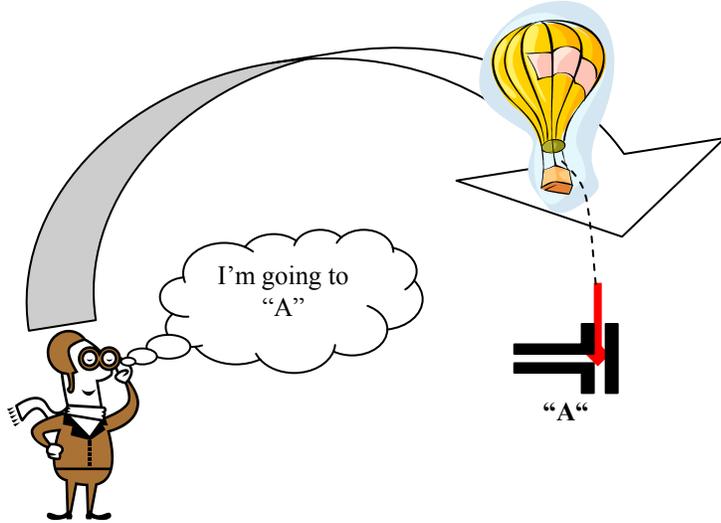


# **Balloon Race Explanations and Graphics**

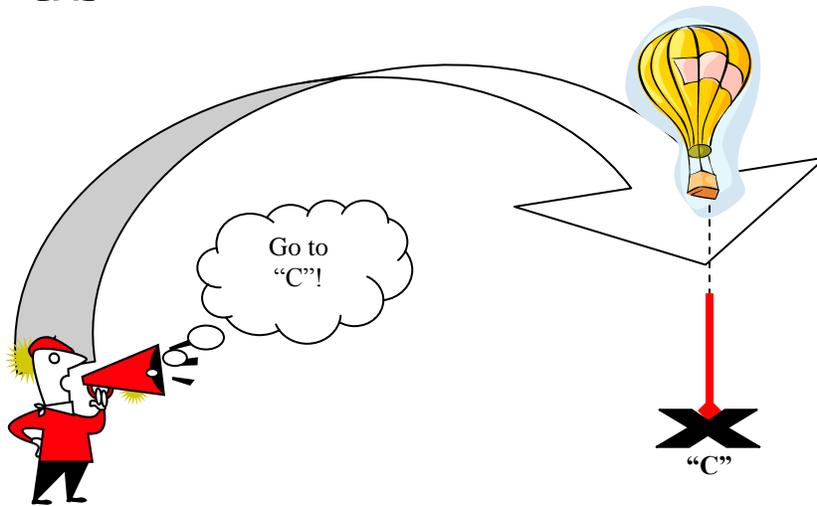
**Designed and Written by  
Maury Sullivan**

# TASK GRAPHICS

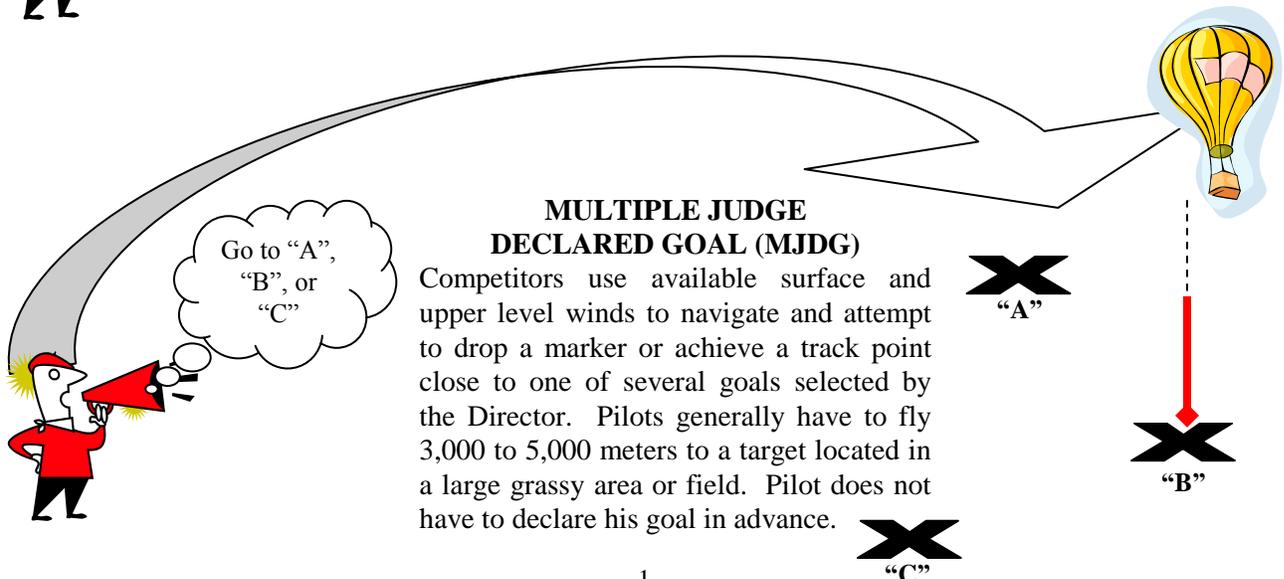
As you know, tasks are the competition disciplines in Hot Air Balloon competition. The purpose of these diagrams is to provide you and your crew with graphic illustrations of the tasks. Multiple tasks may be called by the Event Competition Director for any given flight.



**PILOT DECLARED GOAL (PDG)**  
 Competitors attempt to drop a marker or achieve a track point close to a goal selected and declared by the pilot before launching. Each competitor chooses his own target a minimum and maximum distance beyond the CLP or ILP. Goals are intersections of roads and roads and railroads.



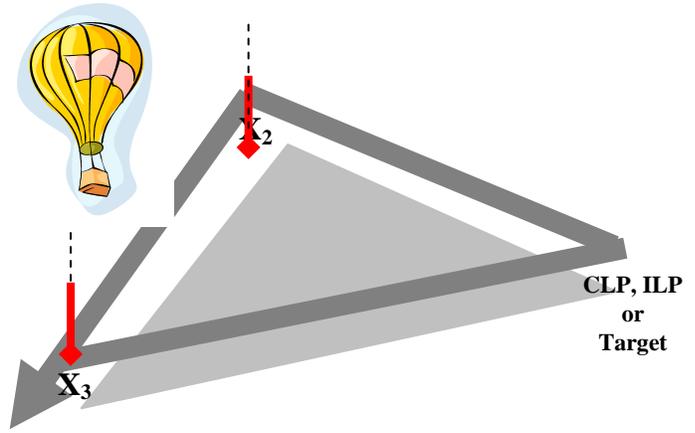
**JUDGE DECLARED GOAL (JDG)**  
 Competitors use available surface and upper level winds to navigate and attempt to drop a marker or achieve a track point close to a goal selected by the Director. Pilots generally have to fly 3,000 to 5,000 meters to a target located in a large grassy area or field.



**MULTIPLE JUDGE DECLARED GOAL (MJDG)**  
 Competitors use available surface and upper level winds to navigate and attempt to drop a marker or achieve a track point close to one of several goals selected by the Director. Pilots generally have to fly 3,000 to 5,000 meters to a target located in a large grassy area or field. Pilot does not have to declare his goal in advance.

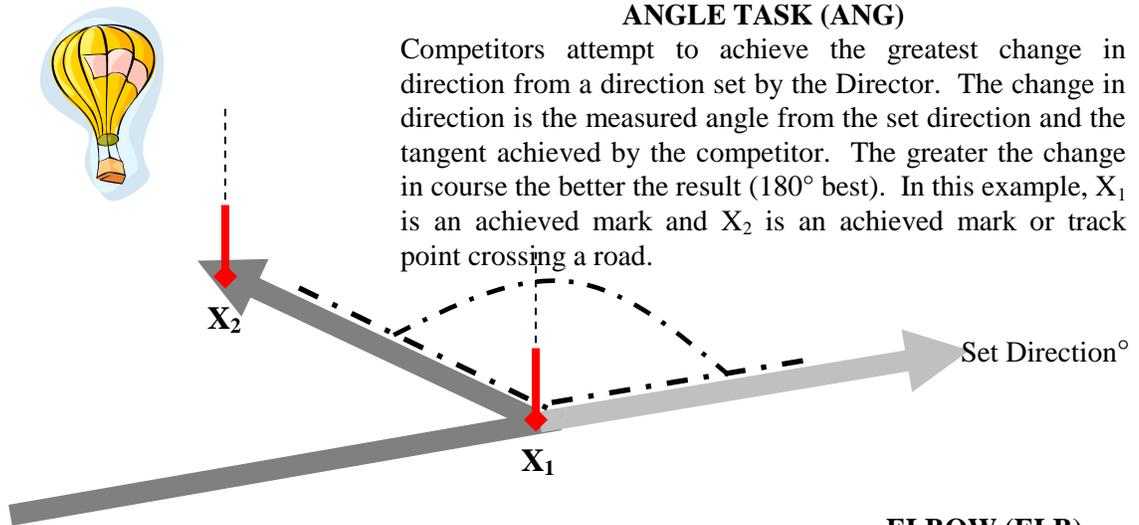
**LAND RUN TASK (LRN)**

Competitors attempt to achieve the greatest area of a triangle ABC. Similar in many respects to an Elbow or Angle Task, a triangle is created with marks achieved with course changes as great as possible. Point "A" is generally named by the Director while points "B" ( $X_2$ ) and "C" ( $X_3$ ) are achieved by the pilot by dropping a marker or crossing a road with a track point. The greater the area of the triangle; the better the results.



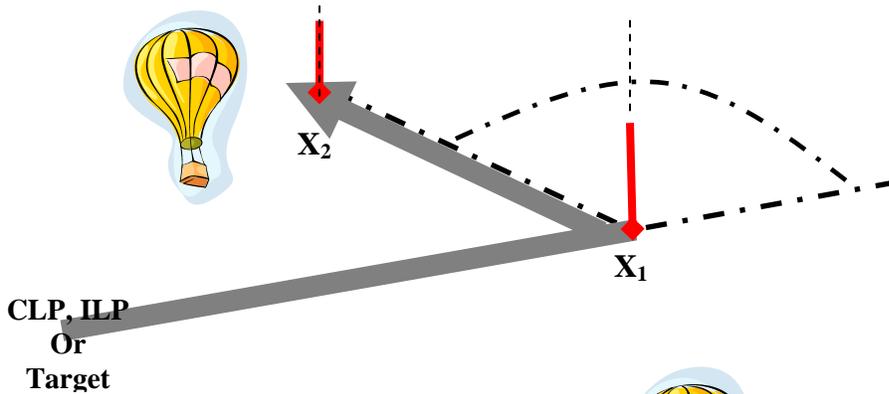
**ANGLE TASK (ANG)**

Competitors attempt to achieve the greatest change in direction from a direction set by the Director. The change in direction is the measured angle from the set direction and the tangent achieved by the competitor. The greater the change in course the better the result ( $180^\circ$  best). In this example,  $X_1$  is an achieved mark and  $X_2$  is an achieved mark or track point crossing a road.



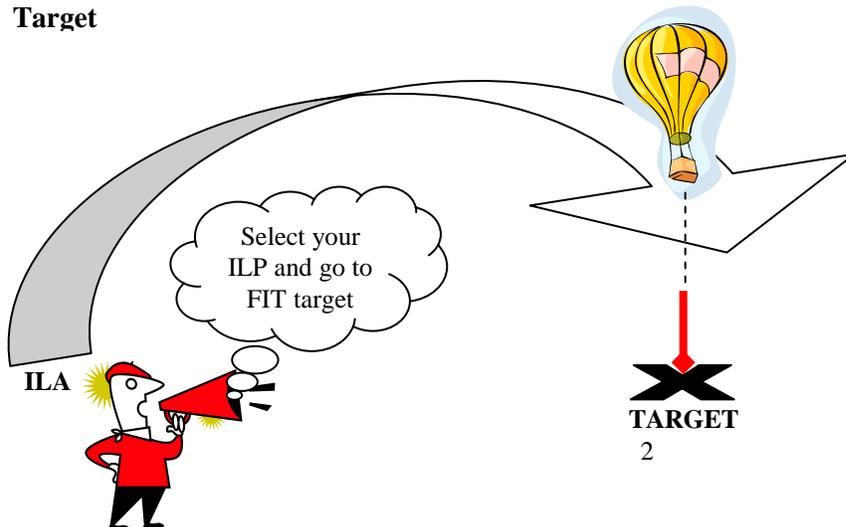
**ELBOW (ELB)**

Competitors attempt to achieve the greatest change in direction during the flight. Balloons will launch from a CLP or ILP and fly a minimum distance or duration and drop a marker or achieve a track point on a road ( $X_1$ ). The pilot then tries to change direction on the second leg achieving a mark at a target or track point on a road ( $X_2$ ).



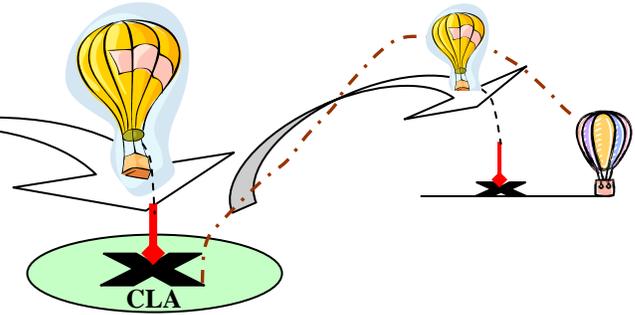
**FLY IN TASK (FIT)**

Competitors find their own launch area at a minimum and maximum distance from the target and attempt to drop a marker close to a target set by the Director. The target is generally the primary event launch field



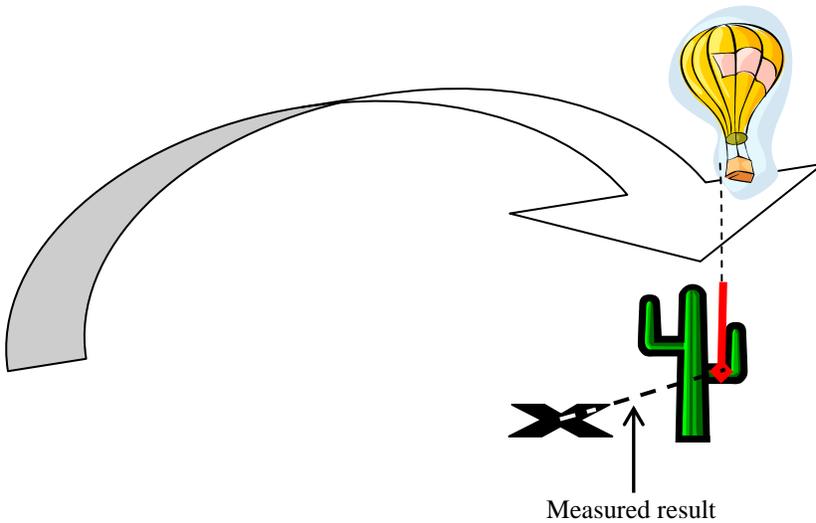
**WATERSHIP DOWN (WSD)**

This is a two-part task. Competitors will find their own launch site and fly to the launch site of a hare balloon. They will attempt to drop a marker at a target displayed next to the hare launch site. The competitor will then follow the hare as in the HNH above. Timing of the launch is important so as to arrive at the hare launch point within just a moment after it launches. Competitors follow the hare and attempt to drop a second marker close to a target laid out and displayed by the hare pilot. The target will be displayed within two meters upwind of the hare



**GORDON BENNETT MEMORIAL (GBM)**

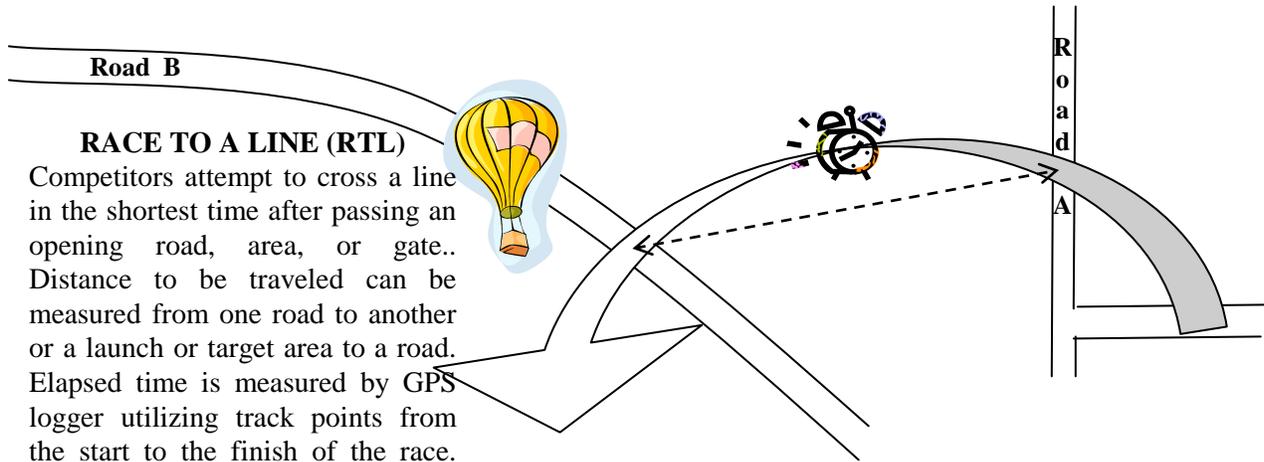
Named after a pioneer in gas balloon racing, the GBM requires the competitor to drop a marker in a defined scoring area (often a geometric or unusual shape) adjacent to the defined goal. The target is generally outside of the scoring area. The objective is to drop the marker inside the defined or outlined scoring area (cactus shape in this example) as close as possible to the target. Markers dropping outside the scoring area, even if closer to the target, receive a no result.



**CALCULATED RATE OF APPROACH TASK (CRAT)**

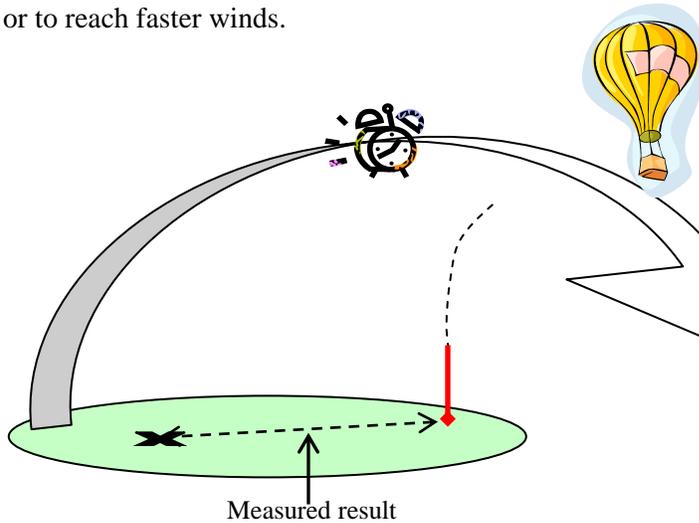
Competitors attempt to drop a marker in a valid scoring area close to a set goal. The scoring area(s) will have unique times of validity. Timing and the proper assessment of wind speed are critical in this task. The Director may have several targets each with a different valid scoring period or he may have one scoring area with open and closed times. Markers dropped outside a valid-time scoring area receive no result.

 7:00-7:15 <b>A</b>	 7:30-7:45 <b>B</b>
 8:15-8:30 <b>C</b>	 7:46-8:00 <b>D</b>



**RACE TO A LINE (RTL)**

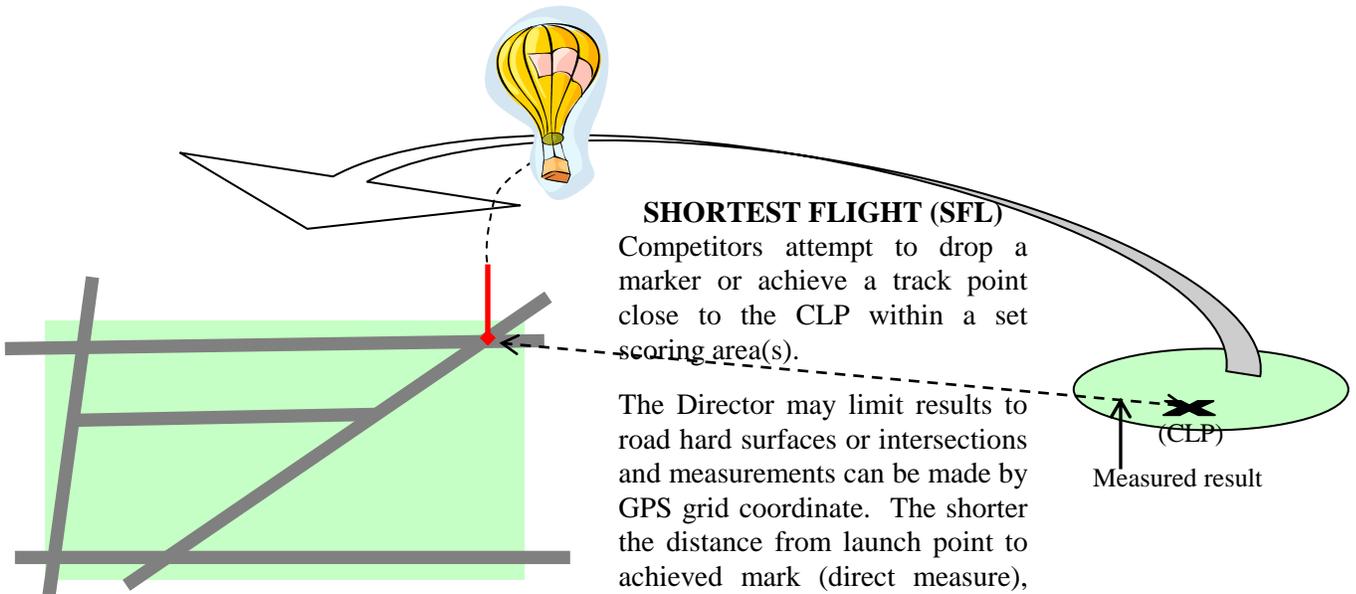
Competitors attempt to cross a line in the shortest time after passing an opening road, area, or gate.. Distance to be traveled can be measured from one road to another or a launch or target area to a road. Elapsed time is measured by GPS logger utilizing track points from the start to the finish of the race. Often times the Director will select an ending road that will encourage the pilot to fly high to achieve a needed turn (for shortest distance) or to reach faster winds.



**MINIMUM DISTANCE (MDT)**

Competitors attempt to drop a marker or achieve a track point close to the CLP after flying a minimum amount of time.

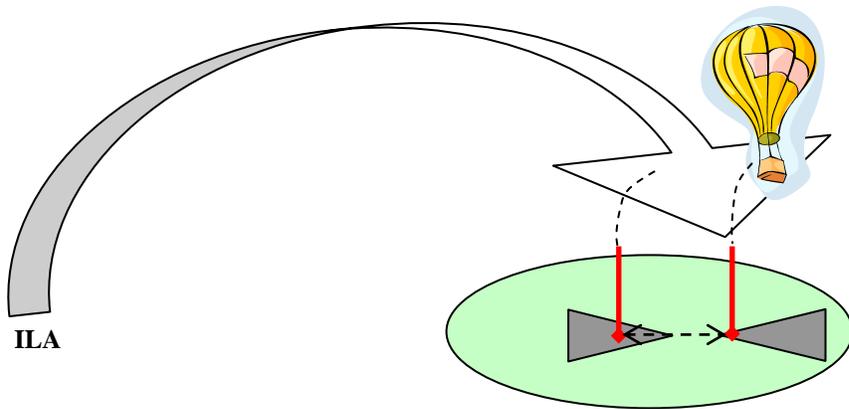
This task is best run when some degree of “box winds” exist allowing the pilots to box back to the field after a period of time. The task could be combined with a JDG in this instance. Light and variable winds while conducive to this task pose a safety concern.



**SHORTEST FLIGHT (SFL)**

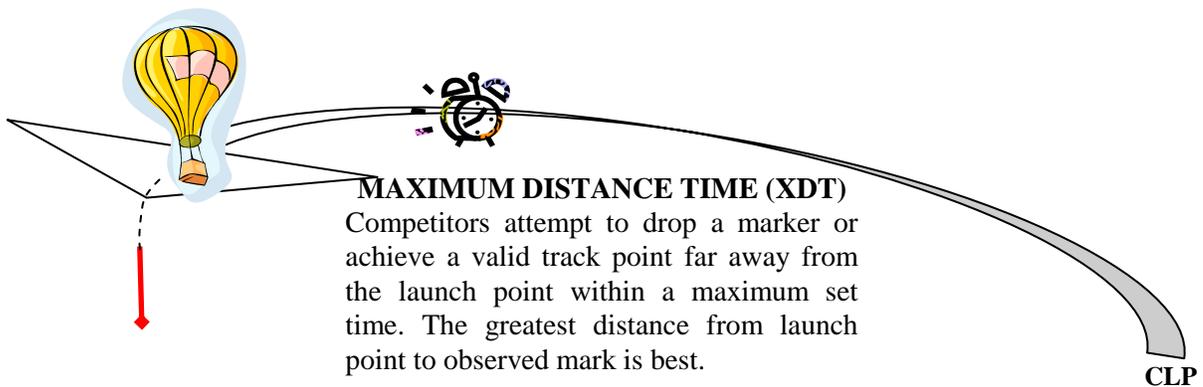
Competitors attempt to drop a marker or achieve a track point close to the CLP within a set scoring area(s).

The Director may limit results to road hard surfaces or intersections and measurements can be made by GPS grid coordinate. The shorter the distance from launch point to achieved mark (direct measure), the better the result.



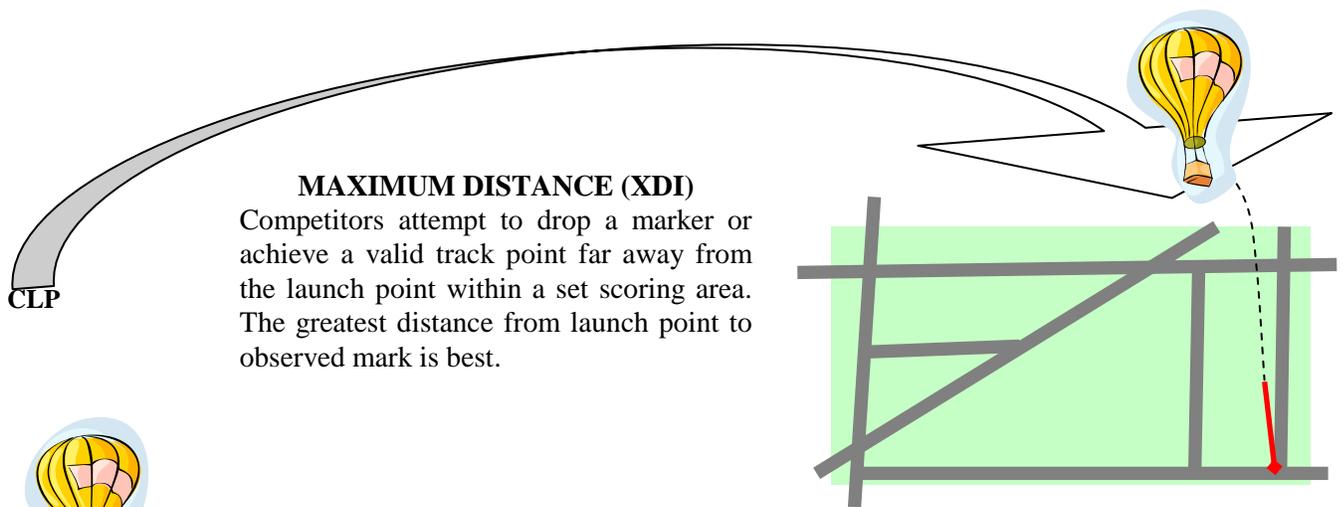
**MINIMUM DISTANCE  
DOUBLE DROP (MDD)**

Competitors attempt to drop two markers close together in different scoring areas. The scoring areas are frequently geometric designs laid out at the event's main launch field (CLP). Valid marks must be achieved in each scoring area or the competitor will receive a no result. The shortest distance between the two markers is best.



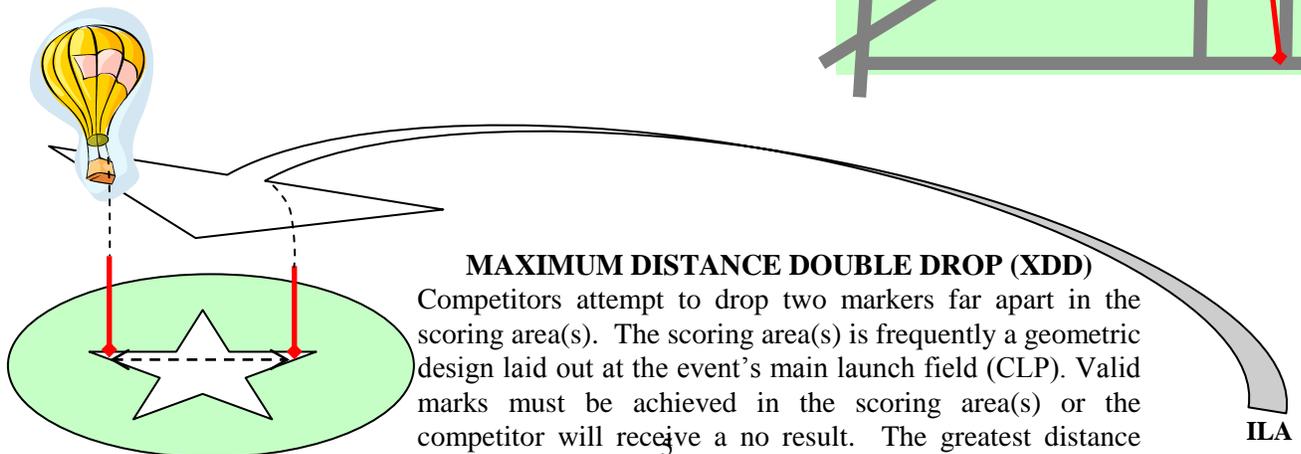
**MAXIMUM DISTANCE TIME (XDT)**

Competitors attempt to drop a marker or achieve a valid track point far away from the launch point within a maximum set time. The greatest distance from launch point to observed mark is best.



**MAXIMUM DISTANCE (XDI)**

Competitors attempt to drop a marker or achieve a valid track point far away from the launch point within a set scoring area. The greatest distance from launch point to observed mark is best.



**MAXIMUM DISTANCE DOUBLE DROP (XDD)**

Competitors attempt to drop two markers far apart in the scoring area(s). The scoring area(s) is frequently a geometric design laid out at the event's main launch field (CLP). Valid marks must be achieved in the scoring area(s) or the competitor will receive a no result. The greatest distance between the two markers is best.

### 3D SHAPE TASK (3DT)

Competitors attempt to achieve the greatest distance traveled within a defined set airspace. The result is the accumulated horizontal distance between valid track points inside the set airspace(s). Track points are recorded positions by a GPS logger attached to the balloon. The details are outlined by the Event Director including altitude and position coordinates of the 3D shape as well as dimensions of the set airspace. In the example here, competitors receive a bonus of 3x the distance in A and 2x in B. The task is designed to test the ability to fly level and make controlled ascents and descents.

