided for secondary spectator control.

No waiver is requested nor is a waiver required by 14 CFR for any mass ascensions or pilot choice launches.

No waiver is requested nor is a waiver required by 14 CFR for formation flight during mass ascensions, flight to a target or in the vicinity thereof. However, participation by club members in authorized club flights shall be understood that consent is given by the participating PIC as required by 14 CFR, § 91.111 (b). In addition, operations in potential formation flight shall be conducted according to this manual.

The material contained in this manual shall not be construed to change or minimize any regulatory requirements, and in the event of contradiction, Federal Aviation Regulations and/or policies shall prevail.

A. References

References for guidance and operational considerations for the Top Gun operations manual for club flight operations, are as follows:

- Order 8900.488
- Order 8900.1, Volume 3, Chapter 6
- Order 8900.1, Volume 3, Chapter 7
- AC 91-45C
- 14 CFR Part 91, Subpart B, § 91.119 (b) and (c)
- 14 CFR Part 91, Subpart B, § 91.111 (a) and (b)
- 14 CFR Part 91. Subpart J, § 91.903 and § 91.905

B. Background

Top Gun Balloon Club, Inc. (hereafter referred to as 'Top Gun') is a balloon club that was established in 1984 with the purpose of developing and providing additional training of pilots in the science of aerostation of balloon flight. This includes activities to further enhance the skill of navigation in a balloon. This is accomplished through friendly competition which has developed within the industry since the inception by the Balloon Federation of America Balloon Club in 1961.

As of the writing of this manual, there are more than 200 balloon events worldwide. The greatest majority of those events occur within the United States. Some of these events involve competitive balloon flights that test the skills of pilots to navigate using the winds which vary with altitude. Balloon Pilots which attend these events which involve competition have to be trained to understand the relationship between the rules established to conduct the competition and the requirements under 14 CFR, Part 91 – Flight Rules.

Top Gun Balloon Club has operated continuously since 1984 in Albuquerque, New Mexico. The favorable weather in Albuquerque and the formation of the Albuquerque Balloon Festival in 1972 has created an interest in balloon ownership and operation for the local area. It is likely that the number of balloon aircraft owned and operated per capita is higher than anywhere else in the World. Both of these factors have caused Albuquerque to be known as the Balloon Capital of the World.

In an effort to provide training for newly certificated balloon pilots and training for experienced pilots new to competition, Top Gun has created this manual to define methods and processes for training pilots how to safely conduct operations and practice for flight at events involving competition. Top Gun has maintained a relationship with the FAA for operations to conduct club flying competitions on a monthly basis for an extended period of time. Recent revisions in the 8900.1 guidance has created the need for this manual revision and is intended to not only meet those guidance requirements, but to create a fresh look at the operations and training provided by Top Gun for its members. It is to serve as a basis to be included in training for not only pilot members, but for FAA personnel involved in the surveillance of the club operations.

The method in which Top Gun has provided training and opportunities for pilots to gain experience in flying under a Certificate of Waiver for lower than standard altitudes while also learning balloon competition skills is through monthly flying practices. In order to evaluate improvement in skill levels required to better plan navigation through the science of aerostation, several pilots must perform the same flight objective and a comparison of results is provided to gage improvement or identify pilot skills to be improved upon.

This manual has been revised effective for the calendar year 2019 to address previous club Certificate of Waivers, some of which were issued for a two year period. It shall also address revised or clarified guidance as contained in FAA Policy Order 8900.488 which becomes effective on January 1, 2019.

C. Definitions

The unique operations for the Top Gun flight activities require the user of this manual to be familiar with the definitions as contained in FAA references as outlined previously. For ease, definitions which apply to Top Gun operations are referenced along with a discussion “Note:” to aid in the training purposes for concerned parties.

RE: FAA Order 8900.1, Chapter 6, Section 1, 3-143

Aviation Event. Aviation events include airshows, closed course air races, parachute demonstration jumps, balloon meets, and fly-ins conducted before an invited assembly of persons, for which the FAA issues a Certificate of Waiver or Authorization.

Note: Top Gun is an aviation club that has existed since 1984 with the purpose of further developing pilot skills in navigation and training for safely learning how to compete in a hot air balloon. By definition of order 8900.1, club flight operations should not be considered and does fit the definition of an aviation event. Top Gun does not advertise to the public and more specifically does not “conduct operations before an invited assembly of persons”. Top Gun does not have a central location as exist with balloon meets such as the Albuquerque International Balloon Festival or any host of other balloon festivals. Top Gun does not seek sponsors or develop commercial relationships in conjunction with training flights.

Control Point. A specified location where the event organizer, a designated representative, or an air boss manages the aviation event. The control point must have a communication system with the capability necessary to control the aviation event.

Note: Top Gun does not have a control point in a traditional sense as would be experienced with an aviation event. The communication for the club is done through group email, group text message and a monthly newsletter. When a training flight operation is scheduled, the officers of the club have to seek out a meeting point for briefing. These include places such as a borrowed office conference room, a meeting room at a restaurant or even a public parking lot.

Crowd Line. A physical barrier or a line marked on the ground that serves as a restraining line for designated spectator areas and provides the appropriate safety distances from the aerobatic box and/or show line.

Note: Top Gun does not have need for a crowd line since there is no information given to the public where flight operations are occurring in the flying area.

Event Organizer. The person or agency responsible for the organization and conduct of the aviation event.

Note: Top Gun, by definition does have an organizer for the monthly flying event. There is no single individual responsible as the club flying activities are planned in advance by a club board of directors. Communication is sent to the club members through a group email and a newsletter. The monthly flying event is run by an Event Director. The Event Director is an experienced club member who serves on a month to month basis. Event directors are approved by the Board of Directors at a monthly meeting.

Formation Flying. When an aircraft is flown solely with reference to another aircraft and within 500 feet of the referenced aircraft. Air racing and simulated dogfighting are not considered formation flying.

Note: Top Gun does not fit the definition of Formation Flying in a traditional sense. However, it should be pointed out that by nature during balloon competitions, balloon pilots understand and agree that they will be operating their aircraft within close proximity of other participating aircraft which does fall under FAR 91.111 (b).

The FAA aviation safety inspector (ASI) who has primary FAA responsibility for the aviation event. (See subparagraph 3 143D.)

Participant. Any individual specifically involved with, or directly participating in, the waived aviation event.

Primary Spectator Area. The main area designated by the event organizer for spectator use. The crowd line creates its boundary and has well defined lateral limits (ends). This is the area from which the public is directed to view the event. There may be more than one primary spectator area.

Note: Top Gun does not have Primary Spectator Areas.

Responsible Person. A person designated by the event organizer to be responsible for all aspects and special provisions of the waiver/authorization. This person must be acceptable to the waiver/authorization issuing Flight Standards District Office (FSDO) as being knowledgeable concerning the terms and provisions of the certificate of waiver/authorization for this aviation event. The responsible person will be responsible to the FAA for the safe conduct of the event.

Note: Top Gun will assign a responsible person as a single point of contact to coordinate club activities with the IIC in a manner which shall be in the mutual interest of the Albuquerque FSDO and Top Gun.

Secondary Spectator Area(s). Any area, not designated as a primary spectator area, where people have a natural tendency to gather to observe the event. This includes, but is not limited to, private property or property not under control of the event organizer, public roads, and private access roads.

Note: Top Gun flight operations may involve Secondary Spectator Area (s). Hot Air Balloon Flight typically draws people to look up or in many aspects follow balloons as they fly. Balloon Pilots and crews are very familiar with controlling secondary spectators which gather during launch, landing or at times that

multiple balloons are flying at the same time. Further, Secondary Spectator areas could exist in a location where a target area is located. This manual shall address control of any secondary spectator area which could possibly occur.

Regulatory Authority. Flight Standards Service (AFS) has the authority to grant or deny waivers of the regulations listed in § 91.905 for aviation events. The FSDO that has responsibility for aviation events conducted at the proposed site processes requests for waivers or authorizations.

D. Introduction

Top Gun Balloon Club, Incorporated, operates club flight activities under a Certificate of Waiver and/or Authorization for its members to operate at altitudes lower than those prescribed in CFR 14, Part 119 (b) and (c). This document was developed in accordance with Federal Aviation Administration (FAA) Order 8100.1. The material contained in this manual shall not be construed to change or minimize any regulatory requirements, and in the event of contradiction, FAA Regulations shall prevail.

This operations manual establishes the responsibilities and procedures to be followed by Top Gun members when performing the delegated functions as outlined within this manual. In addition, it outlines the training required in order to exercise the privilege of operations under the Certificate of Waiver.

The controls, procedures, and conditions set forth in this Manual and the Competition Rules are primarily designed so that club members, secondary spectators and members of the general public will not be jeopardized. Club members of any capacity as defined in this manual who fail to comply with the provisions of this Manual will be considered a violation of the terms of the Certificate of Waiver. In addition, any such failure to comply with the provisions may constitute violation of the Federal Aviation Regulations. Such actions could have adverse consequences to include possible actions available to the Top Gun Board of Directors, the FAA through the Federal Aviation Regulations and could cause revocation of the Certificate of Waiver for Top Gun.

A pilot or official not in compliance with any of the rules or provisions as outlined in this manual, or deemed unsafe by the Event Director, Safety Official or their designee, may be disqualified from the event and may be further barred from participating in future Top Gun flying events and/or lose competition points.

Reinstatement to participate in future Top Gun flight operations after a violation, may at the discretion of either the Top Gun Board of Directors or the FAA may require additional training which shall be reviewed on a case by case basis.

Since 1984, the Albuquerque Flight Standards District Office has issued a Certificate of Waiver allowing for club activities using the some guidance and sound judgement in evaluation of the club operations manual using reference to 8900.1, Chapter 7 which allows for a Certificate of Waiver to be issued for up to a 24 calendar month period. However, many of the concepts must be used from Chapter 6. This is due to the fact hot air balloon terminology has been placed by the FAA AFS-800 into Chapter 6 for the purposes of meeting the purpose of serving the balloon event and festival segment based on need.

Top Gun is and remains the only training club or organization that has the sole purpose for teaching pilot skills through competition. Because of the long lasting relationship between the local FAA and Top Gun, this manual is prepared and intended to apply all of the applicable guidance to serve the goal of maintaining a level of safety that warrants the issue of a Certificate of Waiver for FAR 14 CFR Part 91, Subpart B, § 91.119 (b) and (c).

II. Responsibilities and Procedures

A. Duties of Personnel

The President of Top Gun may delegate the duties described below to other qualified persons. While the President may delegate his/her authority to others, he/she shall retain responsibility for the overall safety of the event and compliance with the Federal Aviation Regulations and the Special Provisions of the Certificate of Waiver.

1. **Event Director:**

An overall operational charge of the Top Gun monthly flight operations and is responsible for good management and the smooth and safe running of all club flight operations. In addition, they shall coordinate the training activities for the assignment assigned by the club president. The Event Director will be available for coordination with the FAA during times of oversight and surveillance. The Event Director is responsible for briefing the participating pilots for the items as outlined in Section IV – Flight Operations as contained in this manual.

2. **Assistant Event Director:**

An Assistant Event Director is not required, but may be used at the discretion of the Club President or the Event Director. Determination is made based on the number of club member pilots which are participating. As a general rule, if more than 20 pilots are participating and signed up for a club flying activity, use of an Assistant is advised. An Assistant Event Director should also be used when training for additional experienced members wishing to develop into the role of a club Event Director. Assistant Event Director may serve as the Chief Safety Official concurrently.

- i. Chief Safety Official: Supervises Safety Officials, advises Event Director of all matters pertaining to flight safety, monitor flight operations from a safety aspect, detect and correct potentially unsafe operations and counsels pilots who have violated safety

- and/or Top Gun procedures and rules. May serve as the Event Director concurrently for non-competition events.
- ii. **Safety Officials:** If used, Coordinate with and assist the Chief Safety Official on all activities mentioned above. Maintain an on-field presence during all Top Gun flight operations. Coordinate with on-field law enforcement and emergency personnel in situations should they be required or their assistance is sought as a result of club activities.
 - iii. **Chief Scoring Official:** Responsible for all measurements and the scoring of competitive events and insures the competition rules are carried out as written and approved by the Event Director and the Top Gun Board of Directors. Selects, trains, and supervises scoring personnel with safety being the prime concern.
 - iv. **Assistant Chief Scoring Official:** Assists the Chief Scoring Official in assuring all measured results are correct and that rules are followed by the competitors; serves as the senior Top Gun Official at off-field targets; and provides crowd control around target areas as required.
 - v. **Measurer:** Collects and records results of the official markers; provides crowd control around the target areas as required and helps monitor rules infractions.
 - vi. **Weather Officer:** Acquire latest and most accurate weather information from the National Weather Service and a variety of other sources; makes on field weather observations; interpret data as it relates to balloon flight; advise on weather issues as they relate to flight safety. Provide current continuous weather conditions to pilots and officials prior to, during flights. Brief other officials and pilots on current and forecast weather conditions prior to and throughout each training flight operation. The Weather Officer may be the Event Director or Safety Officer to serve concurrent roles.

A. Registration and Airworthiness Determination

Balloons flown during Top Gun Club activities must meet the following requirements:

- Be registered with the Club for use by a current club member.
- Have a current certificates of registration and airworthiness, a copy of which is on file with the club secretary or in the place of the latter, an equivalent document from the Federal Aviation Administration or country of registry.
- Have a current inspection, a copy of which is on file with the club secretary
- Have a balloon insurance policy in place for 3rd party liability coverage, a copy of which shall be on file with the club secretary
- Any damage to an aircraft shall be reported to the Event Director and/or Safety Officer as soon as practical after the damage has occurred or is observed.

B. Pilots and Flight Crewmembers

- i. Pilots must be a member and officially registered with Top Gun.

- ii. Pilots must hold a private or commercial balloon pilot certificate issued by the Federal Aviation Administration (FAA), or an equivalent rating issued by the country of the Aircraft's registry, and meet all currency requirements as outlined in the Federal Aviation Regulations (FARs), or the country of issuance of the airman certificate, as appropriate. Must be supported with original documents. A copy of these documents must be on file with the club secretary.
- iii. Pilots must show evidence of currency per 14 CFR Part 91, § 91.56. A copy of which shall be maintained by the club secretary.
- iv. Pilots must be current per 14 CFR Part 91, § 91.57
- v. Pilots must attend event operations briefing and the pilot briefing applicable to the particular flight if participating prior to operating as Pilot-In-Command (PIC).
- vi. Must agree to abide by all FARs, Top Gun rules and regulations, including any rules that are added or modified during the event and announced during any official pilot briefing.
- vii. Flight Crewmembers shall attend a briefing of responsibilities conducted by the Pilot-in-Command prior to beginning flight operations.
- viii. The number of occupants carried onboard during the flight shall not exceed the limitations of the aircraft operations manual.

C. Pilot and Crew Briefing Responsibilities

- i. Each flight pilot and flight crewmember carried on board a balloon during the event, including students receiving training, shall have been briefed about the balloon's operation and the crewmember's duties and responsibilities by the Pilot-In-Command (PIC) or Instructor responsible for safe operation of the balloon.
- ii. Each Pilot and Flight crewmember must sign the form that is supplied by Top Gun at Pilot Briefing attesting they have been briefed on and understand the conditions of the Waiver.

D. Letter of Agreement:

Any Letters of Agreement issued will be signed as required and made a part of this operations manual and referenced in the table of contents as necessary. An application for a Certificate of Waiver shall be submitted to the FAA for each twelve-month period starting February 1 and ending January 31 of the following year. While this manual has been written to also satisfy new requirements of 8900.1, Volume 3, Chapter 6, Change 86 regarding many concepts related to Aviation Events and more specifically flights involving Hot Air Balloons, it should be noted that almost 30 years of history and FAA guidance has been issuing a Certificate of Waiver for up to a 24 month period. This has been done by use of guidance provided in 8900.1, Volume 3, Chapter 7. It should be noted that Top Gun flight operations occur on a continual basis at least monthly through the entire year and by agreement shall now submit an application for Waiver on an annual basis versus a bi-annual basis.

E. For Hire Operations:

- i. No balloon or pilot may participate in any Top Gun event while carrying passengers for hire or compensation, unless they are contracted to an official Top Gun balloon ride concessionaire and operating on its behalf.
- ii. A Balloon used for flight training or a balloon with company logos or advertising banners shall not be considered to be a 'balloon for hire' unless that balloon is also carrying passengers for monetary compensation.
- iii. Balloons conducting flight instruction for a certificate, rating or operating privilege, are authorized to operate under the certificate of waiver if the PIC/instructor meets the requirements of Pilot as described above. However, student pilot solo flights are not authorized.

F. Top Gun shall maintain a roster containing the name, address, certificate number, and date of last flight review of each registered pilot and the registration number, manufacturer, model, and date of aircraft annual inspection of each aircraft participating in the event. A copy of each list will be provided to the Albuquerque FSDO upon request.

G. Top Gun will provide access for FAA personnel to monitor operations during registration, check-in, briefing and all reasonable locations for scheduled events.

H. Event Documentation

All relevant registration files, task data sheets, pilot registration information, etc, shall be maintained by Top Gun for at least 45 days after the applicable club flight operation and will be made available to the FAA monitor upon request. Competition maps and task data sheets will be made available to the FAA Monitor at the time of pilot briefing.

III. Ground Operations

A. Clear Areas

A Clear Area shall be established at each target site. This area shall be no less than 200 feet from the center of the target. Top Gun personnel policing the area shall keep this area clear of spectators.

B. Spectator Areas

There are no primary spectator area is located per the definition as contained in the guidance of 8900.1. However, it is possible that secondary spectator areas could develop at a common launch site when a Common Launch Area is designated. Any secondary spectator area and minor crowd control is maintained by Top Gun personnel including the pilots participating in the club flight operations. Competitive goals/targets set outside of any common Launch Area typically attract few, if any spectators. If any secondary spectators are present, officials controlling these areas will establish a Clear Area and isolate the area surrounding the goal/target from such secondary spectators.

C. Crowd Control Requirements

Because flight operations are not open to the general public and are not advertised, Crowd Control Requirements are not necessary. It is possible secondary spectators could develop at launch locations for any hot air balloon. It is possible for the same to develop at a goal or target area. A target or goal location is another area in which there exist the possibility for a secondary spectator area to form involving a few people from the general public. While unlikely, a marker measuring area (MMA) is an area defined by a radius around a goal/target or an otherwise clearly defined area within which results will be achieved by dropping of markers.

- i. Unless otherwise stated in the task data, a landing at will is not permitted within a Measured Marker Area (MMA).
- ii. Pilots landing their balloon within 300 ft. from the center of the target within 500' of the boundary of a MMA shall deflate their balloon as soon as is safely possible to avoid becoming an obstacle to other balloons.
- iii. Top Gun officials under the direction of the Safety Official will provide crowd control within MMAs should any need arise.

D. Landowner Relations/Notification

Pilots must obtain permission (when possible) to launch from, or to land on, developed private property and minimize disturbances to landowners and livestock.

IV. Flight Operations

A. Areas of Operations

Flight Operations will occur within a 9 nautical mile radius on ABQ VOR 025° Radial 12 nm DME – Surface up to and including 10,000 feet MSL. Final landings may occur beyond these boundaries. Flights beyond these boundaries must comply with **14 CFR, section 91.119 (b) & (c)**.

B. Types of Operations

i. Competition Training Flights

The Event Director shall choose any and all tasks after consultation with other competition officials and considering the weather conditions at the time of the launch and forecast conditions for the anticipated flight times. Flight Events can consist of single or multiple tasks as determined by the Event Director, and may include any task described below.

- a. PILOT DECLARED GOAL (PDG)
Competitors will attempt to achieve a mark or valid track point close to a goal selected and declared by him.
- b. JUDGE DECLARED GOAL (JDG)
Competitors will attempt to achieve a mark or valid track point close to a set goal.
- c. HESITATION WALTZ (HWZ) – aka Multiple Judge Declared Goal
Competitors will attempt to achieve a mark or valid track point close to one of several set goals.
- d. FLY IN (FIN)
Competitors find their own launch areas and attempt to achieve a mark or valid track point close to a set goal or target.
- e. FLY ON (FON)
Competitors will attempt to achieve a mark or valid track point close to a goal selected and declared by them during flight.
- f. HARE AND HOUNDS (HNH)
Competitors will follow a hare balloon and attempt to achieve a mark or valid track point close to a target displayed by the hare no more than two meters upwind of the basket after landing.
- g. WATERSHIP DOWN (WSD)
Competitors will fly to the launch point of a hare balloon, follow the hare, and attempt to achieve a mark or valid track point close to a target displayed by the hare no more than two meters upwind of the basket after landing.
- h. GORDON BENNETT MEMORIAL (GBM)
Competitors will attempt to achieve a mark or closest valid track point within a scoring area(s) close to a set goal.
- i. CALCULATED RATE OF APPROACH TASK (CRT)
Competitors will attempt to achieve a mark within a valid scoring area close to a set goal. The scoring area(s) will have unique times of validity.
- j. RACE TO AN AREA (RTA)
Competitors will attempt to achieve a mark or valid track point, as specified in the task data in the shortest time within a scoring area(s) or airspace(s).

- k. ELBOW (ELB)
Competitors will attempt to achieve the greatest change of direction in flight.
- l. LAND RUN (LRN)
Competitors will attempt to achieve the greatest area of a triangle ABC.
- m. MINIMUM DISTANCE (MDT)
Competitors will attempt to achieve a mark or valid track point close to the reference point, after flying a minimum set time or distance.
- n. SHORTEST FLIGHT (SFL)
Competitors will attempt to achieve a mark or valid track point close to the reference point within a set scoring area(s).
- o. MINIMUM DISTANCE DOUBLE DROP (MDD)
Competitors will attempt to achieve two marks or valid track points close together in different scoring areas.
- p. MAXIMUM DISTANCE TIME (XDT)
Competitors will attempt to achieve a mark or valid track point far away from the reference point, within a maximum set time.
- q. MAXIMUM DISTANCE (XDI)
Competitors will attempt to achieve a mark or valid track point far away from the reference point within a set scoring area(s).
- r. MAXIMUM DISTANCE DOUBLE DROP (XDD)
Competitors will attempt to achieve two marks or valid track points far apart in the scoring area(s).
- s. ANGLE TASK (ANG)
Competitors will attempt to achieve the greatest change of direction from a set direction. The change of direction is the angle between the set direction and line "A-B".
- t. 3-D SHAPE TASK (3DT) (for events with logger scoring)
Competitors will attempt to achieve the greatest distance within a set airspace.

ii. **Other Events (non-competition)**

Other events involving balloon flights or balloon displays may be incorporated into Top Gun events. These events are for the entertainment of participants and spectators, and although they may involve a contest element they do not count toward Top Gun nor Balloon Federation of America competition results.

- a. Mass Ascensions: Events where officially registered balloons launch from a Common Launch Area. Mass ascensions may be part of competitive events with the pilots competing in one or more competitive tasks.
- b. Dawn Patrols: Balloons launch from a Common Launch Area thirty to sixty minutes prior to sunrise. The balloons fly for one to one and one half-hours and land after sunrise. Participants in these flights must adhere to all applicable Top Gun rules, FARs, and the FAA waiver. Section 91.209 (Aircraft Lights) has not been waived for Dawn Patrol.
- c. Prize Ring Toss / Key Grab Competitions: Are events where pilots launch from either a Common Launch Area or from a site of their choice, as described by the Event Director. They will fly to a designated target area and attempt to place rings over the top of a pole (Prize Ring Toss), or grab a prize (Key Grab) from a pole. Target poles are approximately 30 ft. high.

C. Altitudes

The Certificate of Waiver and Authorization provides that registered balloons will be allowed to make approaches to targets/goals within designated areas. During these approaches, balloons will be permitted to fly over any secondary spectator areas at an altitude of not less than 75 feet AGL within the confines of the target field or 1000' whichever is greater. The balloons shall not be descending lower than 75' while passing over these any secondary spectator areas.

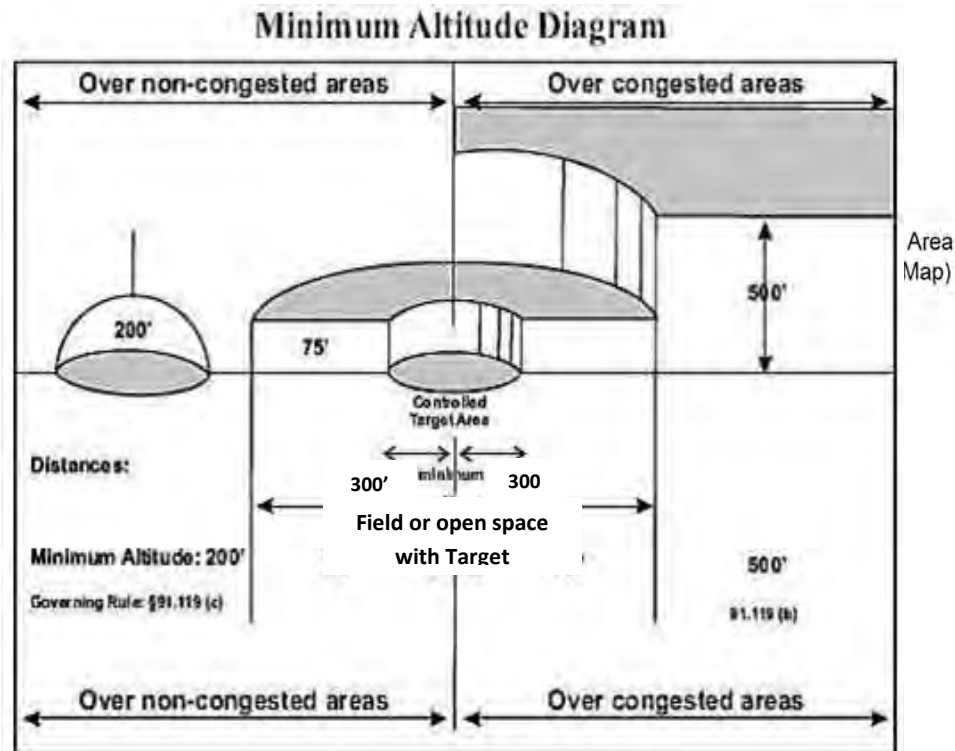
The following are the altitudes, as provided in the Certificate of Waiver, for approved Top Gun Events:

Except when taking off or landing, the minimum altitudes of FAR 91.119 (b) and (c) are reduced to:

- i. 500 ft. AGL over any congested area of a city, town, or settlement, over any open air assembly of persons, and minimum altitude indicated on the official Top Gun map; 75 ft. AGL within 1,000' of the goal/target but outside the 300' target area;
- ii. The surface within 300' of the goal/target

PROFILE OF ALLOWABLE ALTITUDES DURING TOP GUN EVENTS*

Not To Scale



**Note:*

All Basic VFR weather minimums (14 CFR 91.155) remain in effect.

All Prohibited Zones (PZs) indicated on the Top Gun Map remain in effect.

Outside the Waiver Area 14 CFR 91.119 Applies

D. Weather Requirements

- i. Flight operations will be conducted during the period from published sunrise to sunset under day VFR operations in accordance with 14 CFR, section 91.155 only. The event is not authorized if visibility is less than 3 miles or the ceiling is less than 2000 feet AGL at the time of launch. Launch will not be started if the surface winds are greater than 15 knots within the Area of Operations designated in the waiver for each event. It shall be the responsibility of the designated Safety Official in cooperation with the Weather Team to consult the Flight Service Station (FSS) or any FAA approved weather source concerning the meteorological conditions and outlook.
- ii. It should be noted that the conditions at the Event site shall be the determining factor in determining operations rather than the sole reliance on FSS information. The Event Director in cooperation with the Safety Official will at his/her discretion determine whether the Competition Tasks will be flown, cancelled, or delayed. The decision for flight is the sole responsibility of each Pilot In Command (PIC). The Event Director or the Safety Officer can at their discretion, at any time close a target or targets or cancel the event due to deteriorating weather conditions.

E. Communication Requirements

The Event Director shall establish a central control point from which the Event Director or his representative shall direct the event and be available for coordination with any FAA representative, the event/staff officials and the registered competitors. Notice of this location point will be included in the briefing. Prior to flight operations, all pilots shall be briefed and given updated information appropriate to the task(s) being flown. Flight safety information and/or cancellation of flight operations shall be briefed to the pilots as soon as it becomes available. Acceptable Communications outside of the briefing will be maintained via group text, emails or any other means which allows communication through a smart phone.

C. Air Traffic Notification

1. Flight Service Station (FSS) Notification:

The Event Director or the Safety Official will notify the National NOTAM Office of the date, time, place, areas, altitudes, nature of the activity, and duration of the operation and request that a Notice to Airmen (NOTAM) be issued. Such notice shall be accomplished by calling 1-877-487-6867). They will also provide notification advising the ATCT in the event of cancellation or early termination of the event or task(s) for any given day. Verbal notification shall also be made by calling the National NOTAM Office 48 hours before the scheduled operations to ensure proper issuance of the NOTAM information.

2. Air Traffic Control Tower Notification:

The Event Director shall notify the Albuquerque ATCT by calling 856-4935 thirty (30) minutes prior to the launch. The Event Director shall inform the Albuquerque ATCT of

the number of balloons that are expected to launch and the anticipated direction of flight.

3. Air Traffic Control Tower Communications:

The Albuquerque ATCT has agreed to allow the following deviations from the requirement to establish two-way radio communication prior to entering Class C Airspace.

If a landing can be made prior to Central Avenue, radio contact is not required.

If a landing **cannot** be made prior to Central Avenue the following procedures shall be followed:

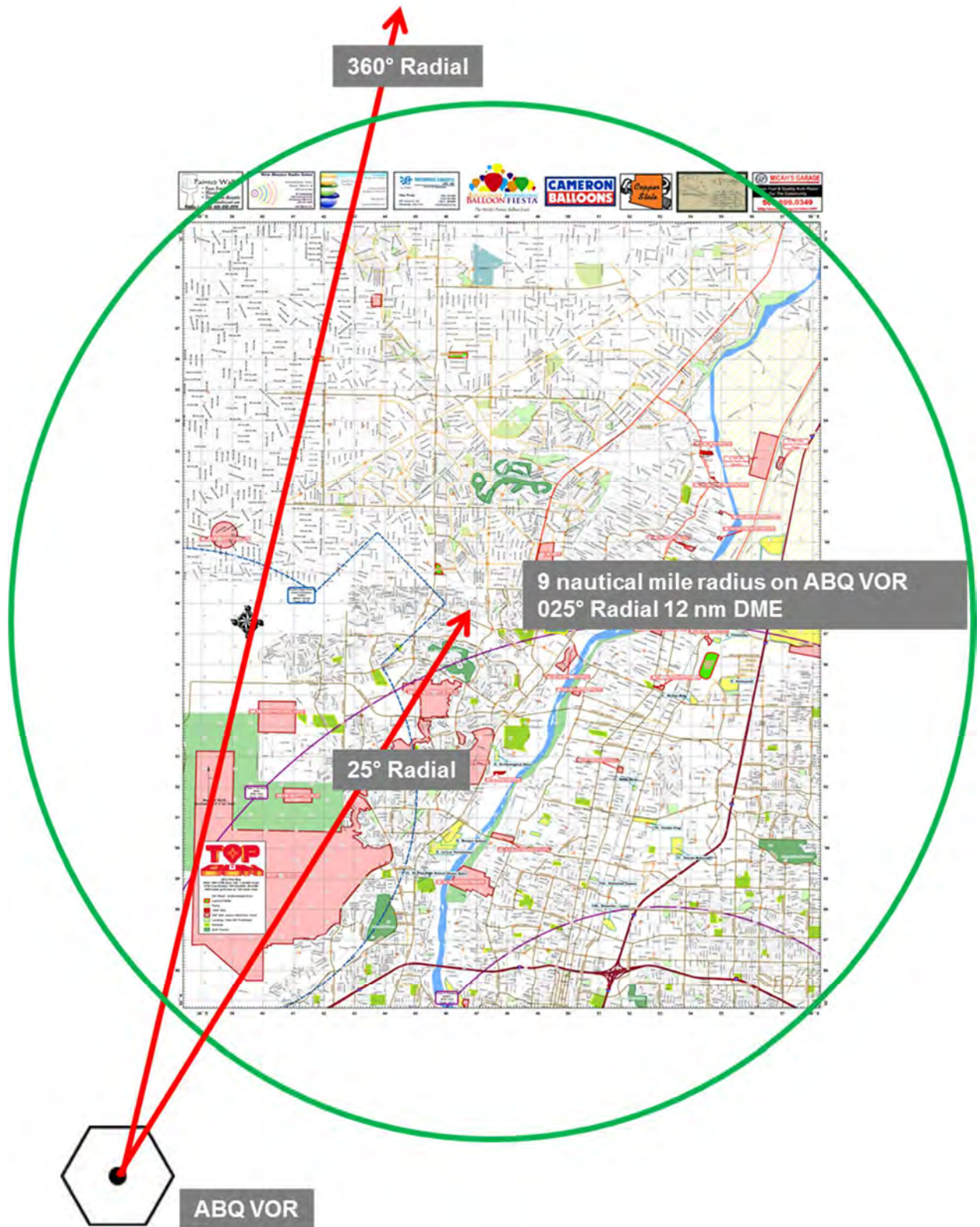
- a. Flights south of I-40 and east of I-25:
 - i. The PIC must contact the ATCT on 120.3 MHz if a landing cannot be made prior to crossing Central Avenue.
 - ii. If the balloon is unable to land prior to Central Avenue, and the PIC is unable to contact the Albuquerque ATCT, the balloon shall climb to 8000 feet MSL and cross the airport area. Descent below 8000 feet MSL may begin as soon as the balloon crosses the arroyo south of the airport. (Be alert for aircraft traffic landing and departing the airport on the southwest side of the airport.)
- b. Flights south of I-40 and west of I-25:
 - i. The PIC must contact the ATCT on 120.3 MHz if a landing cannot be made prior to crossing Central Avenue.
 - ii. If the balloon is unable to land prior to Central Avenue and the PIC is unable to contact the Albuquerque ATCT, the balloon shall descend below 6000 feet MSL. The balloon shall remain at or below 6000 feet MSL until reaching the point where I-25 crosses over the Rio Grande River, at the southern edge of Albuquerque.
- c. If, due to an emergency situation (e.g. in-flight fire, structural failure, or medical emergency) the PIC must land on the Albuquerque Sunport runway complex, or the Kirtland Air Force Base Complex, do so expeditiously and, if possible, move the balloon equipment so as to remain well clear of runways or taxiways.

G. Briefings

The Event Director will include the following information in the briefing prior to flight activities:

- Weather conditions for the day's flight,
- Any restrictions that may apply as a result of landowners, airspace, etc.
- Means of communication for recall
- Task Data for the training flight operations
- Safety information and updates as required
- Review of the Waiver requirements
- Control Point Location
- Key Personnel
- Key Personnel Contact details

Map: Area Of Operations



ATTACHMENT D2

TOP GUN COMPETITION BALLOON CLUB



2019 RULES

TOP GUN BALLOON CLUB
P.O. BOX 90236
ALBUQUERQUE, NEW MEXICO 87199

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DISCLAIMER

Top Gun Balloon Club offers this set of competition rules for aeronauts who are interested in competitive ballooning and participation in the Top Gun Balloon Competition Club. These rules are updated annually in April and provide for use during the monthly flying events for the club. These rules are used to determine a New Mexico State Hot Air Balloon Champion and a Club Champion. These rules are designed to afford balloonists the opportunity to participate in competitive hot air ballooning activities while observing the principles of sportsmanship, mandates of the Federal Aviation Regulations (FAR's) and the Waiver of Authority as issued to Top Gun Balloon Club.

These rules have been developed by the members of Top Gun Competition Club and approved by the Board of Directors. These rules follow closely the AX-MER rules for balloon competition as currently adopted by the FAI/CIA Ballooning Commission. They also closely follow the Balloon Federation of America rules which are also modeled after the FAI/CIA. Top Gun, Inc., has chosen which of these rules best fit the organization and pilot members. These rules are no substitute for well-reasoned pilot decision making by pilots in command of lighter-than-air craft. Likewise, they are not intended as a substitute for the Federal Aviation Regulations with which competing pilots should be totally familiar.

Many of the tasks referenced in these rules could potentially involve flight which would be below the minimum safe altitudes mandated by FAR 91.119 (b) and (c) (14 C.F.R. § 91.119(b), (c)). **These competition rules do not grant participating pilots the right to contravene FAR's, including minimum safe altitudes, limited operational airspace, or the waiver as issued by the FAA.**

SECTION I – EVENT DETAILS

I. 1 TITLE

The Event shall be known as **THE Top Gun Monthly Flight Operations.**

I. 2 SANCTION

The event is sanctioned by **Top Gun Balloon Club.**

I. 3 ORGANIZATION

The event is organized by Top Gun Balloon Club.

I. 4 CORRESPONDENCE

All correspondence should be addressed to:

Top Gun Board of Directors
TOP GUN BALLOON CLUB
P.O. BOX 90236
ALBUQUERQUE, NEW MEXICO 87199

I. 5 PERSONNEL

Flight Operations Liason	Harold Cliver
Event Director	Per Board Approval
Safety Officer	Per Board Approval
Scoring Officer	Per Board Approval

I. 6 PLACE

The Event will be held at **various locations as announced in club emails.**

I. 7 DATES

The Event will run from **January 1, 2019 thru December 22, 2019**

The last flying day will be **December 22, 2019**

I. 8 PROTEST FEE

The protest fee to accompany a protest is \$100.00 cash.

I. 9 LANGUAGE

In the rules, the masculine form is used as a standard. Wherever you find the masculine form, it is implied that the feminine form is included.

I.10 PARTICIPATION

The Event is open to any Top Gun Pilot Member who has completed the registration process. Prior to participation, pilots will have an opportunity to join **Top Gun as a Pilot Member.**

I.11 CLOSING ENTRY DATE

The closing entry date for participation in any of the monthly flying events shall be the closing of registration on the date of that flying event. All documents should be approved prior to entry for any single club flight.

I.12 ACKNOWLEDGEMENT OF RESPONSIBILITY AND ASSUMPTION OF RISK

I.12.1 A competitor, by entering the event, acknowledges awareness of, and agreement with, the responsibility legally transferred to the pilot in command under the Federal Aviation Regulations (FAR's) as regards the personal decision to fly his balloon and any bodily injury or property damage resulting from is solely the pilot's liability.

1.12.2 The competitor acknowledges that none of the flights are mandatory and that all flights will be made at the sole discretion of the competitor. Competitor's decisions as pilot in command may affect his standings in competitive events and any club recognition for Club Champion and New Mexico State Champion shall be affected if choosing not to fly.

1.12.3 The balloon and other property of a competitor shall be at risk of the competitor at all times. By entering the Event a competitor agrees to waive all claims for injury to himself or loss of damage to his property.

I.13 INSURANCE

Each competitor shall be insured against all claims by third parties to a minimum of \$100,000 per passenger, \$100,000 property damage and a minimum limit of **\$1,000,000** combined single limit coverage on the operation of their balloon. The competitor shall produce documentary evidence of this insurance and additionally insured endorsements valid for the period of the Event covering any balloon which he may fly.

SECTION II – COMPETITION DETAILS

II. 1 CONTEST AREA (7.1)

The competition map will consist of special editions of maps produced using DeLorme XMap® 6 software licensed for this application. Paper maps will be distributed at on-site pilot registration. Digital versions of the competition map will be available for download at Top Gun's web site (<https://www.topgunballooning.org/maps/>) by **January 1, 2019**.

The contest area will be the entire competition map except for areas designated as out of bounds. Any changes will be published on the Official Competition Map and posted on the **Official Notice Board**.

II. 2 OUT OF BOUNDS (7.2)

All red and blue PZs are considered out of bounds airspaces. Ground contact and other penalties will be applied. Changes will be posted on the Official Notice Board.

II. 3 PZ LIST (7.3)

II. 3.1 The details of Prohibited Zones will be printed on the Official Competition Map; changes will be posted on the Official Notice Board and written supplements will be distributed at task briefings as changes occur.

II. 4 COMMON LAUNCH AREA(S) (9.1.1)

CLAs will be announced at the Monthly Briefing. Changes to Common Launch Areas will be distributed at task briefings should changes occur.

II. 5 COMMON LAUNCH POINT(S) (9.1.2)

Changes to Common Launch Points will be distributed at task briefings should changes occur.

This data may be changed before the event and the final information will be covered in the Briefing.

II. 6 LANDOWNER'S PERMISSION (9.3)

Landowner's permission must be obtained for each launch/landing and if several competitors launch/land at the same location, each competitor must ask for permission. Pilot must obtain landowner name, address and phone number and include on Flight Report Form.

Public areas such as public parks, schools and industrial areas are considered as places without need for permission for take-offs or landings. Landowner permission is not required if the basket and retrieve vehicle is on a public road or driveway and the envelope is laid out in a field which is not fenced and not cultivated and no damage is done. Traffic may not be obstructed. Church property may also be used in this manner as long as no basket or retrieve vehicle is on grassy areas. These provisions and instructions are subject to change before or during the event any time by announcements by the Event Director.

II. 7 LIVESTOCK, BUILDINGS, VEHICLES, PERSONS AND CROPS (10.6)

Balloons shall not fly closer than 200' from livestock, buildings, vehicles, Persons, Crops or Buildings containing livestock. Any special notes will be made available during the pilot briefing.

II. 8 DRIVING LAW (10.11)

All participants are required to follow local and state laws and regulations for motor vehicles.

II. 9 AIR LAW (10.14)

When flying over congested areas, persons, livestock or property, competitors must follow the restrictions issued by the FAA in the Event Waiver. Violation of this rule will result in a penalty. The entire contest area will have a maximum altitude (Blue PZ) during competition flights. This altitude will be covered in the Briefing and may be subject to change before or during the event by announcements of the Event Director.

II.10 RECALL PROCEDURE (10.15)

Recall Procedures will be covered at the Briefing and are subject to change only by adequate notice given by the Event Director at a Pilot Briefing.

II.11 GOAL CENTER (12.1)

The center point of the intersections of roads will be the intersection of the projected centerlines of the roads. The Director may provide graphical definition of unusual intersections or goals.

In the case of goals selected by competitors from a published intersection list and measured by track log, all logger measurements will be made to the published intersection coordinate. Competitors should be advised that pre-approved list of published goals may not be the exact center of the intersection, may be represented by some other ground-based identifiable landmark and that they should fly to the coordinate provided. Measurements involving markers will be made from the center of the 'marked' intersection or goal.

II.12 GOALS SELECTED BY A COMPETITOR (12.2)

II.12.1 In the case of goals selected by competitors, pilots are required to select goals as indicated on the Task Data Sheet. A list of preapproved goals will be provided at the Master Briefing. Competitors will identify any preapproved goals as indicated on the Task Data Sheet.

In addition to the list of pre-approved goals noted above, the following types of goals are also permitted:

- a) Intersection of two roads
- b) Intersection of a road and a railroad
- c) Any point not in violation of II.12.2

II.12.2 No goal selected by a competitor shall be:

- a) Within a built-up or Congested area (designated areas on competition map)
- b) Within a blue PZ
- c) Within 200 meters of:
 - i. A Red PZ
 - ii. Red roads (I25, Alameda, I40, Coors, and other as indicated on the competition map or included at a briefing)
 - iii. A power line shown on the competition map

II.12.3 Declaration methods:

- a) Pilot Declared Goals (PDG)
 - i. A written declaration may be submitted by the pilot as specified on the Task Data Sheet
 - ii. Text or other electronic methods of declaration as specified on the Task Data Sheet
 - iii. A competitor who wishes to revise his declaration may deposit/text a further declaration, within the declaration time, provided it is allowed on the TDS or as directed by the event director.
 - iv. If no valid goal is declared, the competitor will not achieve a result. If more goals are declared than are permitted, the competitor will be scored to the least advantageous valid goal.
- b) Fly On (FON)
 - i. The competitor must clearly declare his Fly On goal(s) using one of the following methods:
 1. On a properly submitted declaration as directed at the task briefing or on the TDS.
 2. On the marker tail of a previous task as defined on the Task Data Sheet (TDS),
 3. Text or other electronic methods of declaration as specified on the TDS
 4. Any method and timing as specified on the TDS.
 - ii. A competitor who wishes to revise his declaration may text a further declaration using any means as provided on the TDS, provided it is clearly marked to distinguish it from any previous declaration(s). Coordinates and declaration time.
 - iii. If no valid goal is declared, the competitor will not achieve a result. If more goals are declared than are permitted, the competitor will be scored to the least advantageous valid goal.

These instructions are subject to change before or during the event anytime by announcements by the Event Director.

II.13 LOCATION OF OFFICIAL NOTICE BOARD (5.11)

Shall be provided at the Briefing.

II.14 COMMUNICATION TIMES (5.3)

Replies to general inquiries or complaints will be **posted as necessary on Club Social Media, Email or Website.**

II.15 PUBLICATION TIMES ON THE LAST FLYING DAY (5.6.3)

Every half-hour beginning at 7:30 AM.

II.16 FLIGHT CREW (Section III, 10.9). Also see Rule 2.2.

Flight crew carried on board may assist the competitor with any duties assigned by the pilot in command.

II.17 DETAILS FOR THE USE OF GPS-LOGGERS (See Chapter 6)

a) Logger:

- The Logger used in this Event shall be announced at the General Briefing or Task Briefing as applicable.
- The logger will be configured by the Event Officials and at no time is a competitor allowed to interfere with the configuration. If the competitor notices a different setup he shall contact the appointed official.

b) Configuration:

The setup for this event will be as provided at the Master Briefing:

To qualify as backup, a competitor's logger shall be set up to a time interval of 5 seconds or less. The GPS shall report position data using the WGS84 map datum and satellite based augmentation (WAAS) shall be enabled.

c) Handling by competitor:

- The logger will be handed out at each pilot briefing. The competitor is responsible for the logger throughout the flight until returned to officials.
- The logger must be switched on prior to intended take-off to allow proper GPS initialization. Do not turn the logger on while driving to the launch site.
- During flight, the logger must remain attached to the basket to ensure optimum GPS reception.
- Competitors experiencing logger operation problems must contact the appointed official before any self-remedy is exercised.
- After final landing the logger must be switched off prior to driving from the recovery site.
- After landing, the competitor will detach the logger, turn it off, and return it to the Operations Center or other location designated by the Director in briefing.
- Each pilot is responsible for the safe and undamaged return of the GPS logger as supplied by the Organizer. Damage to, or loss of an Organizer provided GPS or related accessories will result in the pilot being assessed a charge of \$200 for logger, \$10 for clips, and \$5 for Velcro straps. If a charge is assessed, it must be paid prior to another official logger being provided.
- At no time is the competitor allowed to modify the logger's critical settings (see 6.13.3) or interfere with its operation other than specifically instructed by the Director.

d) Failure to follow the instructions 'Details for the use of GPS Loggers' may be penalized without warning.

II.18 DETAILS FOR TIME LIMITS (rest hours) (5. 6)

The hours between **10:00 PM and 8:00 AM** local time will be disregarded for the purpose of the time limits of complaints and protests.

II.19 LOST MARKER (12.15.3)

Competitors will be charged **\$20 for each lost marker**. Lost marker fees must be paid prior to the first briefing following the flight in which the marker was lost.

II.20 BALLOON SIZE (3.3)

The maximum size balloon permitted is **AX8 (3000cbm/105000cft)**.

II.21 ASSESSED MARK (NOT USED)

II.22 ALTITUDE (6.9.2)

GPS Loggers will use **GPS altitude**.

II.23 SCORING FORMULA

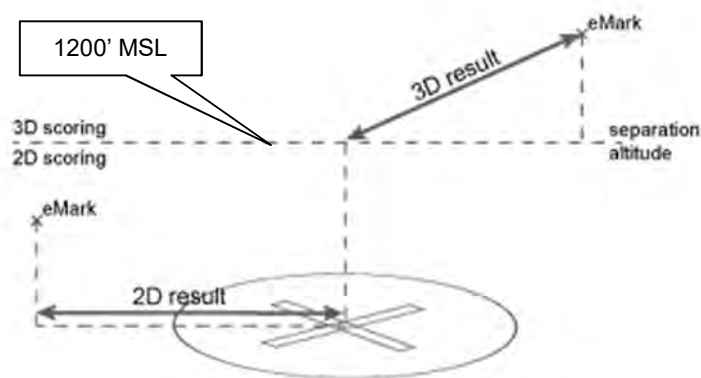
The Event will be scored using **Proportional (14.5) scoring**.

II.24 2D / 3D SCORING ALTITUDES

The separation altitude between 2D and 3D scoring is 1,200' AGL

When goals or targets on the ground are used, results based on track points will be the:

- 3D-distance to the point at the separation altitude above the goal/target if the track point is above the separation altitude
- 2D-distance to the goal/target if the track point/electronic mark is at or below the separation altitude.



When goals/targets above the ground are used, results based on track points will be 3D-distance

II.25 COMPETITION STRUCTURE (6.1)

The competition will be conducted using **loggers and physical markers**. No observers will be used.

II.26 MAP COORDINATES

The map datum is WGS 84 and UTM coordinates are applied with **one (1) km grids; scale 1:36,000; magnetic deviation 3.6° West**.

The basic map coordinate of a UTM map with WGS84 datum is:

- 13S (Zone reference, where 13=zone and S=latitude band)
- 399000 (6-digit Easting)
- 3590000 (7-digit Northing)

To identify a point on the competition map, the coordinates must be written in one of the following formats:

- The competition area is completely in one zone; therefore, the zone reference may be omitted.
- Easting and Northing entered as 4 by 4-digit
- In the case of entering an approved goal or target number as provided on a TDS or other briefing method, in which case the Northing cell will be left blank.
- 6-7 format: this complies with the standard UTM grid format. First six digits easting and second, seven digits northing. (e.g. 399000-3590000 alternatively 0399000-3590000)
- 4-4 format: this format uses two times four-digits. First four digits easting and the second four digits northing. (E.g. 9900-9000), leaving out the 1m digit.
- A target list number according to the list provided for the competition at hand.

Eastings must be separated from Northing's by one of the following methods:

- a new line
- a blank space,
- a minus character (-) or the slash character (/)

SECTION III – RULES

CHAPTER 1 - OBJECTIVES

1.1 OBJECTIVES

The objectives of the Event are:

- To determine the Club Champion and New Mexico State Champion Pilot (s)
- To stimulate the development of aerostation by a comparison of performance of pilots and aerostats;
- To reinforce friendship among aeronauts.

1.2 DEFINITION OF CHAMPION

1.2.1 The Champion shall be the competitor who has the highest aggregate score at the end of the event.

1.3 INTERPRETATION OF ENGLISH WORDING

1.3.1 “**Shall**” and “**must**” mean the application is mandatory. Failure to comply will normally lead to a penalty, disadvantageous interpretation, or other disadvantages.

1.3.2 “**Should**” means that the application is recommended. Failure to comply may lead to penalties, disadvantageous interpretation, or other disadvantages.

1.3.3 ” **May**” means that the application is optional.

1.4 DOCUMENTATION

The following documents may be inspected when competitors register on arrival at the Event:

- a) Pilot Certificate
- b) Pilot Log Book
- c) Balloon Log Book
- d) Certificate of Airworthiness
- e) Certificate of Registration
- f) Certificate of Insurance

CHAPTER 2 – ENTRY CONDITIONS

2. 1 COMPETITOR

A person entered and competing in the event.

2. 2 COMPETITOR’S RIGHTS OF REPRESENTATION

2. 2.1 Members in good standing and not on probation with Top Gun Competition Club are eligible to compete.

2. 3 QUALIFICATION

Each pilot-in-command shall meet the requirements of the organizer and be members of Top Gun.

2. 4 SPORTING LICENSE (NOT USED)

2. 5 ENTRY

The completed entry form and entry fee for each competitor must reach the organizers by the closing entry date, except in the case of extra places offered by the organizers. The entry fee may or may not be refundable.

2. 6 ACKNOWLEDGEMENT

A competitor who has not received acknowledgement of their entry on the morning of monthly flight registrations closing date and time, should make inquiries to Top Gun.

2. 7 ACCEPTANCE OF CODE OF CONDUCT, RULES AND REGULATIONS

All entrants and competitors are expected to know, understand, and abide by the competition Rules and Regulations for this event. In addition, the competitors are required to know, understand, accept and abide by the Code of Conduct (see APPENDIX A), and by entering are deemed to accept without reservation. They should appreciate that they should compete in a sporting manner and that their behavior must be beyond reproach.

2. 8 RELEASE OF LIABILITY

2.8.1 The competitor, by entering the event, agrees that the organizers and sponsors of this event, competition officials, Top Gun Competition Club, owner of any site, officers, trustees, agents and/or members of these entities are providing the competitor with the facilities and means for participation in this event and in no way do they supersede the responsibility of the pilot in command as stated in the FAR’s, or otherwise.

2.8.2 The competitor releases the aforementioned from liability for their actions or inactions in relation to the event which may arise out of or in any manner relate to the balloon flight or activity in which the competitor participates as a PIC and of their own free will.

2. 9 LIABILITY TO THIRD PARTIES

By entering the Event, a competitor assumes all liability for injury, loss or damage to third parties or their property caused by himself or his crew.

2.10 SAFETY

2.10.1 Any meteorological report or forecast, or other safety or navigational information is provided in good faith for the guidance of competitors. The event assumes no responsibility for the completeness or accuracy of such information. It is the competitor’s decision whether to rely on that information or acquire additional information.

2.10.2 Officials may be appointed to regulate the inflation and launching of balloons. However, nothing shall diminish the responsibility of each pilot under this chapter.

2.11 RESPONSIBILITY

Entrants and competitors remain completely responsible for the safe operation of their aerostats at all stages of inflation, launch, flight and landing. **Competitors** must ensure that their crew, equipment, and their own level of skill and experience are suitable for the conditions in their own judgment. A competitor is responsible for all the actions of his crew during the event.

2.12 CONDUCT

Entrants and competitors and their crews are required to behave in a sportsmanlike manner, follow the Code of Conduct, and comply with the directions of Event Officials. Inconsiderate behavior, profanity, or unsportsmanlike conduct will be penalized by the Event Director and may be grounds for expulsion of a competitor. (See APPENDIX A for Code of Conduct.)

CHAPTER 3 - BALLOON QUALIFICATIONS

3.1 DEFINITION OF BALLOON

- 3.1.1 Aerostat: a lighter-than-air aircraft
Free Balloon: an aerostat supported statically in the air, with no means of propulsion by any power source.
- 3.1.2 Sub-class AX: free balloons which obtain their buoyancy solely as a result of heating air. The envelope may contain no gasses other than air and the normal products of combustion.
- 3.1.3 The use of vents which are designed to propel a balloon is prohibited. Turning vents may only be operated in flight for the purpose of orienting the basket. Prolonged or excessive use of the turning vents is prohibited. Penalty 250 to 500 task points

3.2 FUEL

Each balloon shall carry an adequate fuel supply to ensure completion of the flight with an adequate reserve. The lack of adequate fuel to complete a task shall not be grounds for protest.

3.3 DESIGNATION OF BALLOON

Each competitor shall designate the balloon he is to fly during the Event. No change of balloon may be made after the start of the first task briefing except as provided in these rules. The maximum size category is designated in II.20.

3.4 AIRWORTHINESS

Aerostats flown in the Event must have current certificates of registration and airworthiness, or in place of the later, an equivalent document from the FAA. All required instruments under the guidelines of the aircraft operations manual must be on board. The organizers/officials are empowered to visually inspect and/or reject any aerostat which in their opinion is not of a reasonable standard of airworthiness.

3.5 DAMAGE

- 3.5.1 if a balloon is damaged during the Event, it may be repaired. Damaged components may be replaced or repaired, except that a complete envelope may be replaced only at the discretion of the Event Director.
- 3.5.2 the pilot of a balloon damaged while in flight, to the extent affecting its airworthiness (according to the individual balloon's flight manual), is prohibited from continuing in the task(s) and must land at the first practical opportunity. The damage must be reported to the Safety Officer per rule 3.5.3
- 3.5.3 Any damage to a balloon affecting its airworthiness must be reported to the Safety Officer before it is entered for a further flight, and the balloon may only be flown after appropriate repairs have been made and proper evidence and documentation of such has been provided to the Safety Officer. Penalty: up to 1000 competition points.

3.6 AUTOMATIC FLIGHT CONTROLS

Any device designed to act as an automatic flight control is prohibited, regardless of the specific nature of the device.

3.7 ALTIMETER

Each balloon shall carry a serviceable altimeter.

3.8 COMPETITION NUMBERS

The organizer if banner (s) are supplied, will be displayed on the basket during tasks. In addition, all crew vehicles shall be clearly identified on opposite sides with competition numbers, if provided. Penalty is up to 200 competition points applied to the first task of the flight(s).

3.9 BASKET

The term "basket" includes any crew or passenger compartment, regardless of its construction. All sharp objects must be covered to avoid risk to other balloons. When using nylon straps (Zip Tie Straps) to attach basket banners, they should be set (closed) from the inside of the basket. Fuel tanks attached to the outside of the basket must be protected on the bottom ring to ensure there are no spurs or that the surface is covered to protect against any risk to other balloons.

3.10 RETRIEVE

- 3.10.1 Retrieve Crew shall not be within any MMA or within 100m radius of a target except with permission and in the presence of an official. Crews are not allowed to make permanent marks on an intersection (temporary marks are permitted, e.g. paper, chalk).
- 3.10.2 All vehicles used to aid the retrieval of a balloon shall be marked with the competition number.
- 3.10.3 Retrieve vehicles shall not be parked within 100m of a goal/target set by the Director, unless specifically authorized in the briefing.

CHAPTER 4 - ORGANIZATION OFFICIALS

4.1 EVENT DIRECTOR

- 4.1.1 The Event Director will be in overall charge of balloon operations of the event. He may have an assistant director and technical officials to assist him.
- 4.1.2 The Event Director is responsible for the good management, smooth, and safe running of the event. He shall make operational decisions in accordance with the rules of the Event. He may penalize or disqualify a competitor for misconduct or infringement of the rules. He shall attend meetings of the jury and give evidence if requested.
- 4.1.3 in the rules the word "Director" may be used instead of "Event Director."
- 4.1.4 the responsibility of the Event Director is limited to competition operations, and does not include any other activity within the event not related to competition operations.

4.2 NOT USED

4.3 JURY DUTIES AND COMPOSITION

- 4.3.1 Matters of advice, arbitration or rule interpretation shall be the responsibility of the Jury President and the Jury having been appointed in accordance with 4.3.3.
- 4.3.2 during the event, the Jury deals with protests made by competitors. A Jury member must possess a thorough knowledge of the rules and regulations for the Event. At least one Jury member is to be on site during the competition operations.
- 4.3.3 The Jury shall be composed of three members: the Jury President as selected by the Top Gun Board of Directors and two competitor jurors. The competitor members shall be selected from the field of competitors as selected by the competitors. The Event Director shall not serve as a juror. The President reserves the right to eliminate competitors from the jury pool election at their request.
- 4.3.4 In addition to being Chairman at jury meetings, the Jury President has the right to require the Organizer to abide by the published rules and regulations for the Event. If the Organizer fails to do so, the Jury President has the power to stop the Event until a jury meeting has considered the situation.

4.4 SCORING OFFICER

The scoring officer shall be responsible for collecting results and producing scores using the BFA Scoring Software or some other valid method.

4.5 SAFETY OFFICER

The Safety Officer shall give advice to the Event Director on any matters regarding safety and will be in consultation on weather forecasts and briefings. The Safety Officer must be in agreement with the Event Director with respect to flyable conditions as outlined in the Top Gun Waiver approved by the FAA. The Safety Officer shall have the right to recall pilots through the recall system.

4.6 NOT USED

CHAPTER 5 - COMPLAINTS & PROTESTS

5.1 ASSISTANCE

At any time during the Event, a competitor who is dissatisfied on any matter should first ask the appropriate Official for assistance.

He may ask for his result or points score to be checked, or the calculation to be explained.

If still dissatisfied, a complaint may be made by the competitor to the Event Director or his designated official.

5.2 COMPLAINT

5.2.1 the purpose of a complaint is to obtain a correction without the need to make a formal protest.

5.2.2 a complaint is a request by a competitor to the Director, or his delegated official, to investigate any matter in which the competitor is dissatisfied.

5.2.3 a formal complaint must be submitted in writing and will receive a written reply.

5.2.4 Complaints shall be handled or transmitted by the competitor to the Director, or his designated official, who will acknowledge receipt and record the time of receipt.

5.3 COMMUNICATION (II.14)

Replies to complaints will be posted on the Official Notice Board at fixed times as per Rule II.14

5.4 PUBLICATION

The Director may at his discretion publish the text of any formal complaint together with his reply. If requested by the competitor, the Director must do this.

5.5 PROTEST

5.5.1 if dissatisfied with the Director's decision on a Complaint made during the Event, a competitor has the right of protest.

5.5.2 Declarations of intention to protest and protests with protest fees shall be handled or transmitted by the competitor to the Event Director, or his designated Official, who will acknowledge receipt and record the time of receipt. These declarations of intent or protests shall be handed in at the Operations Center to an official.

5.5.3 a competitor who has made a protest has the right to make a verbal presentation of his case to the Jury. He may be assisted by an advisor of his choice during this meeting.

5.5.4 the text of all protests and the decisions of the Jury shall be posted on the Official Notice Board.

5.6 TIME LIMITS

5.6.1 TIME LIMITS FOR COMPLAINTS (II.18)

5.6.1.1 Complaints must be submitted as soon as possible after the event giving rise to the complaint and must be dealt with expeditiously.

5.6.1.2 Complaints concerning scoring must be made to the Event Director, Scoring Officer or delegated official within eight (8) hours of publication of the official scores for a task. The rest hours defined in the competition details (II.18) will be disregarded for the purpose of the time limits.

5.6.1.3 Publication of a new version of official scores will only extend the complaint time in the matter concerned.

5.6.2 TIME LIMITS FOR PROTESTS (II.18)

5.6.2.1 a competitor intending to protest shall, within one (1) hour of the reply to his complaint, declare his intention to protest to the Event Director.

5.6.2.2 within eight (8) hours of the reply to his complaint the competitor shall submit his protest in writing accompanied by the protest fee (I.8). The rest hours defined in the competition details (II.18) will be disregarded for the purpose of the time limits.

5.6.3 SHORTENED TIME LIMITS FOR COMPLAINTS AND PROTESTS (II.15)

- 5.6.3.1 Complaints made on or after the last day of the Event must be submitted to the Director within one (1) hour of publication of the official scores for each of the monthly flying events.
- 5.6.3.2 Protests made on or after the last day of the Event must be submitted within one (1) hour of the reply.
- 5.6.3.3 The Event Director shall announce the publication times for all task scores on the last flying day.
- 5.6.3.4 Time limits applying to scores published after 1300 on the day before the last flying day will also be reduced to one hour on or after the last flying day of the event.

5.7 TREATMENT OF PROTESTS

- 5.7.1 The Event Director must present any protest to the Jury President without delay. The Jury Chairman will call a meeting of the Jury within 24 hours of receiving a protest.
- 5.7.2 The Jury will hear both sides of the matter of any protest, applying the relevant rules for the event.
- 5.7.3 The President of the Jury shall report the result and a summary of any relevant considerations in writing to the Event Director without delay, who shall make public the President's report.

5.8 RETURN OF DEPOSIT

- 5.8.1 normally the deposited fee is returnable only if the protest is upheld, or is withdrawn prior to the hearing by the Jury.
- 5.8.2 all non-refunded deposit fees from protests will be sent by the Jury to the organizer.

5.9 JURY APPROVAL OF SCORES

- 5.9.1 The last action of the Jury President is to verify and approve the competition results of the Event and declare the Event valid providing it has been conducted in accordance with the rules and the decisions of the Jury.
- 5.9.2 the scores of the event shall be final only after all protests have been dealt with by the Jury and the Jury has ceased its functions. The final scores must be made public before the prize giving is held.
- 5.9.3 The Jury President shall verify and sign the final total scores before they are made public.

5.10 OFFICIAL NOTICE BOARD (II.13)

- 5.10.1 The Event Director will announce at the General Briefing the place where the Official Notice Board is located. This should be marked OFFICIAL NOTICE BOARD and is the place where all results, scores, replies to complaints and protests, and other official communications directly relating to the Event will be published. All information shall be signed, dated, and timed. Postings to an official web site implies the required signature and shall display the date and time.
- 5.10.2 If an Electronic Notice Board is used, the details will be announced in the General Briefing. In case of conflict between the Official and the Electronic Notice Board or failure of the availability of the Internet, the information on the Official Notice Board will prevail.

CHAPTER 6 – LOGGERS

6.1 COMPETITION STRUCTURE

The competition will be conducted as defined in Section II.25.

6.2–6.8 (NOT USED)

6.9 GPS-LOGGERS

A GPS Data Logger is a device that logs track and altitude of a balloon. The track points of the log will specify the position (latitude/longitude), the altitude (barometric or GPS altitude as specified in II.22), and a time stamp. Devices enabling competitor's input may additionally be available depending on the type of logger. GPS-loggers may be used in competition as an observation tool to monitor compliance with the rules, for task setting and for achieving a score or result. Competitors must comply with the operational instructions on their use (see II.17).

6.10 HANDLING (II.17)

6.10.1 Rules on the handling of loggers are specified in Section II.

6.10.2 The competitor will take the logger with him after briefing, turn it on, and attach it to his balloon before take-off on the appropriate spot and in the appropriate manner and location.

6.10.3 After landing, the competitor will detach the logger, turn it off, and return it to the Operations Center or other location designated by the Director in briefing.

6.10.4 at no time is the competitor allowed to modify the logger's critical settings (see 6.13.3) or interfere with its operation other than specifically instructed by the Director.

6.11 FLIGHT REPORT FORM (FRF) (For events without observers)

6.11.1 A Flight Report Form (FRF) stating the take-off and landing place and time, estimated task results, landowner related issues, and other relevant data shall be completed and signed by the competitor.

6.11.2 The competitor will return the:

- FRF
- Logger
- Any unused markers

To the designated Official(s) and sign off the return in a log sheet at a location designated by the Event Director during the General Briefing. Any undue delay in returning the above objects may result in a penalty.

6.12 RESPONSIBILITY

The competitor is responsible for any loss or damage between receiving the logger at briefing and return of it after the flight.

6.13 GPS-LOGGER FAILURE (II.17)

6.13.1 Reported malfunctions are considered failures only when they can be reproduced after flight. When a failure is found, the officials may ask the competitor to provide his GPS equipment to substitute the missing track information. Not carrying the official logger in the basket or not turning it on does not constitute logger malfunction.

6.13.2 If the official logger is not carried in flight or turned on, but an approved GPS (see 6.9.2) with a usable track is provided, the competitor will receive a penalty of 200 task points on the first task of the flight for a first offense. Subsequent offenses will be penalized by no result on logger results and up to 200 task points on marker results.

6.13.3 In case both the official track log and the competitor's GPS are not providing the necessary information to establish a result, the competitor will not receive a result based on track points. Marker results will be penalized up to 200 task points when no official or approved track log is available. It is therefore in the competitor's interest to equip himself with a GPS that provides track information usable for scoring (position, altitude and time in accordance with II.22) and use the same set-up (sampling time interval, map datum, minimum track point memory, etc. in accordance with II.17) as the official logger.

6.13.4 An electronic mark recorded by a competitor's GPS equipment can only be used if the equipment has been approved by the Director before the flight or specific rules under Section II have been followed. Otherwise the competitor will be scored to his nearest electronic mark of the official logger, nearest physical mark or landing position, whichever is best. A score to a track point will not be made.

CHAPTER 7 - MAPS

7.1 CONTEST AREA (II. 1)

An area defined by reference to the official competition map published at the start of the Event. Tasks will not be set, and results will not be measured, outside this area.

7.2 OUT OF BOUNDS (II. 2)

The Director may define areas or airspaces as out of bounds. Take-offs or contest landings in OFB areas are prohibited and the competitor will achieve no result in the relevant task. Goal declarations in OFB areas or airspaces will be considered invalid. Competitors cannot achieve a valid mark, valid track point or result in OFB areas or airspaces.

7.3 PROHIBITED ZONES (PZ's) (II.2 and II. 3)

7.3.1 The Director may define airspace or other areas as prohibited. A mark or track point inside a red, yellow or blue PZ is valid unless the area is defined as OFB. The boundaries and, if applicable, the altitude limits in feet MSL, shall be published in writing for each PZ.

7.3.2 there are three classifications of PZ's: Red, Yellow and Blue.

7.3.3 A Red PZ is restricted airspace and will include an upper altitude limit which a competitor shall not fly below. Ground contact of the inflated balloon is not permitted.

7.3.3.1 A Red Road PZ identifies restricted airspace surrounding major roadways or interstates. It is measured from the centerline (expressed as a tunnel around the axis) of an interstate or other major highways identified as red roads.

7.3.4 A Yellow PZ is a restricted area where no take-offs, landings or ground handling are permitted.

7.3.5 A Blue PZ is a restricted airspace and will include a lower altitude limit which a competitor shall not fly above. The Blue PZ is considered OFB and infractions will be penalized under Rule 10.14.2

7.4 PZ's IN FORCE

At each task briefing PZ's will be published as in force or not in force for competition purposes in that flight. This does not necessarily describe their operational activity or status for other aviation purposes.

7.5 PZ INFRINGEMENT

A competitor violating a PZ in force will be penalized by up to 1000 competition points, proportionally to the offense.

7.6 MAPS

A competitor is required to carry a competition map, paper or digital, in the basket. All published PZ's, whether in force for the task, and all out-of-bounds areas shall be clearly and accurately marked on the map. An adequate map of aeronautical restrictions must be carried, unless these are also marked on the competition map. A competitor violating this rule will be penalized up to 250 competition points.

7.7 EARTH TO BE FLAT

For scoring purposes, the earth is flat, and calculations based on the competition map will be taken as accurate.

7.8 MAP COORDINATES

To identify a point on the competition map, the coordinates must be written in eight-digit format (first four digits west/east and the second four digits south/north - Easting then Northing) or one of the formats as defined in Section II. For goal declaration of pre-defined goals, the complete goal number of the published list may be used. Penalty for inappropriate but unambiguous declarations is 100 task points.

7.9 DEGREE REFERENCE

Unless otherwise stated, directions are expressed in degrees referenced to the grid system printed on the competition map.

CHAPTER 8 – PROGRAM, BRIEFINGS

8.1 TASK PROGRAM

The Event will consist of a series of tasks. The number and frequency of the tasks and rest periods are at the discretion of the Director. At the first task briefing on the day before the last planned flying day, the Director shall publish the remaining flying program.

8.2 VALID TASK

- 8.2.1 a valid task is defined as one in which all entered competitors were given a fair opportunity to make a valid take-off, unless they had withdrawn or had been disqualified.
- 8.2.2 The Director has the authority to cancel a task(s) for safety reasons at any time before the official status task scores are published.
- 8.2.3 Tasks are not valid if less than 50% of the competitors take off.

8.3 TASK SELECTION

The Director shall select tasks from those described in Chapter 15. Particular tasks may be set more than once or not at all.

8.4 MULTIPLE TASKS

- 8.4.1 The Director may set more than one task to be performed on one flight. The tasks will be scored separately, with a winning score of 1000 points (or best positional score per 14.6.2) before penalties for each task. The combination of tasks should aim at the possibility of winning each task independently.
- 8.4.2 Unless otherwise specified, tasks in a multiple task flight shall be flown in the order indicated in the Task Data, penalty up to 1000 task points in each task.
- 8.4.3 when markers are used, dropping the marker(s) of a task inside the set MMA indicates the completion of that task and the start of the following task, if applicable. Ground contact penalties of Rule 11.5 within an MMA will be assessed to the task of the MMA.
- 8.4.4 Competitors missing the MMA or choosing not to drop their marker(s) or when scoring by track points is indicated, are considered flying in the follow-on task if they cross the boundary line (area, grid line, arc, etc.) or boundary time of the follow-on task.
- 8.4.5 NOT USED
- 8.4.6 Penalties related to the take-off will normally be applied in the first task. Penalties related to the landing will normally be applied in the last task. Other penalties should be applied in the task in which they were incurred unless this is impossible, in which case they will be divided equally over more than one or all tasks.
- 8.4.7 Marker order: Unless track points are used, the Task Data shall specify for each task the marker(s) and/or electronic marks to be used. If no competitive advantage is gained, the penalty for releasing the wrong marker or dropping the wrong electronic mark is 25 task points per task. If more than the allowed number of physical markers are released in a task, the competitor will be scored by track point. If an electronic mark is dropped more than once, the first (1st) electronic mark in time will be scored.

8.5 MODIFICATION OF RULES

- 8.5.1 No further modification, shall be permitted during the Event unless approved by the Jury President. No such rule addition or modification shall be retroactive.
- 8.5.2 the task rules of Section I, II, and III, Chapter 15 are defined as variable rules and changes to those may be made without authorization.
- 8.5.3 Variations to task rules shall be provided individually to each competitor in writing.

8.6 GENERAL BRIEFING

A General Briefing on the rules, regulations and all major aspects of the Event will be held before the start of the Event. The official competitors list, compiled from the roll call of the entrants taken at the General Briefing, shall be published as soon as practical after the General Briefing, but before the first task briefing. Where a justifiable reason exists, a late entry may be accepted by the Director in consultation with the Jury President, but before the publication of the first scores.

8.7 TASK BRIEFING

8.7.1 Task briefings will be called by the Director at times published on the Official Notice Board. Alternative methods may be used as announced in the General Briefing. At the briefing the following information will be given verbally, by written circular, or by posted notices:

- a) Meteorological information
- b) Air traffic and safety information (if any)
- c) Task Data

8.7.2 where written information is supplied, adequate study time should be allowed before the briefing proceeds.

8.8 TASK DATA

8.8.1 at task briefings the Task Data, preferably in writing, shall be given to competitors. The Task Data sheets (TDS) will contain flight data related to all tasks and individual Task Data.

8.8.2 Flight data:

- a) Date
- b) Official sunrise/sunset
- c) PZs in force
- d) Launch area
- e) Minimum distance from ILP to all goals/targets set by director (if applicable)
- f) Launch period
- g) Provisional time and place of next briefing
- h) Solo flight (if directed)
- i) Search period

8.8.3 Individual Task Data:

- a) Marker(s) color to be used (if used)
- b) Task/Marker order (if other than normal)
- c) Dropping method (if gravity drop directed)
- d) Marker Measuring Area (MMA)
- e) Scoring period, scoring area, and/or scoring airspace (if set)
- f) Task Data as per task rule

8.9 SUPPLEMENTARY BRIEFING

If it should be necessary to publish additional or revised information to competitors at the common launch area, in a means as communicated by the Event Director. The competitor should attend in person or send a responsible crew member to the signals point. Supplemental information may also be disseminated electronically via text messaging or special apps.

8.10 ENTRY FOR TASKS

A competitor shall enter a task by answering his name or competition number at roll call at the task briefing. Alternative methods of checking the competitor's attendance may be used.

8.11 LATE ENTRY

8.11.1 A competitor may make a late entry at the signals point with a penalty of 50 task points up to five minutes before the start of the launch period, or 100 task points thereafter. Officials will not be available to give a personal briefing except for Air Traffic, safety matters, and PZ's.

8.11.2 In tasks where competitors select their own launch areas, late entries shall be made by contacting an official and making arrangements on where to be briefed and receive a task sheet, GPS-logger, weather sheet and markers.

8.12 OFFICIAL TIME

The official time is GPS time corrected for the local time offset.

CHAPTER 9 - LAUNCH PROCEDURES

9.1 COMMON LAUNCH AREA(S) (CLA) (II. 4)

- 9.1.1 one or more areas defined by the Organizer and used when the task requires all pilots to launch from a common area. A competitor taking off outside the prescribed common launch area (CLA) will not achieve a result for any of the tasks of that flight. Once his balloon is inflated a competitor may not move his balloon on the CLA except for safety reasons and only after approval from a responsible official.
- 9.1.2 The Common Launch Point (CLP) is a point in or near the launch area, physically marked on the ground before the beginning of the Event, from which all angles and distances are measured, irrespective of the take-off points of individual balloons. (II. 5)

9.2 INDIVIDUAL LAUNCH AREAS (ILA)

- 9.2.1 Individual launch areas are selected by the competitors. The boundary of the Launch Area is a circle of 100-meter radius from the position of the basket at the start of hot inflation.
- 9.2.2 Competitors must ensure permission has been obtained from the landowner or occupants before driving onto, or launching from, any land which is enclosed or cultivated, or apparently private, or used for agricultural purposes. Penalty for infringement is up to 250 task points.
- 9.2.3 in tasks where competitors select an individual launch area, the Individual Launch Point (ILP) is the position of the basket at take-off. Unless otherwise stated in the TDS only one take-off is permitted.
- 9.2.4 in tasks where multiple take-offs are allowed, unless the balloon is deflated, the landing position of the discontinued flight is considered the ILP for the next take-off.
- 9.2.5 Individual launch areas shall not be selected outside the contest area. Penalty: no result in the first task of that flight.
- 9.2.6 a balloon inflated in an individual launch area shall not be moved and take-off outside of that launch area unless it is deflated, moved to another launch area and re-inflated. Penalty: no result in the first task of that flight.

9.3 LAUNCH PROCEDURES (II.6)

- 9.3.1 the launch director may allocate to each competitor a space in which to prepare and inflate his balloon. He has the authority to regulate the operation of all balloons and vehicles in the launch area. Penalty is up to 200 task points.
- 9.3.2 Quick-release tie-offs must be used for all balloons inflating in a common launch area and are recommended in individual launch areas.

9.4 VEHICLES

- 9.4.1 not more than one vehicle per balloon may be present in the common launch area during the launch period. Penalty: 100 task points.
- 9.4.2 Vehicles must be driven at suitably reduced speeds within the launch area. The Safety Officer and the Launch Directors may bar from the area any vehicle that is driven inconsiderately.
- 9.4.3 No vehicle may enter the common launch area after the advance yellow warning flag has been raised except by permission of a Launch Director or other official. Penalty: 100 task points.

9.5 COLD INFLATION

Burners may be briefly tested, and cold air may be induced into the envelopes for rigging and inspection, but before permission for hot inflation has been given, there must be no hot inflation, no use of powered fans, and no part of the envelope fabric may be more than two meters off the ground. Fans may be tested or used before the launch period until a flag of any color has been raised. This rule does not apply to ILA.

9.6 SIGNALS POINT

One or more points at the launch area where flag signals may be displayed and competitor's task declarations, late entries and supplementary briefings take place. Competitors are responsible for keeping observation on the signals point, and its obscuration shall not be grounds for complaint.

9.7 LAUNCH SIGNALS

9.7.1 Colored flags shall have the following meanings when displayed at the signals point:

RED	No inflation or take-off permitted. Previous permission to take-off cancelled.
GREEN	General permission to all balloons to begin hot inflation.
BLUE	Permission to 'blue' wave (odd numbered balloons) to begin hot inflation.
WHITE	Permission to 'white' wave (even numbered balloons) to begin hot inflation.
YELLOW	Five-minute warning.
PINK	Supplementary or amended briefing information available at signals point.
BLACK	Task cancelled.
VIOLET	(Reserve) Meaning as notified at task briefing for a particular task.

9.7.2 an audible signal may be given to draw attention to changes of flag signals.

9.8 PUBLIC-ADDRESS

Unless the Director has specified at the task briefing that the public-address system will be used, any information given over the public-address system is of no effect for competition purposes.

9.9 LAUNCH PERIOD

Take-off may not be made before or after the launch period. Any take-off made outside the launch period, except under rule 9.12, will be subject to a penalty of 100 task points per minute or partial minute early or late. The yellow warning flag will be raised five or more minutes before the end of the launch period (for launches from a CLA)

9.10 OBSTRUCTION

Once his balloon is fully inflated a competitor may not unnecessarily remain in position where his balloon obstructs another.

9.11 ADEQUATE TIME

A competitor who has been given permission to begin hot inflation 20 or more minutes before the end of the announced launch period is deemed to have adequate time, even if the launch period is curtailed for any reason.

9.12 EXTENSION OF TIME

A competitor may request an extension of time from the Launch Director. The Launch Director may grant an extension if he is satisfied that the competitor was delayed by the action of officials or other competitors, or by causes outside his control (equipment malfunction excluded).

9.13 LAUNCHING ORDER

Balloons may be allotted an order of priority for inflation, which will be rotated from one task to the next. Competitors may commence hot inflation according to the flag signal is hoisted or when given individual permission by the Launch Director.

9.14 LAUNCH DIRECTORS

9.14.1 Launch directors are officials designated by the Director to regulate the operation of all balloons and vehicles in the launch area and to assist in launching of balloons from CLAs.

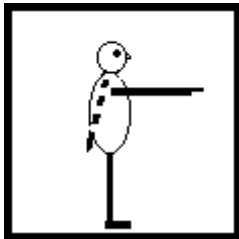
9.14.2 The Director can make the use of launch directors compulsory for all competitors or optional.

9.15 PROCEDURES WHEN LAUNCH DIRECTORS ARE COMPULSORY

9.15.1 When a competitor is completely ready for take-off, and has positive buoyancy, he should wave a white flag to indicate his readiness to the launch director. When the launch director has acknowledged this signal, the competitor should leave the flag displayed on the edge of the basket and await further instructions while maintaining his readiness to take off. The launch director will, as far as possible, launch balloons in the order of signaling their readiness. Competitors should equip themselves with a suitable white flag about 50 cm square (handkerchief) for this purpose.

9.15.2 To avoid congestion, extension of time will not be granted when competitors wave their white flag within the last ten minutes of the launch period.

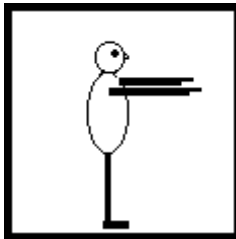
9.15.3 The launch director will give each competitor permission to take-off according to the signals as published. The competitor may then take-off at will, subject to any instructions from the launch director at the time.



I acknowledge your white flag.



Stay on ground; follow instruction of my right hand.



I'm going to clear you for take-off.



Clear for take-off



Cancel all previous instructions. Wait.

9.15.4 This permission does not relieve the competitor of complete responsibility for his take-off, including adequate lift to clear obstacles and other balloons, and to continue safely in flight. A competitor taking off without permission, whether due to loss of control or any other reason, may be penalized up to 500 competition points

9.15.5 If the balloon does not take off within 30 seconds, permission to take off may be cancelled by the launch director.

9.16 PROCEDURES WHEN LAUNCH DIRECTORS ARE OPTIONAL

When a competitor is completely ready for take-off, he should have an experienced crew member advise him when the airspace above and upwind is clear for launch. Alternatively, he may ask an available launch director or official to clear him for launch.

9.17 LOSS OF CONTROL

A competitor losing control of his balloon shall deflate immediately or take other appropriate action.

9.18 TAKE-OFF (T/O)

The point and/or time at which an aerostat first becomes airborne.

An aerostat is airborne when its envelope, gondola, crew and all substantial parts of its equipment and payload have no contact with the ground or water surface or anything attached or resting on the ground or water.

9.19 VALID TAKE-OFF

A balloon is considered to have taken off and to be flying the task(s) if a mark has been achieved or if the balloon passes over the boundary of any launch area.

9.20 ABORTED TAKE-OFF

9.20.1 A competitor may abort his take-off for safety reasons but must avoid the obstruction of other balloons. He may attempt further take-off(s) inside the launch period.

9.20.2 At a Common Launch Area he must inflate in his originally allocated space, except by permission of the Launch Director, and must again obtain permission to take-off.

9.21 CLEARING LAUNCH AREA

Within three minutes of his basket first leaving the ground, a competitor shall have passed over the boundary of the launch area or shall have climbed to 500 feet AGL, regardless of the end of the launch period. He shall not re-enter the launch area below 500 ft. AGL before the end of the launch period or until after all balloons have taken off, whichever is earlier.

CHAPTER 10 - FLIGHT RULES

10.1 MIDAIR COLLISION

10.1.1 when two balloons are converging in flight, both competitors are responsible to avoid collision. The competitor of the higher balloon shall give way and shall climb if necessary.

10.1.2 Competitors shall not initiate or maintain a vertical speed exceeding 1.5 m/s (300 ft. /min) unless they are certain that no balloon is in their flight path.

10.1.3 Competitors causing a collision will be penalized by up to 1000 competition points.

A repeated offense will be penalized at least 1000 competition points and the competitor may be grounded for the next flight(s).

10.1.4 Envelope to envelope contact in approximate level flight will generally not be penalized.

10.1.5 By entry into any club flight, all pilots are giving consent to fly in formation as required by FAR 91.111 and shall make every effort to coordinate operations in close proximity to their aircraft with other pilots.

10.2 DANGEROUS FLYING

Dangerous flying (e.g. any flying creating an unnecessary risk to other balloons or people on the ground), not necessarily causing a collision, will be penalized up to disqualification from the event.

10.3 CLEARING GOAL/TARGET AREA

A competitor who has dropped his marker shall clear the vicinity of the goal/target as quickly as reasonably possible.

10.4 DROPPING OBJECTS

No objects may be dropped from the balloon except for official markers, or small pieces of paper or similar lightweight materials for navigational purposes.

10.5 BEHAVIOR

Competitors are required to fly with proper consideration for persons and livestock on the ground and to follow good landowner relations etiquette and the code of conduct. Inconsiderate behavior by competitors or crew members, or endangering the public during flight, may be penalized up to 1000 competition points.

10.6 LIVESTOCK, BUILDINGS, VEHICLES, PERSONS AND CROPS (II. 7)

Balloons must not fly closer than defined in Section II from livestock or buildings containing livestock, and competitors and crews must not damage crops unless given permission by the landowner or person responsible for the crop. In addition, minimum altitudes shall be observed per the Operations Manual for Congested, Other than Congested. Reference diagram for minimum altitudes. Penalty up to 1000 competition points.

10.7 LANDOWNER

In these rules, the term "Landowner" means the person who is responsible for any crop or livestock on the land, not necessarily the legal owner of the land itself.

10.8 COLLISION

A competitor whose balloon is in collision with power or telephone lines or their supports at any time between inflation and completion of final landing will be penalized up to 500 competition points. Collisions may additionally be penalized under the rule for dangerous flying.

10.9 PERSONS ON BOARD (Section II.16)

10.9.1 Competitors may carry other crew during a flight, and they may perform any duties he wishes to assign to them, except to act as pilot-in-command and as specified in Section II.16.

10.9.2 the total number of persons on board (including competitor) shall not exceed three (3).

10.9.3 The Event is operating under a standard FAA Waiver and flight crew are required to sign 'designated flight crew' forms.

10.9.4 Competitors may be required to perform a flight "solo" as specified in the Task Data. Penalty: the competitor will not receive a result.

10.10 GROUND CREW

Each competitor will ensure that he has sufficient crew to operate his balloon and retrieve vehicle. He will ensure that all those involved with his balloon are adequately briefed on safety.

10.11 DRIVING (II. 8)

Vehicles must be driven safely during the retrieve and comply with local driving laws. Penalty up to 500 competition points.

10.12 DISEMBARKATION

No person may enter or leave the basket between take-off and completion of the final task of that flight.

10.13 ASSISTANCE

The use of handling lines or any handling assistance from persons on the ground is forbidden during flight.

10.14 AIR LAW (II. 9)

10.14.1 Infringements of air law included in the FARs which do not contravene the rules of the Event or provide competitive advantage will not be penalized by the Director except in cases of damage, disturbance, or reasonable complaint from persons not connected with the Event.

10.14.2 Infringement of the FAA Event Waiver will be penalized up to 1000 competition points and if repeated violations occur may result in disqualification from the event.

10.15 RECALL PROCEDURE (II.10)

The organizer's recall procedure is defined in Section II.10.

CHAPTER 11 - LANDINGS

11.1 LANDINGS

A competitor may land at will when he has completed all tasks during flight.

11.2 LANDING AT WILL

- 11.2.1 when a competitor makes a landing at will, the landing point is the final resting place of the basket after landing.
- 11.2.2 all pilots must have landed by sunset as published or announced at the task briefing. Penalty for infringement of this rule is 100 task points per minute or part thereof.
- 11.2.3 Unless otherwise stated in the Task Data, a landing at will is not permitted within a MMA where a target is displayed, or if no MMA is set, within 200 meters of any goal/target set by the Director or selected by the competitor or any physical mark of the competitor or any physical mark of the competitor (for penalty see distance infringements).

11.3 CONTEST LANDING

- 11.3.1 in tasks where a competitor is required to produce a physical mark but does not do so, his landing will be deemed a contest landing. The scoring position for a contest landing is the final resting place of the basket. Published scoring periods and search periods apply. The Event Director may define final resting place of the basket and provisions for making such determination.
- 11.3.2 No handling assistance may be received from anyone on the ground and no one of the flight crew may leave the basket before the basket has reached its final resting place.
- 11.3.3 any retained marker must be handed over to an official at the earliest opportunity.
- 11.3.4 Unless otherwise stated in the Task Data, a contest landing is not permitted within 200 meters of any goal/target set by the Director or selected by the competitor or within a MMA (Rule 13.3.4 distance infringements).

11.4 GROUND CONTACT 1

After passing over the boundary of any launch area, no part of the balloon or anything attached to it may make solid contact with the ground or water surface or anything resting on or attached to the ground, until the last task has been completed. Penalty for each contact is 200 task points.

- Note 1: A contact is solid if it is prolonged or results in a change of motion of the basket or the envelope.
- Note 2: Incidental contact with grass or leaves will not be penalized.

11.5 GROUND CONTACT 2

No part of the balloon or anything attached to it may contact the ground or water surface or anything resting on or attached to the ground (marker excepted) within the Marker Measuring Area or within 200 meters of any goal/target set by the Director or selected by a competitor. Penalty for each contact is 100 task points if light and 500 task points if solid. The penalty is applied to the task of the goal/target involved.

- Note 1: A contact is solid if prolonged or results in a change of motion of the basket or the envelope.
- Note 2: Incidental contact with grass or leaves will not be penalized.
- Note 3: Competitors will not be penalized under both rules for any single contact. If a landing occurs within an MMA, the competitor will be penalized under Rule 13.3.4 distance infringements.

11.6 PERMISSION TO RETRIEVE

Competitors must ensure that permission has been obtained from the landowner or occupier before driving onto any land that is enclosed or cultivated or apparently private or used for agricultural purpose. Penalty is up to 250 task points.

CHAPTER 12 – GOAL, TARGET, MARKER, TRACK POINT

12.1 GOAL (II.11)

- 12.1.1 a place defined by grid reference on the competition map, set by the Director or chosen by the competitor.
- 12.1.2 a competitor arriving at an expected goal that was rebuilt or moved should aim for the closest replaced goal within 100 meters. If the goal has ceased to exist and no similar goal is seen within 100 meters, the competitor should aim for the coordinates. These coordinates will also be taken to calculate/measure any other related tasks of that flight.
- 12.1.3 The Director may provide a list with predetermined goals. The goals are numbered followed by the map coordinates.

12.2 GOAL SELECTED BY A COMPETITOR (II.12)

- 12.2.1 Unless otherwise allowed in the Task Data, e.g. any point on the competition map, a surface-based goal selected by a competitor shall appear from the map to be easily accessible to vehicles on the ground and precisely identifiable for measurement and the goal shall be the intersection of two roads or a road and a railroad. According to the Task Data, competitors may be required to choose one or more goals from the list of predetermined goals or as listed in the TDS.
- 12.2.2 Measurements will be made from the center of the intersection, defined goal, marked point or coordinates as specified in the competition details and TDS (see Section II.11).
- 12.2.3 the types of roads allowed for goal declarations by competitors are published in Section II.12
- 12.2.4 In the case of goals allowed by the TDS that do not require predetermined goals or the use of intersections, competitors must identify their goal by methods enumerated in Section II.26.

12.3 DECLARATIONS BY COMPETITORS (II.12)

- 12.3.1 a competitor shall identify his goal by map coordinates. For goal declaration of pre-defined goals, the goal number may be used.
- 12.3.2 a goal declaration violating the restrictions of Section II will be considered invalid and the competitor will not achieve a result. In case the competitor is allowed to declare more than one goal in a task and one or more goals are invalid, the competitor will be scored to the nearest valid goal if any.
- 12.3.3 in tasks where a competitor is required to declare his goal(s) or other declarations according to the TDS, he shall do so in writing and his declaration shall be deposited before declaration time at the place of the declaration box specified in the briefing data, clearly identified with his name and/or competition number. If more goals or declarations are made than permitted, the competitor will be scored to the least advantageous valid goal.

A competitor who wishes to revise his declaration may deposit a further declaration, within the declaration time, if it is clearly marked to distinguish it from any previous declaration(s).

The timekeeper/official will close the declaration box precisely at the declaration time, and will accept late goal declarations, writing the time in minutes and seconds on each.

- 12.3.4 Penalty for late declarations that must be made a specified time before take-off is 50 task points per minute or part minute late.

If the competitor fails to declare before take-off, he will not achieve a result.

- 12.3.5 if a declaration may be made in flight - before a defined time, point or boundary - and the competitor fails to do so, he will not achieve a result.

Goals not meeting distance limitations will be scored according to the rule on distance infringements.

12.4 (NOT USED)

12.5 TARGET

A prominent cross intended to be displayed within 100 meters of a goal or at a specified coordinate. Where a target is displayed, any measurements are made from the target, not from the goal. A competitor reaching a goal where an expected target is not displayed should aim for the goal coordinate.

12.6 MARKER

Markers (as specified in the COH) supplied by the organizer will be used for scoring purposes to create a physical mark. Competitors are responsible for collecting the necessary marker(s) before the task. The marker must not be modified in any way. Penalty for modified or unauthorized markers is up to 250 task points.

12.7 (NOT USED)

12.8 MARKER RELEASE

The marker may be thrown by hand unless a Gravity Marker Drop is specified on the TDS.

12.9 GRAVITY MARKER DROP (GMD)

12.9.1 In a Gravity Marker Drop task, no horizontal motion shall be applied to the marker in relation to its release, and gravity shall be the only means for the marker to drop. The person releasing the marker must hold the unrolled marker by the tail. The person's hand holding the tail of the marker shall not be outside the basket.

Penalty for violating this rule, unless otherwise stated on the TDS:

- Minor infringements with no competitive advantage: 50 task points
- Infringements with competitive advantage: 50 meters will be added to the competitor's result in the least advantageous direction.

12.9.2 Unless otherwise stated on the TDS, a marker thrown into a marker measuring area (MMA) or scoring area under limited scoring will be regarded as a valid result and the penalty will be applied.

12.10 FREE MARKER DROP (FMD)

The marker must be completely unrolled prior to coming to rest on the ground. No mechanism may be used to propel the marker. The person releasing the marker must stand on the floor of the basket. Penalty for minor infringement with no competitive advantage: 50 task points; otherwise 250 task points for a competitive advantage.

12.11 MARK (12.20 and 12.21)

12.11.1 A physical mark is the point on the ground vertically below the weighted part of the official marker where it comes to rest after falling from the balloon. If the marker is displaced after coming to rest or disappears subsequently from view (e.g. beneath water level), the earliest position an official or observer has seen the marker in ground contact, or having come to rest, will be taken with the accuracy available. Same applies if the marker is carried on top of another balloon, automobile, train, etc.

12.11.2 NOT USED

12.12 (NOT USED)

12.13 INTERFERENCE WITH MARKER

No person other than an official may touch or interfere with a marker on the ground. Any marker moved must be replaced to its original position based on the best evidence available.

12.14 SEARCH PERIOD

12.14.1 Competitors have a specified period from the actual start of the launch period in which to find their marker(s).

12.14.2 The choice between searching for the marker and first recovering the competitor rests with the competitor or his crew.

12.15 LOST MARKERS

12.15.1 A marker, dropped within the Marker Measuring Area, is considered lost if it is not found and in possession of Officials within the time limit specified. Competitors may inquire with the measuring officials at a target or goal if they have doubt that their marker will be found. Competitors will not be allowed to search for markers in the MMA without the presence of an official. If a marker dropped, or allegedly dropped, in the MMA is considered lost the competitor will be scored by track point as if the competitor had missed the MMA.

12.15.2 If the marker has earlier been seen by an official on the ground and is estimated within the Marker Measuring Area, the official's evidence, together with the logger's data, will be used to determine the competitor's result based on the least advantageous interpretation of evidence available.

12.15.3 Competitors are required to pay for any marker damaged, not reusable, lost or not brought back in time. Charges for lost or damaged markers are stipulated in Section II. Competitors are responsible for returning markers dropped outside the MMA.

12.16 (NOT USED)

12.17 SCORING PERIOD (SCP)

- 12.17.1 When defined by the Director in the task briefing, the scoring period is the time limits, within which a goal/target or scoring area is valid.
- 12.17.2 A competitor will only score if his marker, or any subsequent marker, is found or seen falling to the ground (except as noted in Rule 15.9) by officials or he has landed, within the set time limit (except as noted in Rule 15.9). Otherwise, he will be scored by track point.
- 12.17.3 A competitor who does not achieve a scoring position within the scoring period (if set) or within the search period (if no scoring period is set) will not achieve a result.
- 12.17.4 Under all circumstances scoring within the last fifteen (15) minutes prior to official sunset is prohibited.

12.18 SCORING AREA (SCA)

- 12.18.1 An area or areas, defined by the Director in the Task Data within which a valid mark or track point can be achieved. Unless otherwise stated in the Task Data, the boundary will be the inner hard surface or gravel edge of a road, the inner bank of a river, or other defined marked area. Any part of the weighted bag that is on the inner edge will be considered valid.
- 12.18.2 A competitor who does not achieve a scoring position inside the scoring area(s) will not achieve a result.

12.19 SCORING AIR SPACE

An air space or spaces, defined by the Director in the Task Data within which a valid track point can be achieved. Unless otherwise stated in the Task Data, the boundary will be defined by coordinate lines. The altitude limits are defined by GPS altitude as recorded by the GPS-logger and under Rule II.22. Any recorded track point exactly on the line or altitude limit will be considered valid.

12.20 MARKER MEASURING AREA (MMA)

- 12.20.1 The MMA is an area defined by a radius around a goal/target or an otherwise clearly defined area within which results will be achieved by markers.
- 12.20.2 The MMA will be provided for each task in which markers are used.
- 12.20.3 Competitors not achieving a physical mark within the MMA will be scored by track point.

12.21 VALID MARK

- 12.21.1 A physical mark is considered valid if it is within the MMA or scoring area and within the scoring period if set.
- 12.21.2 An electronic mark is considered valid if the recorded track point meets all scoring criteria defined in the TDS.
- 12.21.3 A valid physical mark shall have precedence over any track point or electronic mark.
- 12.21.4 Measurements will be made to the closest point of the weighted bag portion of the marker.

12.22 TRACK POINT

- 12.22.1 A track point is defined by recorded date / time, coordinates, and altitude of a point of the track of a GPS-logger.
- 12.22.2 When goals or targets are used, results based on track points will be the 2D or 3D-distance from the goal/target to the track or electronic mark. Shortest distance is best.
- 12.22.3 A competitor's result based on a track point cannot be better than the worst possible result in the MMA.
- 12.22.4 In tasks without goals or targets, the horizontal distance (2D-distance) between points will be used to calculate results.

12.23 VALID TRACK POINT

A valid track point is a track point meeting all scoring criteria set in the Task Data such as scoring area, and/or scoring airspace, and/or scoring period.

12.24 TARGET OFFICIALS

Target Officials are assigned to establish the competitor's results and possible rule violations. In general, in all tasks having set goals or targets, the Target Officials will measure the results by tape or surveyor equipment within the Marker Measuring Area (MMA) or Scoring Area.

CHAPTER 13 - PENALTIES

13.1 SERIOUS INFRINGEMENTS, UNSPORTING BEHAVIOR

- 13.1.1 serious infringements include dangerous or hazardous actions or repetitions of lesser infringements, and will be penalized according to the appropriate rule.
- 13.1.2 Dishonesty or unsporting behavior, including deliberate attempts to deceive or mislead officials, willful interference with other competitors, falsification of documents, use of forbidden equipment or prohibited drugs, or repeated serious infringements of rules should, as a guide, result in disqualification from the event.

13.2 UNSPECIFIED PENALTIES

- 13.2.1 a competitor infringing any rule for which a penalty is not specified in the rules may have a penalty (distance, angle, or time) applied to his result or a deduction of points.
- 13.2.2 where safety is not an issue, and no competitive advantage has been gained, he will normally receive a warning in the first instance.
- 13.2.3 a competitor may not be penalized for infringing a rule for which the penalty is not specified, if he has already been penalized under the same rule in a previous task, but has not been informed of the fact before the beginning of the task in question, except for follow-on tasks in the same flight.

13.3 DISTANCE INFRINGEMENTS (also see II.12)

- 13.3.1 where the individual launch point, a goal selected by a competitor, a mark, or a final landing infringes a distance limit at any time, the competitor will be penalized.
- 13.3.2 if a launch point infringes a natural set boundary, the infringement is the distance to the closest correct point.
- 13.3.3 Competitors landing in an MMA will not achieve a result in the related task. If no MMA is set, landing within 200 meters of goals/targets or any physical mark of the competitor will be penalized up to 200 task points.
- 13.3.4 where the penalty relates to landing too close to a goal/target or mark, the competitor will only receive a penalty for the greater infringement.
- 13.3.5 the penalty will be waived if the competitor can show that he was unable to comply because of safety reasons, or because of light winds (unable to clear area within 10 minutes).
- 13.3.6 for competitors taking off too close to a goal or target, declaring a goal outside the limits specified in the TDS or otherwise abusing the set distance limits of a task, the penalty will be 2 task points per 0.1% infringement. Above 25% infringement the competitor will be scored in group B.

For Elbow, Angle and Land Run Tasks, the percent infringements will be the sum of the percent infringements of each 'leg', unless otherwise defined in the TDS. A competitor penalized under this rule cannot achieve a score less than Group B because of the distance infringement penalty.

13.4 PENALTY POINTS

- 13.4.1 There are two kinds of point penalties: task points and competition points.
- 13.4.2 Task point penalties are subtracted from a competitor's task score, which cannot be reduced below zero (0). Competition point penalties are also subtracted from a competitor's task score and may result in a negative score, which will be set against his total score in the Event.

13.5 PROOF OF RULES VIOLATION

The production and demonstration of evidence for any alleged infringement by a competitor always rests entirely with the event officials. Rules shall not be written to oblige the competitor to prove his compliance with the rules or his innocence in case of alleged infringement.

13.6 FARs

It is the responsibility of competitors to follow the requirements of the Federal Aviation Regulations and any waiver for the event. In all cases involving air traffic rules and air safety, the Director or his delegated official will act in consultation with the FAA Monitor if present.

CHAPTER 14 - SCORING

14.1 RESULT

A competitor's result is the achieved outcome in a task including result penalties. Results should be expressed in meters, square kilometers, feet, minutes, with an accuracy of two decimal places. Degrees will be measured to an accuracy of one or two decimal places depending on the distance defined in the TDS. See COH 6.9.2 for guidance.

14.2 SCORE

A competitor's score in the Event is the total of all the points achieved in a task when applying the appropriate formulas. Task or competition penalties may be applied according to the rules.

14.3 PUBLICATION OF SCORES

14.3.1 the scores of each task shall be published with the minimum of delay on the Official Notice Board.

14.3.2 Task score sheets shall include:

- a) Event name, task date and time, task sequence number, task name and rules reference.
- b) For each competitor, his: rank, competition number and name, result, score, and, if applicable, penalties followed by the kind of penalty, a rule reference, and a brief description.
- c) The fixed data used in the Scoring Formulas (P, A, M, RM, W, and SM) and the checksum
- d) Publication date and time and version number
- e) If more than one score sheet version is published for a task, the changes from the previous issue shall be marked and the different versions shall be numbered in sequence.

14.3.3 Task score sheets will have the following status:

PROVISIONAL RESULTS Provisional result scores are published for information only and have no validity for timing purposes. They serve the purposes of allowing competitors check their pending result before penalty or result mistakes (if any) are placed into the scoring software for assignment of points

OFFICIAL Time periods for complaints/protests start from the publication of official scores.

FINAL Official scores automatically become final after all relevant time periods have expired. The Jury may require a correction of the results and/or penalties prior to approving and signing the final scores.

14.3.4 Total score sheets shall include:

- a) Event name
- b) For each competitor, his: rank, competition number and name, total score and task scores
- c) Task checksums

14.3.5 Total scores are for information only and will not carry a signature.

14.4 RANKING ORDER

14.4.1 Competitors will be ranked in order of performance according to the rules for each task, after adjustment for any penalties. Competitors will be ranked in the following groups for each task:

GROUP A Competitors whose results have been measured or have been assessed under the rule for lost markers.

GROUP B Competitors flying the task, but not achieving a result. They will be scored equally using Formula Three, or share equally the remaining points using Formula Two, whichever is the higher.

GROUP C Competitors not making a valid launch or disqualified in the event, all scoring zero points.

14.4.2 after calculating the points score with the applicable formula, any penalty points will be subtracted to obtain the competitors final task score. The competitor's final task scores will be ranked again before being published.

14.5 POINTS FORMULA - PROPORTIONAL SCORING

- 14.5.1 Each competitor will be awarded a number of points according to his performance. The formula to be used will depend on the competitor's place in the ranking order for the task.
- 14.5.2 The best result can be awarded up to 1000 points before deduction of any penalty points.
- 14.5.3 The superior half of the results will receive a score between 1000 and approximately 500 points, in proportion to their performance using Formula One.
- 14.5.4 The inferior half of the results will receive a score between approximately 500 points and 0 points according to their relative position in the ranking order using Formula Two.
- 14.5.5 FORMULA ONE: (superior half of performances):

$$1000 - [(1000 - SM) / (RM - W)] \times (R - W)$$

FORMULA TWO: (inferior half of performances):

$$1000 \times (P + 1 - L) / P$$

FORMULA THREE: (competitors in Group B):

$$1000 \times [(P + 1 - A) / P] - 200$$

- P = number of competitors entered in the competition.
M = P/2 (rounded to the next higher number) (Median Rank)
R = competitor's result (meters, etc.) if in the superior half.
RM = result achieved by the median ranking competitor.
L = competitor's ranking position if in the inferior portion.
W = the winning result of the task.
A = number of competitors in Group A
SM = rounded points score of the median ranking competitor, calculated under formula two.

- 14.5.6 If fewer than half of the competitors achieve a result in the task, the following changes in definition will apply:

- RM = lowest ranking result in Group A.
SM = rounded score of the lowest ranking competitor in Group A, calculated under Formula Two.
M = lowest ranking competitor in Group A.

- 14.5.7 In tasks where no competitor achieves a result, all competitors in Group B will receive a score of 500 points before any penalty points.
- 14.5.8 Points scores will be rounded to the nearest whole number.

14.6 NOT USED

14.7 PRECISION

14.7.1 Results will be established with the highest precision available.

14.7.2 the following standards will be used:

Result Method	Precision	Example (m)
Tape / surveying	Centimeters	1.23 m
Map coordinate	Decameters	1250.00 m
Track point/Logger Drop – GPS	Meters	1250.00 m

Any combination of result methods will revert to the lowest precision method used.

If positions can be determined relative to a common coordinate with a more accurate method, the precision of that method will be used.

Interpolation between track points may be used to establish the scoring position.

14.7.3 Results are considered tied when the outcome is the same after applying the above-mentioned principles. Competitors whose results are tied will share equally between them the points, which they would have received had they not been so tied.

14.7.4 the altitude used in the Event is specified in Section II.22.

14.8 MEASURING (for events without logger scoring)

14.8.1 Measurements by the measuring officials take precedence.

14.8.2 within 200 meters, tape/surveying, should be used. If there is reason to believe that a GPS measurement may be more accurate or safer for officials/crew than the tape/surveying, a GPS measurement shall be recorded.

14.8.3 all marks outside 200 meters shall be recorded by GPS. In case of a goal selected by the competitor, the coordinates of the goal shall also be recorded by GPS.

14.9 TOTAL SCORES

14.9.1 The Total Score is the addition of the individual task scores.

14.9.2 Where two competitors have equal total scores in an Event, the competitor with the smaller difference between their best and worst scores will be ranked higher.

CHAPTER 15 - TASKS

15.1 PILOT DECLARED GOAL (PDG)

15.1.1 Competitors will attempt to achieve a mark or valid track point close to a goal selected and declared by him.

15.1.2 Task Data:

- a) Method of declaration (also see Section II.12 and 12.3)
- b) Number of goals permitted
- c) Goals available for declaration
- d) Minimum and maximum distances of goal(s) from CLP or ILP as per TDS
- e) Minimum distance of goal(s) from any subsequent goals or targets, if applicable

15.1.3 the result is the distance from the mark or closest valid track point to the nearest valid declared goal. Smallest result is best.

15.2 JUDGE DECLARED GOAL (JDG)

15.2.1 Competitors will attempt to achieve a mark or valid track point close to a set goal.

15.2.2 Task Data:

- a) Position of set goal/target

15.2.3 Result is distance from the mark or closest valid track point to the target, if displayed, or goal. Smallest result is best.

15.3 HESITATION WALTZ (HWZ)

15.3.1 Competitors will attempt to achieve a mark or valid track point close to one of several set goals.

15.3.2 Task Data:

- a) Position of various set goals/targets

15.3.3 the result is distance from the mark or closest valid track point to the nearest target, if displayed, or goal. Smallest result is best.

15.4 FLY IN (FIN)

15.4.1 Competitors find their own launch areas and attempt to achieve a mark or valid track point close to a set goal or target.

15.4.2 Task Data:

- a) Position of set goal/target

15.4.3 the result is the distance from the mark or closest valid track point to the target, if displayed, or goal. Smallest result is best.

15.4.4 only one scoring attempt (marker drop) may be made.

15.5 FLY ON (FON)

15.5.1 Competitors will attempt to achieve a mark or valid track point close to a goal selected and declared by them before take-off or during flight.

15.5.2 Task Data:

- a) Method of declaration (also see Section II.12 and 12.3)
- b) Number of goals permitted
- c) Goals available for declaration
- d) Declaration point requirement
- e) Minimum and maximum distance between declaration point and declared goal(s)
- f) Minimum and maximum distances of declared goal(s) from any other targets noted on TDS.

15.5.3 the result is the distance from the mark or closest valid track point to the nearest valid declared goal. Smallest result is best.

15.5.4 Rules governing the declaration methods are in Section II.12 and shall be detailed on the TDS.

15.6 HARE AND HOUNDS (HNN)

- 15.6.1 Competitors will follow a hare balloon and attempt to achieve a mark or valid track point close to a target displayed by the hare no more than two meters upwind of the basket after landing.
- 15.6.2 Task Data:
- a) Description of hare balloon
 - b) Intended flight duration of hare balloon
- 15.6.3 the result is the distance from the mark or closest valid track point to the target. Smallest result is best.
- 15.6.4 Variation from intended flight duration of the hare shall not be grounds for complaint.
- 15.6.5 the hare may deflate after landing and may be removed from the field.
- 15.6.6 the hare balloon may display a banner hanging below his basket. No competitor shall display any banner hanging below the basket during this task.

15.7 WATERSHIP DOWN (WSD)

- 15.7.1 Competitors will fly to the launch point of a hare balloon, follow the hare, and attempt to achieve a mark or valid track point close to a target displayed by the hare no more than two meters upwind of the basket after landing.
- 15.7.2 Task Data:
- a) Description of hare balloon
 - b) Location of the launch point of the hare balloon
 - c) Set take-off time of the hare balloon
 - d) Intended flight duration of the hare balloon
- 15.7.3 the result is the distance from the mark or closest valid track point to the target. Smallest result is best.
- 15.7.4 if the hare balloon does not take off within five minutes after the set time then this task is considered cancelled.
- 15.7.5 Variation from the intended flight duration of the hare shall not be grounds for complaint.
- 15.7.6 the hare may deflate after landing and may be removed from the field.
- 15.7.7 the hare may display a banner hanging below his basket. No competitor shall display any banner hanging below the basket during this task.

15.8 GORDON BENNETT MEMORIAL (GBM)

- 15.8.1 Competitors will attempt to achieve a mark or closest valid track point within a scoring area(s) close to a set goal.
- 15.8.2 Task Data:
- a) Position of goal/target
 - b) Description of scoring area(s)
- 15.8.3 the result is the distance from the mark or closest valid track point to the target, if displayed, or goal. Smallest result is best.

15.9 CALCULATED RATE OF APPROACH TASK (CRT)

- 15.9.1 Competitors will attempt to achieve a mark within a valid scoring area close to a set goal. The scoring area(s) will have unique times of validity.
- 15.9.2 Task Data:
- a) Position of goal/target
 - b) Description of scoring area(s) and their validity times
- 15.9.3 the result is the distance from the mark to the target. Smallest result is best.
- 15.9.4 a competitor who does not achieve a mark (marker on the ground) inside a scoring area during the time of validity will not achieve a result.

15.10 RACE TO AN AREA (RTA)

15.10.1 Competitors will attempt to achieve a mark or valid track point, as specified in the Task Data in the shortest time within a scoring area(s) or airspace(s).

15.10.2 Task Data:

- a) Arrangements for timing
- b) Description of Scoring Area(s)

15.10.3 The result is the elapsed time from the initial timing point to the mark-or first valid track point. Shortest time is best.

15.10.4 Timing ends at the moment the marker is released, falling, or on the ground as seen by the officials, the electronic mark is dropped (Flytec loggers only) or at the moment of the first valid track point in the scoring area if track points only were set.

15.11 ELBOW (ELB)

15.11.1 Competitors will attempt to achieve the greatest change of direction in flight.

15.11.2 Task Data: (If no markers are used)

- a) Description of point "A"
- b) Description of point "B"
- c) Description of point "C"

15.11.3 The result is 180 degrees minus the angle ABC. Greatest result is best.

15.12 LAND RUN (LRN)

15.12.1 Competitors will attempt to achieve the greatest area of a triangle ABC.

15.12.2 Task Data:

- a) Location of point "A"
- b) Method of determining point "B"
- c) Method of determining point "C"
- d) Description of scoring area(s)

15.12.3 The result is the area of triangle ABC. Greatest result is best.

15.13 MINIMUM DISTANCE (MDT)

15.13.1 Competitors will attempt to achieve a mark or valid track point close to the common reference point, after flying a minimum set time or distance.

15.13.2 Task Data:

- a) Arrangements of timing
- b) Minimum set time or distance
- c) Reference point

15.13.3 The result is the distance from the mark or closest valid track point to the common reference point. Smallest 2D result is best.

15.13.4 The scoring position is the mark or best track point after the minimum time or distance has elapsed. Otherwise the scoring position will be the landing position, provided that the balloon has been seen by an official to be still airborne after the minimum time

15.14 SHORTEST FLIGHT (SFL)

15.14.1 Competitors will attempt to achieve a mark or valid track point within a set scoring area(s) close to the common reference point.

15.14.2 Task Data:

- a) Description of scoring area(s)
- b) Reference point

15.14.3 The result is the distance from the mark or best valid track point to the common reference point. Smallest 2D result is best.

15.14.4 Competitors will not achieve a result unless they have valid track points or marks in different scoring areas as per the TDS.

15.15 MINIMUM DISTANCE DOUBLE DROP (MDD)

15.15.1 Competitors will attempt to achieve two marks or valid track points close together in different scoring areas.

15.15.2 Task Data:

- a) Description of the scoring areas

15.15.3 The result is the distance between the marks or track points. Smallest 2D result is best.

15.15.4 Competitors will not achieve a result, unless they have valid track points or marks in different scoring areas as per the TDS.

15.16 MAXIMUM DISTANCE TIME (XDT)

15.16.1 Competitors will attempt to achieve a mark or valid track point far away from the common reference point, within a maximum set time.

15.16.2 Task Data:

- a) Maximum set time
- b) Arrangements for timing
- c) Reference point

15.16.3 The result is the distance from the mark or furthest valid track point to the common reference point. Greatest 2D result is best.

15.17 MAXIMUM DISTANCE (XDI)

15.17.1 Competitors will attempt to achieve a mark or valid track point within a set scoring area(s) far away from the common reference point.

15.17.2 Task Data:

- a) Description of scoring area(s)
- b) Reference point

15.17.3 The result is the distance from the mark or valid track point to the common reference point. Greatest 2D distance is best.

15.18 MAXIMUM DISTANCE DOUBLE DROP (XDD)

15.18.1 Competitors will attempt to achieve two marks or valid track points far apart in the scoring area(s).

15.18.2 Task Data:

- a) Description of Scoring Area(s)

15.18.3 The result is the distance between the marks or farthest valid track points. Greatest 2D result is best.

15.19 ANGLE TASK (ANG)

15.19.1 Competitors will attempt to achieve the greatest change of direction from a set direction. The change of direction is the angle between the set direction and line "A-B".

15.19.2 Task Data:

- a) Description of points "A" and "B"
- b) Set direction (degrees)
- c) Minimum and maximum distances from "A" to "B"

15.19.3 The result is the angle between the set direction and the line "A-B". Greatest result is best.

15.20 3-D SHAPE TASK (3DT) (for events with logger scoring)

15.20.1 Competitors will attempt to achieve the greatest distance within a set airspace.

15.20.2 Task Data:

- a) Description of set airspace(s)

15.20.3 The result is the accumulated horizontal distance between valid track points in the set airspace(s). Greatest result is best.

15.21 LEAST TIME TASK (LTT) (for events with logger scoring)

15.21.1 Competitors will attempt to fly across a given scoring area in the least amount of time.

15.21.2 Task Data:

- a) Boundaries of scoring area

15.20.4 Result is elapsed time to cross the scoring area, measured from initial point of entry to exit point of scoring area. Least time is best.

15.22 MOST TIME TASK (MTT) (for events with logger scoring)

15.22.1 Competitors will attempt to fly across a given scoring area in the most amount of time (slowest speed).

15.22.2 Task Data:

- a) Boundaries of scoring area

15.20.5 Result is elapsed time to cross the scoring area, measured from initial point of entry to exit point of scoring area. Greatest amount of time is best.

APPENDICES

APPENDIX A - CODE OF CONDUCT

All **OFFICIALS, PILOTS/COMPETITORS AND CREWS** are required to comply with the Code of Conduct. In addition to the excerpts from the Competition Rules shown below, competitors and crews are expected to conduct themselves in a manner that promotes the sport of hot air ballooning.

2.12 CONDUCT

Entrants and competitors and their crews are required to behave in a sportsmanlike manner, follow the Code of Conduct, and comply with the directions of Event Officials. Inconsiderate behavior, profanity, or unsportsmanlike conduct, or any violation of the FAA Waiver will be penalized up to 1000 competition points by the Event Director and may be grounds for expulsion of a pilot.

10.5 BEHAVIOR

Competitors are required to fly with proper consideration for fellow competitors, persons and livestock on the ground and to follow good landowner relations etiquette and the code of conduct. Inconsiderate behavior by competitors or crew members, or endangering the public during flight, may be penalized up to 1000 competition points.

13.1 SERIOUS INFRINGEMENTS, UNSPORTING BEHAVIOR

Cheating or unsporting behavior, including deliberate attempts to deceive or mislead officials, willful interference with other competitors, falsification of documents, use of forbidden equipment or prohibited drugs, or repeated serious infringements of rules will be penalized up to 1000 competition points and may be disqualified from the task or Event. Pilots/crews found to misappropriate propane during the event would be penalized and/or disqualified.

EVENT ETIQUETTE

Pilots registering for and attending events are expected to be present for the General Briefing and attend all flight briefings. In circumstances requiring a participating pilot to miss a briefing or flight, the pilot is responsible to notify the organizer and Event Director of their situation. Violations of normally accepted conduct will result in a warning and possible expulsion from the Event.

All pilots and their crews will conduct themselves in such ways as their actions will be a credit to and in the best interests of hot air ballooning and the Event, its officials and staff, and its Event sponsors.

All participants will treat fellow pilots, crews, officials, sponsors, etc. with respect at all times.

Pilots will be responsible for operating within both the letter and spirit of the Event Competition Rules.

APPENDIX B - LANDOWNER RELATIONS

All competitors and crews are reminded of the importance of Landowner Relations and that the countryside is the farmer's livelihood. It is important to remember that good rural relations are essential to our sport. Grass is a crop, cattle, pigs and horses are easily frightened and farmers depend on electric power for many purposes not the least of which is for their milking plant.

Please remember these guidelines when dealing with our landowners:

1. Always be COURTEOUS and respectful of the fact that you are trespassing unless invited onto the property.
2. Select a landing site that will cause the least possible inconvenience to the farmer. Select a field FREE OF CROPS and be particularly CAREFUL OF ANIMALS on the approach and on possible overshoot.
3. After landing, DISCOURAGE ONLOOKERS from coming onto the land unless the owner is there and they have his permission.
4. ALWAYS obtain permission BEFORE you bring the retrieve vehicle into the field.
5. Ensure farm FENCES are NOT DAMAGED and gates are left as you find them.
6. DO NOT let anyone LITTER the property.
7. If damage is caused, or the farmer wishes to take further action, exchange names and addresses and report the facts to race officials upon your return.
8. Remember not to use the "ran out of fuel" excuse if you do damage. It is a violation of the FARs to run out of fuel.

APPENDIX C – PROPANE REFUELING

When refueling, please follow these guidelines:

1. Have your refueling adapters hooked up prior to entering the fueling area. After completing refueling, leave the area to complete the covering of your balloon and any other housekeeping that may be required.
2. No more than two from each balloon crew may be in the refueling station area. Persons involved in refueling must be experienced in refueling propane tanks.
3. Pilots are responsible for proper filling of tanks.
4. Disarm strikers and remove from basket.
5. Leave cell phones in the chase vehicle.
6. No nylon jackets in the refueling area.
7. Only tanks used in flight will be refueled.
8. Pilot lights in campers, chase commanders, etc., must be turned off.
9. All vehicles must be turned off.
10. No persons are permitted inside the balloon basket or vehicle passenger compartment during refueling.
11. No refueling of tanks in enclosed trailers or vans.
12. Absolutely no smoking in the area.

Emergency Procedures.

In the event of a fire during refueling. It is recommended to leave your keys in your vehicle prior to starting refueling -- in the ignition or on the dash.

Fire is not involving your balloon system:

1. Stop all refueling operations.
2. Shut all valves, including liquid and vapor.
3. Leave your equipment connected.
4. Confirm with propane operator the "Emergency Shut Off" on propane vehicle is activated.
5. Leave the refueling area and report to check-in location.
6. Do not attempt to remove your vehicle from the refueling area.
7. Stand by for further instruction from Public Safety Officials.

Fire involving your balloon systems:

1. Shut all valves, including liquid and vapor, if conditions will allow.
2. Notify propane operator of fire.
3. Confirm with propane operator the "Emergency Shut Off" on propane vehicle is activated.
4. Report all injuries to Public Safety Officials if not injuries are not noticeable.

APPENDIX D – ALLOWABLE DAMAGE on Balloon Envelopes and Baskets

The following is provided only for general guidance to event officials to quickly evaluate the effect of envelope and/or basket damage during a balloon event. In all cases, the manufacturer's manuals for continued airworthiness for each particular aerostat MUST be consulted when evaluating any situation of 'allowable damage. Refer to Rule 3.5 for further guidance.

Manufacturer	Allowable Damage Limitations
ADAMS	No allowable damage is listed.
AEROSTAR	<p>For fabric with less than 100 hours and less than 3 years old:</p> <ul style="list-style-type: none"> • Above 1ST horizontal band below the equator: 1 inch. • Below 1ST horizontal band and above 6 feet above mouth: 2 inches. • Envelope within 6 feet of mouth: 18 inches <p>For fabric with greater than 100 hours and greater than 3 years old:</p> <ul style="list-style-type: none"> • Above 1ST horizontal band below the equator: 3/8 inch. • Below 1ST horizontal band and above 6 feet above mouth: 1 inch. • Envelope within 6 feet of mouth: 12 inches <p>Envelope skirt or Dipper: no more than 10%.</p>
AVIAN	<p>1/2" long tear, hole or wear area from equator to top of envelope; 1-1/2" long tear, hole or wear area from 10 feet above mouth to equator; 12" long tear, hole or wear area from mouth to 10 feet up envelope No load tape may be damaged</p>
FIREFLY AND GALAXY	<p>Fabric: holes, tears or areas of damaged fabric of 1 cm (3/8 inch) in maximum dimensions are acceptable above the equator and of 2.5 cm (1 inch) below the equator and a maximum of 30.5 cm (12 inches) in bottom panel no.1 if:</p> <ol style="list-style-type: none"> 1. They are more than 30.5 cm (12 inches) apart and more than 30.5 cm (12 inches) away from a seam. 2. There are no more than four in any one panel. <p>Basket wicker: Holes up to 25cm (10 inches) may be considered acceptable providing the damage does not endanger passenger safety or fuel system components.</p>
CAMERON	<p>In lowest 10', holes need not be repaired provided load tapes are undamaged; above 10' ≤3/4" in longest dimension.</p> <p>Basket damage – horizontal <3/4" in floor; <1/4" of thickness gone</p>
LINDSTRAND BALLOONS	<p>No damage to envelope fabric which is above the lower two nylon panels may be larger than 3/4" in any one direction. No damage is permissible to load tapes, control lines or parachute valve rigging.</p> <p>No damage to the basket that exceeds more than five strands of a basket wire broken, more than six broken consecutive strands in the woven floor is permissible. No damage to a plywood floor that is more than 10", visible from both sides, or the floor has separated from the lower stainless steel frame is permissible.</p>
HEAD	<p>Maximum damage near mouth 12"; more than 72" from bottom of envelope, but below equator, not greater than 1"; above equator not greater than 1/2".</p> <p>No damage listed for basket.</p>
PICCARD	<p>The manual only lists damage above the lower horizontal load tape. This damage must be less than 1". No damage limitations are given below the lower horizontal load tape.</p> <p>No broken wicker allowed on basket which might affect passenger safety.</p>
THUNDER & COLT	<p>No damage to envelope may be greater than 1". Damage to basket is acceptable if "hand or foot size."</p>
NATIONAL	No damage limitations listed.
KUBICEK	Any damage of the envelope fabric below the third horizontal load tape is permitted. The maximum size of an unrepaired tear or damage to the envelope fabric above the third horizontal load tape is 5mm (0.2 in).
ULTRAMAGIC	Damage to the fabric in the lower third of the envelope must be limited to an area affecting no more than 3 panels, though they may be completely damaged and panels may be adjacent. Holes no greater than 10mm in diameter (e.g. cigarette burn) are permitted elsewhere on the envelope. These holes must not be within 25mm of a load tape, with no more than 5 in any one panel and no closer than 50 mm to each other. No more than 3 panels in the upper two-thirds of the envelope may have these small holes. No damage is permitted to any part of the burner, fuel or load suspension system.

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