



# USPA National **Formation Skydiving** Championships Competition Rules



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## 1. General

- On a freefall jump, teams perform a designated formation or a sequence or series of formations and/or intermediate maneuvers (inter) drawn from the dive pool as shown in this chapter.

## 2. Event Description

### 2.1. 2-Way Mixed Formation Skydiving (MFS)

- 2.1.1 Open: Each round consists of four or five (whichever is drawn first) scoring formations from the dive pool. All points from the dive pool may be drawn in the same round.
- 2.1.2 Advanced: Each round consists of four or five (whichever is drawn first) scoring formations from the dive pool. The draw for advanced excludes certain more difficult randoms (listed in event specific draws).

### 2.2. 4-Way Vertical Formation Skydiving (VFS)

- 2.2.1 Open: Each round consists of five or six (whichever is drawn first) scoring formations from the dive pool.
- 2.2.2 Advanced: Each round consists of four or five (whichever is drawn first) scoring formations from the dive pool.
- 2.2.3 Intermediate: Each round consists of three or four (whichever is drawn first) scoring formations from the dive pool.

### 2.3. 4-Way Formation Skydiving (FS)

- 2.3.1 Advanced and Open: Each round consists of five or six (whichever is drawn first) scoring formations from the dive pool.
- 2.3.2 Intermediate: Each round consists of four or five (whichever is drawn first) scoring formations from the dive pool.
- 2.3.3 Beginner: Each round consists of three or four (whichever is drawn first) scoring formations from the dive pool.

### 2.4. 8-Way FS

- 2.4.1 Advanced and Open: Each round consists of five or six (whichever is drawn first) scoring formations from the dive pool.
- 2.4.2 Intermediate: Each round consists of four or five (whichever is drawn first) scoring formations from the dive pool.

### 2.5. 16-Way FS

- 2.5.1 Each round consists of three or four (whichever is drawn first) scoring formations drawn from the dive pool.

### 2.6. 10-Way FS

- 2.6.1 Each round consists of building one formation drawn from the dive pool.

## 3. Team Composition

- No team in any Advanced, Intermediate, or Beginner class (4-way and 8-way FS, 2-way MFS, 4-way VFS, etc.) may be composed of more than one quarter of members (in MFS 1 member) who have won a gold medal in that class, or any medal in a higher class of the same event at any USPA National Skydiving Championships, or in the same event at an FAI First Category Event, at any time in the prior five calendar years. The videographer will not be considered when applying this rule.
- A competitor or videographer is allowed to compete on only one team in each of the events.

### 3.1. 2-Way MFS

- 3.1.1 Each team consists of up to four (4) members, including a videographer, but is eliminated from competition if, for any reason, it is cut to one or fewer members and a videographer.

### 3.2. 4-Way FS/VFS

- 3.2.1 Each team may consist of up to six members, including a videographer, but is eliminated from competition if, for any reason, it is cut to three or fewer members and a videographer.
- 3.2.2 The videographer on an all-women 4-Way team competing in the Open class may be either sex.

### 3.3. 8-Way

- 3.3.1 Each team may consist of up to 11 members, including a videographer, but is eliminated from competition if, for any reason, it is cut to seven or fewer members and a videographer.

### 3.4. 16-Way

- 3.4.1 Each team may consist of up to 19 members, including a videographer, but is eliminated from competition if, for any reason, it is cut to 15 or fewer members and a videographer.

### 3.5. 10-Way

- 3.5.1 Each team may consist of up to 13 members, including a videographer, but is eliminated from competition if, for any reason, it is cut to nine or fewer members and a videographer.

## 4. Competition Draw

### 4.1. General

- 4.1.1 The Chief Judge will supervise a public draw of the sequences.
- 4.1.2 Teams will be given not less than two hours' knowledge of the results of the draw and the start of competition.
- 4.1.3 When available, an electronically generated draw may be used.

### 4.2. Event Specific Draws

- 4.2.1 A separate draw will be made for the following classes and events:

4.2.1.1 2-Way MFS Open, 4-way VFS Open, 4-Way Advanced & Open, 8-Way Advanced & Open, and 16-Way.

4.2.1.2 2-Way MFS Advanced

- The draw will be performed from a dive pool consisting of only blocks 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17 and only randoms B, C, E, F, G, H, J, K, L, M, N, O, P, Q, R

4.2.1.3 4-Way VFS Advanced

- The draw will be performed from a dive pool consisting of only blocks 1, 2, 3, 4, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 20, 21, and 22 and only randoms A, B, C, E, J, K, L, and Q.

4.2.1.4 4-Way VFS Intermediate

- The draw will be performed from a dive pool consisting of only blocks 1, 2, 3, 7, 8, 12, 13, 14, 21, and 22, and only randoms A, B, E, J, and L

4.2.1.5 4-Way Intermediate

- The draw will be performed from a dive pool consisting of only blocks 1, 2, 4, 6, 7, 8, 9, 11, 13, 14, 15, 18, 19, 20, 21, and 22, and all the randoms.

4.2.1.6 4-way Beginner

- The draw will be performed from a dive pool consisting of only blocks 2, 4, 6, 7, 8, 9, 19, 21 and all the randoms.

4.2.1.7 8-Way Intermediate

- The draw will be performed from a dive pool consisting of only blocks 1, 3, 4, 5, 6, 7, 8, 10, 13, 14, 16, 17, 18, 19, and 21, and all the randoms.

4.2.1.8 10-way

- Rounds 1-5 and the tie-break round shall be drawn from the full dive pool except formation 8 (Star).
- Round 6 shall be assigned formation 8 (Star)

4.2.2 Common Draw Procedures

4.2.2.1 Representations of the numbered block sequences and lettered random formations from the relevant dive pool are singularly placed in one container for each event.

4.2.2.2 Individual withdrawal from the container, without replacement, determines the sequences to be jumped in each round.

4.2.2.3 If, while performing the draw the container becomes exhausted, the entire pool will be put back in the container and the draw will continue until it is completed. If a duplicate random or block is drawn within a single round, the duplicate will be removed from the round and put back in the container before continuing the draw.

4.2.2.4 The number of rounds drawn shall be the number of regular scheduled rounds for the event plus one additional round to serve as a tie-breaker.

### 4.3. Number of Rounds

4.3.1 2-Way MFS: One complete round constitutes a meet; the maximum (scheduled) number is ten.

4.3.2 4-Way VFS Open and Advanced: One complete round constitutes a meet; the maximum (scheduled) number is ten.

4.3.3 4-Way VFS Intermediate: One complete round constitutes a meet; the maximum (scheduled) number is six.

4.3.4 4- and 8-Way FS: One complete round constitutes a meet; the maximum (scheduled) number is ten.

4.3.5 16- and 10-Way: One complete round constitutes a meet; the maximum (scheduled) number is six.



## 5. Exit Altitude And Working Time

### 5.1. 2-Way MFS and 4-Way VFS

- 5.1.1 Each jump is made from 13,000 feet.
- 5.1.2 Working time starts the moment any team member (excluding the videographer) separates from the aircraft, as determined by the judges; if the judges cannot determine the start of the working time, the following procedure will be followed:
  - 5.1.2.1 Working time will start as the videographer separates from the aircraft; and,
  - 5.1.2.2 A penalty equal to 20 percent (rounded down) of the score for that jump will be deducted from the score for that jump.
- 5.1.3 Each sequence should be repeated until the working time of 35 seconds has expired.
- 5.1.4 Where possible the Meet Director will attempt to schedule rounds at times when the sun is not within 20 degrees of the zenith to allow the team videographer to clearly video their team.

### 5.2. 4-Way FS

- 5.2.1 Each jump is made from 10,500 feet, which may be lowered for a complete round to 9,500 feet (without change to the working time) by the Meet Director to negotiate weather.
- 5.2.2 Working time starts the moment any team member (excluding the videographer) separates from the aircraft, as determined by the judges; if judges cannot determine the start of the working time, the following procedure will be followed:
  - 5.2.2.1 Working time will start as the videographer separates from the aircraft; and,
  - 5.2.2.2 A penalty equal to 20 percent (rounded down) of the score for that jump will be deducted from the score for that jump.
- 5.2.3 Each sequence should be repeated until the working time of 35 seconds has expired.

### 5.3. 8-Way

- 5.3.1 Each jump is made from 13,000 feet.
- 5.3.2 Working time starts the moment any team member (excluding the videographer) separates from the aircraft, as determined by the judges; if judges cannot determine the start of the working time, the following procedure will be followed:
  - 5.3.2.1 Working time will start as the videographer separates from the aircraft; and,
  - 5.3.2.2 A penalty equal to 20 percent (rounded down) of the score for that jump will be deducted from the score for that jump.
- 5.3.3 Each sequence should be repeated until the working time of 50 seconds has expired.

### 5.4. 10-Way

- 5.4.1 Each jump is made from 11,000 feet.
- 5.4.2 Working time starts when the first competitor crosses the starting line and stops when the formation is complete; if no clear exit is shown, the team will be assessed the maximum score of 35 seconds.
- 5.4.3 Each formation must be completed within 35 seconds and held for a minimum of five seconds.
- 5.4.4 Total working time is 40 seconds.
- 5.4.5 Mirror images of random formations are permitted.

### 5.5. 16-Way

- 5.5.1 Each jump is made from 13,000 feet.
- 5.5.2 Working time starts the moment any team member (excluding the videographer) separates from the aircraft, as determined by the judges; if judges cannot determine the start of the working time, the following procedure will be followed:
  - 5.5.2.1 Working time will start as the videographer separates from the aircraft; and,
  - 5.5.2.2 A penalty equal to 20 percent (rounded down) of the score for that jump will be deducted from the score for that jump.
- 5.5.3 Each sequence should be repeated until the working time of 50 seconds has expired.

### 5.6. Exit Altitude Changes

- 5.6.1 For meteorological reasons only and with the consent of the USPA Controller or the Chief Judge, the Meet Director may lower the exit altitude as listed in 5.6.4.2 below.
- 5.6.2 The round in progress will stop.
- 5.6.3 The next round will be conducted from the lower altitude.
- 5.6.4 The remaining incomplete round will be completed as soon as the weather permits.

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- 5.6.4.1 If the incomplete round cannot be completed from the full altitude, the teams that have not jumped will finish the round from the lower altitude.
- 5.6.4.2 If the incomplete round cannot be completed from the full altitude, teams that jumped from full altitude in that round will be rescored using the reduced working time associated with lowered exit altitudes as follows:
- Exit altitude for the 4-Way FS event is 7,500 feet; the working time is 20 seconds.
  - Exit altitude for the 2-Way MFS and 4-Way VFS is 9,000 feet; the working time is 20 seconds.
  - Exit altitude for the 8-Way event is 9,000 feet; the working time is 30 seconds.
  - Exit altitude for the 10-way event is 8500'; the total working time is 25 seconds (max score 20.0 seconds).
  - Exit altitude for the 16-Way event is 10,000 feet; the working time is 30 seconds.

## 6. Exit And Break-Off Procedures

### 6.1. 2-, 4-, 8-, and 16-Way

- 6.1.1 There are no exit limitations other than those imposed by the Chief Pilot for safety reasons.

### 6.2. 10-Way

- 6.2.1 A line is marked on the floor of a side-door aircraft from the front edge of the door to the opposite fuselage wall aft of the rear edge of the door; and for tailgate aircraft, the line is drawn five (5) feet forward of the tailgate edge and parallel to the edge of the tailgate.
- 6.2.1.1 The videographer must record an image of the line on the floor prior to the team exiting the aircraft.
- 6.2.1.2 The team must line up behind the line, and no members of the team, except the videographer, may come in contact with any portion of the aircraft on the door side or tailgate side of the line prior to commencing exit.
- 6.2.2 Each team member other than the videographer must present individual separation at some point after exiting the plane and before the formation is completed.

### 6.3. Break-Off

- 6.3.1 Teams are responsible to break off at an appropriate altitude to ensure compliance with the Basic Safety Requirements.

## 7. Scoring

### 7.1. 2-, 4-, 8-, and 16-Way

- 7.1.1 A team will score one point for each judgeable scoring formation performed in the sequence within the allotted working time of each round. Teams may continue scoring by continually repeating the sequence.
- 7.1.2 Three points will be deducted for each omission; if both the inter and the second formation in a block sequence are omitted, this will be considered as only one omission.
- 7.1.3 If an infringement in the scoring formation of a block sequence is carried into the inter, this will be considered as one infringement only, provided that the intent of the inter requirements for the next formation is clearly presented and no other infringement occurs in the inter.
- 7.1.4 The minimum score for any round is zero points.
- 7.1.5 It is the responsibility of the team to clearly present the start of working time, correct scoring formations, inters, and total separations to the videographer and the judges.
- 7.1.6 Scoring formations need not be perfectly symmetrical, but they must be performed in a controlled manner.
- 7.1.7 Mirror images of random formations and whole block sequences are permitted.
- 7.1.8 MFS/VFS: No grip line may cross another grip line within a formation.

### 7.2. 10-Way

- 7.2.1 Each team receives a score (in seconds) for the completed 10-Way formation that is held for a minimum of five (5) seconds.
- 7.2.1.1 These five (5) seconds must fall within working time (i.e., the last grip must be completed within 35 seconds).
- 7.2.1.2 If a team does not complete a 10-Way formation, it will receive the maximum score of 35 seconds.
- 7.2.2 The score for each jump is computed by averaging the three scores to one one-hundredth (.01) of a second.
- 7.2.3 It is the responsibility of the team to clearly present the correct scoring formation.

## 8. Definitions

### 8.1. Scoring Formation

- 8.1.1 A scoring formation is a formation that is correctly completed and clearly presented either as a random formation or within a block sequence as depicted in the dive pool, and which, apart from the first formation after exit, must be preceded by a correctly completed and clearly presented total separation or inter, as appropriate.

### 8.2. Grips

- 8.2.1 A grip consists of stationary contact between any part of the palm side of the hand and/or fingers, and an arm, leg, foot, or head of another jumper as shown in the Definition of Symbols. A foot grip must be on or below the ankle bone. A head grip must be above the line that goes around the head passing at or above the jaw-line.
- 8.2.2 For MFS grips only: A depicted grip by hand A on arm/hand B of another jumper may be substituted with a grip by hand B on arm/hand A, or by both grips simultaneously.

### 8.3. Inter

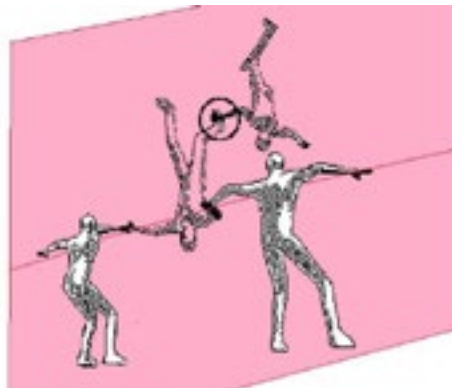
- 8.3.1 An inter is an intermediate requirement which must be performed as depicted in the block portions of the dive pools.

### 8.4. Subgroup

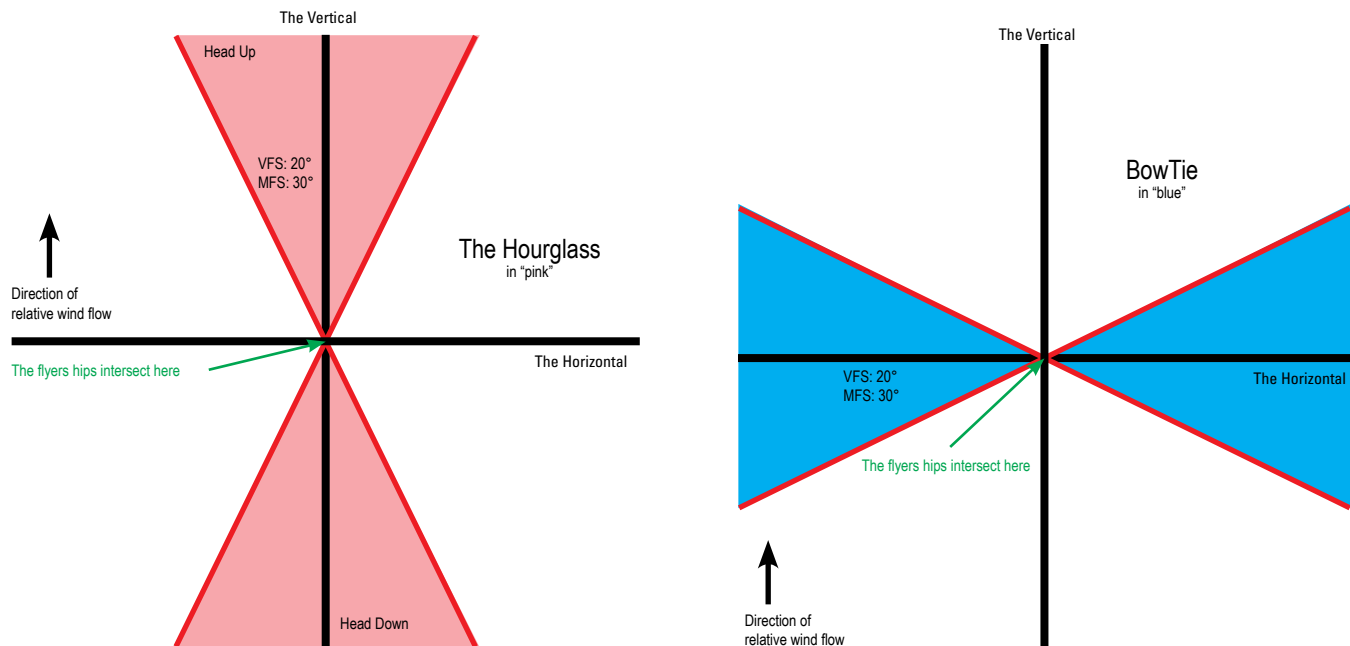
- 8.4.1.1 A subgroup consists of an individual or two or more jumpers linked by a grip or grips.
- 8.4.1.2 When shown, each subgroup must remain intact as a subgroup from the break of the previous scoring formation in the sequence until the correct completion of the next scoring formation in the sequence.
- 8.4.1.3 Where degrees are shown, (180°, 270°, 360°, 540°), this indicates the approximate degrees and direction of turn required to complete the inter as indicated. The degrees shown are approximately that amount of the circumference of the subgroup's center point to be presented to the center point(s) of the other subgroup(s). For judging purposes, the approximate degrees and direction of turn of subgroups' center points will be assessed using only the two-dimensional video evidence as presented. Degrees of turn performed must be in a single direction.
- 8.4.1.4 Contact is allowed between subgroups during the inter of a block sequence. If an inter requires an orientation change by a subgroup, no grip may be taken between that subgroup and any other subgroup during the orientation change.
- 8.4.1.5 Where subgroups are shown, they must remain intact as a subgroup with only the depicted grips on other jumpers in that subgroup. For VFS and MFS, where a subgroup is not required to change its orientation, the orientation must be maintained throughout the inter.
- 8.4.1.6 Assisting handholds on other bodies in a scoring formation are not permitted.
- 8.4.1.7 Handholds by the jumper on their own body within a subgroup or a scoring formation are permitted.
- 8.4.1.8 A subgroup's center point is one of the following:
- The defined grip or the geometric center of the defined grips within a subgroup within linked jumpers
  - The geometric center of an individual's torso

### 8.5. VFS "Grip line"

- 8.5.1 This is the line linking the torsos of two competitors via their arms or legs and feet and the grip that joins them.
- Clarification regarding random O: There is an imaginary vertical plane passing through the handgrips, with outside competitors having hand grips on one side of the vertical plane and the competitor taking the leg grip on the other side of the vertical plane. No grip line may cross the vertical plane within the formations.



## 8.6. MFS/VFS Orientation



- 8.6.1 “The Vertical”: An imaginary line running parallel to the relative wind (see diagram).
- 8.6.2 “The Horizontal”: An imaginary line running perpendicular to the relative wind (see diagram).
- 8.6.3 “The Flyer’s Line”: An imaginary, straight line of infinite length, roughly following the flyer’s spine, from the center of the flyer’s hips through the center of the flyer’s head and beyond
- 8.6.4 “The Hourglass”: The acceptable range of deviation from The Vertical that a flyer’s Line may take when meeting an orientation requirement (head up or head down). A flyer’s orientation shall be judged with The Vertical and The Horizontal intersecting at the flyer’s hips.
- 8.6.5 MFS/VFS “Upright”: orientation requires that Flyer’s Line must fall within, and remain within, the upper portion of the Hourglass..
- 8.6.6 MFS/VFS “Head down” orientation requires that Flyer’s Line must fall within, and remain within, the lower portion of the Hourglass. .
- 8.6.7 MFS “Mixed Round” is a round that may include belly, back, head down or upright formations.
- 8.6.8 The “BowTie” The acceptable range of deviation from The Horizontal that a flyer’s Line may take, as if viewed from the flyer’s right side, when meeting an orientation requirement (bellyflying or backflying). A flyer’s orientation shall be judged with The Vertical and The Horizontal intersecting at the flyer’s hips.
- 8.6.9 “Backflying” orientation requires that line between the hip bones be approximately perpendicular to the Vertical and that the Flyer’s line fall within, and remain within, the left-hand portion of the BowTie.
- 8.6.10 “Bellyflying” orientation requires that the line between the hip bones be approximately perpendicular to the Vertical and that the Flyer’s line fall within, and remain within, then right-hand portion of the BowTie.

## 8.7. Infringement

- 8.7.1 An incorrect or incomplete formation which is followed within working time by either—
- A total separation or
  - An inter, whether correct or not
- 8.7.2 A correctly completed formation preceded by an incorrect inter or incorrect total separation
- 8.7.3 A formation, inter, or total separation not clearly presented

## 8.8. Omissions

- 8.8.1 A formation or inter is missing from the drawn sequence.
- 8.8.2 No clear intent to build the correct formation or inter is seen, but another formation or inter is presented, and there is an advantage to the team resulting from the substitution.

## 8.9. Separation

- 8.9.1 In 2-way, 4-way and 8-way sequences, total separation is required between whole blocks, between random formations, and between whole blocks and random formations.
- 8.9.2 Total separation is when all competitors show at one point in time they have released all their grips and no part of their arms are in contact with another body.
- 8.9.3 In 16-way sequences, teams are allowed free transitions between random formations, between block sequences, and between block sequences and random formations.

## 8.10. Zenith

- 8.10.1 Point of the celestial sphere located vertically above the head of an observer

## 8.11. NV

- 8.11.1 Formations, inters, or total separations not visible on screen due to meteorological (such as rain, clouds, sun etc), or factors relating to the Videographer's video equipment that can not be controlled.

# 9. Judging And Recording

## 9.1. General

- 9.1.1 Judges are stationed at video monitors to observe each team's performance.

## 9.2. Judging Procedures

- 9.2.1 The judges will watch the video evidence of each jump once at normal speed to determine points in time. A second timing will be allowed if the last point in time is in question. At the end of working time, freeze frame will be applied on each full viewing. At the discretion of the Chief Judge, judges may be allowed partial playback, slow motion, and multiple views to increase the quality and speed of judging.
  - 9.2.1.1 If, after the viewings are completed, and within fifteen seconds of the knowledge of the result, the Chief Judge, Event Judge or any Judge on the panel considers that an absolutely incorrect assessment has occurred, the Chief Judge or Event Judge will direct that only that part(s) of the jump in question be reviewed at reduced speed in accordance with 9.2.1. If the review results in a unanimous decision by a 3-judge panel, or a minimum four to one decision by a 5-judge panel on the part(s) of the performance in question, the score for the jump will be adjusted accordingly. Only one review is permitted for each jump.
- 9.2.2 In the event a possible international record round is drawn in the open class, the panel of judges will judge by current ISC competition rules and dive pool depictions for that round(s) if possible.
- 9.2.3 The judges will use the electronic scoring system to record their evaluation of the performance. The judges may correct their evaluation record after the jump has been judged. Corrections to the evaluation record can only be made before the Chief Judge signs the score sheet. All individual judge's evaluations will be published.
- 9.2.4 The results of the evaluation will be checked by at least one judge.

# 10. Aircraft

## 10.1. General

- 10.1.1 All aircraft must be similar in configuration, interior, and exterior, as determined by the Meet Director, who is responsible for ensuring that all teams receive an equal aircraft rotation within the limits of aircraft availability.
- 10.1.2 The Meet Director and the Chief Pilot will determine the aircraft speed, torque, and flap settings at the time of exit, except:
  - Twin Otter: 85 to 95 knots (indicated) inclusive.
  - Cessna: 70 to 90 knots (indicated) inclusive.
  - DC-3: 90 to 100 knots (indicated) inclusive.

# 11. Weather

## 11.1. General

- 11.1.1 Meet management will make wind speed and direction recordings at 30-minute intervals or less.
- 11.1.2 The maximum allowable wind speed limits are eleven (11) meters per second for Open and Advanced classes nine (9) meters per second for Intermediate and Beginner classes, and nine (9) meters per second for the 16-way and 10-way events.

## 12. Classification Of Final Results

### 12.1. 2-, 4-, 8-, and 16-Way

12.1.1 For each team, the scores for each jump in each complete round are added.

12.1.2 The winner is the team with the largest score.

### 12.2. 10-Way

12.2.1 The winner is the team scoring the lowest total time, compiled through all complete rounds.

### 12.3. Ties

12.3.1 If two or more teams have equal scores, the following order of procedures will be applied until the first three places are determined

12.3.1.1 One tie-break round (jump off). The tie-break round will be the next drawn round of the competition, or if all scheduled rounds are complete, one additional round drawn by the Chief Judge

12.3.1.2 Highest score in any completed round of scheduled competition (prior to any jumps-offs);

12.3.1.3 Highest score starting with the last completed round of scheduled competition and continuing in reverse order, round by round, until the tie is broken.

12.3.1.4 The fastest time (measured to the hundredths of a second) to the last formation scored without infringement by both teams in the last completed round. Starting time must be that used for original evaluation of the performance.

### 12.4. Combined Freefall

12.4.1 For each individual competing in Open class formation skydiving events (including MFS/VFS), points are awarded to the individual's team placement in each event.

12.4.2 An individual must compete in three of the following six events to be eligible:

- 4-Way VFS Open
- 2-Way MFS Open
- 4-Way Open
- 8-Way Open
- 16-Way
- 10-Way

12.4.3 If the competitor competes in more than three events, their three best placements are used.

12.4.4 The individuals with the lowest cumulative placements are the winners.

### 12.5. National Championships Title Classifications

12.5.1 National 4-Way FS Beginner Champions—1st, 2nd, 3rd

12.5.2 National 4-Way FS Intermediate Champions—1st, 2nd, 3rd

12.5.3 National 4-Way FS Advanced Champions—1st, 2nd, 3rd

12.5.4 National 4-Way FS Open Champions—1st, 2nd, 3rd

12.5.5 National 2-Way MFS Advanced Champions—1st, 2nd, 3rd

12.5.6 National 2-Way MFS Open Champions—1st, 2nd, 3rd

12.5.7 National 4-Way VFS Intermediate Champions—1st, 2nd, 3rd

12.5.8 National 4-Way VFS Advanced Champions—1st, 2nd, 3rd

12.5.9 National 4-Way VFS Open Champions—1st, 2nd, 3rd

12.5.10 National 8-way FS Intermediate Champions—1st, 2nd, 3rd

12.5.11 National 8-Way FS Advanced Champions—1st, 2nd, 3rd

12.5.12 National 8-Way FS Open Champions—1st, 2nd, 3rd

12.5.13 National 16-Way FS Champions—1st, 2nd, 3rd

12.5.14 National 10-Way FS Champions—1st, 2nd, 3rd

12.5.15 National Champions of Combined Freefall—1st



# Appendix A: Administrative And Judging Notes

*The guidelines in this section are included to assist judges in the performance of their duties but are not grounds for protest.*

## 1.1. Placement During Jump Run

- 1.1.1 Only the team to be evaluated should be near the door.
- 1.1.2 All others should remain seated forward and out of the way.
- 1.1.3 Formation and transition specifications
  - 1.1.3.1 All formations performed need satisfy only the judges that each formation was complete and controlled.
  - 1.1.3.2 Where an “inter” is required, it must be visually presented as shown in the dive pool.
  - 1.1.3.3 There is no holding time requirement for any formation other than 10-way.
  - 1.1.3.4 Teams must ensure that each formation is complete and held long enough to be clearly visible.

## 1.2. Required Equipment

- 1.2.1 Playback equipment compatible with high definition digital video files.
- 1.2.2 Monitor(s) suitable for display of HD digital video files.
- 1.2.3 Score sheets
- 1.2.4 Stopwatches, which are the responsibility of each judge

## 1.3. Air-to-Air Judging Procedures

- 1.3.1 At the National Championships, judges evaluate an air-to-air video for freefall team events.
- 1.3.2 Barring any unusual circumstances, all jumps are recorded by a suitable air-to-air system.
- 1.3.3 The judges use the electronic scoring system to record their evaluation of the performance.
  - 1.3.3.1 The judge may correct his or her evaluation.
  - 1.3.3.2 The scoring system user guide will be consulted for this procedure.

## 1.4. Other Comments

- 1.4.1 The Event Judge is permitted to abort and reinitiate the judging panel’s viewing of a performance if the viewing has been interrupted before the freeze frame, i.e., power failure, startling noise disruption, or any other unforeseen significant distraction, that would prevent the panel from making a reasonably fair appraisal.
- 1.4.2 Judges may not discuss the performance of a competitor or team until either all the judges have completed their assessment of the jump, or the Chief Judge or Event Judge initiates a discussion.
- 1.4.3 Dark jumpsuits with contrasting gloves are recommended for best video judgeability.



# Appendix B: Definition Of Symbols



Indicates direction of turn by a sub-group.



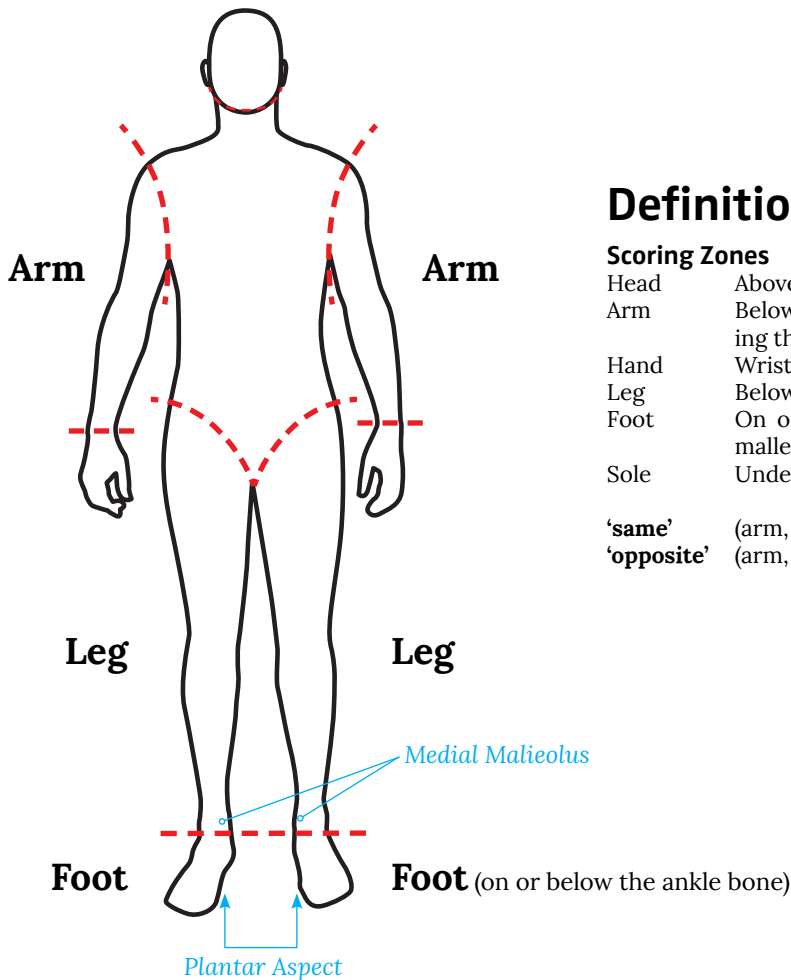
Indicates direction of turn by a sub-group in either direction.



Indicates clarification of intent

180°    270°  
360°    540°

Indicated approximage degrees of turn to show intent of the transition maneuver



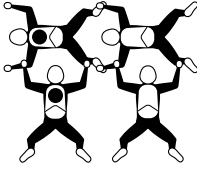
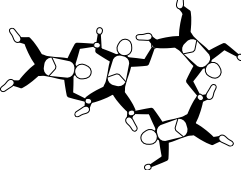
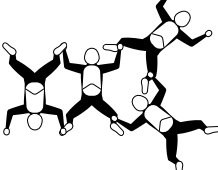
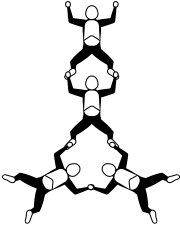
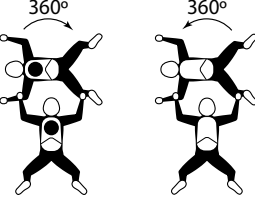
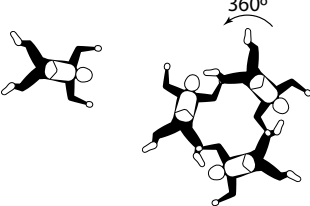
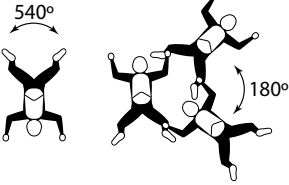
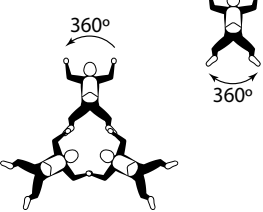
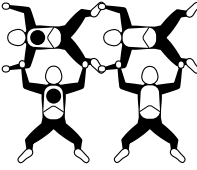
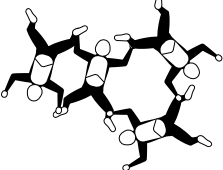
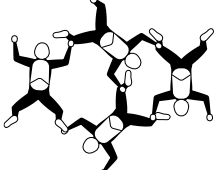
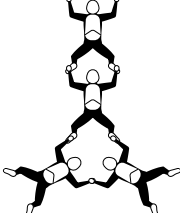
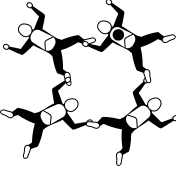
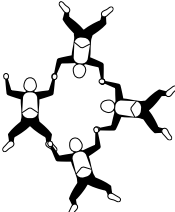
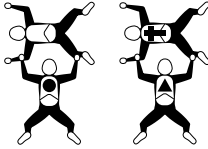
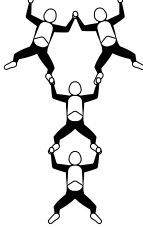
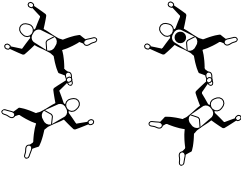
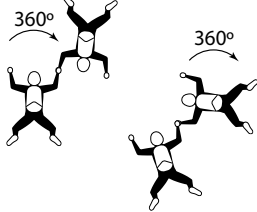
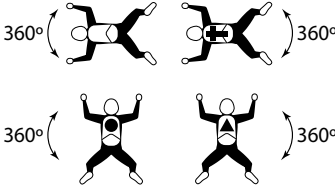
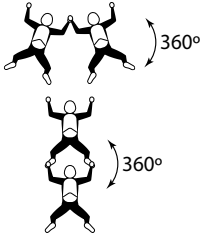
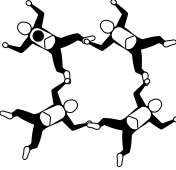
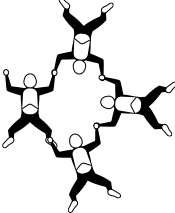
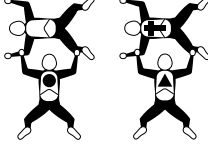
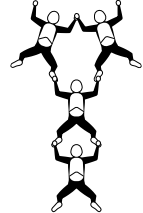
## Definitions for Building a Formation

### Scoring Zones

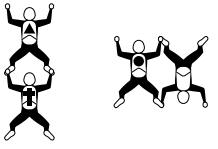
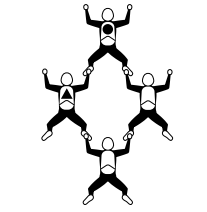
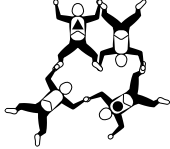
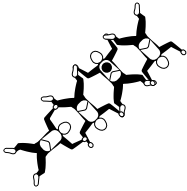
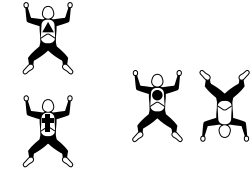
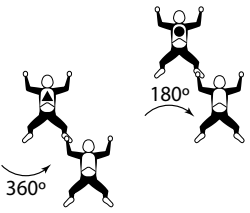
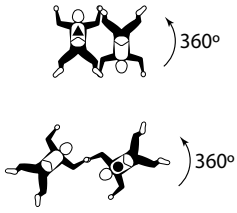
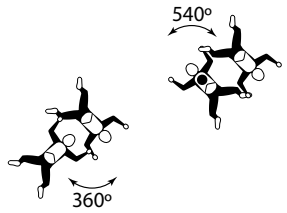
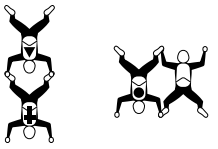
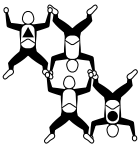
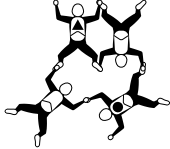
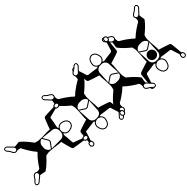
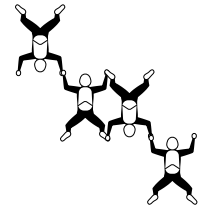
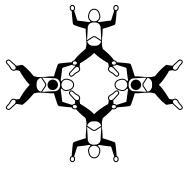
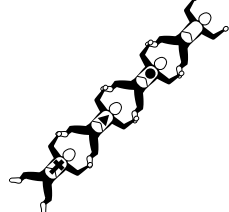

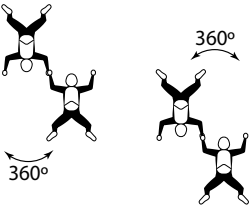
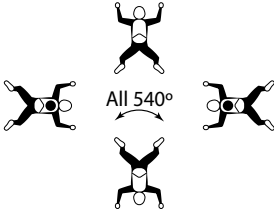
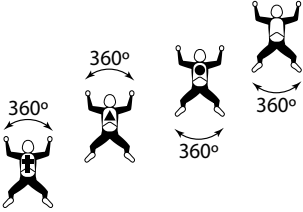
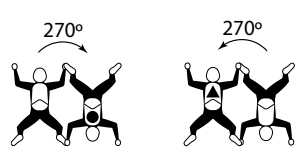
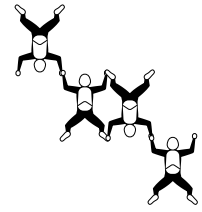
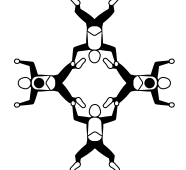
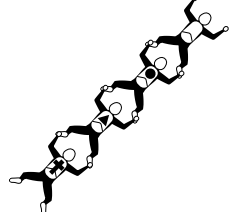
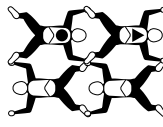
Head	Above the jaw-line
Arm	Below a line from the tip of the shoulders to the armpit, including the hand, excluding the shoulder.
Hand	Wrist to finger tips.
Leg	Below a line from hip joint to crotch, including the foot.
Foot	On or below the anklebone (slight protrusion of the 'medial malleous').
Sole	Underside ('plantar aspect') of the foot.

'same' (arm, leg, foot): left to left-or-right to right.  
'opposite' (arm, leg, foot): left to right-or-right to left.

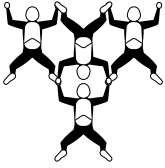
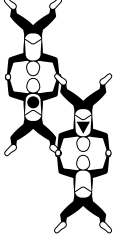
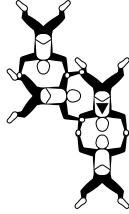
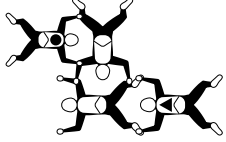
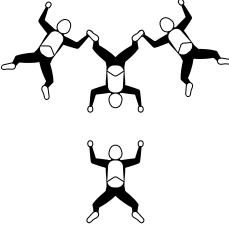
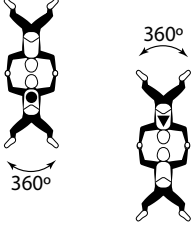
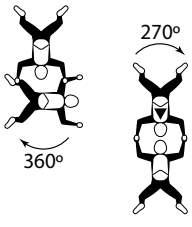
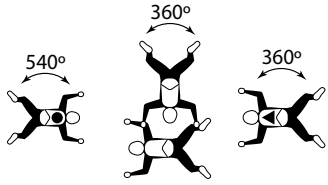
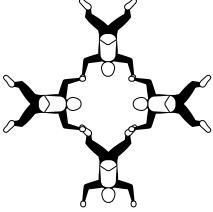
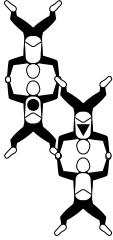
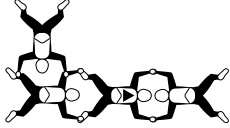
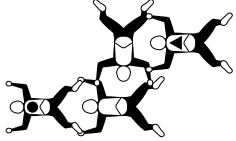
# Appendix C: FS 4-Way Block Sequences

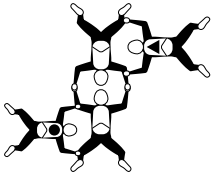
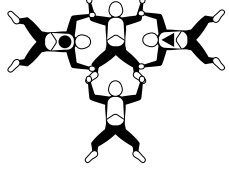
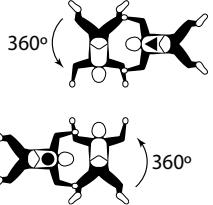
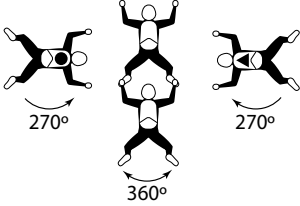
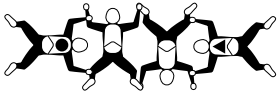
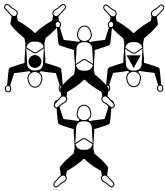
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 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Molar</b></p>	 <p><b>Side Flake Donut</b></p>	 <p><b>Turf</b></p>	 <p><b>Monopod</b></p>
<p><b>5</b></p>  <p><b>Opal</b></p>	<p><b>6</b></p>  <p><b>Stardian</b></p>	<p><b>7</b></p>  <p><b>Sidebuddies</b></p>	<p><b>8</b></p>  <p><b>Canadian Tee</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Opal</b></p>	 <p><b>Stardian</b></p>	 <p><b>Sidebuddies</b></p>	 <p><b>Canadian Tee</b></p>

Appendix C: 4-Way Block Sequences (continued)

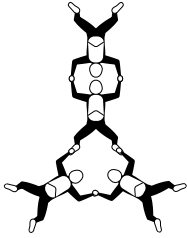
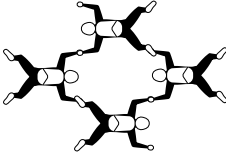
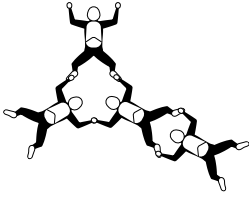
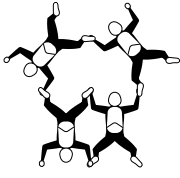
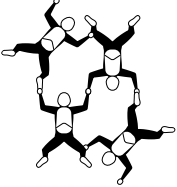
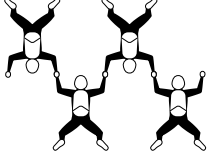
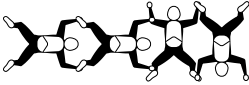
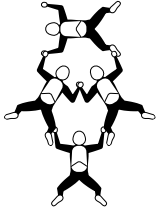
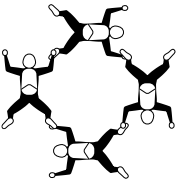
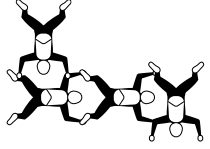
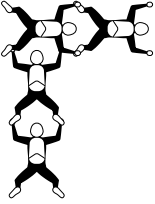
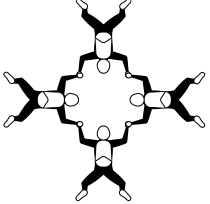
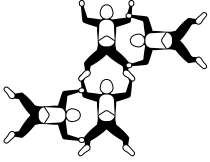
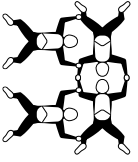
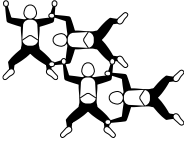
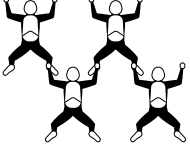
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 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Cat+Accordion</b></p>	 <p><b>Bunyip</b></p>	 <p><b>Photon</b></p>	 <p><b>Bundy</b></p>
<p><b>13</b></p>  <p><b>Mixed Accordion</b></p>	<p><b>14</b></p>  <p><b>Bipole</b></p>	<p><b>15</b></p>  <p><b>Caterpillar</b></p>	<p><b>16</b></p>  <p><b>Compressed</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Mixed Accordion</b></p>	 <p><b>Bipole</b></p>	 <p><b>Caterpillar</b></p>	 <p><b>Box</b></p>

Appendix C: 4-Way Block Sequences (continued)

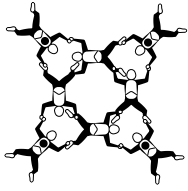
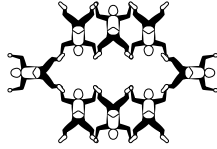
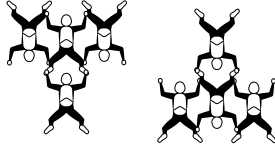
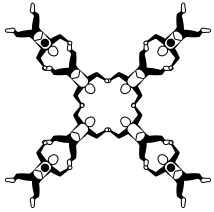
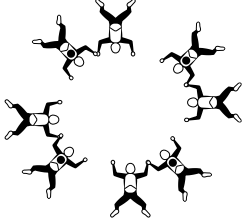
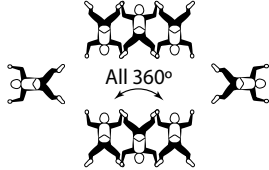
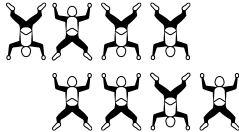
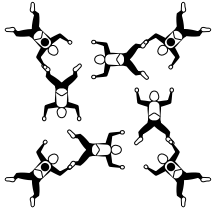
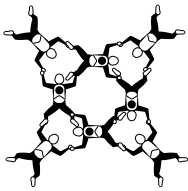
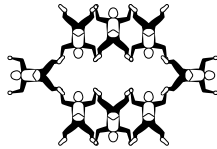
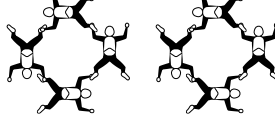
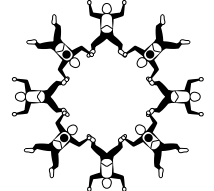
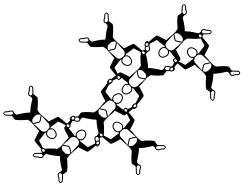
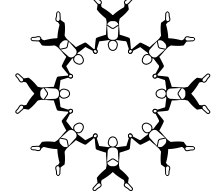
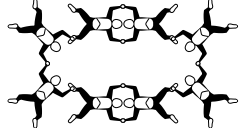
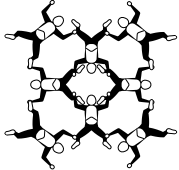
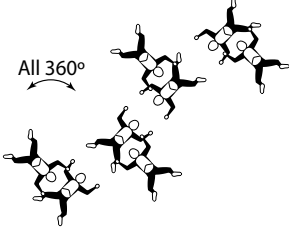
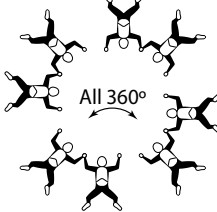
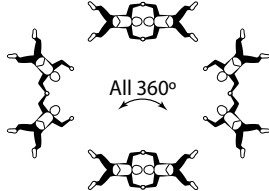
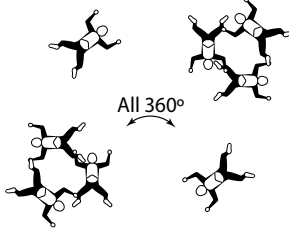
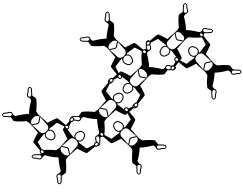
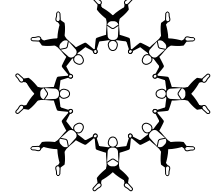
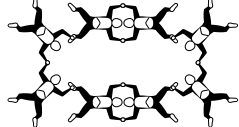
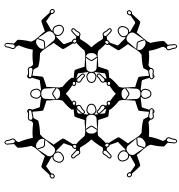
<p><b>17</b></p>  <p><b>Danish Tee</b></p>	<p><b>18</b></p>  <p><b>Zircon</b></p>	<p><b>19</b></p>  <p><b>Ritz</b></p>	<p><b>20</b></p>  <p><b>Piver</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Murphy</b></p>	 <p><b>Zircon</b></p>	 <p><b>Icepick</b></p>	 <p><b>Viper</b></p>

<p><b>21</b></p>  <p><b>Zig Zag</b></p>	<p><b>22</b></p>  <p><b>Tee</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Marquis</b></p>	 <p><b>Chinese Tee</b></p>

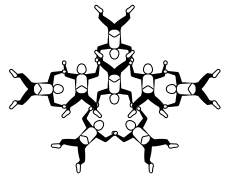
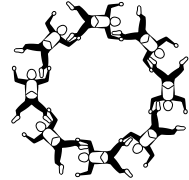
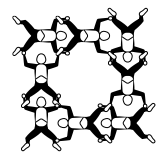
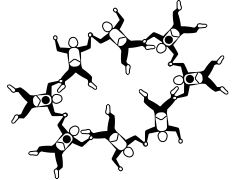
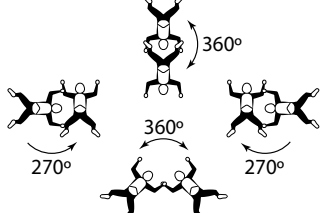
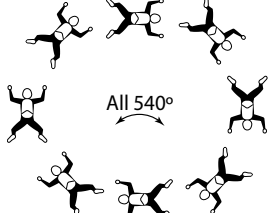
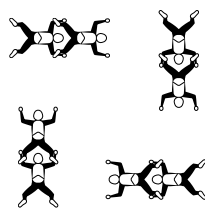
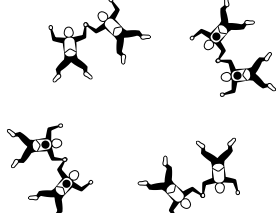
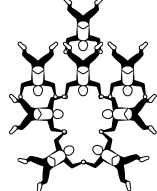
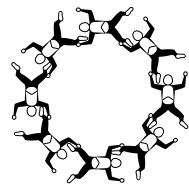
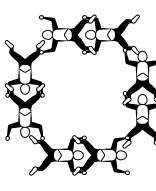
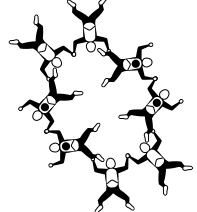
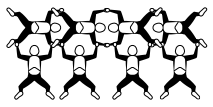
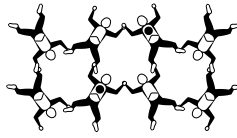
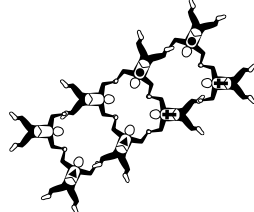
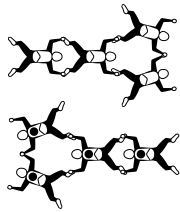
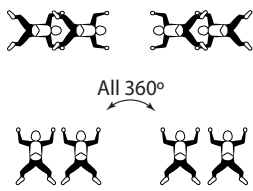
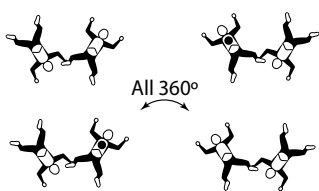
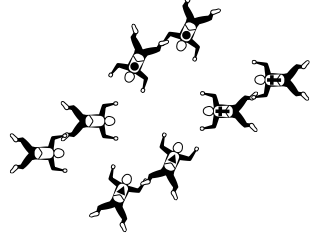
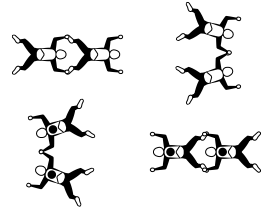
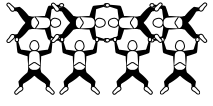
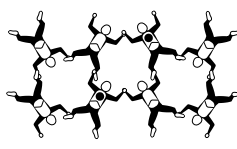
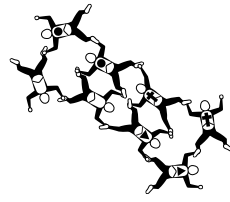
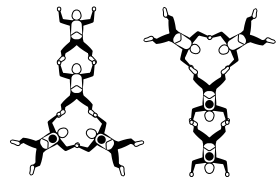
# Appendix D: FS 4-Way Random Formations

<p><b>A</b></p>  <p>Unipod</p>	<p><b>B</b></p>  <p>Stairstep Diamond</p>	<p><b>C</b></p>  <p>Murphy Flake</p>	<p><b>D</b></p>  <p>Yuan</p>
<p><b>E</b></p>  <p>Meeker</p>	<p><b>F</b></p>  <p>Open Accordion</p>	<p><b>G</b></p>  <p>Cataccord</p>	<p><b>H</b></p>  <p>Bow</p>
<p><b>J</b></p>  <p>Donut</p>	<p><b>K</b></p>  <p>Hook</p>	<p><b>L</b></p>  <p>Adder</p>	<p><b>M</b></p>  <p>Star</p>
<p><b>N</b></p>  <p>Crank</p>	<p><b>O</b></p>  <p>Satellite</p>	<p><b>P</b></p>  <p>Sidebody</p>	<p><b>Q</b></p>  <p>Phalanx</p>

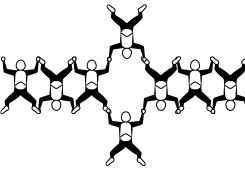
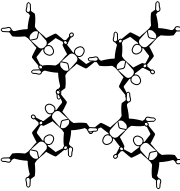
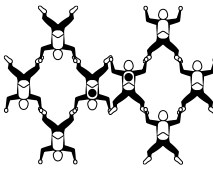
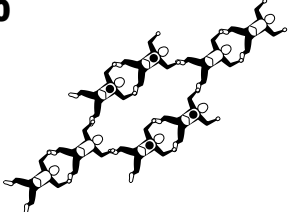
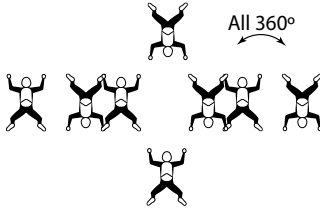
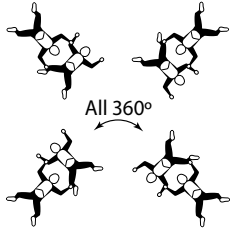
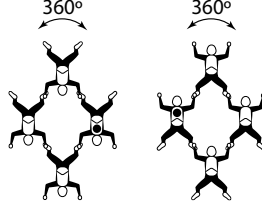
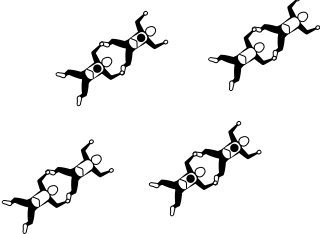
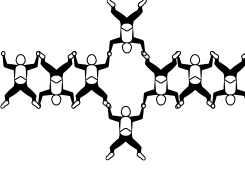
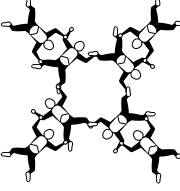
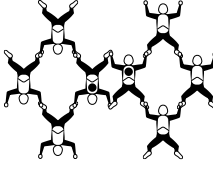
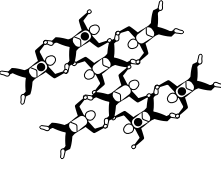
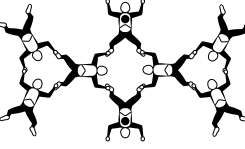
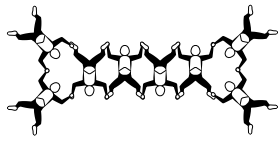
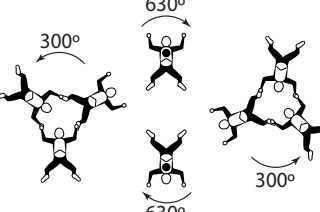
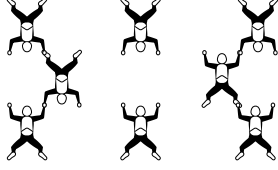
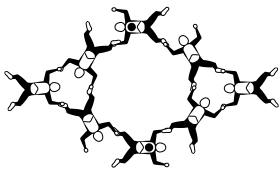
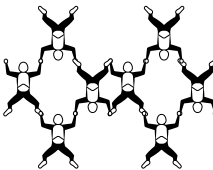
# Appendix E: FS 8-Way Block Sequences

<p><b>1</b></p>  <p><b>Donut Flake</b></p>	<p><b>2</b></p>  <p><b>Swiss Bear</b></p>	<p><b>3</b></p>  <p><b>Double Chinese Tees</b></p>	<p><b>4</b></p>  <p><b>Snowflake</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Donut Flake</b></p>	 <p><b>Swiss Bear</b></p>	 <p><b>Double Donuts</b></p>	 <p><b>In-Out</b></p>
<p><b>5</b></p>  <p><b>Opposed Crank</b></p>	<p><b>6</b></p>  <p><b>Star</b></p>	<p><b>7</b></p>  <p><b>Nacho</b></p>	<p><b>8</b></p>  <p><b>Frisbee</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Opposed Crank</b></p>	 <p><b>Star</b></p>	 <p><b>Nacho</b></p>	 <p><b>Frisbee</b></p>

Appendix E: FS 8-Way Block Sequences (continued)

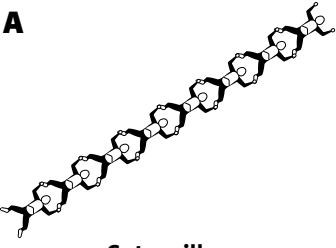
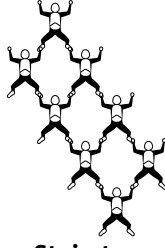
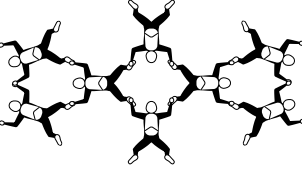
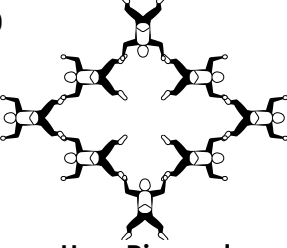
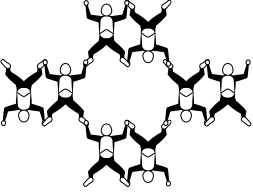
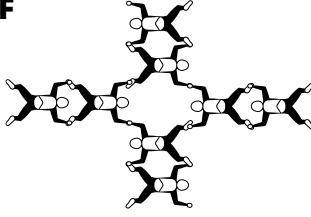
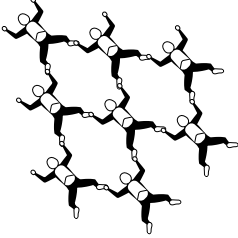
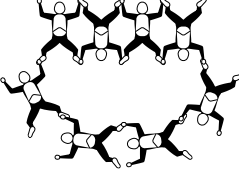
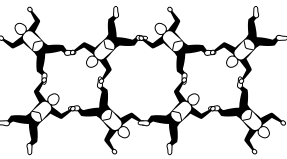
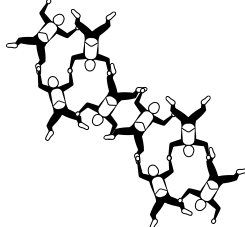
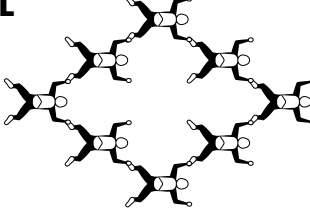
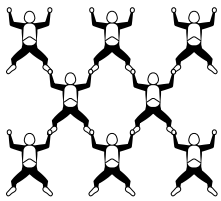
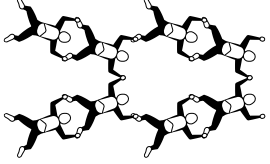
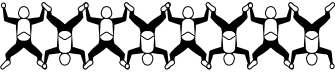
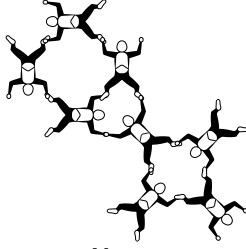
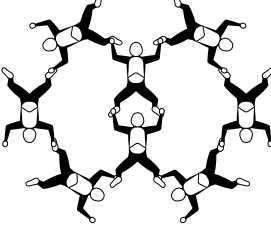
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 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Mahal</b></p>	 <p><b>Donut</b></p>	 <p><b>Norwegian Donut</b></p>	 <p><b>Stereo Bipoles</b></p>
<p><b>13</b></p>  <p><b>Double Satellite</b></p>	<p><b>14</b></p>  <p><b>Zippered Opals</b></p>	<p><b>15</b></p>  <p><b>Zippers</b></p>	<p><b>16</b></p>  <p><b>Canadian Tees</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Double Satellite</b></p>	 <p><b>Zippered Opals</b></p>	 <p><b>Double Yuans</b></p>	 <p><b>Monopods</b></p>

Appendix E: FS 8-Way Block Sequences (continued)

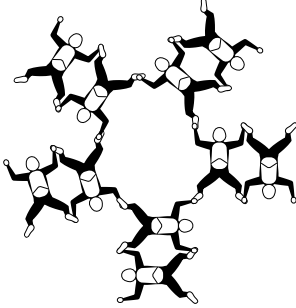
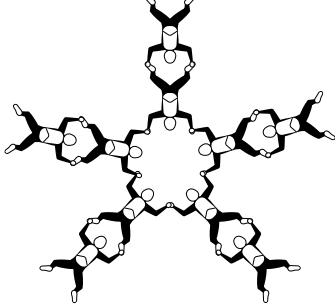
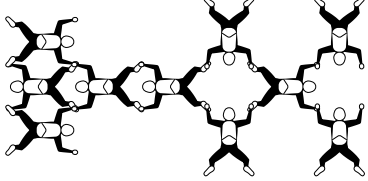
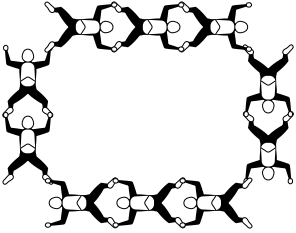
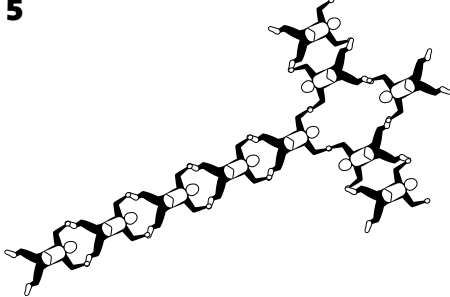
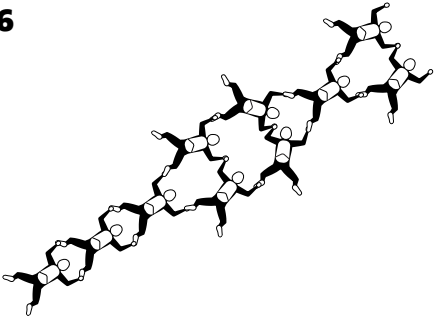
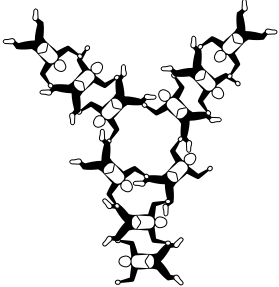
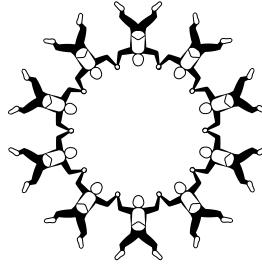
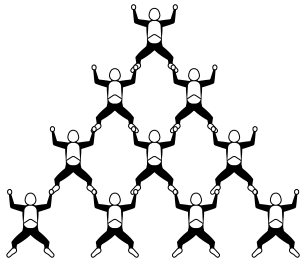
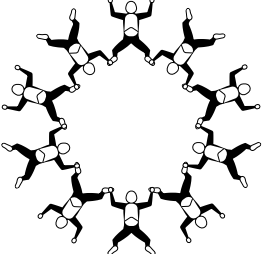
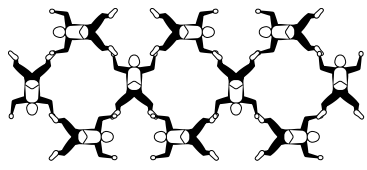
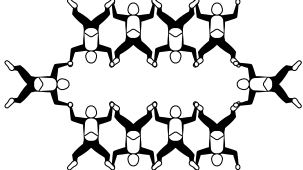
<p><b>17</b></p>  <p><b>Buzzard</b></p>	<p><b>18</b></p>  <p><b>Sidebody Donut</b></p>	<p><b>19</b></p>  <p><b>Compressed Diamonds</b></p>	<p><b>20</b></p>  <p><b>Cat Diamond</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Buzzard</b></p>	 <p><b>Sidebody Donut</b></p>	 <p><b>Compressed Diamonds</b></p>	 <p><b>Cat Accordion</b></p>
<p><b>21</b></p>  <p><b>Free Bear</b></p>	<p><b>22</b></p>  <p><b>Old Bone</b></p>		
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>		
 <p><b>Eye</b></p>	 <p><b>Compressed Stairstep Diamonds</b></p>		



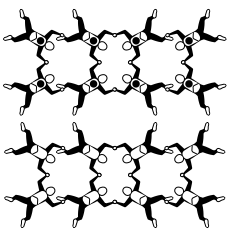
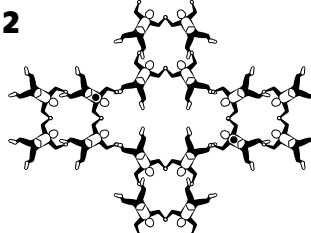
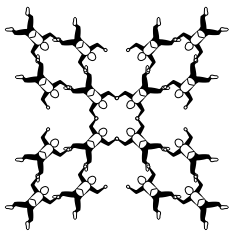
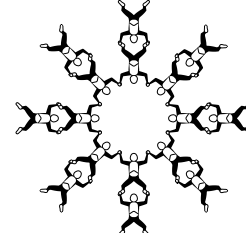
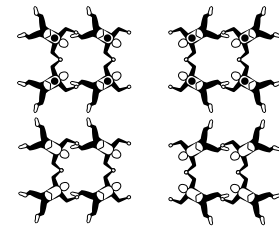
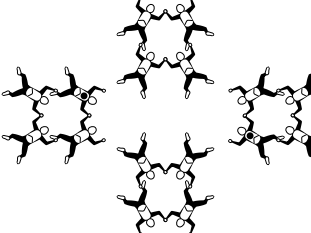
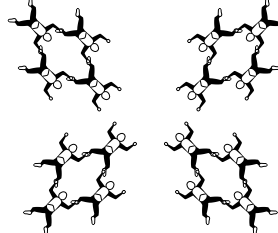
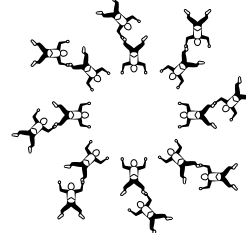
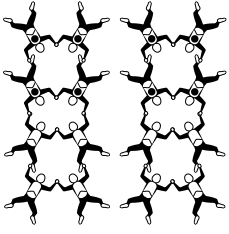
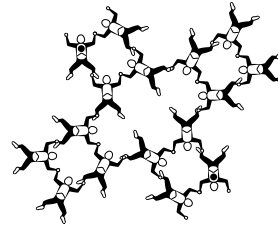
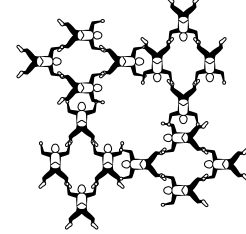
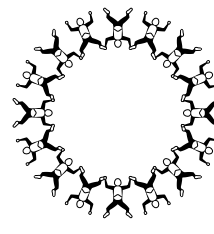
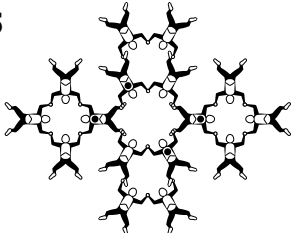
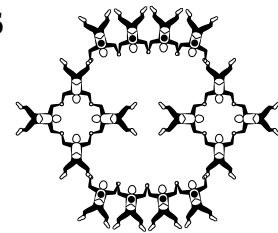
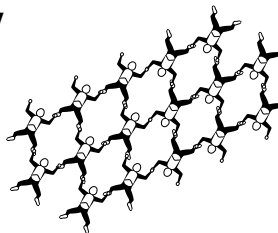
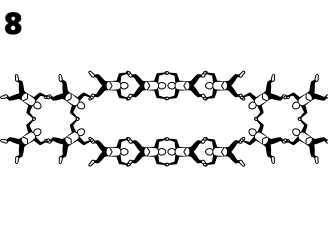
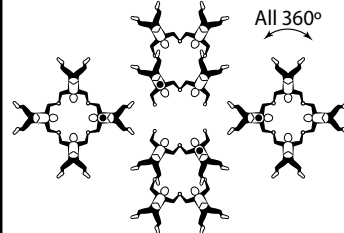
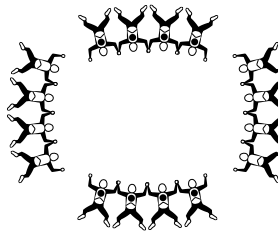
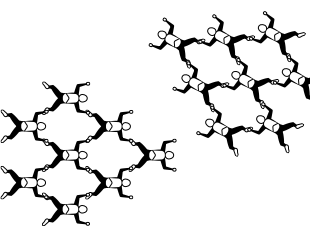
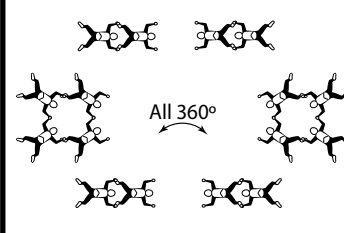
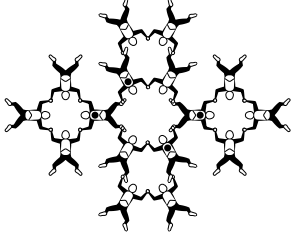
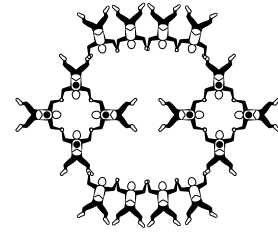
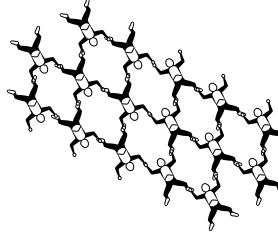
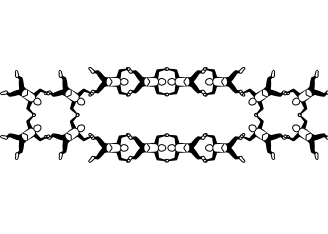
# Appendix F: FS 8-Way Random Formations

<b>A</b>  Caterpillar	<b>B</b>  Stairstep	<b>C</b>  Hourglass	<b>D</b>  Hope Diamond
<b>E</b>  Rubik	<b>F</b>  Diamond Flake	<b>G</b>  Arrowhead	<b>H</b>  Iroquois
<b>J</b>  Springbok	<b>K</b>  Double Meekers	<b>L</b>  Open Facing Diamond	<b>M</b>  Double Spiders
<b>N</b>  Zipper Flake	<b>O</b>  Compressed Accordion	<b>P</b>  Venus	<b>Q</b>  Compass

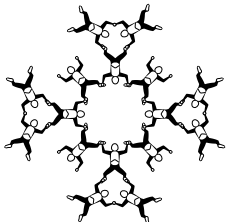
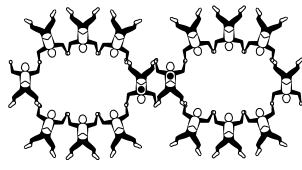
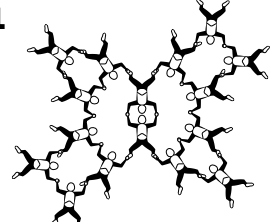

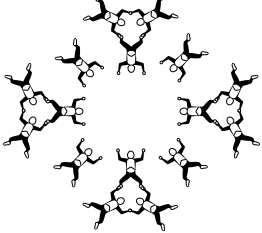
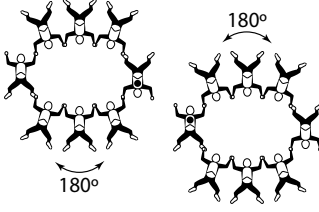
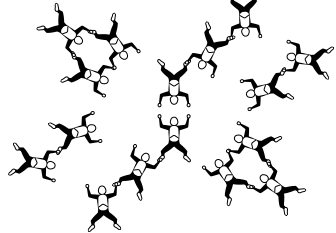
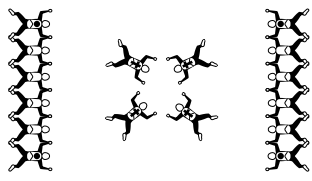
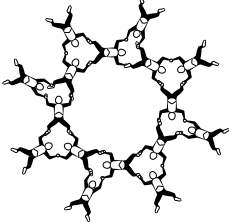
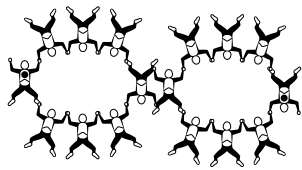
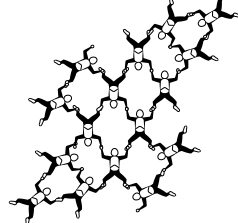
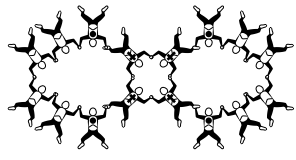
# Appendix G: FS 10-Way Formations

<p><b>1</b></p>  <p><b>Compressed Donut</b></p>	<p><b>2</b></p>  <p><b>Tom's Texas</b></p>	<p><b>3</b></p>  <p><b>Missing Tom</b></p>
<p><b>4</b></p>  <p><b>Box Score</b></p>	<p><b>5</b></p>  <p><b>Ottley Sword</b></p>	<p><b>6</b></p>  <p><b>Raeford Dragon</b></p>
<p><b>7</b></p>  <p><b>Roger Rabbit</b></p>	<p><b>8</b></p>  <p><b>Star</b></p>	<p><b>9</b></p>  <p><b>Wedge</b></p>
<p><b>10</b></p>  <p><b>Out-In</b></p>	<p><b>11</b></p>  <p><b>Triple Donuts</b></p>	<p><b>12</b></p>  <p><b>Trapped Bear</b></p>

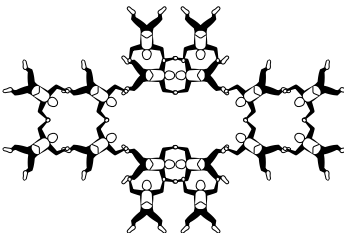
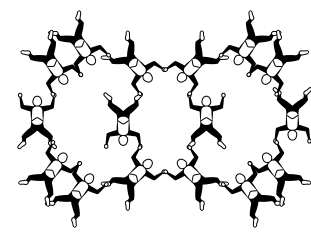
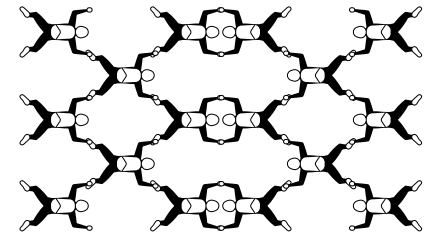
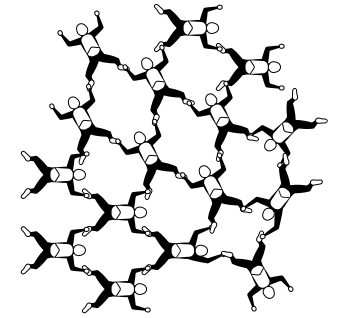
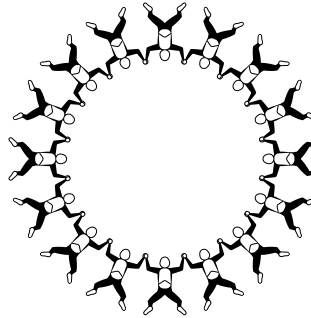
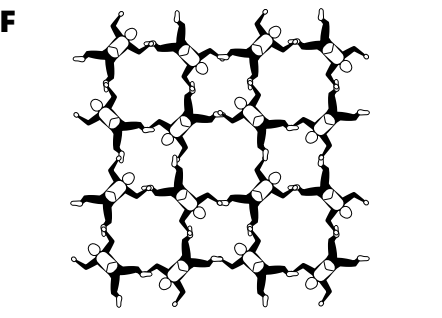
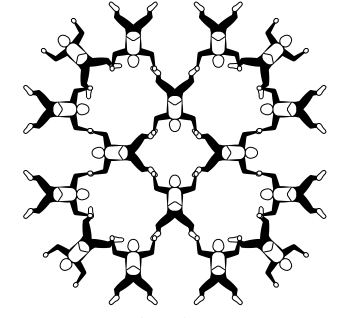
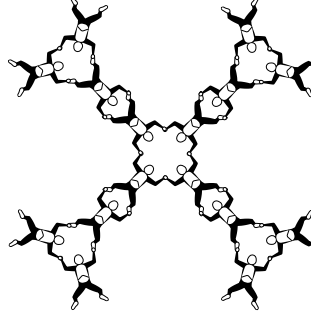
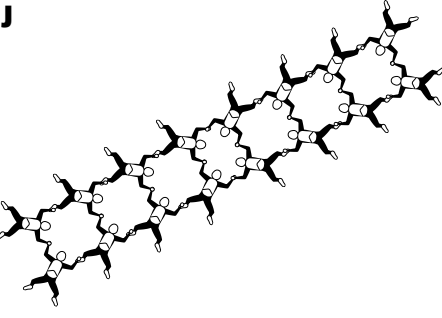
# Appendix H: FS 16-Way Block Sequences

<p><b>1</b></p>  <p>Twin Zips</p>	<p><b>2</b></p>  <p>Stereo Bipole</p>	<p><b>3</b></p>  <p>Quadra Diamonds</p>	<p><b>4</b></p>  <p>Snowflake</p>
 <p>Inter</p>	 <p>Inter</p>	 <p>Inter</p>	 <p>Inter</p>
 <p>Twin Zips</p>	 <p>Stereo Bipole</p>	 <p>Sidebody Diamonds</p>	 <p>In-Out</p>
<p><b>5</b></p>  <p>Nairobi</p>	<p><b>6</b></p>  <p>Lines and Loops</p>	<p><b>7</b></p>  <p>Stairstep Arrowhead</p>	<p><b>8</b></p>  <p>Macho Nacho</p>
 <p>Inter</p>	 <p>Inter</p>	 <p>Inter</p>	 <p>Inter</p>
 <p>Nairobi</p>	 <p>Loops and Lines</p>	 <p>Stairstep Arrowhead</p>	 <p>Macho Nacho</p>

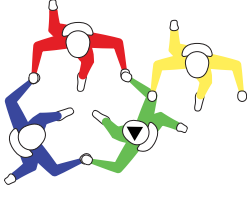
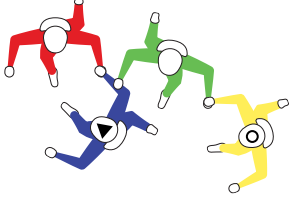
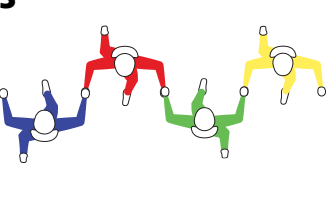
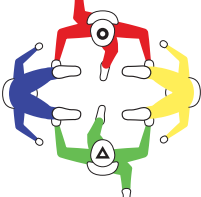
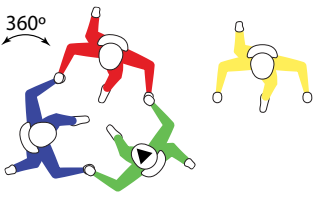
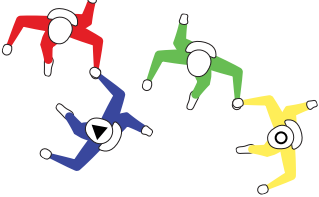
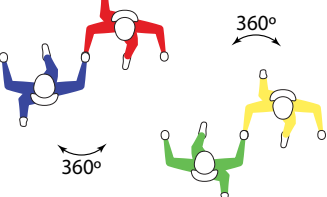
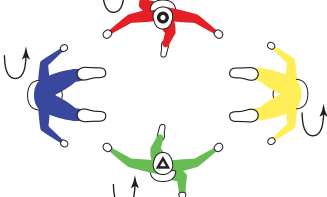
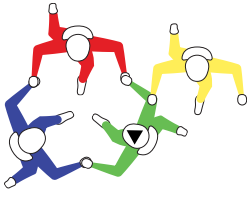
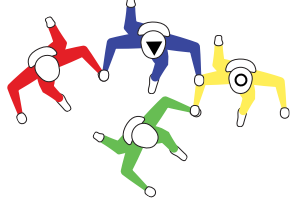
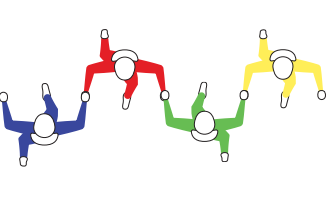
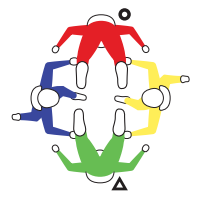
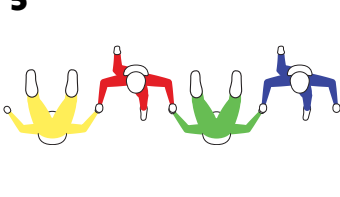
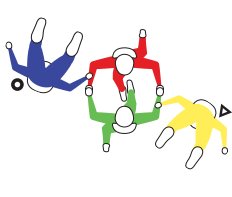
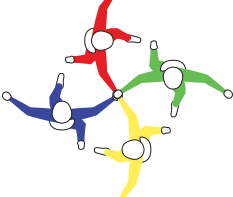
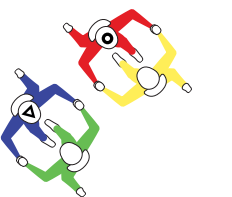
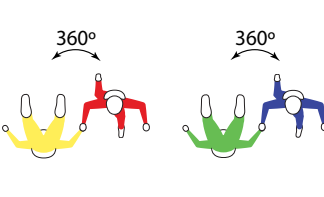
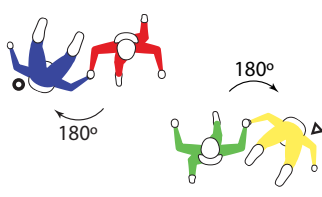
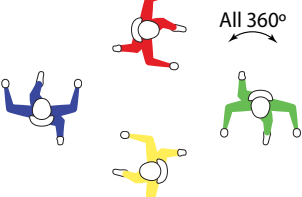
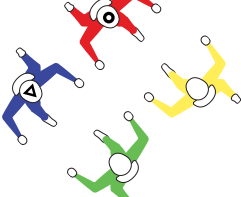
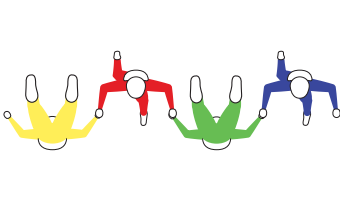
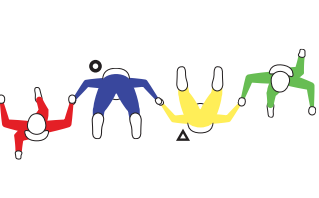
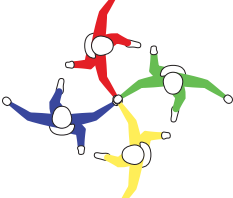
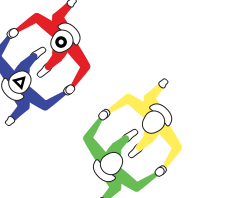
Appendix H: FS 16-Way Block Sequences (continued)

<p><b>9</b></p>  <p>Rose</p>	<p><b>10</b></p>  <p>Tumbleweeds</p>	<p><b>11</b></p>  <p>Ask</p>	<p><b>12</b></p>  <p>Hip</p>
 <p>Inter</p>	 <p>Inter</p>	 <p>Inter</p>	 <p>Inter</p>
 <p>Donut Flake</p>	 <p>Tumbleweeds</p>	 <p>Jack</p>	 <p>Hop</p>

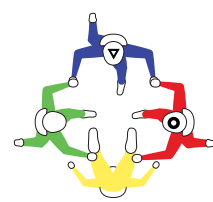
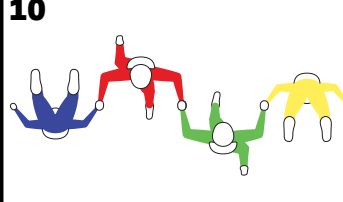
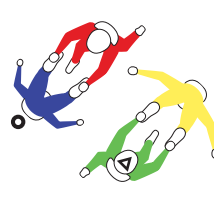
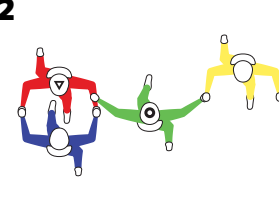
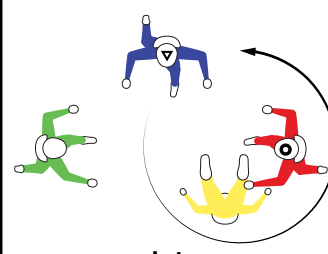
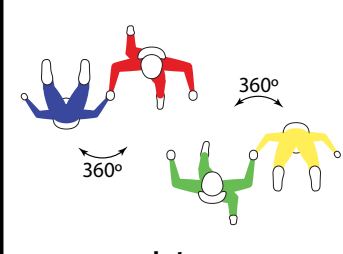
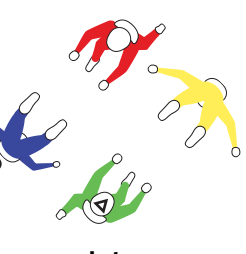
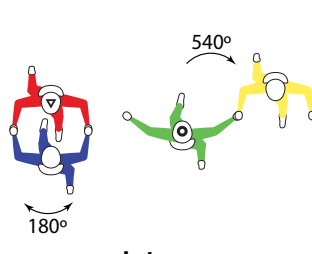
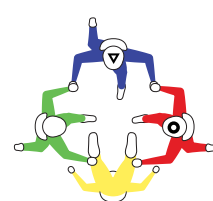
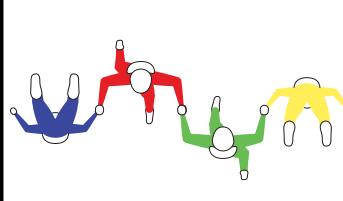
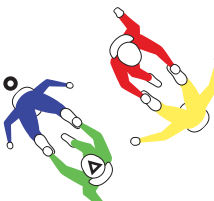
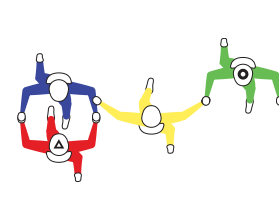
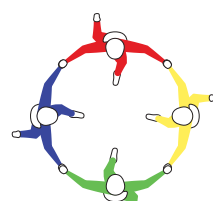
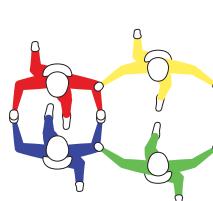
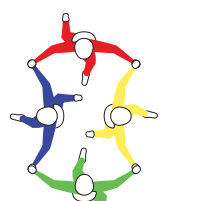
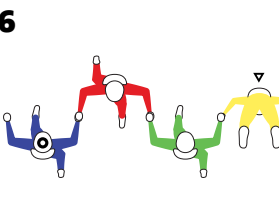
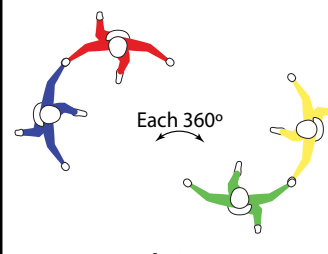
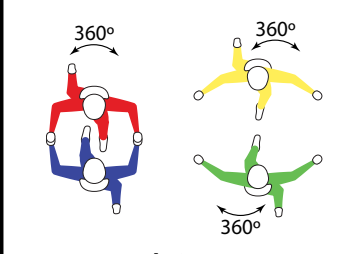
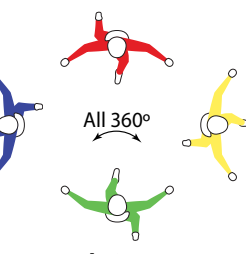
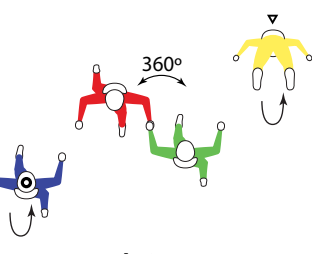
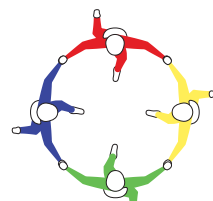
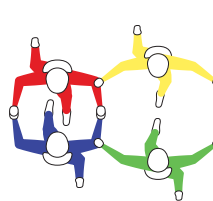
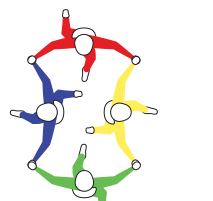
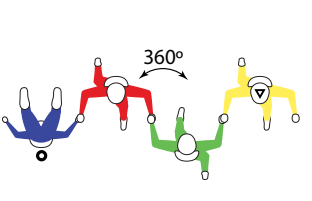
# Appendix I: FS 16-Way Random Formations

<p><b>A</b></p>  <p><b>Jambo</b></p>	<p><b>B</b></p>  <p><b>Ruby</b></p>	<p><b>C</b></p>  <p><b>Spiders</b></p>
<p><b>D</b></p>  <p><b>Quasar</b></p>	<p><b>E</b></p>  <p><b>Star</b></p>	<p><b>F</b></p>  <p><b>Donut Jewel</b></p>
<p><b>G</b></p>  <p><b>Bipolium</b></p>	<p><b>H</b></p>  <p><b>Quadro Pods</b></p>	<p><b>J</b></p>  <p><b>Antenna</b></p>

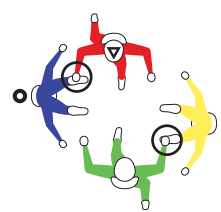
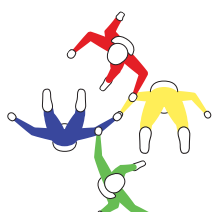
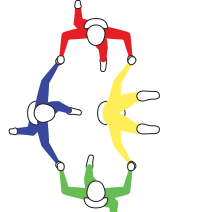
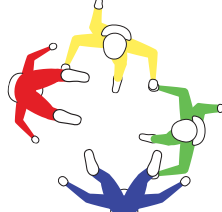
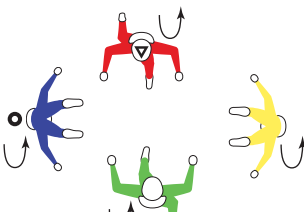
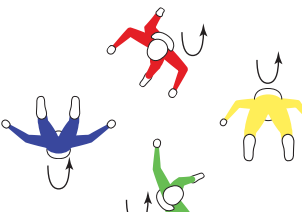
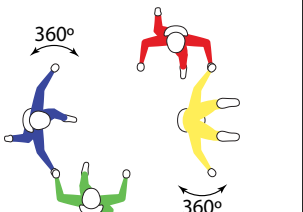
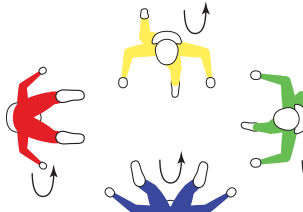
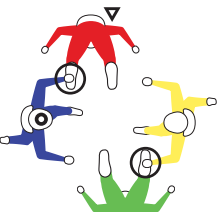
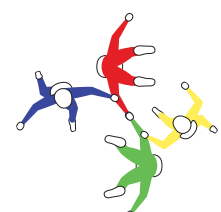
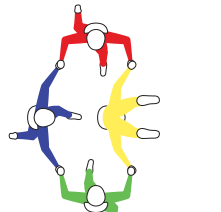
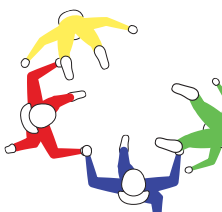
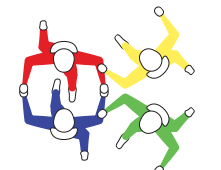
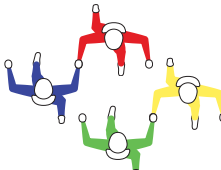
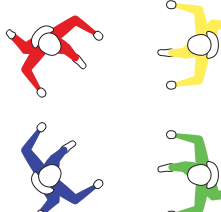
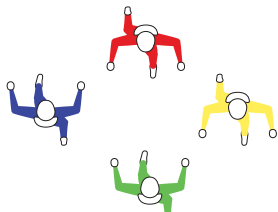
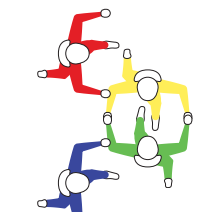
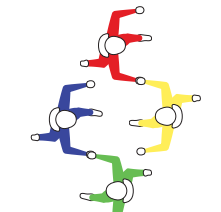
# Appendix J: VFS 4-Way Block Formations

<p><b>1</b></p>  <p><b>Arrowhead</b></p>	<p><b>2</b></p>  <p><b>Claw</b></p>	<p><b>3</b></p>  <p><b>HD Accordion</b></p>	<p><b>4</b></p>  <p><b>Chain Gang</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Arrowhead</b></p>	 <p><b>Claw</b></p>	 <p><b>HD Accordion</b></p>	 <p><b>Chain Gang</b></p>
<p><b>5</b></p>  <p><b>Mixed Accordion</b></p>	<p><b>6</b></p>  <p><b>Snowflake</b></p>	<p><b>7</b></p>  <p><b>Flower</b></p>	<p><b>8</b></p>  <p><b>Buddy</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Mixed Accordion</b></p>	 <p><b>End of Snowflake</b></p>	 <p><b>Flower</b></p>	 <p><b>Buddy</b></p>

Appendix J: VFS 4-Way Block Formations (continued)

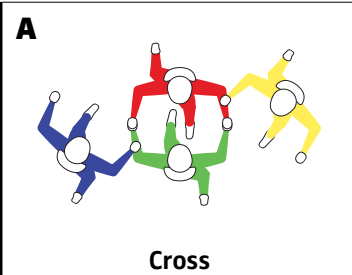
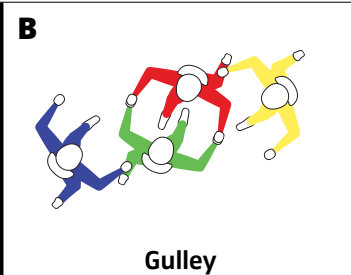
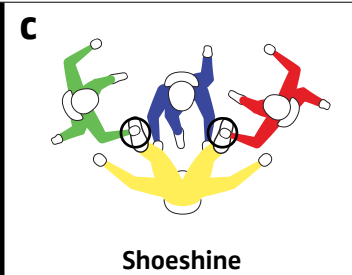
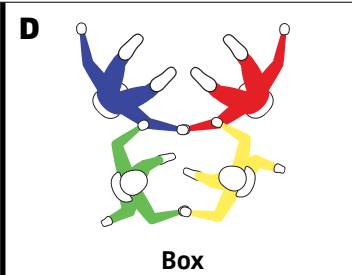
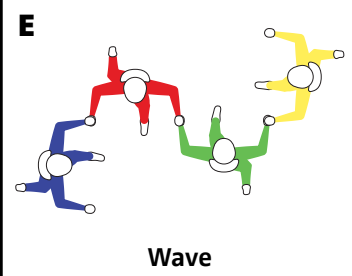
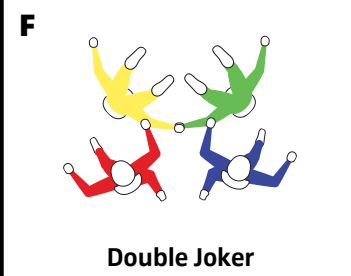

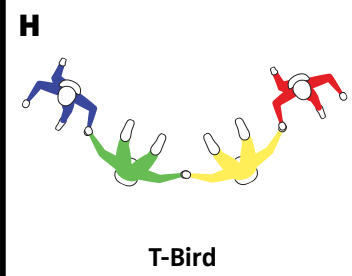
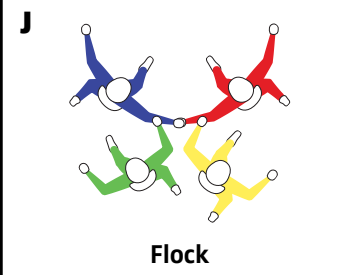
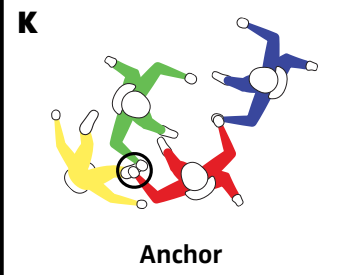
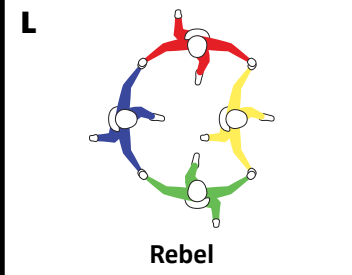
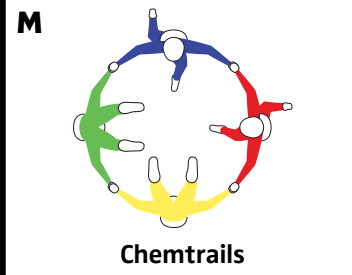
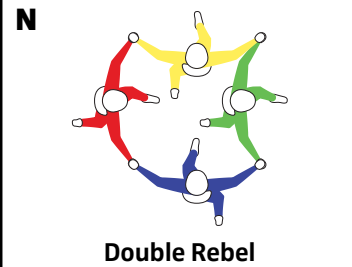
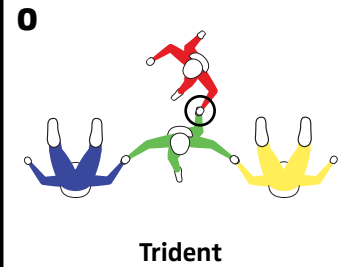
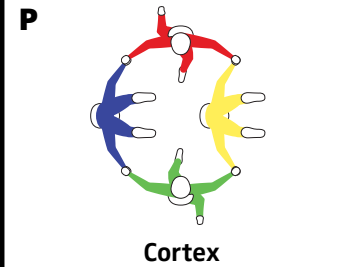
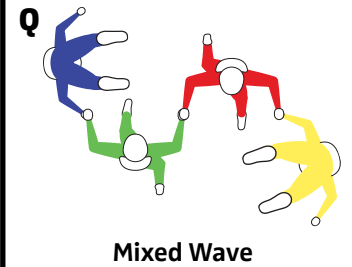
<p><b>9</b></p>  <p><b>Shorty</b></p>	<p><b>10</b></p>  <p><b>Mixed Anthem</b></p>	<p><b>11</b></p>  <p><b>Fun Buddies</b></p>	<p><b>12</b></p>  <p><b>Pinwheel</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Shorty</b></p>	 <p><b>Mixed Anthem</b></p>	 <p><b>Fun Buddies</b></p>	 <p><b>Pinwheel</b></p>
<p><b>13</b></p>  <p><b>HD Star</b></p>	<p><b>14</b></p>  <p><b>Satellite</b></p>	<p><b>15</b></p>  <p><b>Bipole</b></p>	<p><b>16</b></p>  <p><b>Chimmy</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>HD Star</b></p>	 <p><b>Satellite</b></p>	 <p><b>Bipole</b></p>	 <p><b>Chimmy</b></p>

Appendix J: VFS 4-Way Block Formations (continued)

<p><b>17</b></p>  <p><b>Zins</b></p>	<p><b>18</b></p>  <p><b>Ding</b></p>	<p><b>19</b></p>  <p><b>Angry Pelican</b></p>	<p><b>20</b></p>  <p><b>Focus Buddies</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Zins</b></p>	 <p><b>Ding</b></p>	 <p><b>Angry Pelican</b></p>	 <p><b>Focus Buddies</b></p>
<p><b>21</b></p>  <p><b>Top Spot</b></p>	<p><b>22</b></p>  <p><b>Core Buddies</b></p>		
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>		
 <p><b>Top Spot</b></p>	 <p><b>Core Buddies</b></p>		



# Appendix K: VFS 4-Way Random Formations




<b>A</b>  <b>Cross</b>	<b>B</b>  <b>Gulley</b>	<b>C</b>  <b>Shoeshine</b>	<b>D</b>  <b>Box</b>
<b>E</b>  <b>Wave</b>	<b>F</b>  <b>Double Joker</b>	<b>G</b>  <b>Mixed Star</b>	<b>H</b>  <b>T-Bird</b>
<b>J</b>  <b>Flock</b>	<b>K</b>  <b>Anchor</b>	<b>L</b>  <b>Rebel</b>	<b>M</b>  <b>Chemtrails</b>
<b>N</b>  <b>Double Rebel</b>	<b>O</b>  <b>Trident</b>	<b>P</b>  <b>Cortex</b>	<b>Q</b>  <b>Mixed Wave</b>

# Appendix L: MFS Definitions of Symbols

## Legend Point of View/Camera Position

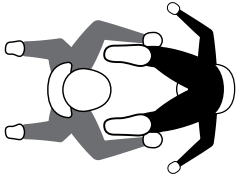
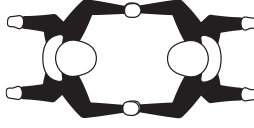
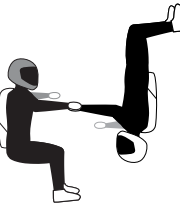
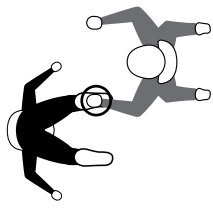
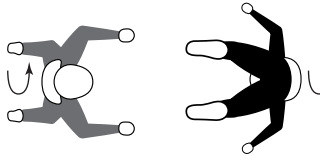
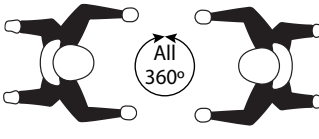
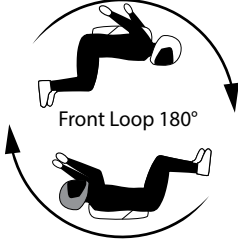
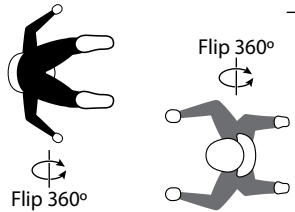
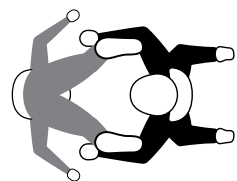
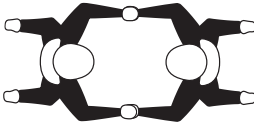

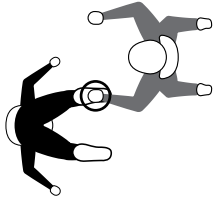

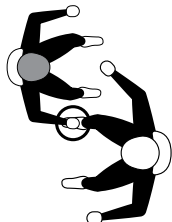
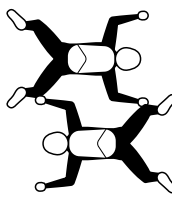
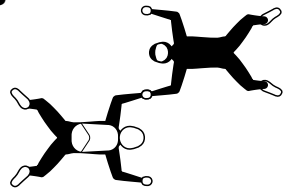
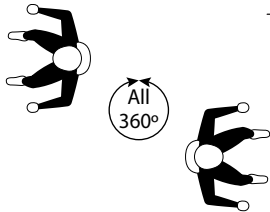
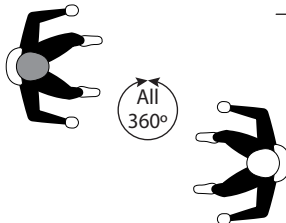
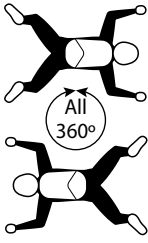
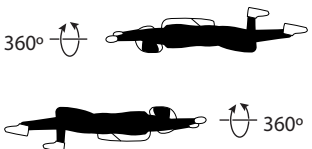
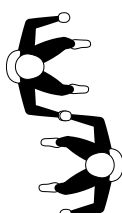
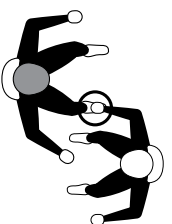
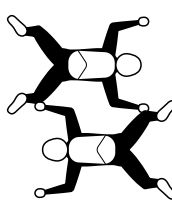
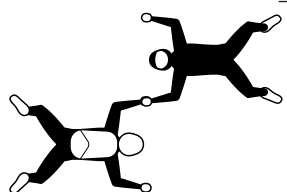
A dart will orient itself parallel to the relative wind, with its tip towards the oncoming wind. We have chosen three different views of a dart to indicate from which point of view the formation was drawn. It corresponds with what we think is the optimal position from which to film a particular formation, if the draw for the round permits it.

If the draw for the round forces the camera flyer to film a formation from a different position, the subjects might need to make adjustments in order to properly present the required grip to the camera

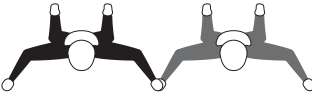
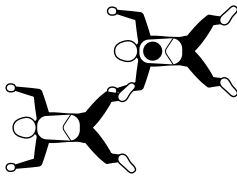
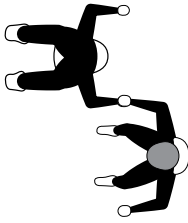
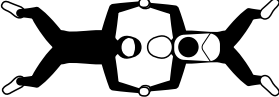
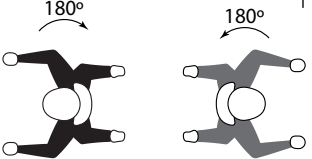
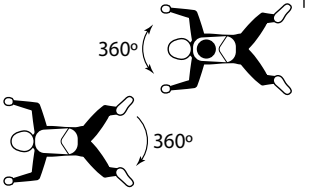
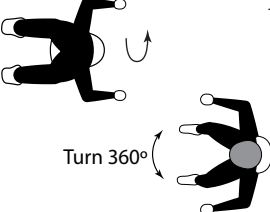
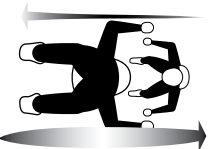
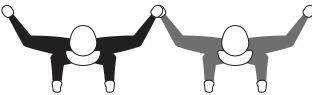
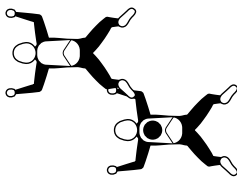
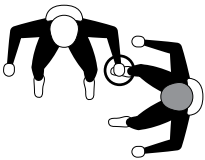
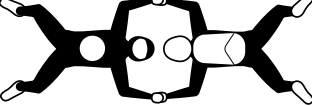
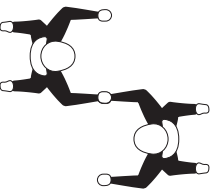
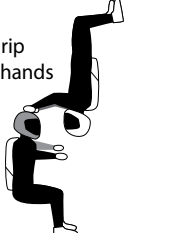
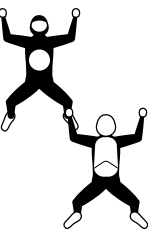
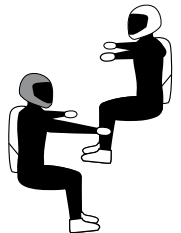
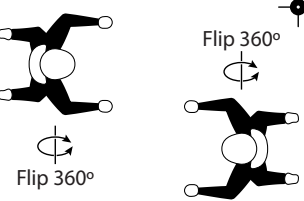
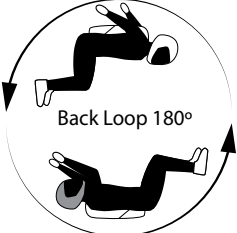
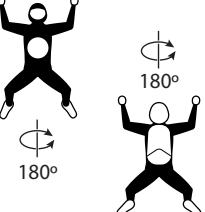
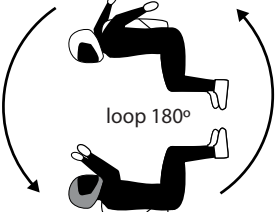
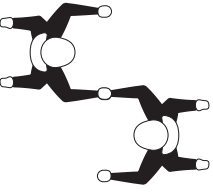
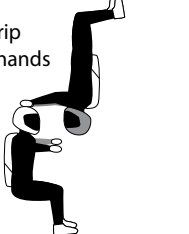

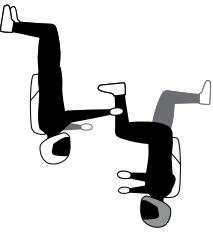
-  A. All parts of the dart can be seen. This symbol indicates an edge-on view. The camera flyer is on level with the subjects.
-  B. Only the flight shaft can be seen. This symbol indicates a view from 'above'. The camera flyer is trailing or above the subjects, looking into the relative wind.
-  C. Only the point, barrel and parts of the flight can be seen. This symbol indicates a view from 'below'. The camera flyer is leading or below the subjects.

**The camera view depicted is for reference only.  
Camera positioning is not a performance requirement.**

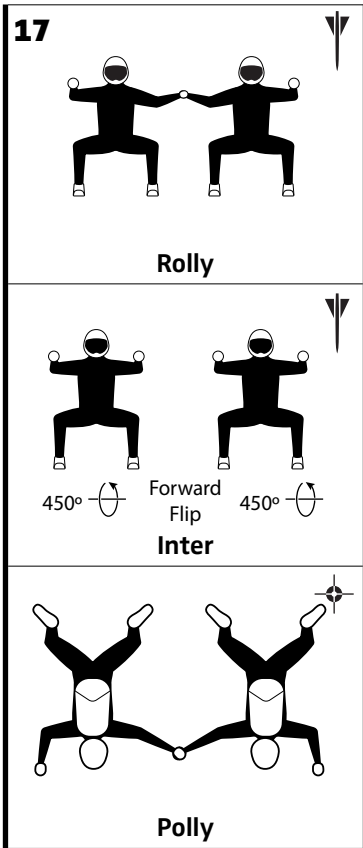
# Appendix M: MFS 2-Way Block Formations

<p><b>1</b></p>  <p><b>Double 69</b></p>	<p><b>2</b></p>  <p><b>Head-down Star</b></p>	<p><b>3</b></p>  <p><b>Oil Drill</b></p>	<p><b>4</b></p>  <p><b>Cogwheel</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Double 69</b></p>	 <p><b>Head-down Star</b></p>	 <p><b>Oil Drill</b></p>	 <p><b>Cogwheel</b></p>
<p><b>5</b></p>  <p><b>Upright Auger</b></p>	<p><b>6</b></p>  <p><b>Gears</b></p>	<p><b>7</b></p>  <p><b>Periscope</b></p>	<p><b>8</b></p>  <p><b>Bison</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Upright Auger</b></p>	 <p><b>Gears</b></p>	 <p><b>Periscope</b></p>	 <p><b>Bison</b></p>



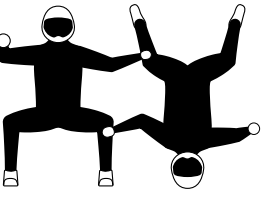
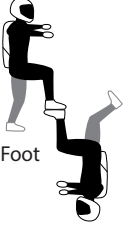
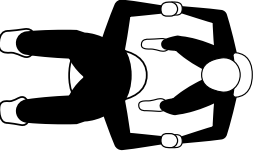

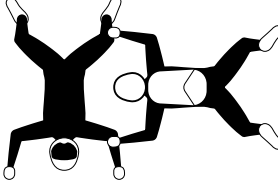
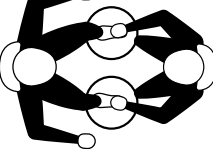
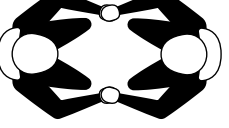
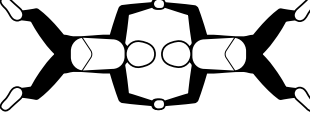
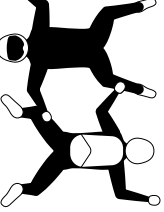

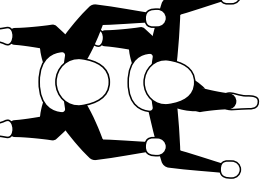
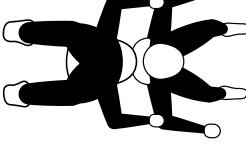

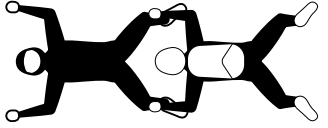
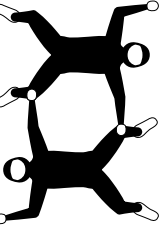
Appendix M: MFS 2-Way Block Formations (continued)

<p><b>9</b></p>  <p><b>Turnstile</b></p>	<p><b>10</b></p>  <p><b>Flat Stairstep</b></p>	<p><b>11</b></p>  <p><b>Mova</b></p>	<p><b>12</b></p>  <p><b>Mixed Star</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p> <p>Both: Back Loop 180°</p>
 <p><b>Turnstile</b></p>	 <p><b>Flat Stairstep</b></p>	 <p><b>Tickle-Toes</b></p>	 <p><b>Mixed Star</b></p>
<p><b>13</b></p>  <p><b>Arrow</b></p>	<p><b>14</b></p> <p>Head grip with both hands</p>  <p><b>WindMarp</b></p>	<p><b>15</b></p>  <p><b>Flip</b></p>	<p><b>16</b></p>  <p><b>Rock</b></p>
 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>	 <p><b>Inter</b></p>
 <p><b>Arrow</b></p>	<p>Head grip with both hands</p>  <p><b>WindMarp</b></p>	 <p><b>Flop</b></p>	 <p><b>Cradle</b></p>

Appendix M: MFS 2-Way Block Formations (continued)



# Appendix N: MFS 2-Way Random Formations

<p><b>A</b></p> <p>Two-handed grip</p>  <p><b>MindWarp</b></p>	<p><b>B</b></p> <p>Same Arm</p>  <p><b>Double Spock</b></p>	<p><b>C</b></p>  <p><b>Vertical Compressed</b></p>	<p><b>D</b></p> <p>Same Foot</p>  <p><b>Sole to Sole</b></p>
<p><b>E</b></p>  <p><b>Vice Versa</b></p>	<p><b>F</b></p> <p>Feet to dock on top of same arms, including shoulders</p>  <p><b>Totem</b></p>	<p><b>G</b></p>  <p><b>T-Square</b></p>	<p><b>H</b></p>  <p><b>Tetris</b></p>
<p><b>J</b></p>  <p><b>Upright Star</b></p>	<p><b>K</b></p>  <p><b>Belly Star</b></p>	<p><b>L</b></p>  <p><b>Waffle Maker</b></p>	<p><b>M</b></p>  <p><b>Caterpillar</b></p>
<p><b>N</b></p>  <p><b>Half Rebel</b></p>	<p><b>O</b></p>  <p><b>Versa Vice</b></p>	<p><b>P</b></p>  <p><b>Upright Half Rebel</b></p>	<p><b>Q</b></p>  <p><b>Mixed Cat</b></p>
<p><b>R</b></p>  <p><b>Belgian Waffle</b></p>			