300m Rifle Range Restrictive Operating Procedure 01

Shooting with Wind Flags at Designated Positions

1.0 PURPOSE

1.1 This Restricted Operating Procedure (ROP) is to allow the use of wind flags placed in designated positions for precision shooting where wind flags are used to assess wind strength and direction.

1.2 This ROP will normally be used for specific Group and Score competitions such as the Peeking Wallaby match.

2.0 WHO CAN OPERATE THIS ROP

2.1 This restricted operating procedure is only allowed under the control of Nationally Qualified Range Officers who have been approved by the Range Manager for use of this restricted operating procedure.

3.0 REDUCED CONE OF FIRE

3.1 The primary safety elements of this ROP are:

- A reduced Cone Of Fire (COF) for benchrest shooting of 6 milliradians at 100m (0.6m radius), 3 milliradians at 200m (0.6m radius) and 3 milliradians at 300m (0.9m radius).
- All shooting shall be conducted off the benches.
- The mandatory use of front and rear supports under all rifles.
- All rifles must be scoped.
- All wind flags shall be of a lightweight, ricochet resistant design.
- All wind flags shall be placed well out of the reduced COF allowance.
- A 100m COF check to ensure shooters are on target before proceeding to shoot at 200m or 300m.

3.2 This ROP is based on the current range design with firing line positions at 1.6m centres and the target line positions at 1.2m centres. The ROP shall be reviewed if the range design is altered.

3.3 This Restricted Operating Procedure (ROP) cannot be deviated from. If the ROP cannot be complied with then the range must revert to its standard operating mode as described in the Range Standing Orders (RSO's) and the matter shall be referred to the Range Committee for review.

3.4 If a wind flag is hit by a bullet then shooting shall be suspended while it is determined which shooter hit the flag and why. Corrective action must be undertaken before shooting re-commences.

4.0 SHOOTING POSITIONS

4.1 This ROP will utilise the entire firing line. While the ROP is in force all shooting must comply with the ROP.

4.2 All shooting shall be conducted off the benches with the use of a front rest or bipod, and rear rest.

4.3 All rifles shall be scoped.

4.4 The benches must be placed between and including positions 4 to 12 (9 benches).

4.5 Shooting positions 1, 2, 3 and 13, 14, 15 will be closed. No shooting is permitted from these positions while the ROP is in force.

5.0 WIND FLAGS

5.1 Wind flags shall only be placed at the down range positions shown on the diagrams in section 7.0. They must be either attached to the target backer structure or be placed on top of the dirt retaining wall close to the crest board. Sand bags can be used to weight the feet of tripod stands down. There are only 6 designated flag positions.

5.2 Shooters CANNOT put out their own personal wind flags.

5.3 Wind flag construction shall be ricochet resistant i.e. lightweight and made of soft materials such as wood, aluminium or plastic.

5.4 Wind flags can only be placed at the shooting distance just prior to the shooting taking place, and only in the

order listed below to ensure no flags are inside the COF due to range construction angles:

Shooting at 100m - flags at 100m only.

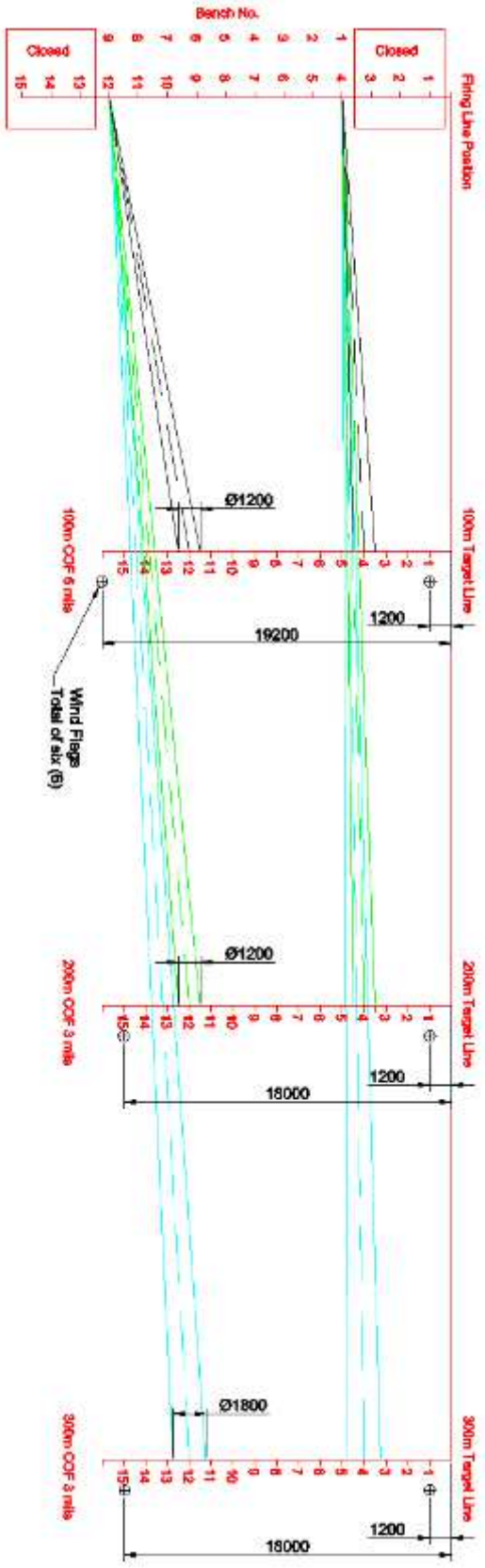
Shooting at 200m - flags at 100m and 200m only.

Shooting at 300m - flags at 100m, 200m and 300m.

6.0 COF CHECK

6.1 A 100m COF check shall be done by the range officers after shooting the 100m targets is complete. This is to ensure that all shooters are getting their bullets on target before proceeding on to shoot at 200m or 300m. Shooters with no bullets on their target shall be designated as DID NOT QUALIFY (DNQ) and not be allowed to continue to shoot.

7.0 FLAG POSITIONS



8.0 ROP APPROVAL

8.1 NRO's who wish to run organised shoots under this ROP are required to complete the application form below and email it to range@deerstalkersBOP.org.nz.

Member Name:	
Member No:	
Email Address:	
Application:	I am applying for approval to run organised shooting events that use wind flags in designated positions under this restricted operating procedure. To demonstrate my understanding of the requirements of these restricted operating procedures I have completed the following questions:
Q1	What is the maximum radius from my point of aim that all my shots must fall within on a target at 200m?
Q2	Which shooting positions must be closed, when this ROP is in use?
Q3	What is them minimum number of bullets that must be on the paper target at the 100m to avoid being disqualified?
Date Applied:	
Signature:	

8.2 Approval (admin use only)

Date received:	
Date Approved:	
Approved By:	
Signature	

300m Rifle Range Restrictive Operating Procedure 02

Shooting Over Individual Shooter Wind Flags Without A Moving Target Backer System

1.0 PURPOSE

1.1 This Restricted Operating Procedure (ROP) is to allow the use of individual shooter wind flags placed down range within the standard cone of fire for precision shooting where wind flags are used to assess wind strength and direction.

1.2 This ROP will normally be used for centrefire benchrest shooting that use the following targets, but are also relevant for precision shooting practice and load development shooting activities:

1. World Benchrest Shooting Federation WBSF100, WSBF200 and WSBF300 group targets.
2. IBS Hunter #1, Hunter #2 and Hunter #3 score targets.

Note: WBSF, IBS and NBRSA targets for the same disciplines are all interchangeable.

2.0 WHO CAN OPERATE THIS ROP

2.1 This restricted operating procedure is only allowed under the control of an NZDA-BOP Club Range Officer that has been approved by the Range Manager for use of this restricted operating procedure.

3.0 REDUCED CONE OF FIRE

3.1 The primary safety elements of this ROP are:

- A reduced Cone Of Fire (COF) for precision benchrest shooting of 1.50 milliradians at 100m (150mm radius), 1.125 milliradians at 200m (225mm radius) and 1.125 milliradians at 300m (337.5mm radius).
- All shooting shall be conducted off the benches.
- Mandatory use of front and rear supports under all rifles.
- All rifles must have dial up/target turret type scopes.
- All wind flags shall be of a lightweight, ricochet resistant design.
- All wind flags shall be placed outside of the reduced COF allowance.

While the ROP is in force all shooting must comply with the ROP rules below.

3.2 Shooters must be confident of their zero and ability to hold their groups within the reduced cone of fire. Where there is any doubt as to the rifles zero, then an initial 100m sight-in should be undertaken to confirm their point of impact is within 50mm of their aim point. i.e within a 100mm circle.

All sign-in checks shall be undertaken before wind flags are placed downrange.

3.3 If a wind flag is hit by a bullet then shooting shall be suspended while it is determined which shooter hit the flag and why.

4.0 SHOOTING POSITIONS

4.1 This ROP may require control of all shooting positions from 1 to 10 depending on the number of benches being shot off and the distance being shot.

Other shooters not participating in the event and shooting under the standard RSO 20 milliradian COF limit, will also be able to shoot from designated positions if following the guidelines below.

All shooting involving wind flags shall only take place from the benches noted as Bench Position No. in Table 1 below: **Table 1 – Bench Positions**				
Bench Qty.	**Bench Position No.**	**Shooting Positions Closed at These Target Distances**		
		100m	**200m**	**300m**
1	1	2	2, 3, 4	2, 3, 4, 5, 6
2	1, 2	3	3, 4, 5	3, 4, 5, 6, 7
3	1, 2, 3	4	4, 5, 6	4, 5, 6, 7, 8
4	1, 2, 3, 4	5	5, 6, 7	5, 6, 7, 8, 9
5	1, 2, 3, 4, 5	6	6, 7, 8	6, 7, 8, 9, 10

Also refer to the COF diagrams in section 7.0 below.

4.2 A maximum of 5 benches may be utilised. The bench positions are on the left hand end of the firing line due to the range topography i.e. encroachment of gulley's across the range floor affects wind flag positioning. As per Table 1, some positions will be closed while this ROP is in force. No shooting is permitted from these positions while this ROP is in force.

Other shooters using the range under the standard RSO 20 milliradian COF can also shoot while this ROP is in effect from the positions not used by benchrest shooting and not closed at per Table 1. **Note,** as benchrest shooting increases in distance, more positions will close.

For shooting positions 1, 2, 3, 4 and 5 shooting benchrest the following applies:

a. The COF restrictions for precision benchrest shooting apply as above.
b. All shooting must be conducted off the benches.
c. Front and rear rests must be used for all rifles.
d. All rifles must have dial up/target turret type scopes.

5.0 WIND FLAGS

5.1 **Under this ROP on this range, all wind flags must be no higher than a line of sight between the benchtops and the bottom of the target backer board at all distances.**

Note that for RSO compliance this ROP overrides the World Benchrest Shooting Federation (WBSF) rule which stipulates; *"wind flags on the range must be no higher than level with the bench tops and the bottom of the target card, and retained within the competitors shooting lanes."*

5.2 Wind flag construction shall be ricochet resistant i.e. lightweight and made of soft materials such as wood, aluminium or plastic.

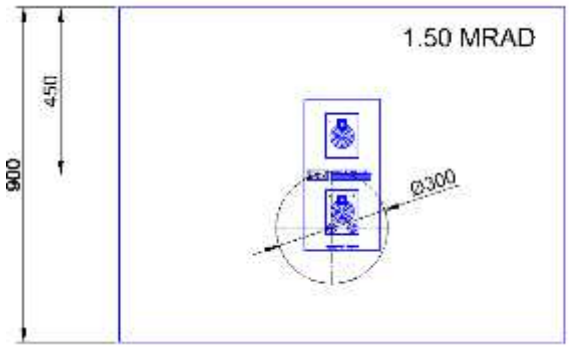
Wind flags may be on tripods or spiked into the ground and the feet can be weighted down with sand bags.

All wind flags must be retained within the shooters lane. There shall be no wind flags placed out further than the distance being shot.

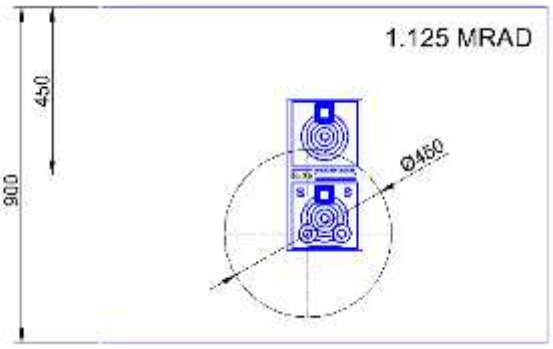
5.3 Prior to commencing shooting the Range Officer shall check all wind flags comply with the above wind flag rules. If they do not, then the Range Officer will lay the non-complying flags down and they will remain down until the end of the match.

6.0 TARGET MOUNTING POSITIONS

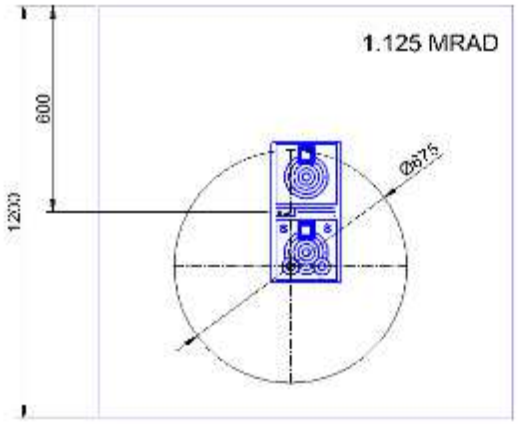
6.1 All targets for Group shall be mounted to the target backer boards as shown below.



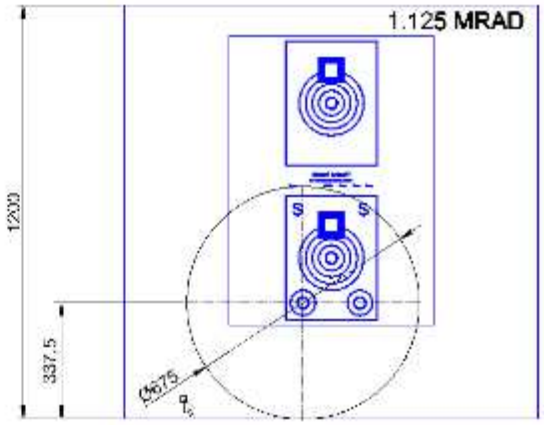
100 Metres
Group Target
WBSF100 target centred on board



200 Metres
Group Target
WBSF200 target centred on board



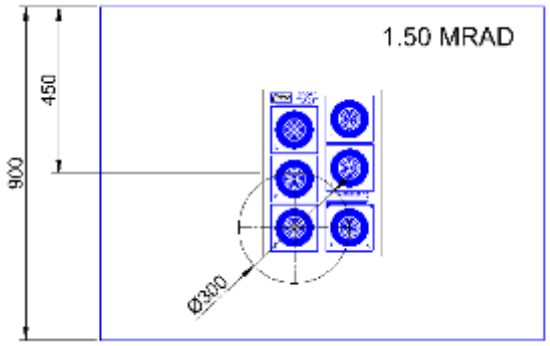
300 Metres
Group Target
WBSF200 target centred on board



300 Metres
Group Target
WBSF300 target

Note, WBSF BR300 target is mounted 338mm up from the bottom of the target board at 300m. All other targets are centred on the target boards.

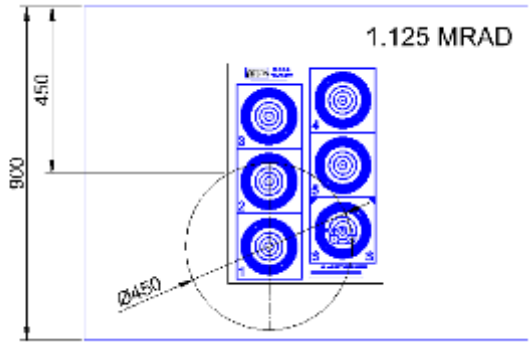
6.2 All targets for Score shall be mounted to the target backer boards as shown below.



100 Metres

Score Target

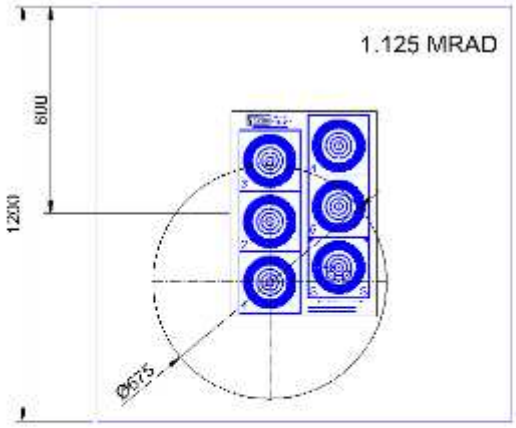
IBS Hunter #1 centred on board



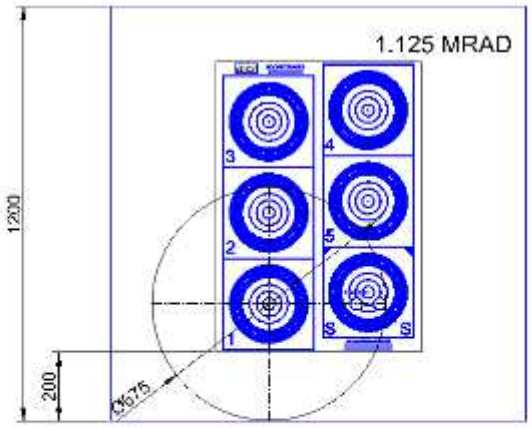
200 Metres

Score Target

IBS Hunter #2 centred on board



300 Metres

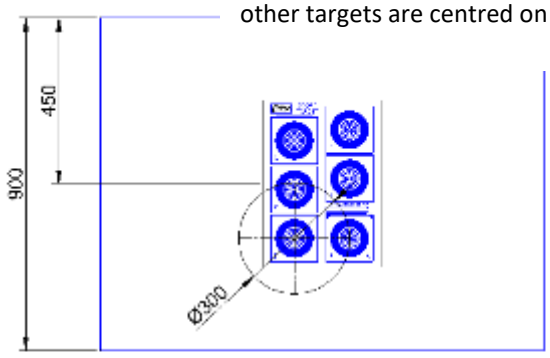


300 Metres

Score Target

IBS Hunter #3

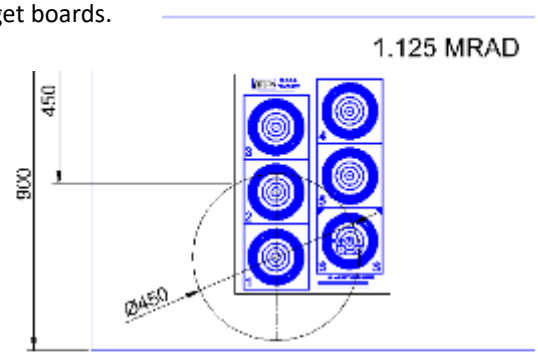
Note, IBS Hunter #3 target is mounted 200mm up from the bottom of the target board at 300m. All other targets are centred on the target boards.



100 Metres

Score Target

IBS Hunter #1 centred on board



200 Metres

Score Target

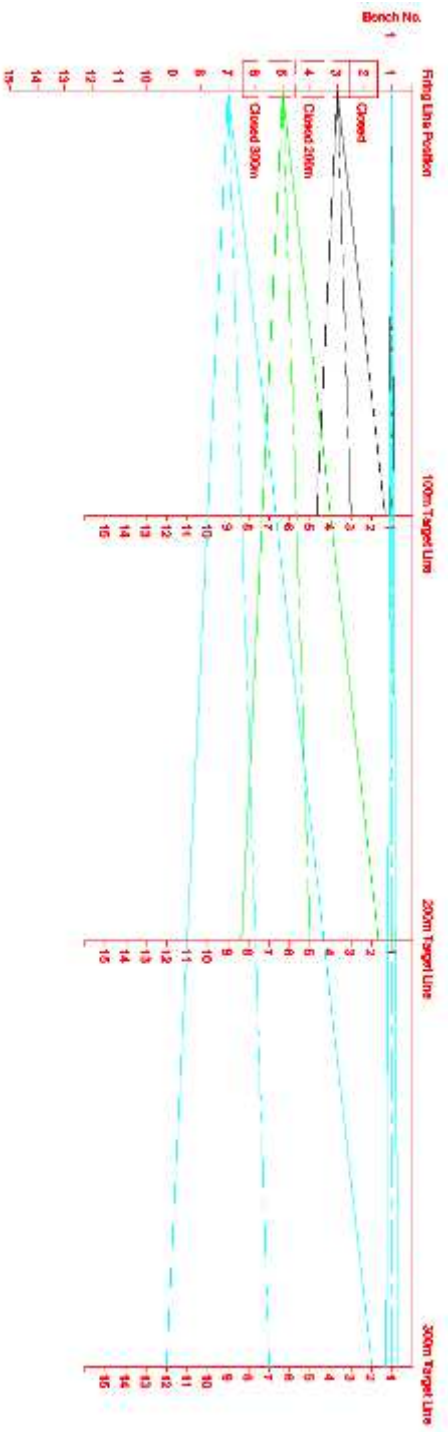
IBS Hunter #2 centred on board

7.0 COF DIAGRAMS

7.1 1x Benchrest Shooting Positions

Benchrest shooters on position 1 with 100m 1.50 milliradian, 200m 1.125 milliradian, 300m 1.125 milliradian COF.

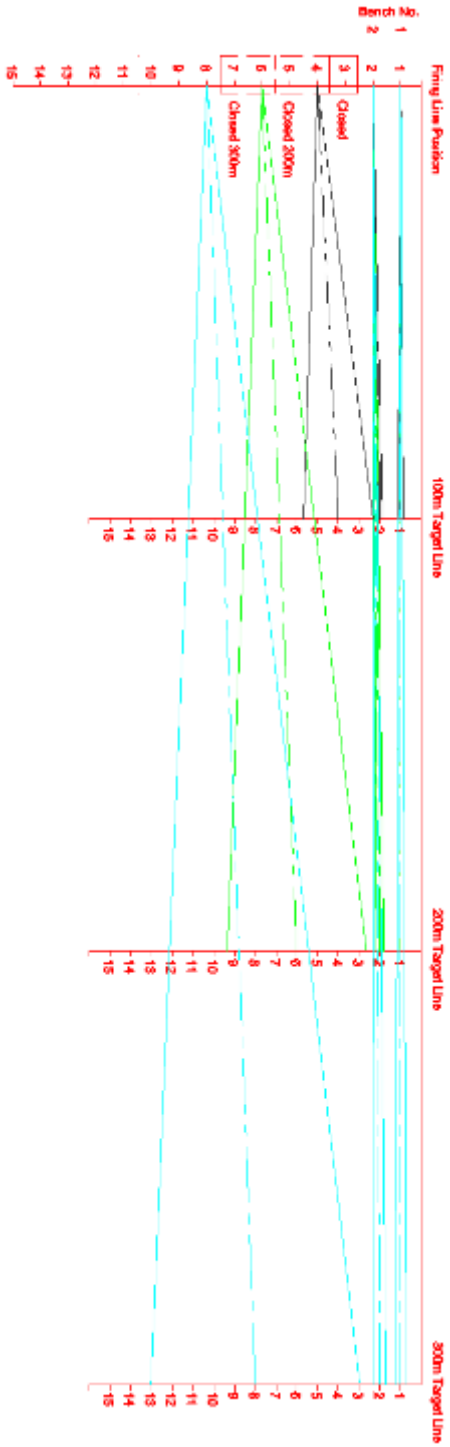
Other shooters with 20 milliradian COF shown on the right.



7.2 2x Benchrest Shooting Positions

Benchrest shooters on position 1 & 2 with 100m 1.50 milliradian, 200m 1.125 milliradian, 300m 1.125 milliradian COF.

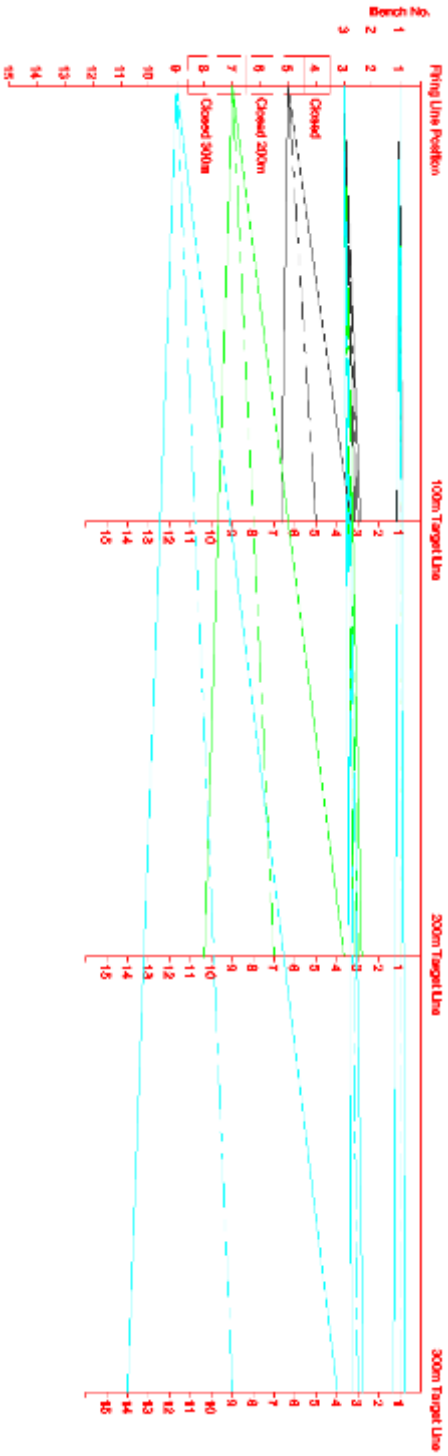
Other shooters with 20 milliradian COF shown on the right.



7.3 3x Benchrest Shooting Positions

Benchrest shooters on position 1, 2 & 3 with 100m 1.50 milliradian, 200m 1.125 milliradian, 300m 1.125 milliradian COF.

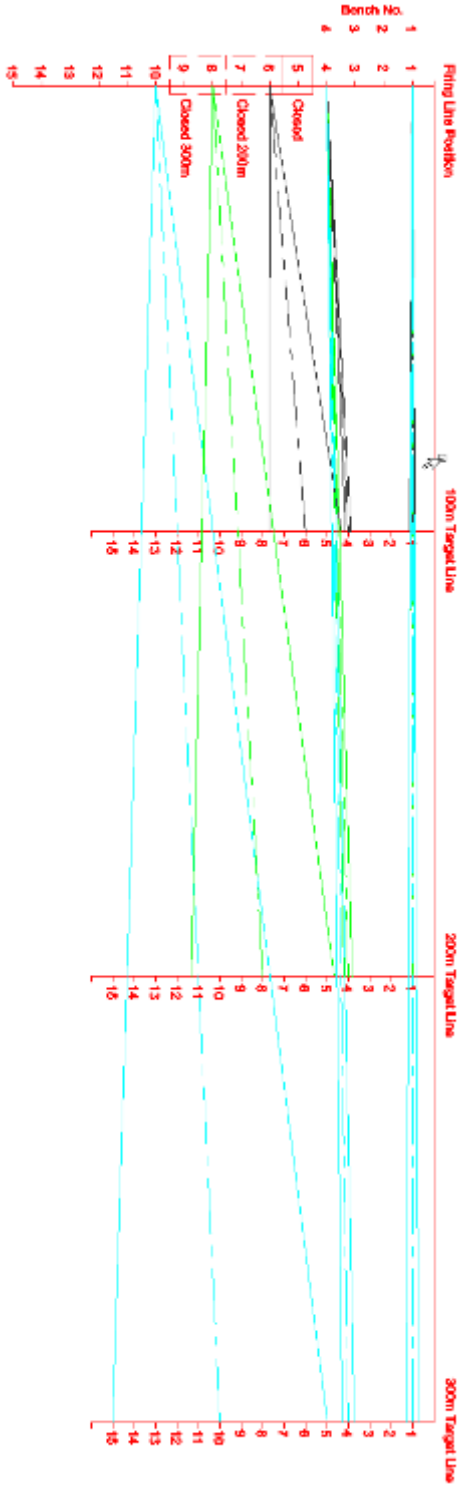
Other shooters with 20 milliradian COF shown on the right.



7.4 4x Benchrest Shooting Positions

Benchrest shooters on position 1, 2, 3 & 4 with 100m 1.50 milliradian, 200m 1.125 milliradian, 300m 1.125 milliradian COF.

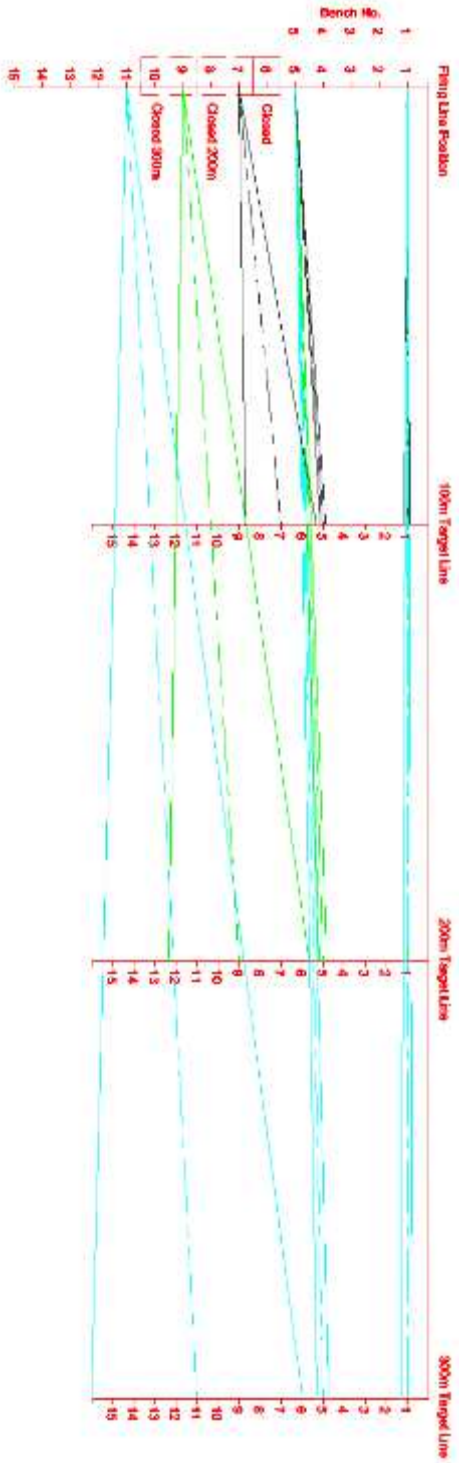
Other shooters with 20 milliradian COF shown on the right.



7.5 5x Benchrest Shooting Positions

Benchrest shooters on position 1, 2, 3, 4 & 5 with 100m 1.50 milliradian, 200m 1.125 milliradian, 300m 1.125 milliradian COF.

Other shooters with 20 milliradian COF shown on the right.



8.0 ROP APPROVAL

8.1 NZDA-BOP Club Range Officers (range ticket holders) who wish to use wind flags downrange within the normal cone of fire are required to complete the application form below and email it to range@deerstalkersBOP.org.nz.

Member Name:	
Member No:	
Email Address:	
Description of proposed wind flags:	
Application:	I am applying for approval to use wind flags under this restricted operating procedure. To demonstrate my understanding of the requirements of these restricted operating procedures I have completed the following questions:
Q1	What is the maximum radius from my point of aim that all my shots must fall within on a target at 200m?
Q2	Which shooting positions must be closed, if there are three shooters operating under this procedure shooting at the 200m target line?
Q3	Can a wind flag project above the line of sight between the benchtops and the bottom of the target backer board at any distance?.
Date Applied:	
Signature:	

8.2 Approval (admin use only)

Date received:	
Date Approved:	
Approved By:	
Signature	

Restrictive Operating Procedure 03

300m Rifle Range - Shooting with Individual Shooter Wind Flags and the Moving Target Backer System

1.0 PURPOSE

1.1 This Restricted Operating Procedure (ROP) is to allow the use of **individual shooter wind flags** in combination with a **moving target backer system (MTBS)** down range in the active range area as suitable for centrefire benchrest matches shooting at World Benchrest Shooting Federation WBSF100 and WSBF200 group targets at 100m and 200m.

Note: WBSF, IBS and NBRSA targets for the same discipline are all interchangeable.

2.0 WHO CAN OPERATE THIS ROP

2.1 This restricted operating procedure is only allowed under the control of Nationally Qualified Range Officers that have been approved by the Range Manager for use of this restricted operating procedure.

3.0 REDUCED CONE OF FIRE

3.1 The primary safety elements of this ROP are:

- A reduced Cone Of Fire (COF) for precision benchrest shooting of 1.50 milliradians at 100m (150mm radius) and 0.75 milliradians at 200m (150mm radius).
- All shooting shall be conducted off the benches.
- Mandatory use of front and rear supports under all rifles.
- All rifles must have dial up/target turret type scopes.
- All wind flags shall be of a lightweight, ricochet resistant design.
- All wind flags shall be placed outside of the reduced COF allowance.
- Components of the MTBS inside the shooters COF shall be of similar construction to the target backer board.
- The heavy mass components of the MTBS shall be placed outside of the reduced COF.
- An initial 100m sight-in match is required to ensure shooters are on target and can demonstrate the required amount of precision.

3.2 This ROP is based on the current range design with firing line positions at 1.6m centres and the target line positions at 1.2m centres. The ROP shall be reviewed if the range design is altered.

3.3 This Restricted Operating Procedure (ROP) cannot be deviated from. If the ROP cannot be complied with then the range must revert to its standard operating mode as described in the Range Standing Orders (RSO's) and the matter shall be referred to the Range Committee for review.

3.4 If a wind flag is hit by a bullet then shooting shall be suspended while it is determined which shooter hit the flag and why. Corrective action must be undertaken before shooting re-commences.

4.0 SHOOTING POSITIONS

4.1 This ROP may utilise all shooting positions from 1 to 10 depending on the number of benches being shot off and the distance being shot.

4.2 All shooting involving wind flags and/or the MTBS shall only take place from the benches noted as Bench Position No. in Table 1 below:

Table 1 – Bench Positions			
Bench Qty.	**Bench Position No.**	**Shooting Positions Closed at These Target Distances**	
		100m	**200m**
2	2, 3	1, 4, 5	1, 4, 5, 6, 7
3	2, 3, 4	1, 5, 6	1, 5, 6, 7, 8
4	2, 3, 4, 5	1, 6, 7	1, 6, 7, 8, 9
5	2, 3, 4, 5, 6	1, 7, 8	1, 7, 8, 9, 10

4.3 This ROP will utilise the entire firing line. While the ROP is in force all shooting must comply with the ROP.

4.4 Other shooters not participating in the event and shooting under the standard RSO 20 milliradian COF limit, will also be able to shoot from designated positions if following this ROP.

5.0 MOVING BACKER TARGET SYSTEM

5.1 Use of the MTBS shall be restricted to 100m and 200m only.

5.2 A maximum of 5 benches may be utilised. The bench positions are on the left hand end of the firing line due to the range topography i.e. encroachment of gulley's across the range floor affects wind flag positioning

5.3 As per Table 1, some positions will be closed while this ROP is in force. No shooting is permitted from these positions while this ROP is in force.

5.4 Other shooters using the range under the standard RSO 20 milliradian COF can also shoot while this ROP is in effect from the positions not used by benchrest shooting and not closed at per Table 1. **Note,** as benchrest shooting increases in distance, more positions will close.

5.5 For shooting positions 2, 3, 4, 5 and 6 shooting benchrest the following applies:

a. The COF restrictions for precision benchrest shooting apply as above.
b. All shooting must be conducted off the benches.
c. Front and rear rests must be used for all rifles.
d. All rifles must have dial up/target turret type scopes.

5.6 The MTBS motor assembly shall be mounted to the target backer line centred under position 1.

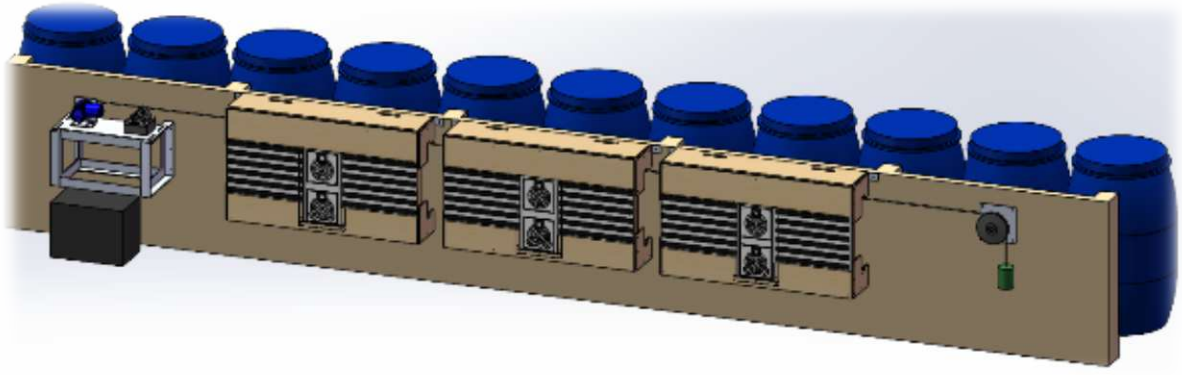
5.7 The battery for the MTBS motor assembly shall sit directly under it where it can be seen at all times. Due to fire risk, it shall not be placed out of sight between the target backer board and the bullet catching drums.

5.8 The MTBS counterweight assembly shall be mounted to the target backer line directly under the centre of the closed position next to the last benchrest position in use i.e. 3 benchrests positions in use, then the counterweight assembly will be mounted in the centre of position 5.

5.9 The target frames for the MTBS shall be mounted to the target backer line centred under the benchrest positions in use. They shall be mounted flush with the top of the target backer board. See figures 1, 2 and 3.

5.10 The target frame assemblies for the MTBS shall be ricochet resistant i.e. lightweight and made of soft materials such as wood, aluminium or plastic

5.11 MBTS Drawings



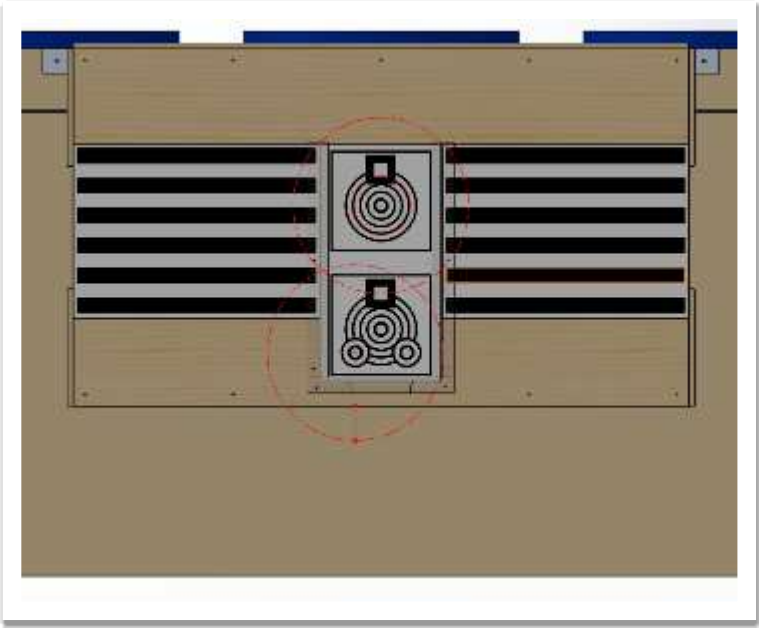


Figure 2
Group Target COF for 100m and 200m (in red)

- 150mm radius/300mm dia COF at both distances.
- Smaller 100mm dia sight-in circle also shown for reference on top target box.

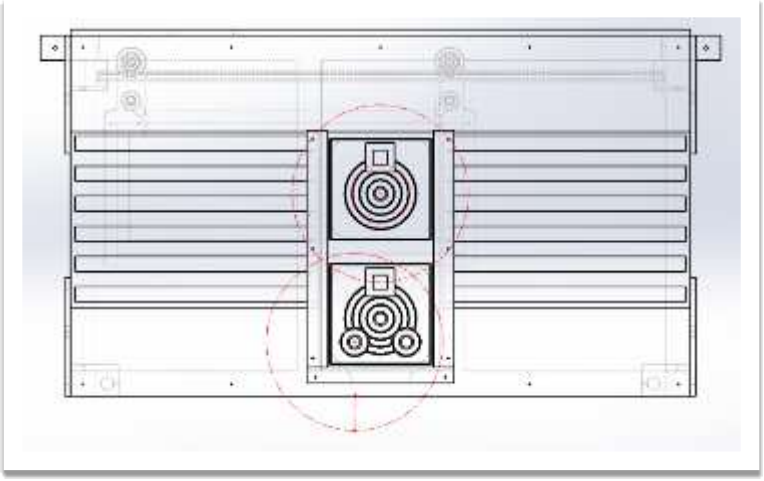


Figure 2
Group Target COF for 100m and 200m (in red)

- 150mm radius/300mm dia COF at both distances.
- Smaller 100mm dia sight-in circle also shown for reference on top target box.

6.0 WIND FLAGS

6.1 **Under this ROP on this range, all wind flags must be no higher than a line of sight between the benchtops and a horizontal line 75mm below the bottom of the 610mm deep MTBS face boards at all distances.**

Note that for RSO compliance this ROP overrides the World Benchrest Shooting Federation (WBSF) rule which stipulates, "*wind flags on the range must be no higher than level with the bench tops and the bottom of the target card, and retained within the competitors shooting lanes*."

6.2 With the exception of clause 6.3, wind flags must be retained within the shooters lane.

6.3 Wind flags may also be placed in the lanes for the closed positions immediately to the left and right of the benchrests positions is use. These would be the same lanes that the moving target backer motor and counterweight assemblies would be in. All other wind flag rules will apply to these wind flags.

6.4 Wind flag construction shall be ricochet resistant i.e. lightweight and made of soft materials such as wood, aluminium or plastic.

6.5 Wind flags may be on tripods or spiked into the ground, and the feet can be weighted down with sand bags.

6.6 There shall be no wind flags placed out further than the distance being shot.

6.7 Prior to commencing shooting the Range Officer will check all wind flags comply with the wind flag rules. If they do not, then the Range Officer will lay the non-complying flags down and they will remain down until the end of the match.

7.0 100M SIGHT-IN MATCH

7.1 To ensure shooters are on target and can demonstrate the required amount of precision, at the beginning of the event all shooters shall complete an initial 100m sight-in match. This match shall have a further reduced COF of 0.5 milliradians at 100m (50mm radius/100mm diameter).

7.2 **Neither wind flags or the moving target backer system shall be placed downrange until the 100m sight-in match is completed.**

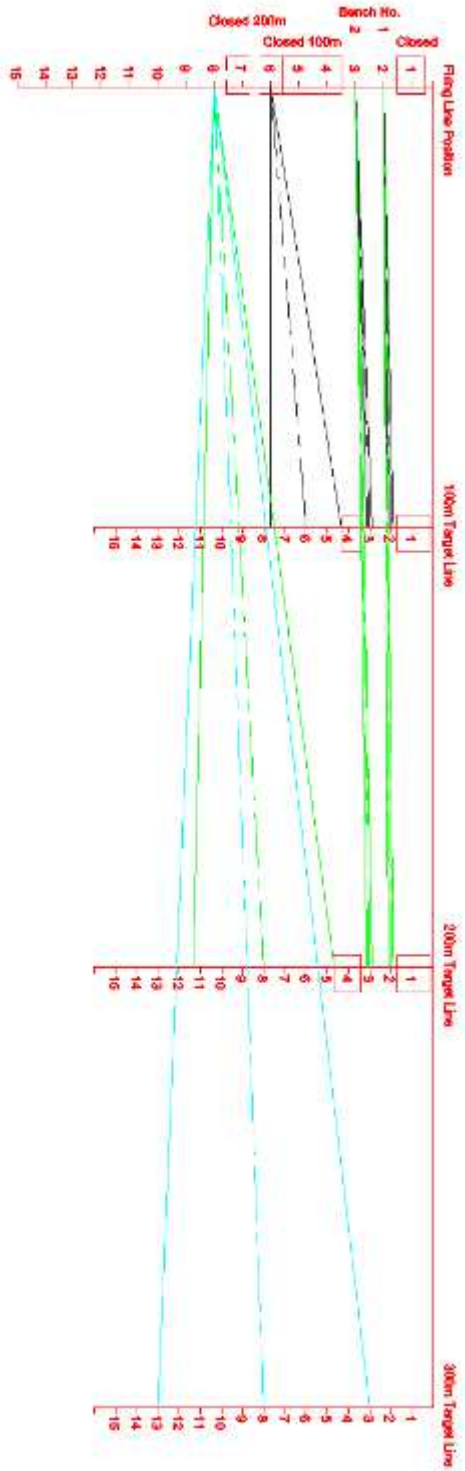
7.3 The sight-in match targets shall be A4 in size and have a central bullseye aiming point with a 100mm diameter ring. A minimum of one (1) round shall be fired for a sight-in match.

7.4 The range officer shall check the sight-in targets at the end of the sight-in match and all shooters must be able to demonstrate they can retain their shots inside or touching the 100mm ring. **Note,** the sight-in match can be shot for practice or late comers at any time without wind flags on any other shooting position open under the 20 milliradian COF.

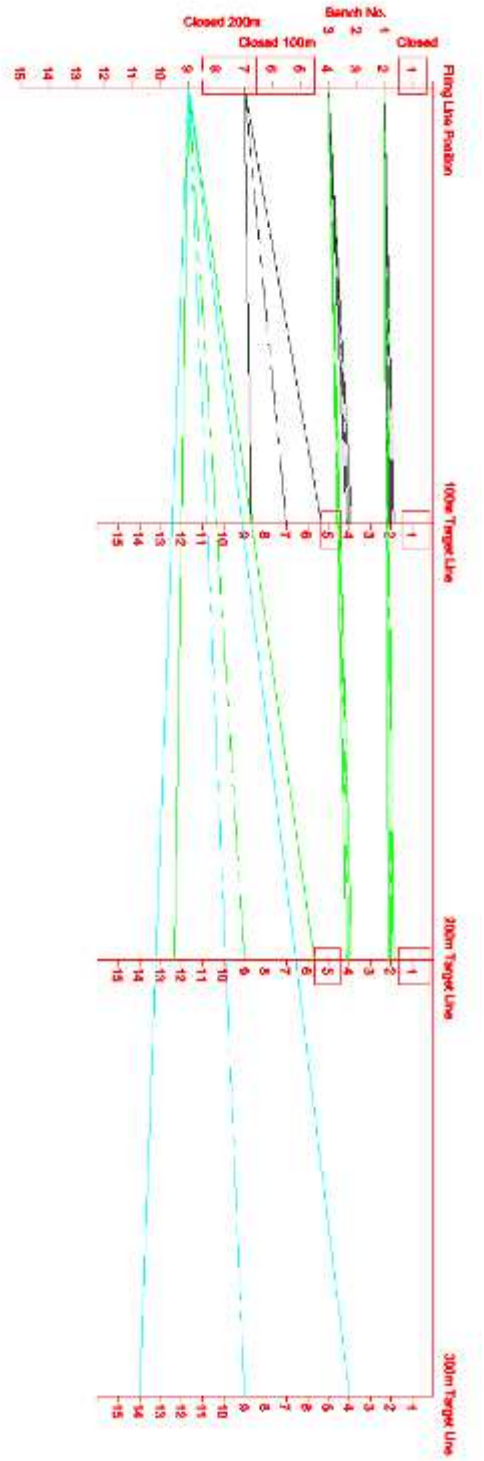
8.0 COF DIAGRAM

8.1 2x Benchrest Shooting Positions

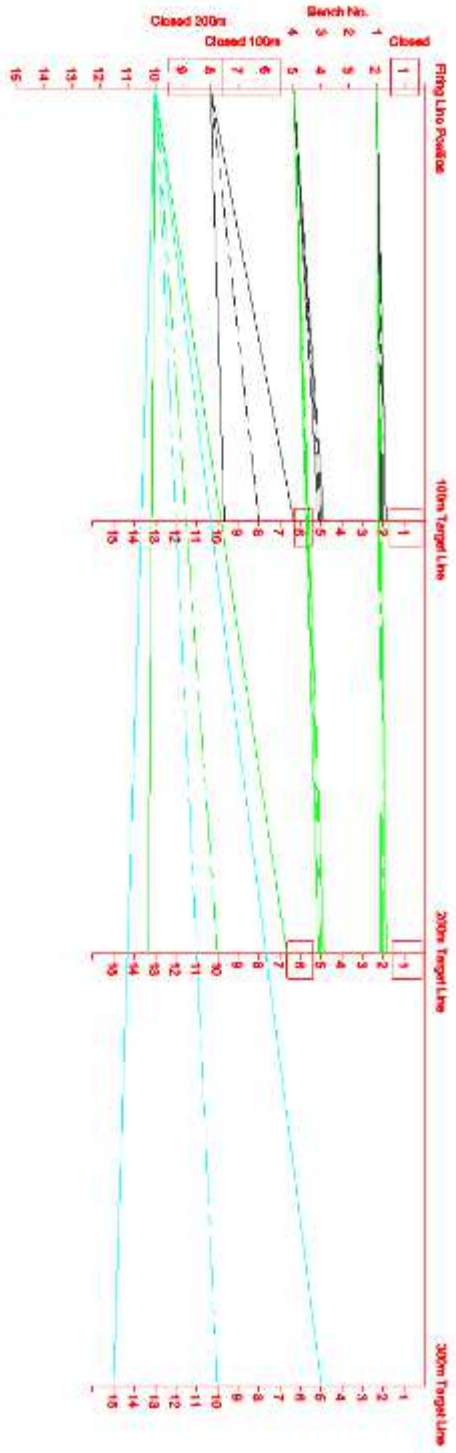
Benchrest shooters on positions 2 & 3 with 100m 1.50 milliradian & 200m 0.75 milliradian COF.
Other shooters with 20 milliradian COF shown on the right.



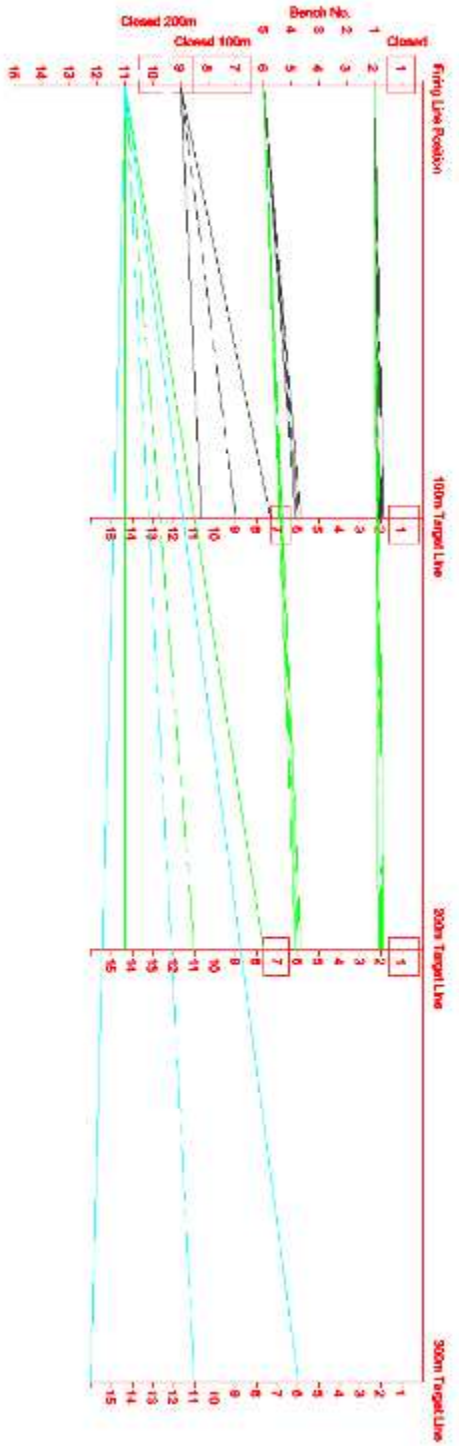
8.2 3x Benchrest Shooting Positions
Benchrest shooters on positions 2, 3 & 4 with 100m 1.50 milliradian & 200m 0.75 milliradian COF.
Other shooters with 20 milliradian COF shown on the right.



8.3 4x Benchrest Shooting Positions
Benchrest shooters on positions 2, 3, 4 & 5 with 100m 1.50 milliradian & 200m 0.75 milliradian COF.
Other shooters with 20 milliradian COF shown on the right.



8.4 5x Benchrest Shooting Positions
Benchrest shooters on positions 2, 3, 4, 5 & 6 with 100m 1.50 milliradian & 200m 0.75 milliradian COF.
Other shooters with 20 milliradian COF shown on the right.



9.0 ROP APPROVAL

9.1 NRO's who wish to run organised shoots under this ROP are required to complete the application form below and email it to range@deerstalkersBOP.org.nz.

Member Name:	
Member No:	
Email Address:	
Application:	I am applying for approval to run organised shooting events that use individual wind flags and a moving backer target system under this restricted operating procedure. To demonstrate my understanding of the requirements of these restricted operating procedures I have completed the following questions:
Q1	What is the maximum radius from my point of aim that all my shots must fall within on a target at 200m?
Q2	Which shooting positions must be closed, if there are three shooters operating under this procedure shooting at the 200m target line?
Q3	Can a wind flag project above the line of sight between the benchtops and the bottom of the target backer board at any distance?.
Date Applied:	
Signature:	

9.2 Approval (admin use only)

Date received:	
Date Approved:	
Approved By:	
Signature	

300m Rifle Range Restrictive Operating Procedure 04

22 Rimfire Silhouette Shooting Setup

1.0 PURPOSE

This Restricted Operating Procedure (ROP) is to allow the use of 22 rimfire steel silhouette targets to be used in the active range area

2.0 WHO CAN OPERATE THIS ROP

This restricted operating procedure is only allowed under the control of Nationally Qualified Range Officers.

3.0 POSITION AND FIXING

There are two options for positioning the silhouettes:

1. Using the timber surrounds that are stored on the west end of the firing line. These timber surrounds have hangers on then so they can be hung over the top of the target backers.

2. Alternatively, silhouettes may be located on a timber rail within 200mm of the target backer positioned below the middle of the target backer.

4.0 COPPER JACKETED RIMFIRE AMMUNITION

17 HMR and WSM rimfire ammunition CANNOT be used with the silhouettes.

300m Rifle Range Restrictive Operating Procedure 05

Other Downrange Equipment

1.0 PURPOSE

This Restricted Operating Procedure (ROP) is to allow the use of other downrange equipment such as electronic target and camera systems, Chronographs and sound testing equipment.

2.0 APPROVAL TO USE

3.0 POSITION AND FIXING

DRAFT