RR-Evolution-3G
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.

Table of Contents

Product Information

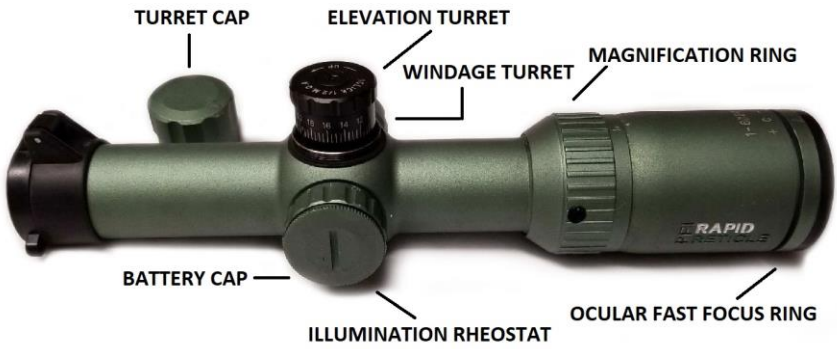
Introduction

The **PFI RR-Evolution-3G (1-6x24mm)** is designed ideally for 16” rifles using 5.56 NATO (.223 REM) and 7.62 NATO (.308 WIN) ammunition. The reticle will however, compensate and provide impact guidance for multiple bullet weights, barrel lengths, and elevation changes. In particular, 55gr or 62gr 5.56x45 and 168gr 7.62x51 are the most ideal to use.

The RR-Evolution-3G BDC design features several innovative proprietary technologies that enhance the performance of the weapon system to allow for faster target engagement. In addition to the ballistic compensating holdover markings that provide impact guidance from 100 to 900 yards, features like Rapid Ranging helps the user range targets by providing an instant distance approximation for 9” and 18” objects. The Rapid Guide feature provides clear guidance for impacts when the optic is set on low power magnification where the BDC reticle is reduced in size due to the first focal plane design.

With the RR-Evolution-3G design and ease of use, the learning curve for both short and long-range precision shooting is drastically reduced for any shooter from novice to expert. The RR-Evolution-3G maximizes the performance and capability of the common 16” weapon system giving the user versatility not found in any other optic.

Getting Started



www.RapidReticle.com

Specifications

- Pride Fowler Industries (PFI) Rapid Reticle RR-Evolution-3G BDC Reticle designed for 7.62NATO and 5.56NATO with holdovers to 900yards and featuring Rapid Ranging (9” and 18” objects), wind holds up to 15mph (Patent Pending)
- Rapid Guide feature that assists with fast acquisition of targets and indicates point of impacts at low magnification
- Nitrogen filled one-piece 30mm diameter A6063 aluminum tube with metallic OD green anodized finish
- Shock, fog, and water proof multi-coated BK7 lenses
- 1-6x24mm with fast focus eyepiece
- Positive 1/2 MOA windage and elevation target knobs with a built-in reset-to-zero feature and turret caps
- Red illumination with 9 intensity rheostat settings and 2 night vision settings
- Weight (oz.): 17.1
- Length (inch): 9.1
- Eye Relief (mm): 90.5 @ 1x 76.5 @ 6x
- Eye Relief (inch): 3.56 @ 1x 3.01@ 6x
- Field of View (feet@100 yds): 90.53 @ 1x 17.45 @ 6x
- Exit Pupil (mm): 16.5 @ 1x 4.6 @ 6x
- Temperature Operating Range: 70C to -17C

Compatible Ammunition

- 7.62x51 (168gr): BC: 0.447-0.505 @2510ft/s
- 7.62x51 (168gr): BC: 0.431-0.447 @ 2,405ft/s
- 7.62x51 (175gr): BC: 0.496-0.505 @ 2,530ft/s
- 7.62x51 (147-150gr): BC: 0.397-0.410 @ 2,600ft/s
- 5.56 NATO (55gr, 62gr, 75gr): BC: 0.234-0.272 @ 2660-3200fps
- Other ammunition with similar BC and muzzle velocity

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-3G is powered by a single lithium CR2032 button battery. 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-3G features illumination with 9 brightness settings and 2 night vision settings. By rotating the illumination knob, a user can cycle through each setting to the desired brightness. Turning the illumination off between periods of use is highly recommended to preserve and extend battery life. Periodically changing the battery will ensure that the illumination feature is always available for use.

Mounting the Optic

The RR-Evolution-3G requires 30mm rings to properly mount the optic to the weapon system. It is highly recommended that high-quality mil-spec rings are used 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-3G features a 1-6x 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 target engagement.

The 1x setting is a true one power setting. The user will be open both eyes to utilize the optic.

Parallax Setting

The RR-Evolution-3G comes with a pre-set parallax setting and cannot be adjusted. The setting is the most ideal for this type of optic.

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 provided T15 Torx or Plum Blossom wrench to loosen the set screw located on top of both the elevation and windage turret. Only loosen the screw enough to rotate the turret. Do not remove the screw. Rotate the turret to the desired position. Once the turret is in the desired position, tighten the screw snugly.

Product Maintenance

To keep your RR-Evolution-3G 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 cloths.
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 December 1, 2017.

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-3G reticle has been designed to accommodate multiple loads and offers several key features including Rapid Ranging, Rapid Guide, and wind holds out to 15mph. Inherent to the first focal plane design, all ballistic holds are true throughout the entire magnification range. The ideal barrel length for the RR-Evolution-3G to work as designed is 16" regardless of which ammunition is being used.

5.56x45 (.223REM) ammunition (55gr, 62gr) at 500ft elevation: utilize the left set of numbers up to 600 yards for impact guidance. 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.

5.56x45 (.223REM) ammunition (75-77gr) at 500ft elevation: consider the numbers on the left side in **METERS** instead of yards. The user will be able to utilize the left set of numbers up to 800 meters for impact guidance. For shooting beyond 800 meters, impacts must be determined for each individual rifle by the user. Recording the appropriate hold for impacts beyond 800 meters will help for future use.

7.62x51 (.308WIN) 168gr ammunition: utilize the set of numbers on the right side in yards for 500ft elevation. At 6,000ft elevation and higher, the user will utilize the set of the numbers on the left side for impact guidance. This is indicated in the reticle.

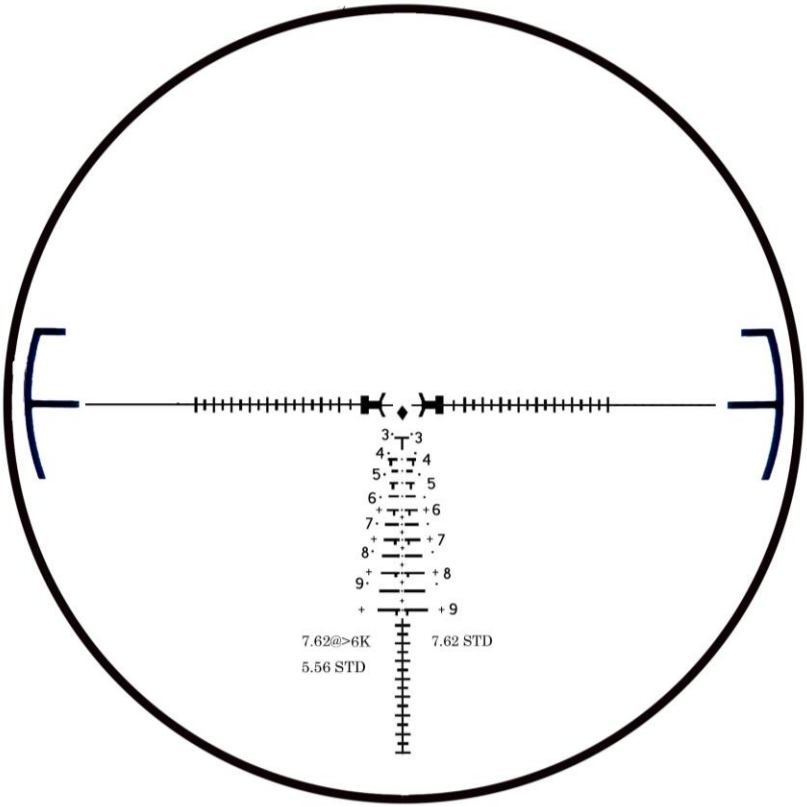
For elevations between 500ft and 6,000ft, the user can intuitively use the reticle to estimate impacts by comparing the impact difference between the right and left side set of numbers. For example, at 3,000ft elevation, the hold would be approximately half the difference between a right and left side number for any given distance. For impacts above 6,000ft elevation, impacts would be incrementally higher than the holdovers provided on the left, so the user could intuitively hold lower on the target depending on the actual elevation.

7.62x51 (.308WIN) 168gr ammunition at 500ft elevation, 20" barrel: utilize the set of numbers on the left side in yards for impact guidance to 900 yards.

7.62x51 (.308WIN) 150gr ammunition at 500ft elevation: utilize the set of numbers on the left side in yards for impact guidance to 800 yards.

7.62x51 (.308WIN) 175gr ammunition at 500ft elevation: utilize the set of numbers on the left side in yards for impact guidance to 900 yards.

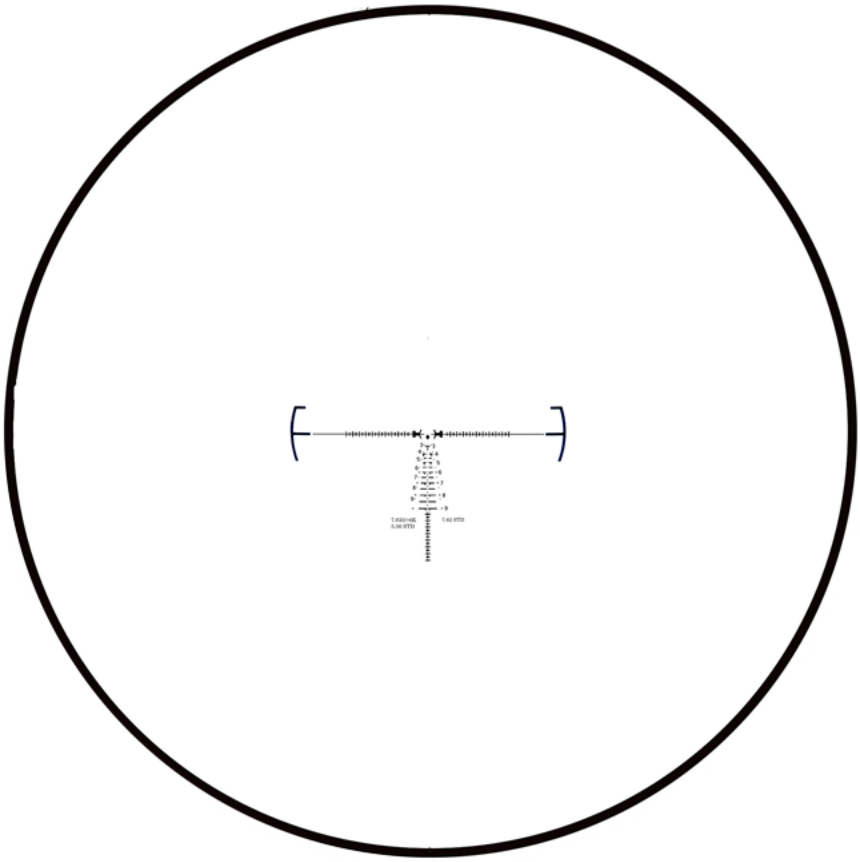
Because of the wide variety of ammunition and rifles, this reticle has been designed to compensate for as much of the variety as possible. However, users must understand that there will be deviations between the information the reticle provides and the differences that can occur from different barrels, ammunition, and environmental conditions. For example, 18" barrels are commonly used and will increase the muzzle velocity to any of the ammunition listed above. An 18" barrel will work with the reticle, but there might be slight deviations compared to the information the reticle provides. For these slight deviations, the zero can be fine-tuned to minimize the deviation especially for the longer distances. This will be further discussed in the Zeroing Instructions section of this manual.



Reticle at 6x
FOV(ft@100yds): 17.45

www.RapidReticle.com

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 entire reticle becomes an aiming point for close quarter targets. This is will be explained further in the section titled **Rapid Guide and Ranging at Low Magnification**.



Reticle at 1x
FOV (ft@100yds): 90.3

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 their weapon system, the user should consistently utilize that particular ammunition 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 to locate the initial point of impact (POI). Once the POI is located, coarse adjustments can be made to bring the impacts near the center of the reticle by rotating the adjustments accordingly.

The adjustments on the RR-Evolution-3G are set to 1/2 MOA per click which is equivalent to 1/2" at 100 yards. Furthermore, each click is also equivalent to 1" at 200 yards (1/4 x 2), 1.5" at 300 yards (1/4 x 3), 2" at 400 yards (1/4 x 4), etc. At 50 yards, each click is equivalent to 1/4" (1/2 MOA per click x 1/2 of 100 yards).

When the coarse zero is complete, 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. The 100yd zero should be at the top of the center diamond and the 200yd impact should be at the bottom of the diamond.

There are many factors that affect the ballistics of a bullet including wind, elevation, barometric pressure, etc. Because of these factors, it is recommended that the user **fine tune** the reticle when zeroing to minimize reticle deviations especially at the further distances. Users should utilize the longest distance available to them and zero the appropriate hold over to that distance. This will give the user impacts closer to the reticle holdover data although it might cause some deviation on targets closer than the fine-tuned distance. However, those deviations should be negligible for the system overall allowing the user to have maximum weapon capabilities.

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.

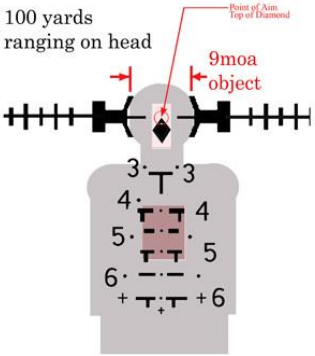
Rapid Ranging

Ranging 9” and 18” Objects

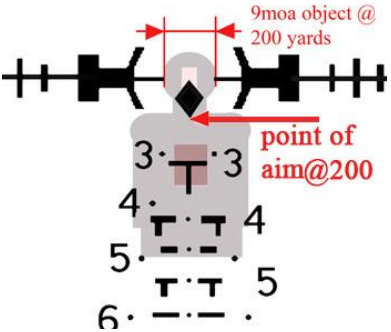
The RR-Evolution-3G can be used to range known-sized targets with the Rapid Ranging feature. All ranging will correspond with the numbers on the right side in yards. Always range the object with the set of numbers on the right and then use the appropriate holdover for that distance for that particular 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.

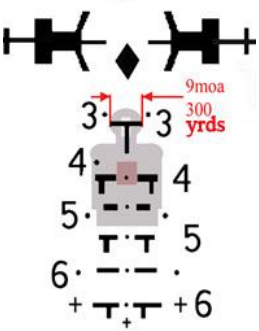
Example 1: 9” object @100yds



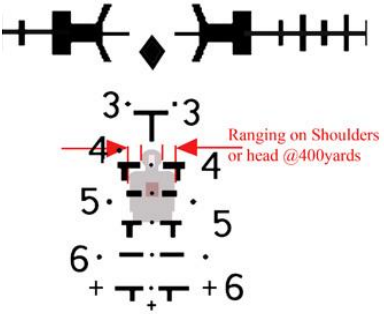
Example 2: 9” object @200yds



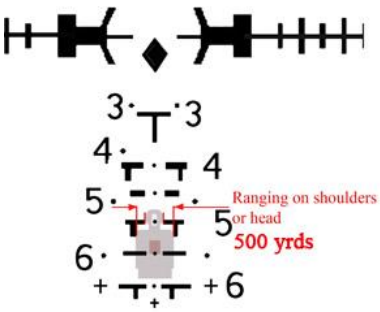
Example 3: 9” object @300yds



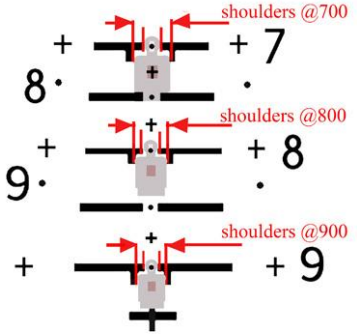
Example 4: 9” and 18” object @400yds



Example 5: 18” object @500 yds



Example 6: 9” and 18” object @700, 800, and 900yds

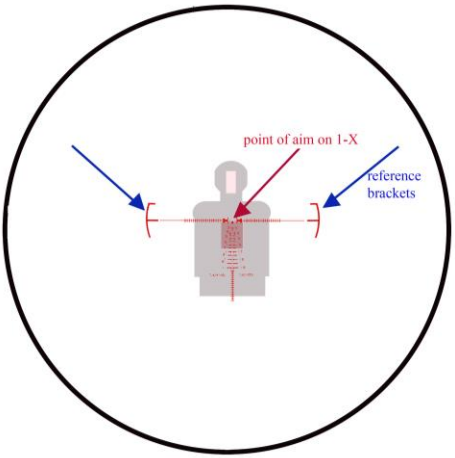


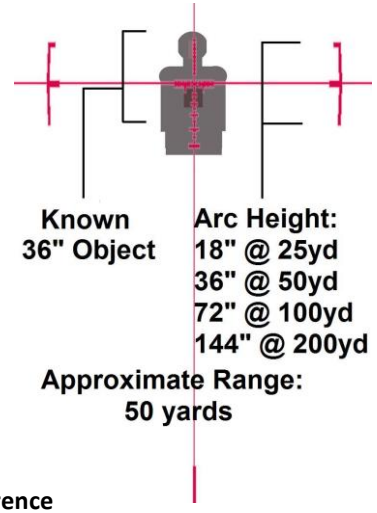
Rapid Guide and Ranging at Low Magnification

Rapid Guide is an enhancement feature that offers quick impact guidance at low magnification. When set on low power, the main reticle is not clearly visible even though all holdovers remain true due to the first focal plane design. Because low magnification is generally utilized for targets 200yds and closer, it is not necessary to have a clear view of the entire reticle. The Rapid Guide assists with point of impact guidance. At 1x, users will notice the 72MOA arcs on either side of center. These arcs and the reticle itself become the aiming point like a "red dot". If the target is on center between the arcs, precise impacts will be achieved. The arcs were designed to allow the user to quickly gain the impact guidance visually and engage targets without having to process information.

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





At 1x, use the large outer arcs as a fast reference to acquire and center the target for engagement.

www.RapidReticle.com

Ranging with Mils

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

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

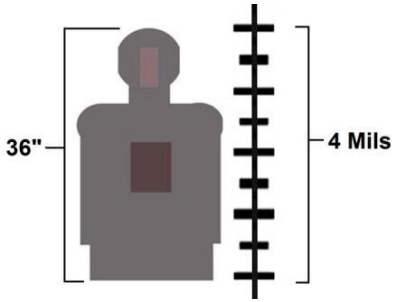
Approximate Distance = (Known target size in inches) ÷ [(number of Mils object covers) x 3.6] x 91

For **yards** calculations:

Approximate Distance = (Known target size in inches) ÷ [(number of Mils object covers) x 3.6] x 100

EXAMPLE:

In this image, our target is a known 36". According to the Mil scale, the object is about 4 Mils tall.



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

Known Target Size = 36"
Number of Mils = 4

= 36" ÷ (4 x 3.6) x 91 = 36 ÷ 14.4 x 91 =

227.5 meters

Or

= 36" ÷ (4 x 3.6) x 100 = 36 ÷ 14.4 x 100 =

250 yards

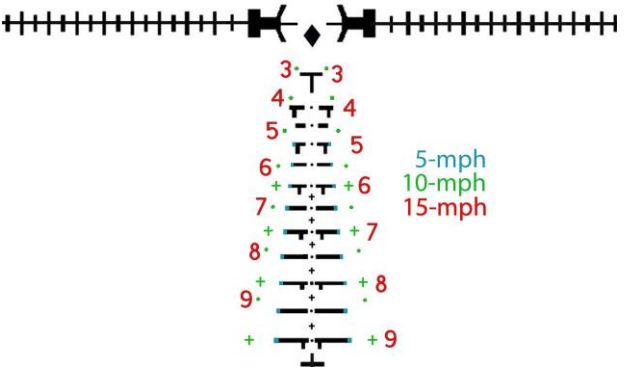
Wind Holds

The RR-Evolution-3G reticle offers 5mph, 10mph, and 15mph wind holds as well. Users can utilize these wind holds to approximate point of impacts when conditions occur.

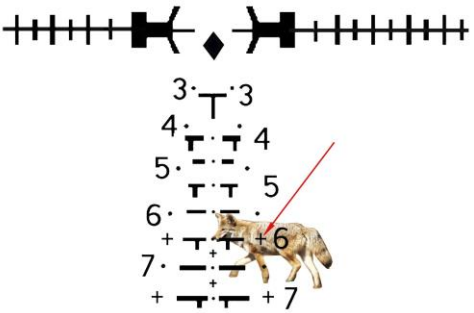
5mph wind value: At the end of each holdover on either side is the 5mph wind hold.

10mph wind value: On either side of the reticle, there are a series of dots and crosses. These are the 10mph wind holds.

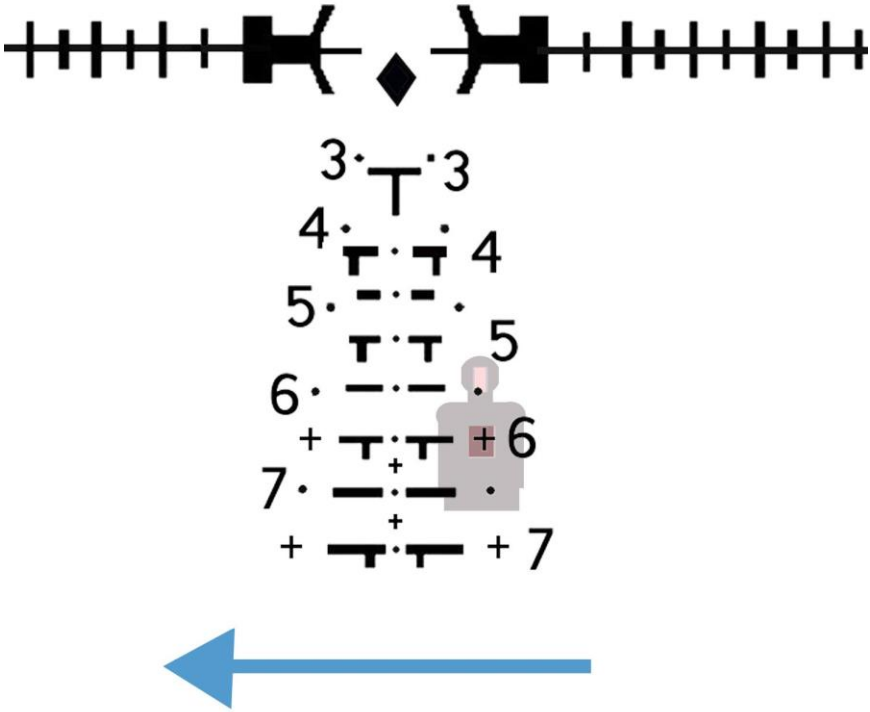
15mph wind value: The numbers on either side of the reticle are positioned in the 15mph wind hold position.



For example, if there is a left to right 10mph cross wind with a stationary target at 600 yards at 500 ft elevation while you are shooting 168gr ammunition from a 16” gun, hold the cross between the end of hold over and the number 6 on the right on the target.



These wind holds can also be used to lead moving targets as well. For example, if you are using 168gr ammunition from a 16” gun with zero wind value at 500ft elevation, and you estimate the speed of the moving target to be 10mph going right to left at 600 yards, hold the cross on the right side of the 600yd holdover to lead the target.



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

The information contained herein is subject to change without notice. The only warranties for PFI products and services are set forth in the expressed warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. PFI shall not be liable for technical or editorial errors or omissions contained herein.

First Edition: November 2017

Pride Fowler Industries, Inc
PO Box 4301
San Dimas, CA 91773
Main: (909) 599-0928
Fax: (415) 534-1846
Email: customerservice@RapidReticle.com