

Adams Avery Relay Planning

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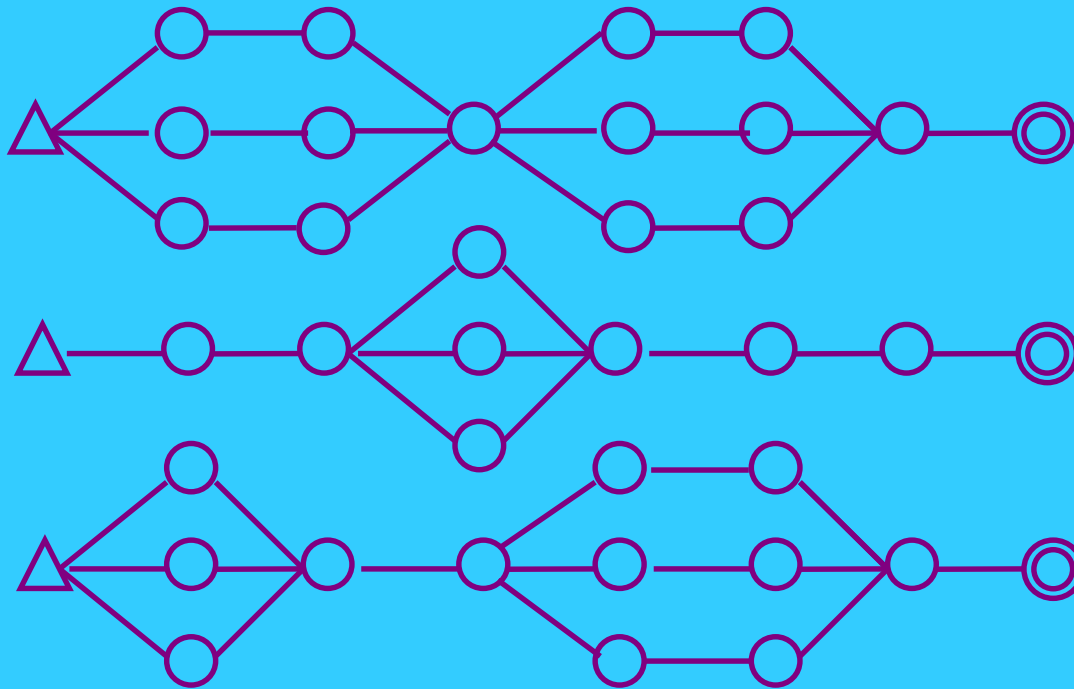
Fairness in Relay planning

- Relays must be fair
 - This means that each team must complete, ultimately the same controls via the same legs, but different runners will complete different elements.
- Relays must be an orienteering challenge
 - Navigation must be the key, so to avoid cross-country running, variations, called gaffling or forking are introduced.
- Scope
 - Introduce 2 methods of gaffling for the Adams Avery Relays.
 - Gaffling
 - Butterfly Loops
 - Provide solutions to optimise orienteering venues.

Relay

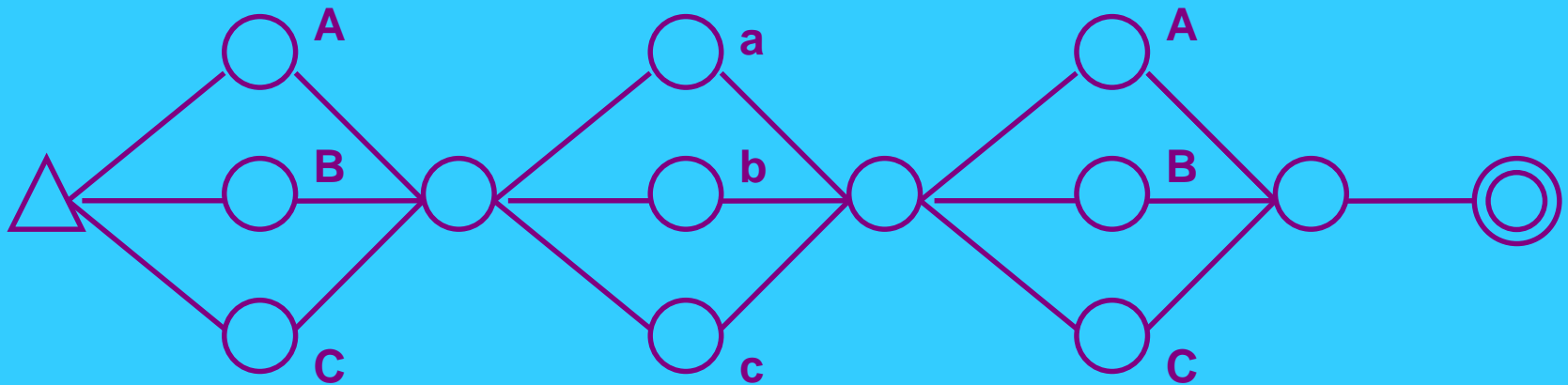
- Adams Avery Relays
- 4 Different Classes Comprising
 - A – Green (TD5) Blue (TD5) Blue (TD5)
 - B – Green (TD5) Blue (TD5) Orange (TD3)
 - C – Orange (TD3) Yellow (TD2) Orange (TD3)
 - D – White (TD1) White (TD1) White (TD1)
- Legs are run in the order shown
 - Introduces challenge with Fairness
 - Introduces challenge with Orienteering
- Solutions are presented which satisfy both aims

Gaffling



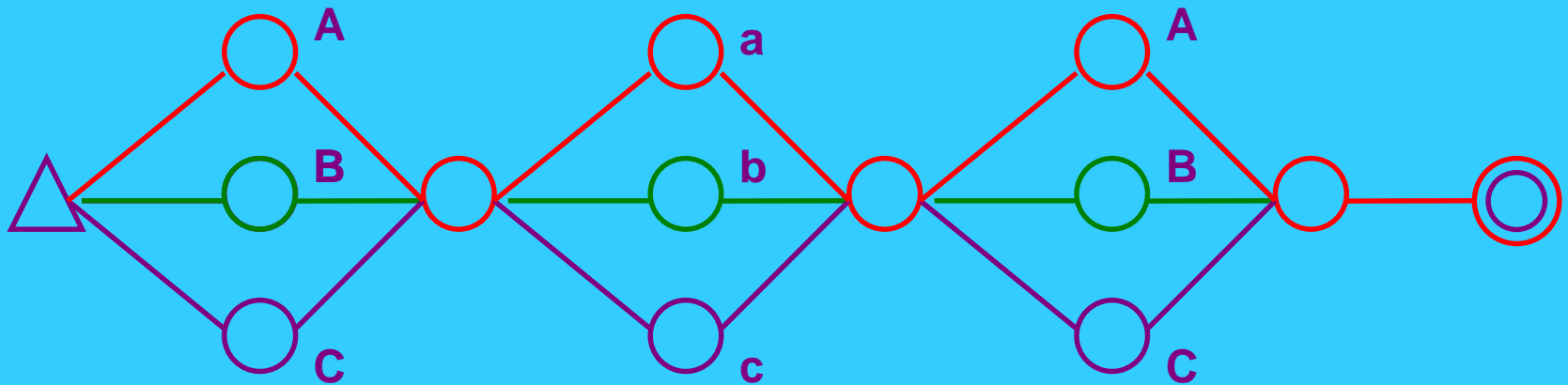
- Can be loops with multiple controls to a single common control
- Can be multiple common controls with a single control variation
- Can be a combination

Gaffling



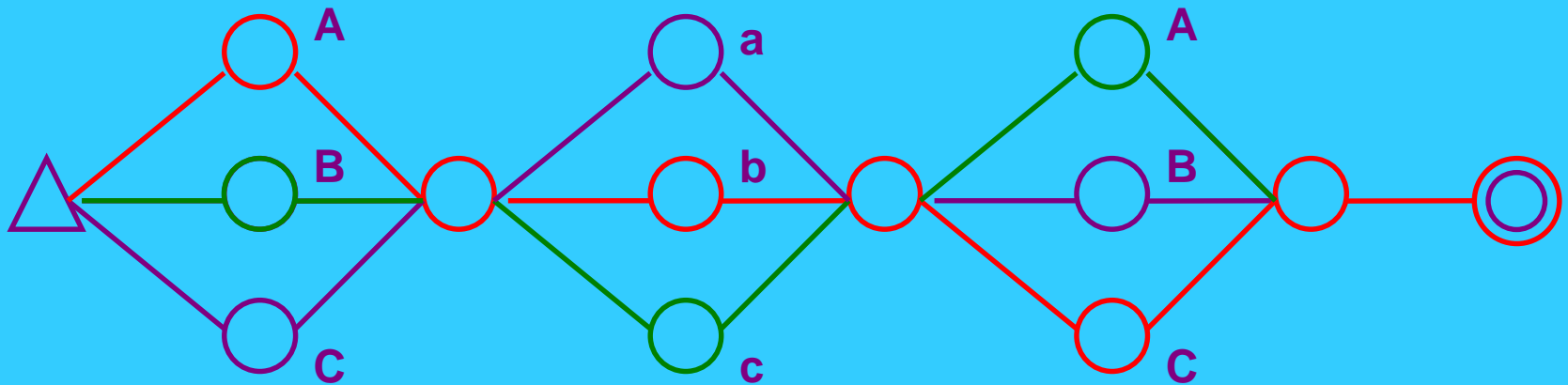
- Different options to reach common controls
- All teams will complete AaABbBCcC for the course
- Common controls allow splitting of competitors

Gaffling



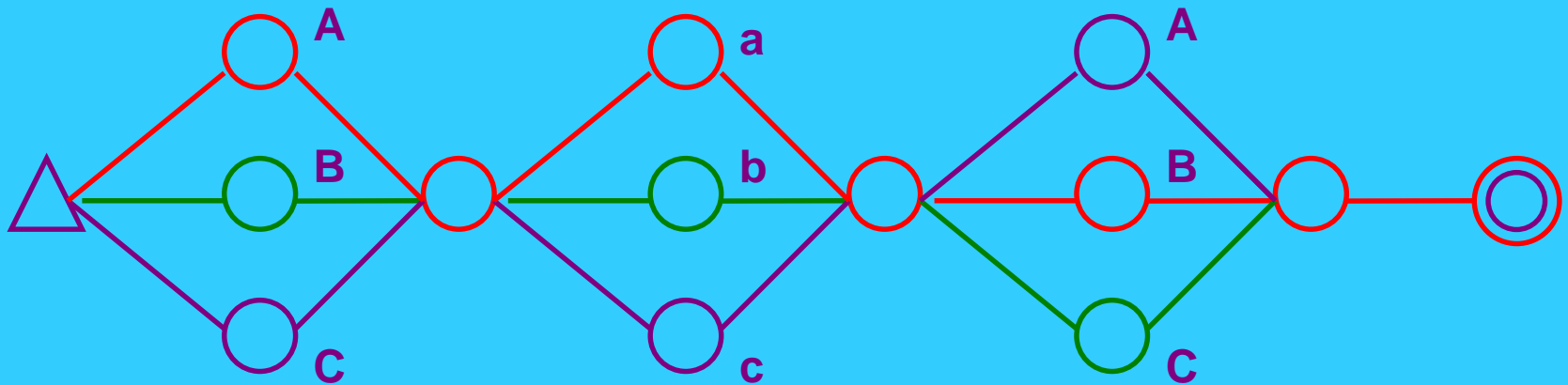
- Team 1 – AaA-BbB-CcC
- Team 2 – BbB-CcC-AaA
- Team 3 – CcC-AaA-BbB

Gaffling



- Team 4 – AbC-BcA-CaB
- Team 5 – BcA-CaB-AbC
- Team 6 – CaB-AbC-BcA

Gaffling



- Team 7 – AaB-BbC-CcA
- Team 8 – BbC-CcA-AaB
- Team 9 – CcA-AaB-BbC

Adams Avery Start

- Classes A and B start together
 - A is Green Blue Blue
 - B is Green Blue Orange
 - Need to ensure that there is gaffling across the green courses to avoid following but care is required to make it fair.
 - Gaffle between Green and Blue
- Classes C and D start together
 - C is Orange Yellow Orange
 - D is White White White
 - The Orange Courses (TD3) and White Courses (TD1) offer enough difference not to cause a problem with following.
 - Use Gaffling for the Orange and Simple Gaffling for the White

Adams Avery Class A Pt 1

- Comprises 1 Green and 2 Blue Courses
 - Gaffle between the Green and Blue courses
 - Consider 3 first variants A/B/C before a specific Green/Blue Split and then a further 3 variants D/E/F
 - Each team must complete ABC-GnBIBI-DEF
 - It could be done ABC-DEF-GnBIBI
 - Required Maps - ABC-GnBIBI-DEF
 - Green
 - » A-Gn-D, B-Gn-E, C-Gn-F
 - » B-Gn-D, C-Gn-E, A-Gn-F
 - » C-Gn-D, A-Gn-E, B-Gn-F
 - Blue
 - » A-BI-D, B-BI-E, C-BI-F
 - » B-BI-D, C-BI-E, A-BI-F
 - » C-BI-D, A-BI-E, B-BI-F

Addams Avery Class A Pt 2

- Required Maps - ABC-DEF-GnBIBI
 - Green
 - » A-D-Gn, B-E-Gn, C-F-Gn
 - » B-D-Gn, C-E-Gn, A-F-Gn
 - » C-D-Gn, A-E-Gn, B-F-Gn
 - Blue
 - » A-D-BI, B-E-BI, C-F-BI
 - » B-D-BI, C-E-BI, A-F-BI
 - » C-D-BI, A-E-BI, B-F-BI
- For either version ABC-GnBIBI-DEF or ABC-DEF-GnBIBI 9 Green and 9 Blue map variants will be required.
 - Less map variants may be produced, but it must be remembered that all teams must complete ABC-GnBIBI-DEF or ABC-DEF-GnBIBI.
- The purist may wish to gaffle the Blue middle sections, but it is considered this introduces an unnecessary level of complexity for the Adams Avery.

Adams Avery Class B Pt 1

- Comprises 1 Green, 1 Blue and 1 Orange Course
 - Gaffle between the Green and Blue (TD5) courses only. Leave the Orange course ungaffled. The teams will probably be split by this point
 - Re-use Courses planned from Class A but as there are only 2 TD5 courses there can only be 2 first and 2 further variants. Consider 2 first variants A/B before a specific Green/Blue Split and then a further 2 variants D/E before O on the 3rd Orange Leg
 - Each team must complete AB-GnBI-DE-O
 - It could be done AB-DE-GnBI-O

Adams Avery Class B Pt 2

- Consider 2 first variants A/B before a specific Green/Blue Split and then a further 2 variants D/E before O on the 3rd Orange Leg
 - Each team must complete AB-GnBI-DE-O
 - It could be done AB-DE-GnBI-O
- Required Maps - AB-GnBI-DE-O
 - Green
 - » A-Gn-D, B-Gn-E,
 - » B-Gn-D, A-Gn-E,
 - Blue
 - » A-BI-D, B-BI-E
 - » B-BI-D, A-BI-E
 - Orange
 - » O

Adams Avery Class B Pt 3

- Required Maps - AB-DE-GnBl-O
 - Green
 - » A-D-Gn, B-E-Gn,
 - » B-D-Gn, A-E-Gn,
 - Blue
 - » A-D-Bl, B-E-Bl
 - » B-D-Bl, A-E-Bl
 - Orange
 - » O
- Orange – This may be a reuse of one of the oranges from Class C or may be a separate course. If re-using a course already planned EVERYONE in this Class must run the SAME Orange.

Adams Avery Class C

- Comprises 2 Orange and 1 Yellow Course
 - Gaffle the Orange Courses Only
 - 5 Courses
 - Orange AB
 - Orange AA
 - Orange BA
 - Orange BB
 - Yellow
 - Teams run the courses as:
 - AB-Y-BA or AA-Y-BB or BA-Y-AB or BB-Y-AA
 - Only 5 maps required
 - 4 Variations on running order for teams.
 - Orange Courses have a 'half way' gaffle.

Adams Avery Class D

- Comprises 3 White Courses
 - Employ Simple Gaffling
 - 3 Courses
 - White 1
 - White 2
 - White 3
 - Teams run the courses as:
 - W1-W2-W3 or W2-W3-W1 or W3-W1-W2
 - W2-W1-W3 or W3-W2-W1 or W3-W1-W2
 - Only 3 maps required
 - 6 Variations on running order for teams.

Maps Required Choice 1

- Green
 - A-Gn-D, B-Gn-E, C-Gn-F
 - B-Gn-D, C-Gn-E, A-Gn-F
 - C-Gn-D, A-Gn-E, B-Gn-F
- Blue
 - A-BI-D, B-BI-E, C-BI-F
 - B-BI-D, C-BI-E, A-BI-F
 - C-BI-D, A-BI-E, B-BI-F
- Orange
- OAB OBA OAA OBB Y
- W1 W2 W3

- 27 (26) map variants

Maps Required Choice 2

- Green
 - A-D-Gn, B-E-Gn, C-F-Gn
 - B-D-Gn, C-E-Gn, A-F-Gn
 - C-D-Gn, A-E-Gn, B-F-Gn
- Blue
 - A-D-BI, B-E-BI, C-F-BI
 - B-D-BI, C-E-BI, A-F-BI
 - C-D-BI, A-E-BI, B-F-BI
- Orange
- OAB OBA OAA OBB Y
- W1 W2 W3

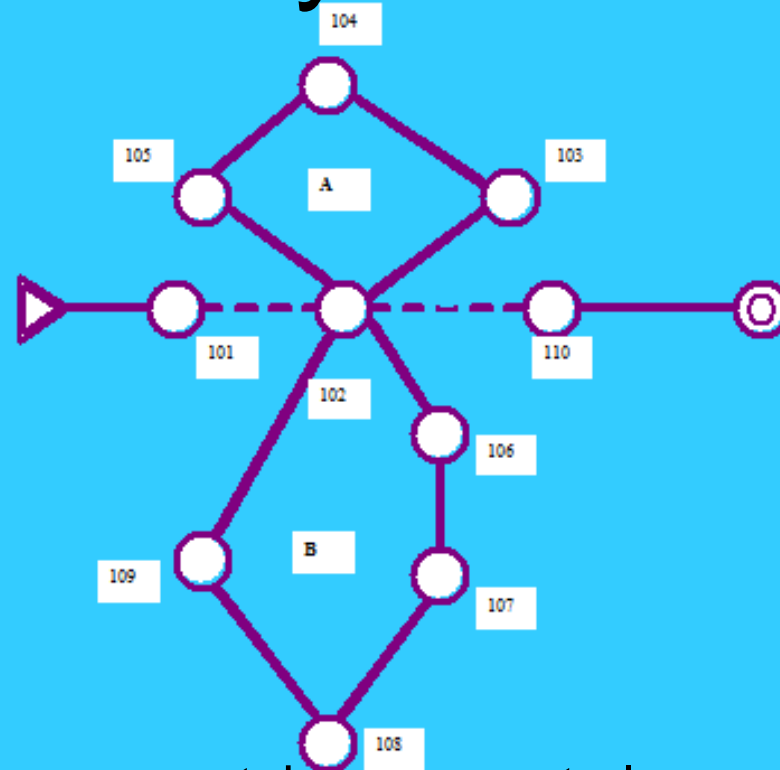
- 27 (26) map variants

Butterfly Loops

Butterfly

- A nice solution to the fairness and orienteering problem.
 - Butterfly loops appear on the course
 - Loops always run in the same direction
 - Variant 1 completes A then B
 - Variant 2 completes B then A
 - Loops should be asymmetric
- Although competitors have variance in the order loops are completed, it is deemed to be the same course.
- Further loops can be added if deemed necessary.

Butterfly Schematic



- The dashed line can contain more controls
- Variant 1(A, B)
 - 101, 102, 103, 104, 105, 102, 106, 107, 108, 109, 102, 110
- Variant 2(B, A)
 - 101, 102, 106, 107, 108, 109, 102, 103, 104, 105, 102, 110

Using Butterfly Loops

- To use Butterfly Loops for the Adams Avery Relays:
 - Use Butterflies for Class A and Class B Only
 - Use Ordinary Gaffling for Class C and Class D

Class A

– Leg 1

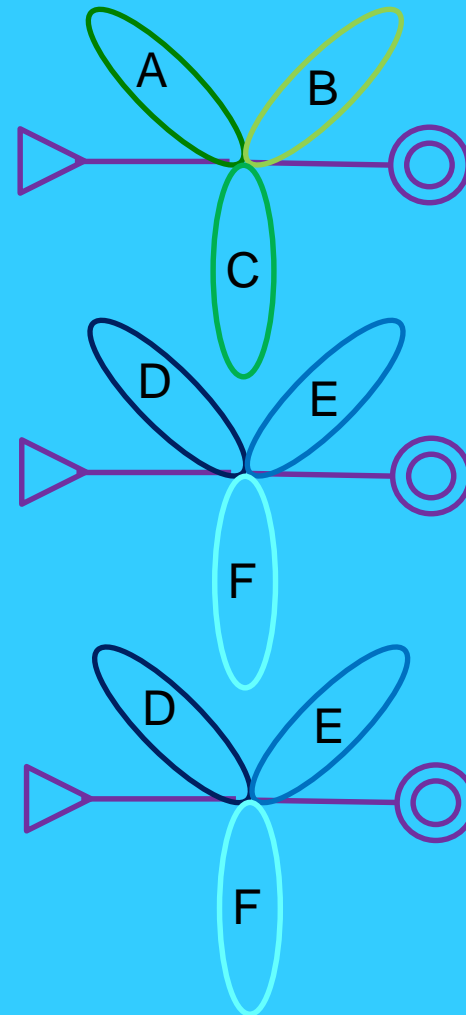
- Choose from
 - ABC, BCA, CAB, ACB, CBA, BAC

– Leg 2

- Choose from
 - DEF, EFD, FDE, DFE, FED, EDF

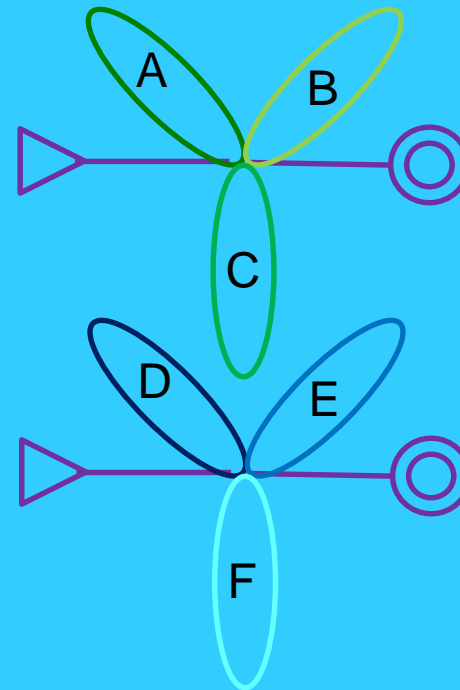
– Leg 3

- Choose from
 - DEF, EFD, FDE, DFE, FED, EDF



Class B

- Leg 1
 - Choose from
 - ABC, BCA, CAB, ACB, CBA, BAC
- Leg 2
 - Choose from
 - DEF, EFD, FDE, DFE, FED, EDF
- Leg 3
 - Choose from
 - Orange
 - Only one of Gaffled Orange



Orange
(Orange or AA, AB, BA, BB)

Adams Avery Class C

- Comprises 2 Orange and 1 Yellow Course
 - Gaffle the Orange Courses Only
 - 5 Courses
 - Orange AB
 - Orange AA
 - Orange BA
 - Orange BB
 - Yellow
 - Teams run the courses as:
 - AB-Y-BA or AA-Y-BB or BA-Y-AB or BB-Y-AA
 - Only 5 maps required
 - 4 Variations on running order for teams.
 - Orange Courses have a 'half way' gaffle.

Adams Avery Class D

- Comprises 3 White Courses
 - Employ Simple Gaffling
 - 3 Courses
 - White 1
 - White 2
 - White 3
 - Teams run the courses as:
 - W1-W2-W3 or W2-W3-W1 or W3-W1-W2
 - W2-W1-W3 or W3-W2-W1 or W3-W1-W2
 - Only 3 maps required
 - 6 Variations on running order for teams.

Butterfly Maps Required

- Green
 - ABC, BCA, CAB, ACB, CBA, BAC
- Blue
 - DEF, EFD, FDE, DFE, FED, EDF
- Orange
- OAB OBA OAA OBB Y
- W1 W2 W3
- 21 (20) map variants

Map Summary

- Planning the Adams Avery using Butterfly Loops simplifies the fairness conundrum and requires less map variants to be produced.
- Because each Green and each Blue course runs equivalent – the loops are just done in a different order, in the event of a map/autodownload mismatch the SI team can be confident that the event remains fair.