RR-Evolution-5.56/7.62
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

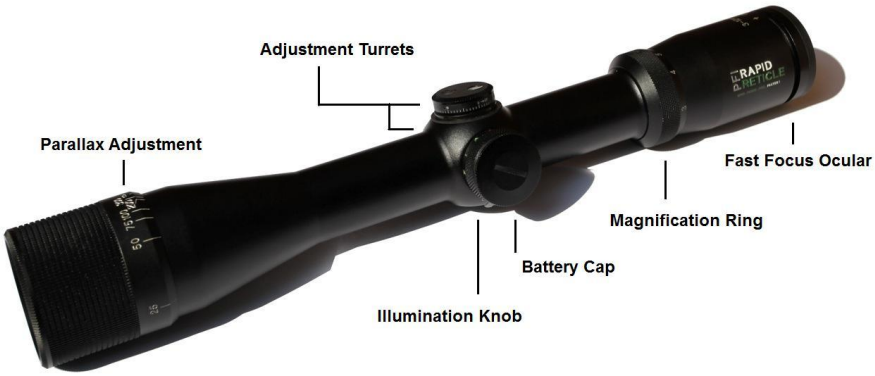
Introduction

The **PFI RR-Evolution-5.56/7.62** is designed specifically for 5.56 NATO (.223 REM) and 7.62 NATO (.308 WIN) ammunition. The reticle will compensate and provide impact guidance for multiple bullet weights, barrel lengths, and elevation changes.

The RR-Evolution Series BDC design features several innovative proprietary technologies that enhance the performance of the weapon system to allow for faster target engagement. Rapid Ranging helps the user range targets by providing an instant approximation of distance for 9" and 18" objects. The new Rapid Guide feature provides clear guidance for impacts when the optic is set on low magnification which is when the BDC reticle is reduced in size due to the first focal plane design.

With the RR-Evolution design and ease of use, the learning curve for long range precision shooting is drastically reduced for novice riflemen. The RR-Evolution Series maximizes the performance of the weapon system giving the user versatility not found in any other optic.

Getting Started



Specifications

- Rapid Reticle BDC for 7.62NATO and 5.56NATO with holdovers to 900yards and featuring Rapid Ranging (9" and 18" objects), wind holds up to 10mph, and elevation/muzzle velocity differential (175gr 7.62NATO)
- Rapid Guide feature indicates impacts at low magnification
- 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 eyepiece and parallax adjustment
- First focal plane reticle with true ballistic holds throughout the entire magnification range
- Positive ¼ MOA windage and elevation clicks on low profile target type knobs with a built in 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

- 7.62NATO BC: 2430-2700 ft/s
- 7.62 NATO (.308WIN) 175gr Sierra Match: BC = .505 @ 2,600 ft/s
- 7.62 NATO (.308WIN) 168gr: BC – .462 @ 2,700 ft/s
- 5.56 NATO (55gr, 62gr, 75gr) and 7.62NATO (147gr, BC: .401) (up to 600 yards)
- Other ammunition with similar BC (ie. 6.5 Grendel, 6.8 SPC, .375H&H, .Sierra 284)

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-5.56/7.62 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-5.56/7.62 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-5.56/7.62 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 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-5.56/7.62 features a 3-12x magnification. Rotate the magnification ring clockwise to increase the magnification and counter-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.

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-5.56/7.62 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

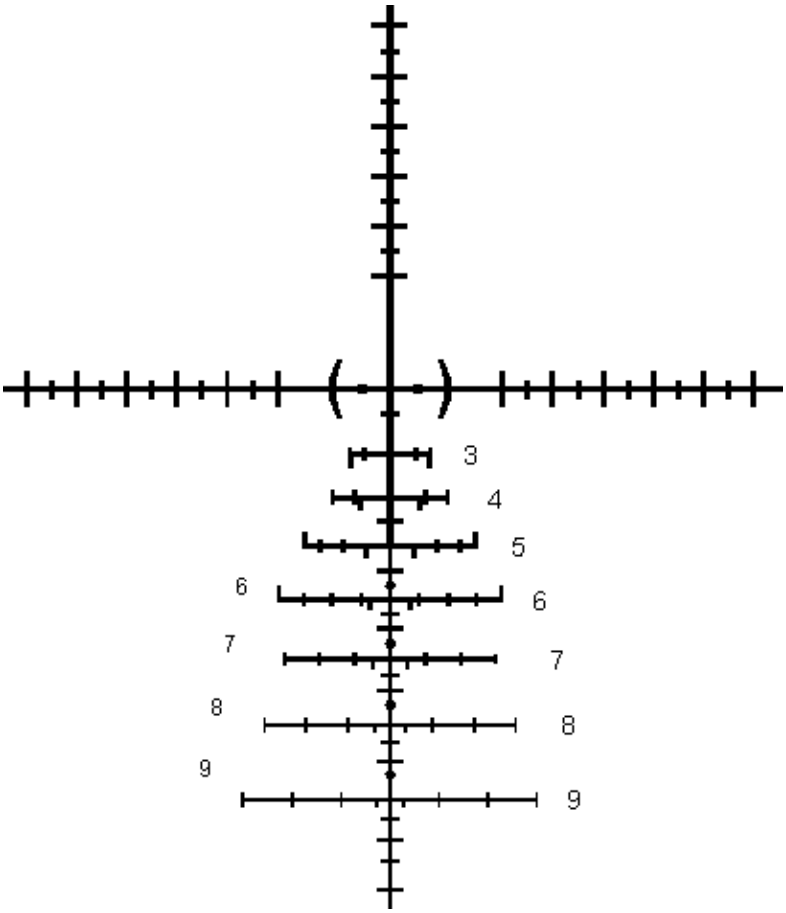
The RR-**Evolution-5.56/7.62** reticle has been designed to accommodate multiple loads and offers several key features including Rapid Ranging and wind holds. Due to the innovative first focal plane design, all ballistic holds are true throughout the entire magnification range.

For **5.56 (.223REM)** ammunition (55gr, 62gr, 75gr), utilize the right set of numbers up to 600 yards. The 10mph wind holds are at the end of each holdover or designated by an uptick for 500 and 600 yards. For shooting beyond 600 yards, impacts must be determined for each individual rifle by the user. Recording the appropriate hold for impacts beyond 600 yards will help for future use. It is recommended that the rifle have a 16 to 20" barrel in order to match the reticle. The reticle is based on 500ft elevation for 5.56. As you move up in elevation, there will be deviations. Fine tune the longest distance to be shot and this will reduce the deviations at longer distances but will have minor deviations at the shorter distances. Recording impact deviations at higher altitudes is highly recommended for future use.

For **7.62x51 175gr** ammunition utilizing a 20" barrel at and around 500ft elevation, use the data on the right side. Fine tuning the zero for the longest distance possible will give you the highest precision possible. The 10mph wind holds will be at the end of each holdover except for 500 and 600 yards which is designated by the last full tick on either side. These upticks can be used as a designation for a 12.5mph wind hold.

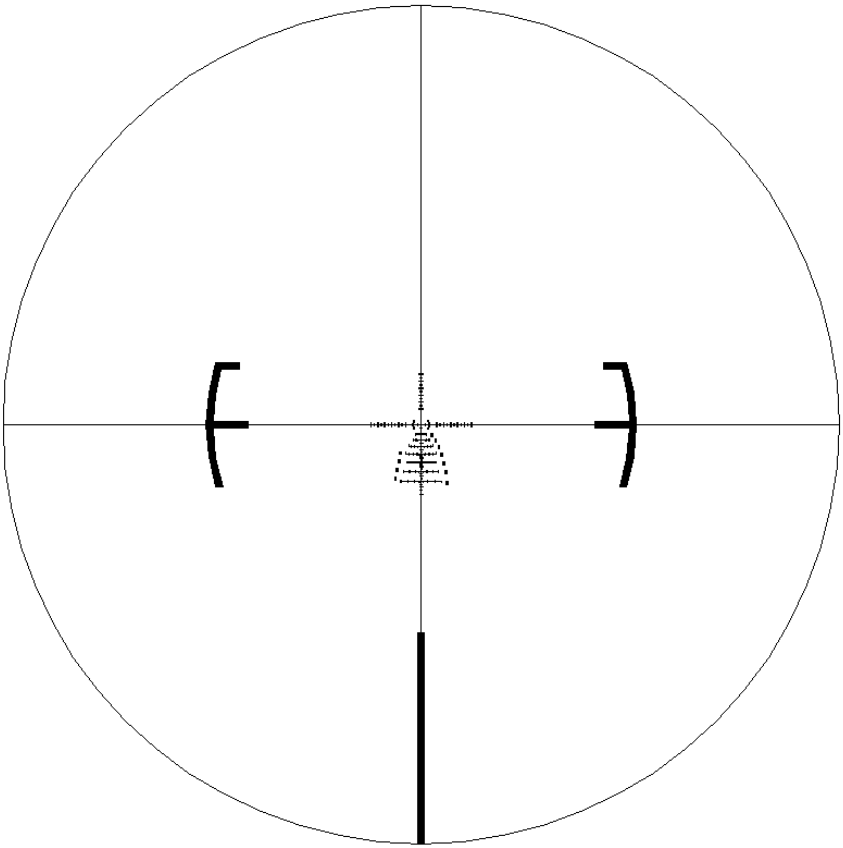
The left side data is used for either a 24" barrel shooting 175gr ammunition at or around 500 ft elevation or for a 20" barrel shooting 175gr ammunition above 3,000 ft elevation.

Because of the wide variety of ammunition and rifles, this reticle has been designed to compensate for as much of the variety as possible. For example, 168gr ammunition can be used as but beyond 700 yards, there will be deviations since this ammunition typically drops faster than the 175gr. As another example, 22" and 26" barrels are commonly used to shoot 7.62x51 ammunition. These barrel lengths will work with the reticle as well but there might be slight deviations with the reticle. Fine tuning the zero for the longest distance possible will be the most effective way to reduce these deviations. There may be minor deviations for closer impacts but recording these differences will allow the user to maximize the precision of the weapon system. A 16" 7.62x51 barrel will work with the reticle as well but only out to about 600 yards. Note that the farther the barrel length is away from 20", there will be less muzzle velocity to carry the bullet reducing the ability of the bullet to match the ballistic holds.



Reticle at 12x
FOV(ft@100yds): 8.3

Due to the first focal plane design, the reticle is reduced in size at lower magnification. Since lower magnification is intended for use with closer targets, it is unnecessary for the longer distance holds to be visible. 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. The ammunition that will be used should be determined prior to zeroing. 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, the user should consistently 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-5.56/7.62 are set to ¼ MOA per click which is equivalent to ¼" at 100 yards. Furthermore, each click is also equivalent to ½" at 200 yards (1/4 x 2), ¾" at 300 yards (1/4 x 3), 1" at 400 yards (1/4 x 4), etc. At 50 yards, each click is equivalent to 1/8" (1/4 x 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 (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 determine approximately the furthest distance the shooter intends to engage targets. Once the furthest distance 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. There will be a small deviation for closer targets comparatively, which will allow the user to maximize the performance of the weapon system.

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.

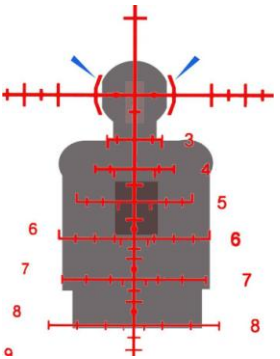
Rapid Ranging

Ranging 9” and 18” Objects

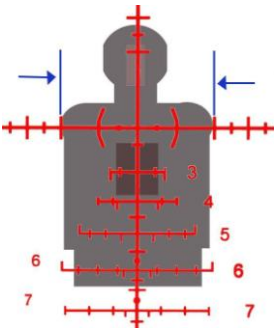
The RR-Evolution-5.56/7.62 can be used to range known-sized targets with the Rapid Ranging feature. All ranging will correspond with the numbers on the right side. Always range the object with the right side data and then use the appropriate holdover for that distance for that particular barrel length, elevation, or ammunition.

9” and 18” objects will be ranged using various markings within the reticle. When using higher magnification, 9” and 18” objects can be clearly ranged using the down ticks near the center on each of the holdovers or with the arcs in the center. For our examples, we will be using humanoid steel targets which feature 9” heads and 18” shoulders. Please see the following diagrams for ranging examples.

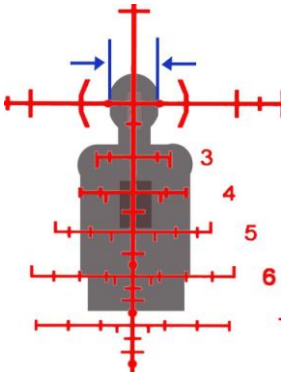
Example 1: 9” object @ 100 yds



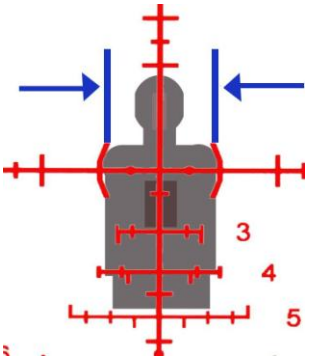
Example 2: 18” object @ 100 yds



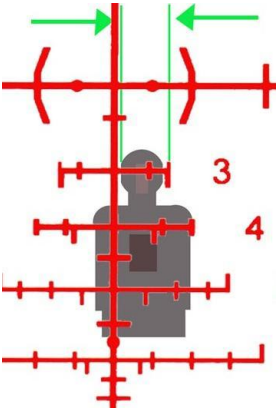
Example 3: 9” object @ 200 yds



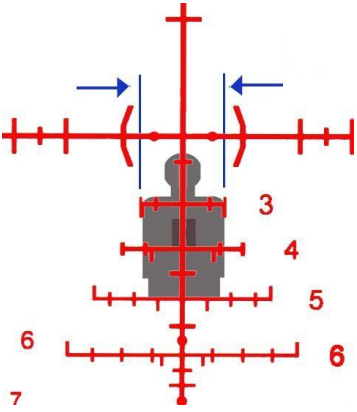
Example 4: 18” object @ 200 yds



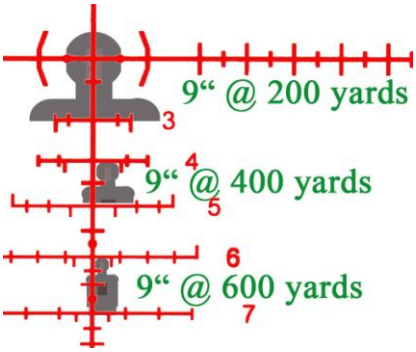
Example 5: 9” object @ 300 yds



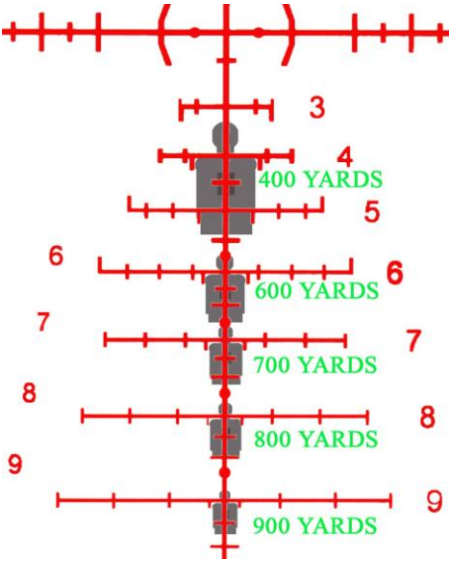
Example 6: 18” object @ 200 yds



Example 7: 9” @ 200-600 yds



Example 8: 18” @ 400-900 yds



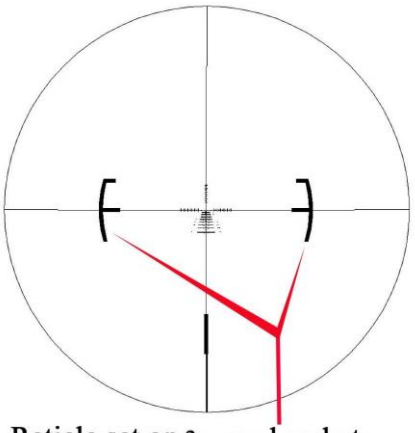
Rapid Guide and Ranging at Low Magnification

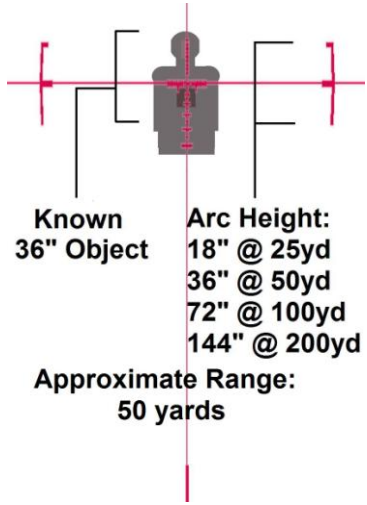
Rapid Guide is an enhancement that will give impact guidance at low magnification. When on low power, the main reticle is not always clearly visible even though all holdovers remain the same due to the first focal plane design. Because it is not necessary to have a clear view of the entire reticle when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





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.

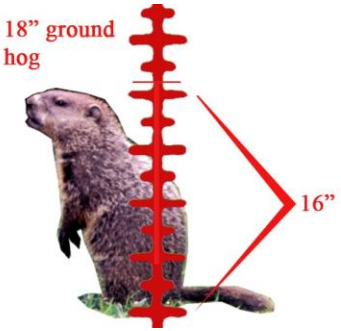
Calculating a targets range using Mils requires a formula. The formula for a **yards** calculation is as follows:

Approximate Distance = (Known target size) ÷ [(number of Mils object covers) x 4] x 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:

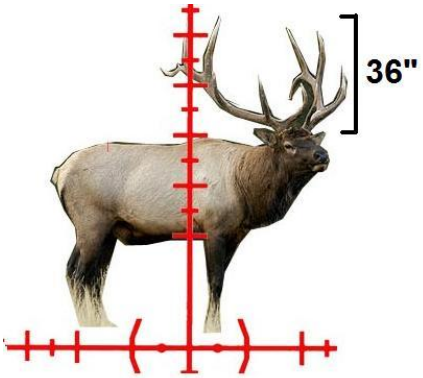


Known Target Size = 18"
Number of Shooter Mils = 4

= 18" ÷ (4 x 4) x 100 = 18 ÷ 16 x 100 =

112.5 yards

EXAMPLE 2:

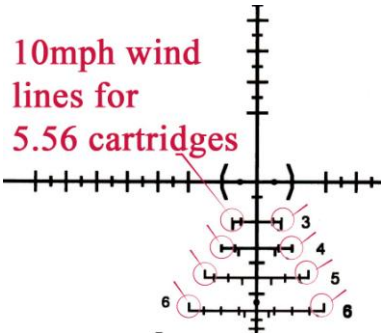


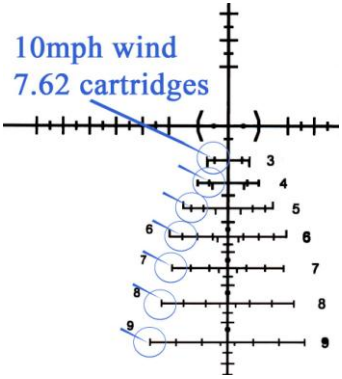
Known Size = 36"
Number of Shooter Mils = 2.5
= 36" ÷ (2.5 x 4) x 100
= 36" ÷ (10) x 100

= 360 yards

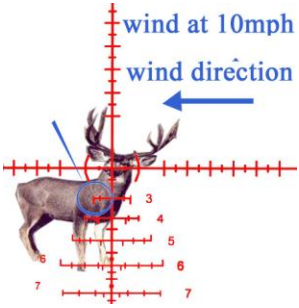
Wind Holds

Use the following instructions for utilizing the wind holds included in the RR-Evolution-5.56/7.62 reticle. These holds will assist in approximating impacts with wind deviations. For 5.56NATO ammunition, the wind holds are at the end of each holdover for 300 and 400 yards. For 500 and 600 yards, utilize the upticks at the end of those holdovers.

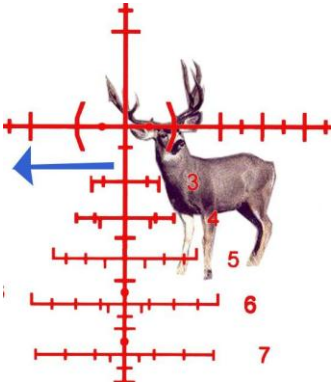




For 7.62x51, use all of the ends of each holdovers for 10mph except for 500 and 600 yards which will be the outer most full ticks on the holdover. The upticks at the ends can be used for 12.5mph.



For example, if there is a right to left 10mph cross wind with a stationary target, hold the left end of the holdover on the target.



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.

For a 5mph wind or lead, hold at approximately half the distance of the holdover to the right or left of center.

For more information about PFI products and services, see the PFI Website at http://www.RapidReticle.com.

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