



RR-Evolution-22M

User Guide

Dear PFI Customer,

Thank you for purchasing this product. Please read these instructions carefully and completely to ensure the best performance and safety. Do not discard this manual and keep in a safe place for future reference. We hope that you are completely satisfied with your new optic. Please let us know if we can better assist you.

For product support, please visit our website at www.RapidReticle.com, reach us via email at customerservice@RapidReticle.com, or contact us directly at (909) 599-0928.

We appreciate your support and look forward to providing all of our customers with the finest and highest performing optical products.

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Product Information

Introduction

The **RR-Evolution-22M** (3-12x42mm) is the latest innovation in rimfire optics. Designed from the ground up with input from shooters around the globe, this optic is absolutely superior to any other optic for the .22 WMR.

With the new Rapid Reticle BDC design, the RR-Evolution-22M has holdovers out to 300 yards and other new features including Rapid Ranging which allows instant ranging on 10" objects, impeccable BK-7 glass, 3-color illumination, target turrets, a parallax adjustment, and a fast focus ocular. Its 3-12x42mm body offers an effective magnification range and a large objective to gather more light at dusk and dawn.

The RR-Evolution-22M is innovation at its best and will help shooters maximize the precision performance and effectiveness of the .22 Magnum without manual adjustments or calculations.

Getting Started



Specifications

- Rapid Reticle BDC for .22 WMR to 300 yards with Rapid Ranging (10" objects) and wind holds up to 10mph
- Nitrogen filled one piece 30mm diameter 6061 T6 aluminum tube with matte black anodized finish
- Shock, fog, and water proof multi-coated lenses
- 3-12x42mm with fast focus ocular and objective parallax adjustment
- First focal plane reticle with true ballistic holds throughout the magnification range
- Positive ¼ MOA adjustments on low profile target turrets with reset to zero feature
- 3-color illumination with intensity rheostat (red, green, blue)
- Weight (oz.): 22.1
- Length (inch): 13.8
- Eye Relief (mm): 100 @ 3x 75 @ 12x
- Eye Relief (inch): 3.93 @ 3x 3 @ 12x
- Field of View (feet@100 yds): 33 @ 3x 8.3 @ 12x
- Exit Pupil (mm): 12.5 @ 3x 3.5 @ 12x
- Temperature Operating Range: 70C to -17C

Compatible Ammunition

- .22 WMR Winchester Rimfire – 45gr Super X Dyna Point@1550 fps; BC: 0.121
- .22 WMR Winchester Rimfire – 40gr Super X FMJ@1910 fps; 0.105
- .22 WMR CCI Rimfire – 40gr TMJ Maxi-Mag@1875 fps; BC: 0.124
- .22 WMR – 30gr GLHP Maxi-Mag@2200 fps; BC: 0.76
- .22 WMR Winchester Rimfire – 40gr FMJ@1910 fps; BC: 0.105
- .22 WMR Federal – 40gr FMJ@1910 fps; BC: 0.105
- Also compatible with other ammunition with similar weight, BC, and velocities

Operating Instructions

WARNING – Prior to mounting any optic to a firearm, ensure the firearm is unloaded by clearing the chamber and putting it in an open bolt position. Always ensure the firearm is safe before handling and that the muzzle is pointed in a safe direction at all times.

Battery Installation

The illumination feature of the RR-Evolution-22M is powered by a single lithium CR2032 button battery. In order to install the battery, please follow these steps:

1. Hold the power selector to prevent the selector from rotating while the cap is being turned. Remove the battery cap by rotating the cap counter-clockwise using a quarter or similar coin.
2. Install the battery with the negative side facing the scope body.
3. Replace the battery cap and rotate clockwise until snug. Do not over tighten. Over tightening can cause damage to the scope and prevent the cap from being removed easily.

Illumination

The RR-Evolution-22M features 3 color illumination with 3 settings for each color. By rotating the illumination knob, a user can cycle through each color and brightness settings. The “R”, “G”, and “B” on the illumination knob are “off” positions indicators and also indicate the color of the next cycle.

Turning the illumination to any of the three “off” positions after use is highly recommended in order to preserve and extend battery life.

Mounting the Optic

The RR-Evolution-22M requires 30mm rings in order to be mounted. It is highly recommended that high-quality mil-spec rings are used in order to provide a stable and secure platform to ensure maximum performance and accuracy. Please visit our website or contact us for recommended ring manufacturers.

Always mount the lower portion of the rings or base to the rifle platform first. Once the lower ring set is in position, place the optic on to the rings followed by the top of the rings. Tighten lightly and rotate the optic until the reticle is

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square with the rifle. Once the optic is in place as desired, tighten the top of the rings securely. Do not over tighten or torque. Over tightening may cause damage to the scope tube and void the warranty. Maximum torque should be 25lbs for hold down rings and 45lbs for rail-mount rings.

Although you can mount the optic yourself, a qualified gunsmith is always highly recommended.

Magnification

The RR-Evolution-22M features a 3-12x magnification. Rotate the magnification ring counter clockwise to increase the magnification and clockwise to reduce the magnification.

It should be noted that the lower the magnification is set, the greater the field of view (FOV) available. Lower magnification is always recommended for closer targets and always use the lowest magnification setting possible for your intended target.

Parallax Adjustment

The parallax adjustment is located on the objective. Rotate the adjustment to the desired level. For dynamic situations, it is recommended that the parallax adjustment is set to half the distance of the farthest shot that could be taken and 100 yards.

Fast Focus

The fast focus eye-piece can be rotated to make an image clearer to the user. As needed, rotate the eye-piece to the desired level to ensure the best image clarity.

Zero Reset

Once the scope is zeroed, each turret band can be reset to "0". Use the Allen wrench provided to loosen the three Allen screws located along the turret band. Only loosen the screws enough to rotate the band. Do not remove the screws. Rotate the band to desired position. Once the band is in the desired position, tighten the screws snugly. It is highly recommended that this procedure be done over a clean bright surface in the case a screw is over loosened and falls out of the band. A clean bright surface will make it easier to locate the screw.

Product Maintenance

To keep your RR-Evolution-22M in good working condition, it is highly recommended that the optic is maintained properly. Here are the basic recommendations to maintain your optic:

1. Use flip-caps to protect the lenses when not in use.
2. Lenses should only be cleaned with products made specifically for cleaning high quality glass components including lens cleaner and brushes.
3. Clean the scope body by wiping with damp cloth and drying with a separate clean cloth.
4. DO NOT use gun oil or solvents to clean the optic. Using gun oil or solvents will void your warranty.

Product Warranty

Pride Fowler Industries, Inc. (PFI) provides a Limited Lifetime Warranty for our products and warrants that each product is to be free of any manufacturer's defects for the product's lifecycle whether purchased from PFI or an authorized PFI dealer. Should this product, in PFI's opinion, fail to be in good working order during the warranty period, PFI will, at its option, repair or replace this product at no charge, provided that the product has not been subjected to abuse, misuse, accident, disaster, or non-PFI authorized modification or repair.

Products approved for return by a PFI Technician should be delivered with proof of purchase, a RMA (Return Material Authorization) number marked on the outside of the package, and prepaid postage. Returns should be insured and packaged for safe shipment. PFI will return this product by prepaid ground shipment service. If ground shipment service is not available, please enclose a \$25.00 check to "Pride Fowler Industries, Inc." for return shipping.

The Limited Lifetime Warranty is valid during the serviceable life of the product. This is defined as the period during which all components are available. Should the product prove to be irreparable, PFI reserves the right to substitute an equivalent product if available or to retract the Lifetime Warranty if no replacement is available or the product has been discontinued.

The above warranty is the only warranty authorized by Pride Fowler Industries, Inc. and applies to products sold on or after January 1, 2008.

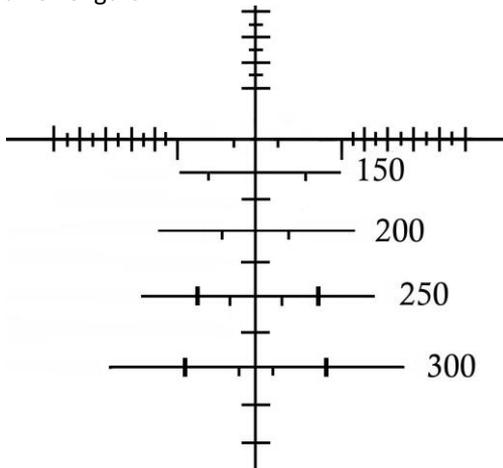
NOTE: Under no circumstances will Pride Fowler Industries be liable in any way for damages, including any lost profits, lost savings or other incidental or consequential damages arising out of the use of, or inability to use, such products.

Understanding the Reticle

The **RR-Evolution-22M** reticle has been designed to provide data especially for the .22 WMR. The reticle offers ballistic hold for this round from 100 to 300 yards as designated with the numbers on the right side of the reticle.

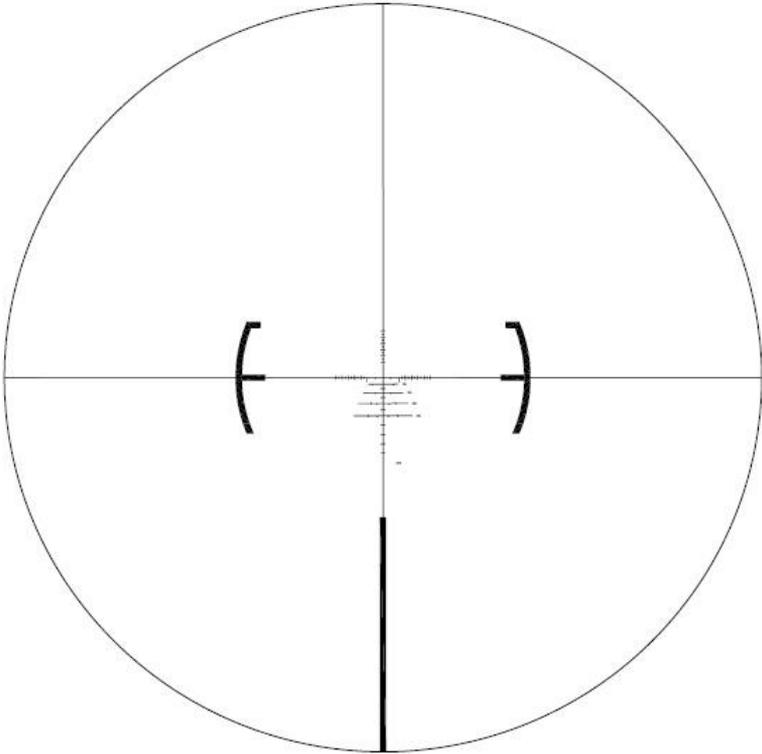
For all loads, center is the 100 yard impact. At the ends of each holdover line is the wind hold for 10 mph for that corresponding distance. The RR-Evolution-22M features Rapid Ranging. On each ballistic holdover there are two downticks on either side of center which indicate 10" at the corresponding holdover distance. Shooters can also range targets using the ticks on the main stadia lines. This is further explained later in this manual. Lastly, below the 300 yard ballistic holdover is a series of ticks that can be used as holdover marks for targets beyond 300 yards. Because this is beyond what is typically the effective range of this caliber and there are variances in weapon systems, they are not marked. However, shooters can utilize these marks as reference points as they see fit.

It should be noted that each weapon system is different, but this reticle was designed for the most common .22 WMR systems and if used within reasonable parameters, the reticle should work with very little or acceptable variances. Understand that if your weapon system is outside the parameters, it will affect the ballistic path of the bullet causing some level of deviation with the reticle. Examples are hand-loaded cartridges outside of "normal" spec and longer/shorter barrel lengths.



Reticle at 12x
FOV(ft@100yds): 8.3
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Due to the first focal plane design, the reticle is reduced in size at lower magnification, but the holds are still true. Since lower magnification is intended for use with closer targets, it is unnecessary for the longer distance holds to be visible or readable. The Rapid Guide feature offers impact guidance for closer targets. The bolded center post at the bottom of the reticle offers a lateral guide while the bolded arcs on either side of center offers a vertical impact guide.



**Reticle at 3x
FOV (ft@100yds): 33**

Zeroing and Adjusting the Scope

After mounting the optic to the weapon system, the scope must be zeroed properly in order to function as designed. Since there are many variations of ammunition that can be used, it is highly recommended that once the user determines which ammunition performs the best for that system, the user should utilize that particular ammunition on a consistent basis to ensure maximum performance and accuracy.

Although there are many ways to zero an optic, PFI recommends that the weapon is zeroed at 25 yards initially in order to locate the impact point. Once the impact point is located, coarse adjustments can be made in order to bring the impacts near the center of the reticle by rotating the adjustments accordingly.

The adjustments on the RR-Evolution-22M are set to $\frac{1}{4}$ MOA per click which is equivalent to $\frac{1}{4}$ " at 100 yards. Furthermore, each click is also equivalent to $\frac{1}{2}$ " at 200 yards ($\frac{1}{4} \times 2$), $\frac{3}{4}$ " at 300 yards ($\frac{1}{4} \times 3$), 1" at 400 yards ($\frac{1}{4} \times 4$), etc. At 50 yards, each click is equivalent to $\frac{1}{8}$ " ($\frac{1}{4} \times \frac{1}{2}$).

When the point of impact (POI) is located, move to a target at 50 yards and fire the rifle 2 or three times. Rotate the turrets accordingly to move the POI to the center of the reticle. Once there is a consistent group ($\frac{1}{2}$ to 1 MOA), Move to zero the rifle at 100 yards using the same methods.

There are many factors that affect the ballistics of a bullet including wind, elevation, and humidity. Because of these factors, it is recommended that the user approximate the furthest distance the shooter intends to engage targets. Once this is determined, the user should fine tune the impacts for that distance with the corresponding hold in the reticle. Although any additional adjustments will offset the reticle at closer distances, by utilizing these instructions, the longer distance impacts will be more precise while deviations for closer targets will be negligible.

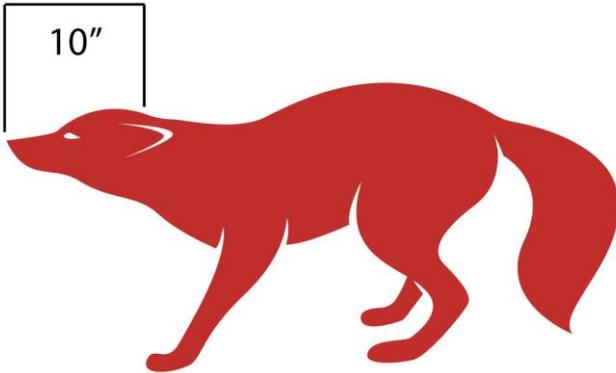
If it is intended that different ammunition will be utilized for the same platform, zero the scope with the ammunition that will be used most often. After switching ammunition, record the number of elevation adjustments needed to zero the other ammunition for 100 yards. This number should be a constant number of adjustments to make when switching between ammunition. Recording this number will enhance the versatility of the platform.

Note that we only recommend using rails with zero offset.

Rapid Ranging

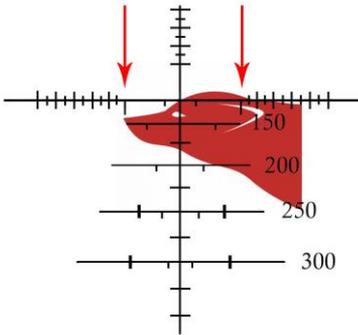
Ranging 10" Objects

The RR-Evolution-22M can be used to range known-sized targets with the Rapid Ranging feature. 10" objects is the known size that can be ranged using various markings within the reticle. When using higher magnification, 10" objects can be clearly ranged using the down ticks on either side of center on each of the holdovers. The numbers along the right side of the reticle indicates the approximate distance of the 10" object when that object fits between a particular pair of downticks. For our examples, we will be using a coyote with a 10" head as our target.

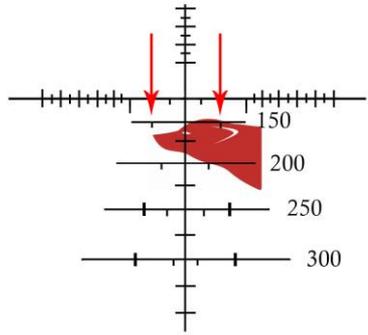


Please see the following diagrams for ranging examples.

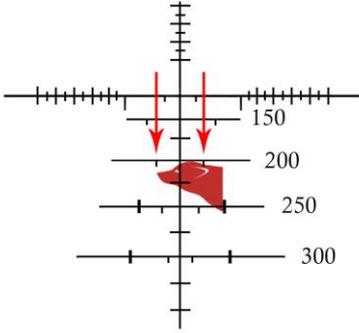
Example 1: 10" object @ 100 yds



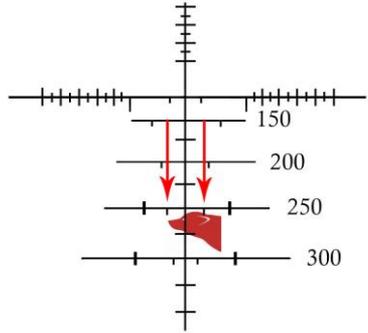
Example 2: 10" object @ 150 yds



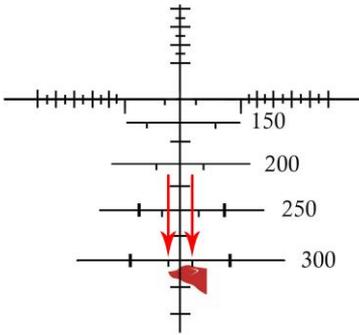
Example 3: 10" object @ 200 yds



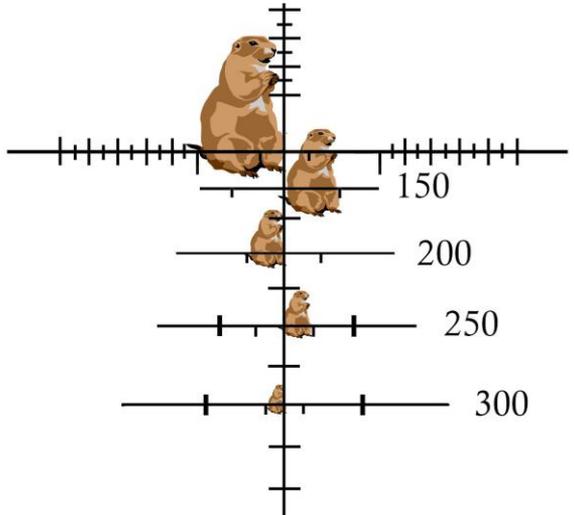
Example 4: 10" object @ 250 yds



Example 5: 10" object @ 300 yds



Example 6: 5" object @ 100 to 300 yds. Assume the prairie dog is 5" in width.



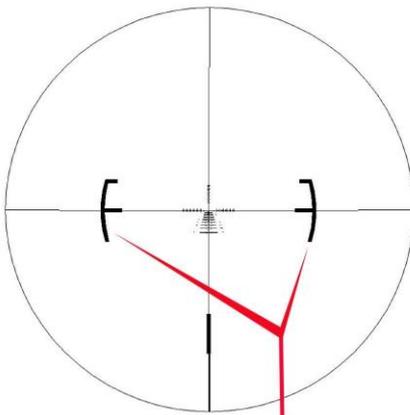
Rapid Guide and Ranging at Low Magnification

Rapid Guide is an enhancement that will give impact guidance at low magnification. When on low power, the main reticle is not always clearly visible even though all holdovers remain the same due to the first focal plane design. Because it is not necessary to have a clear view of the entire reticle when low magnification is used, the Rapid Guide assists with point of impact guidance.

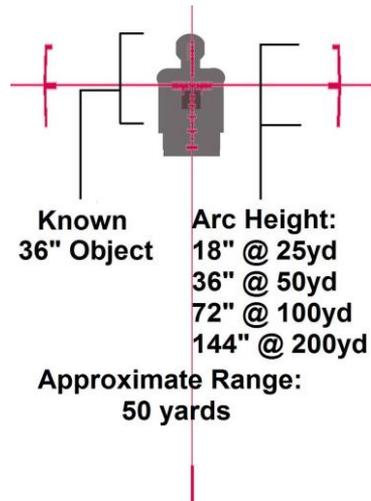
When the optic is set on low magnification, 72MOA arcs will appear which offers elevation guidance. The bold bottom post will also appear which offers lateral guidance for impacts. Close targets lined up with the arcs and center post will have the same impacts as with higher magnification but without loss to the field of view.

The 72MOA tall arcs are equivalent to 72" @ 100 yards, 36" @ 50 yards, and 18" @ 25 yards. Objects with known heights can be compared to the arcs to determine an approximate range. For example, the leg of a deer can be assumed to be 36". When compared to the arcs, if the leg is half the height of the arcs, the approximate distance of the deer is 100 yards since the arcs are 72" @ 100 yards and half of 72" is 36". If the same leg is at the full height of the arc, then the deer would be at approximately 50 yards.

Image 1: Rapid Guide for low magnification **Image 2:** Ranging with Rapid Guide



Reticle set on 3x, use brackets to reference the center of aim



Ranging with Mils

Also featured on the main stadia lines are Shooter Mil markings used for calculating approximate range for known-sized objects. One Shooter Mil is equivalent to one full length tick to the next full length tick. Between each full length tick is a ½ Shooter Mil mark. One Shooter Mil is equivalent to 4" @ 100 yards.

Calculating a targets range using Mils requires a formula. The formula for a **yards** calculation is as follows:

$$\text{Approximate Distance} = (\text{Known target size}) \div [(\text{number of Mils object covers}) \times 4] \times 100$$

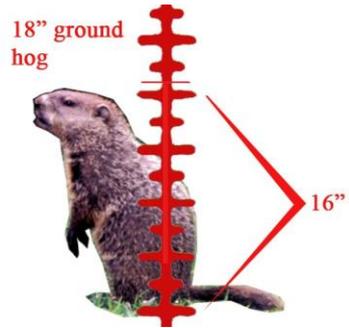
EXAMPLE 1:

In this image, our target is a known 18". According to the Shooter Mil scale, the object is about 4 Shooter Mils tall.

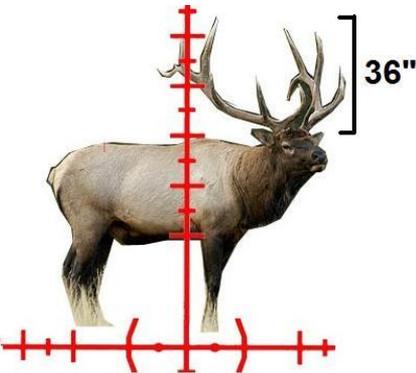
Therefore, using our formula, we can approximate the distance as follows:

$$\begin{aligned} \text{Known Target Size} &= 18'' \\ \text{Number of Shooter Mils} &= 4 \end{aligned}$$

$$\begin{aligned} &= 18'' \div (4 \times 4) \times 100 = 18 \div 16 \times 100 = \\ &\mathbf{112.5 \text{ yards}} \end{aligned}$$



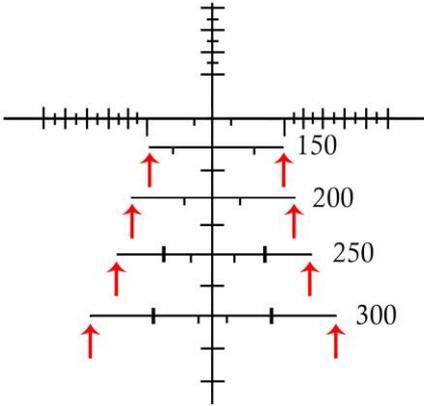
EXAMPLE 2:



$$\begin{aligned} \text{Known Size} &= 36'' \\ \text{Number of Shooter Mils} &= 2.5 \\ &= 36'' \div (2.5 \times 4) \times 100 \\ &= 36'' \div (10) \times 100 \\ &= \mathbf{360 \text{ yards}} \end{aligned}$$

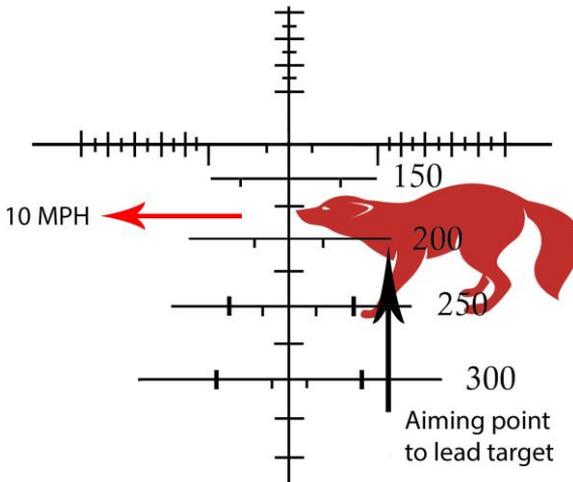
Wind Holds

The following instructions is for utilizing the wind holds included in the RR-Evolution-22M reticle. These holds will assist in approximating impacts with wind factors. The 10 mph wind holds are at the end of each holdover as signified by the arrows in the image below. 5 mph is half the distance from center to the end.



If there is a right to left 10mph cross wind with a stationary target, hold the left end of the holdover on the target to compensate for the wind value. The opposite would be done for a wind value from left to right.

These wind holds can also be used to lead running targets as well. If the wind value is zero and the target is running right to left at 10mph, lead the target by holding the right end of the holdover on the target as shown in the image to the right for a 200 yard target.



For more information about PFI products and services, visit the PFI website at <http://www.RapidReticle.com>.

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