

# Kite Precision:

## Your Comprehensive Guide for Flying Controllable Kites

by Ron Reich



Chapter 18

Team Flying Basics

## INTRODUCTION

The thrill of team flying, for the first time, will surely inspire you to look forward to the next opportunity with anxious anticipation. This presentation provides a uniform solid foundation in the basics of team flying; when that next opportunity presents itself, you will be able to perform your part with confidence. It is exhilarating to fly synchronized maneuvers especially when there is timing required to avoid a collision. It is also exhilarating when you finish a set and the crowd behind you applauds. It doesn't take a lot of practice to have a good time team flying.

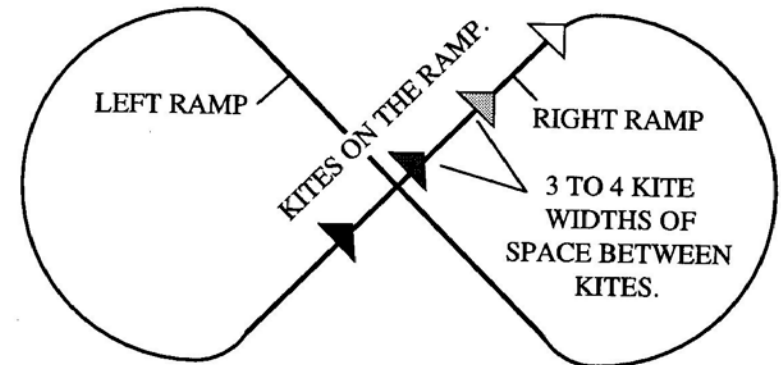
## CONSIDERATIONS

Here are just a few things you should consider to make team flying easier:

1. The individual flyers should have good basic control of their kite. The basic skills required include smooth steering and speed control.
2. When there are just two flyers, the more experienced person should follow.
3. When there are more than two flyers, the more experienced flyer should lead the group. And, the least experienced flyer should be the last in line.
4. Although it is not absolutely necessary, each flyer's length of fly line should be about 5 feet longer than that of the following kite. This will reduce the amount of bad turbulence experienced by the following kite. When a kite hits the turbulence created by another kite, the feeling is similar to hitting a speed bump, while driving your car, at about 10 miles per hour.
5. 140 feet to 150 feet is a comfortable length of fly line for the leader's kite. Small fields may require the leader's length to be 110 feet.

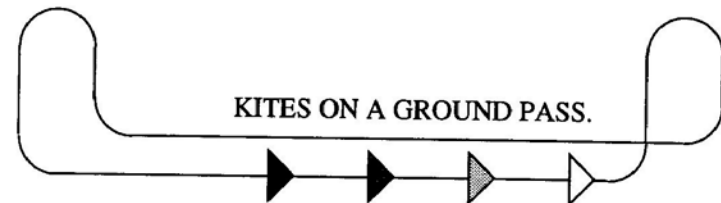
This presentation assumes that the leader is standing on the right side of the group. The flyers should stand about 5 to 8 feet apart. The flyers should be able to see the flyer on their right. If the lead flyer moves, then the rest of the team should move accordingly. Sometimes it may be necessary for the leader to ask the group to walk right, or left, forward, or backward.

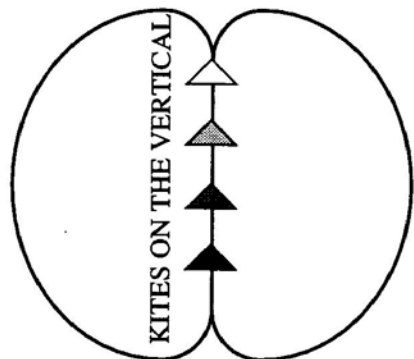
All team flying starts with the "Follow-the-Leader" patterns of horizontal figure eights. The kites will fly up on a diagonal across the center of the wind window and down at the edges of the wind window. This specific pattern can be changed to display several different pictures.



Basic Turns will be executed while the kites are on the ramps.

FLATTEN THE RAMPS OF THE FIGURE EIGHT INTO GROUND PASSES. TURN UP, OUT, AND DOWN TO REVERSE THE DIRECTION OF THE GROUND PASS. THE TURN IS CALLED A "BUTTON HOOK."





FLY THE RAMPS OF  
THE FIGURE EIGHT ON  
A VERTICAL PATH.

**Organized Communication** is essential for the "Execution" of synchronized team flying. The communication is accomplished by **"PREPARATORY"** and **"EXECUTION"** commands.

A **"PREPARATORY COMMAND"** is a name assigned to a sequence of maneuvers that the kites will present as a specific picture in the sky. The "Preparatory" commands should be meaningful to the pictures that are presented. This will make it easier for the flyers to remember their individual parts. In the section called "3-PERSON TEAM" I have diagramed the pictures, "Fountain" and "Boomerang."

An **"EXECUTION COMMAND"** is a word that signals the flyers to start a maneuver that is part of the picture that was called for by the preceding "Preparatory" command. These are short one-syllable words such as, "TURN," "BREAK," or "NOW." Some pictures can be presented with a single "Execution" command, while others may require as many as ten "Execution" commands.

**IMPORTANT NOTE:** Do not try to execute precisely on the word, "TURN." A consistent tempo is required to insure a synchronized execution. The flyers should pull on the unspoken word, *and*, in the sequence;

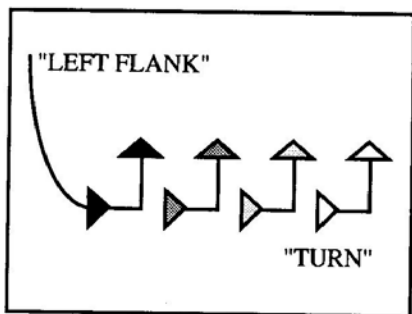
"TURN" *and* "BREAK" *and* "NOW" *and*.

The team leader gives a "Preparatory" command well before the kites reach the area where the "Execution" commands are to take place. This command will alert the flyers to the sequence of maneuvers required to perform the intended pattern in the sky. As the "Execution" commands are given by the leader, the flyers will execute their individual parts. The end result will be a synchronized presentation of the pattern. As the patterns are linked together, the performance becomes a routine.

### BASIC TURNS

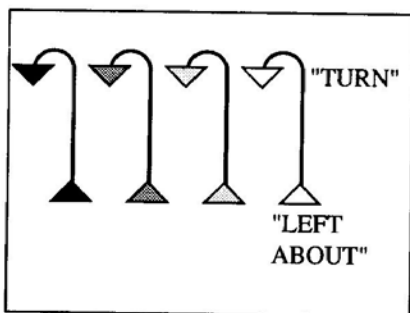
Basic turns are defined with simple "Preparatory" commands which usually start with the direction. The direction, "Left" or "Right," refers to the hand that you would pull to execute the turn, as opposed to the side of the sky that the kite is going to turn toward. It should be understood that "Push Turns" are a part of any performance. However, for interpretation of the commands, the direction command should mean which hand you would "Pull" to execute the turn. This concept allows consistent terminology regardless of the direction in which the kites are flying.

**TERMINOLOGY:** The goal is to fly a routine with a minimum amount of dialogue. Therefore, the words selected as "Preparatory" commands should be as short and to the point as possible. It is with this thought in mind that I present the terminology that was used by my world championship team. The terminology for the "Preparatory" and "Execution" commands of the basic team turns is presented in the following diagrams. The words in "quotes" represent the spoken words of the leader at that approximate location in the pattern. The interpretation of the "Preparatory" command is provided adjacent to the diagram. The diagrams are shown with 4 kites. However, the same terminology applies for 2 kites as well as any other number of kites.



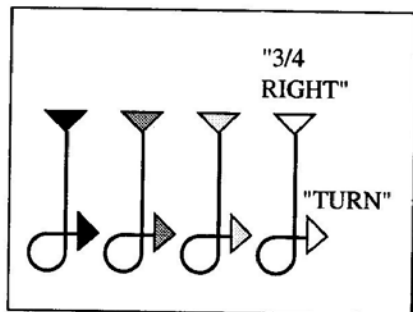
**"LEFT-FLANK"**

All kites turn 90 degrees in the direction stated.



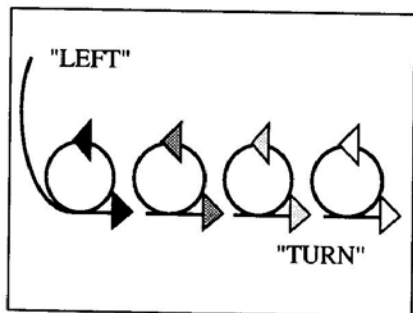
**"LEFT-ABOUT"**

All kites turn 180 degrees in the direction stated.



**"3/4-RIGHT"**

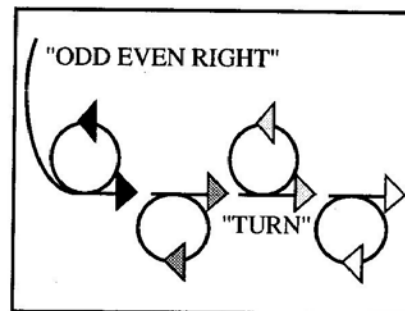
All kites turn 270 degrees in the direction stated.



**"LEFT"**

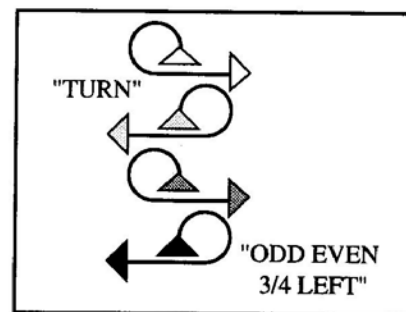
All kites turn 360 degrees in the direction stated. The size of the circle should be about 20 feet in diameter unless otherwise specified by the leader. A "TIGHT LEFT" is a wing-tip turn.

"Preparatory" command **MODIFIERS** are used to change the execution of these turns. "**ODD-EVEN,**" "**UP,**" and "**BRACKET**" are common modifiers. The following diagrams illustrate some basic applications of these modifiers.



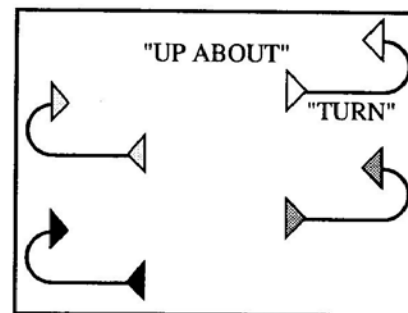
**"ODD-EVEN RIGHT"**

1st and 3rd kites turn 360° to the right. 2nd and 4th kites turn 360° to the left. The modifier ODD-EVEN requires that the odd numbered kites turn the direction stated and the even numbered kites turn the opposite direction.



**"ODD-EVEN 3/4 LEFT"**

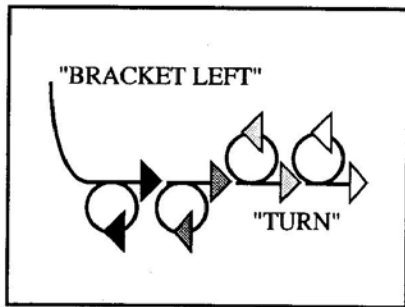
1st and 3rd kites turn 270° to the left. 2nd and 4th kites turn 270° to the right. The net result is a Horizontal Thread. When kites pass each other in opposite directions, it is called a Thread. (Thread the Needle)



**"UP-ABOUT"**

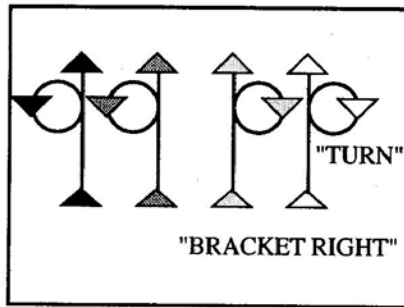
All kites turn up 180° and fly back toward the center. "DOWN-ABOUT" is another option.

**"BRACKET-LEFT"**



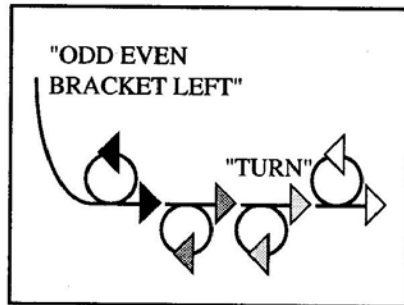
1st and 2nd kites turn 360° to the left. 3rd and 4th kites turn 360° to the right. The modifier BRACKET divides the team into separate pairs. The 3rd kite is the leader of the second pair.

**"BRACKET-RIGHT"**



1st pair of kites turns 360° to the right. 2nd pair of kites turns 360° to the left. This turn is in the category of Mirror Image Maneuvers.

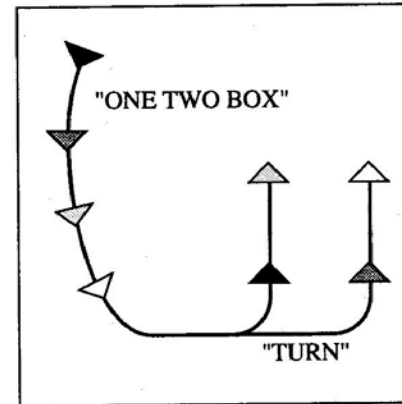
**"ODD-EVEN BRACKET-LEFT"**



The leaders of the pairs turn 360° in the appropriate direction for a "Bracket-Left." The followers in each pair turn 360° in the opposite direction for the "Odd-Even."

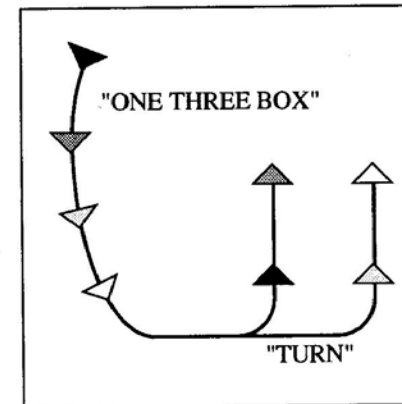
Another modifier is the word **"FULL."** It requires that each kite completes a FULL 360° turn in the appropriate direction before executing the basic turn. For instance, a **"FULL-LEFT-ABOUT"** would call for the kites to make a full 360° left turn and then continue turning an additional 180° to fly back in the direction they originally came from.

So far we have looked at "Follow-the-Leader" and "Side-by-Side" formations of the team. Another very common formation is the "Box." Boxes can be flown in a variety of directions. Horizontal and vertical paths can be flown in either direction. When a box is flown on a diagonal path, it becomes a diamond. Here are a few graceful methods of changing from the "Follow-the-Leader" formation to the "Box" formation.



**"ONE-TWO-BOX"**

1st and 2nd kites flank on the "Execution" command, "TURN." 3rd and 4th kites follow to form the "Box."

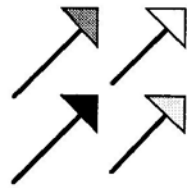
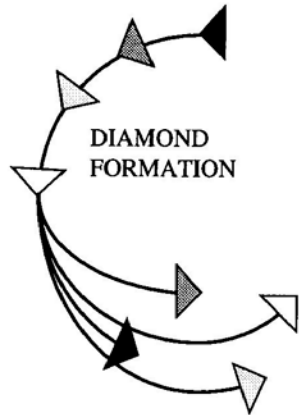


**"ONE-THREE-BOX"**

1st and 3rd kites flank on the "Execution" command "TURN." 2nd and 4th kites follow to form the "Box."

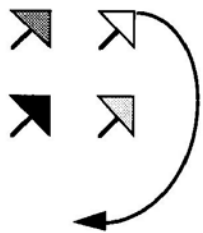
The choice between these two "BOX" formations will be determined by the fly line requirements of the subsequent maneuvers. "BOX" formations can be flown on horizontal paths if the "Execution" command is given while the kites are on a dive down the left or right side of the wind window.

These figures illustrate establishing and maintaining the Diamond formation.



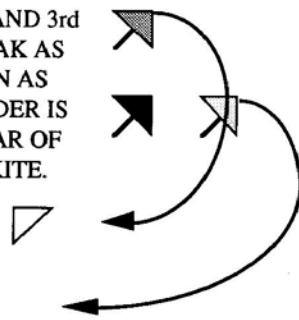
THE 2nd KITE ACCELERATES AND SWINGS WIDE. THE 3rd KITE SLOWS AND CUTS INSIDE. THE 4th KITE ACCELERATES AND FOLLOWS THE PATH OF THE LEADER.

LEADER GOES FIRST.



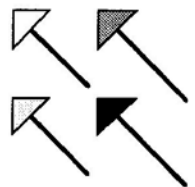
1

2nd AND 3rd BREAK AS SOON AS LEADER IS CLEAR OF 2nd KITE.



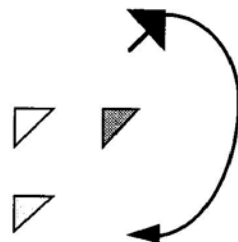
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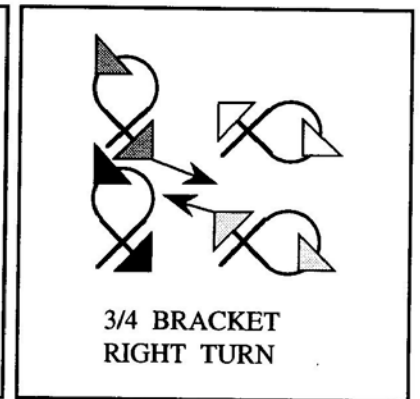
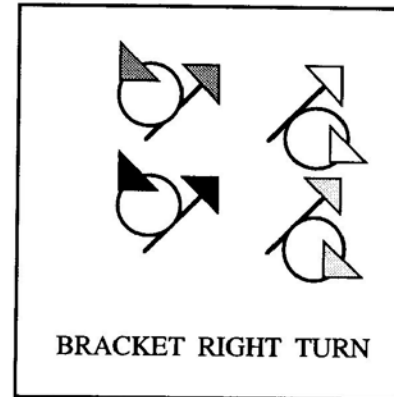
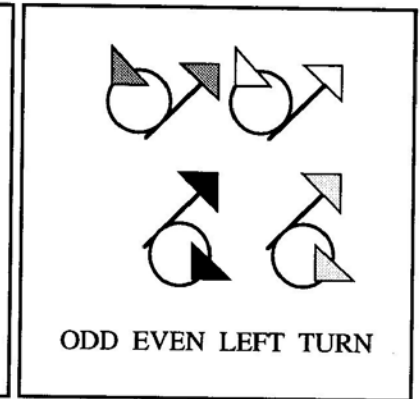
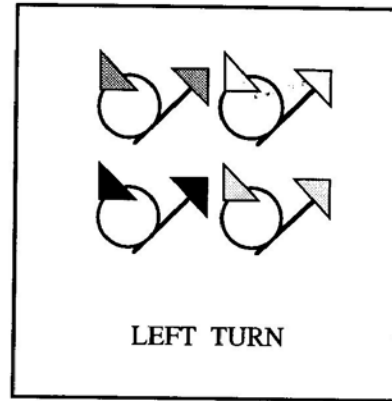
RESUME DIAMOND FORMATION

3 4th KITE BREAKS AS SOON AS 3rd KITE IS PAST.



3

Most of the basic turns can be executed while the kites are in a "Diamond" formation. The flyers will execute their parts as though they were in a "Follow-the-Leader" formation. For instance, the "ODD-EVEN" modifier requires that the 1st and 3rd kites turn the direction stated and the 2nd and 4th kites turn the opposite direction. Therefore, the leader must consider the direction in which each kite is going to turn when using the modifiers.



It is not unusual to alter the path of the ideal basic turn in order to create a special effect. In the 3/4-Bracket-Right Turn, shown above, the 2nd and 3rd kites altered the ideal path to avoid a collision and create a Thread-the-Needle from the Diamond Formation. This maneuver is also called a Diamond-Split.