



# **Platinum Series™**

## **PLx5 6-30**

# **First Focal Plane**

# **Scope**

*with MIL-DOT Reticle*



PLx5

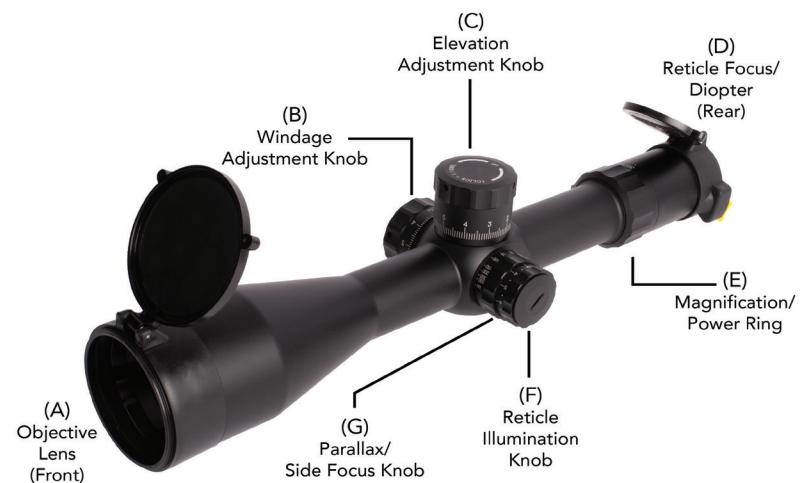
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## INTRODUCING THE PLx5 6-30x56 FIRST FOCAL PLANE SCOPE

The Primary Arms Platinum Series PLx5 6-30X56 First Focal Plane Scope is designed from the ground up with uncompromised craftsmanship and optical clarity in mind. Engineered and fully manufactured in Japan for durability and reliability, this scope is capable of handling heavy recoil and abuse. It is fast at 6X and extremely accurate at 30X, remaining true at all magnifications due to its first focal plane configuration.

Our MIL-DOT reticle is a refined take on the tried-and-true MIL-DOT system, which remains one of the most popular reticle style in the world. Revered for its simplicity and effectiveness at range, MIL-DOT reticles use defined 1-MIL subtensions to maintain a consistent ranging system. Shooters at all experience levels enjoy the MIL-DOT reticle's clean lines and open sight picture, as target identification is easier without obstruction. With the Platinum Series' impeccable glass clarity and first focal plane design, our 6-30x56mm FFP Rifle Scope proves that the MIL-DOT reticle deserves a spot at the top.

## ACHIEVING A CLEAR RETICLE PICTURE

Your PLATINUM Series PLx5 6-30X56 FFP scope comes with an adjustable Diopter Ring (D) that must be set to match your eye. Located at the rear of the eyepiece, it is marked simply **[+ 0 -]**. The diopter ring changes the focus of the reticle as you see it inside the scope. It does not change the focus of objects that you look at through the scope. Setting the diopter is a **critical first step** to successful precision shooting. You can set the diopter before you have even mounted the scope in its rings.

1. Turn the Magnification / Power Ring (E) to a high magnification setting, beyond 15x, and point the scope at a bright, featureless background such as blue sky or a blank white wall.
2. Turn the Parallax / Side Focus Knob (G) to infinity **[∞]**.
3. With your head in position behind the scope, look at the wall or sky instead. If you look through prescription glasses when shooting, wear them now too. After 5 or 6 seconds, close your eyes.
4. Now open your eye, glance through the scope and immediately see if the reticle is sharp or blurry. If you notice that the reticle seems blurry at first and then suddenly sharpens, your eyes have focused on the reticle itself instead of looking **through** the scope. You must adjust the diopter ring (D) and try again.
5. If the reticle was blurry, turn the diopter ring (D) and repeat the process again. The process will take multiple adjustments. Each time you repeat the process, ask yourself if the reticle was sharper or more blurry than before. The final adjustments may be very fine. If your eyes get watery or tired, walk away for a bit and come back to this later.
6. Once the reticle appears sharp as soon as you glance through the scope, the diopter is set for your eyes. Everyone's eyes are slightly different, so the ideal adjustment changes from person to person. Many shooters will mark their correct diopter position with a little dab of paint or fingernail polish next to the 0 mark, in case the ring gets turned accidentally later on. Others will apply electrical tape around the diameter of the ring to hold it in place.

This is a one-time adjustment. Reticle details may appear small when not looking at medium or long range targets, especially at low magnification. Shooting at those ranges is best done from a well-supported position using a bipod or sandbags.

## ADJUSTING PARALLAX

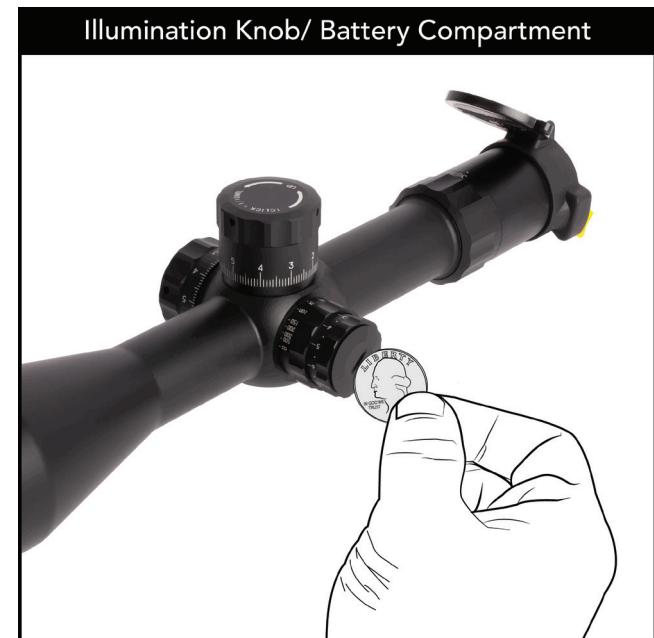
The Parallax/Side Focus Knob (G) is located on the left side of the scope, marked with ranges from 35 yards to infinity. Although it is often referred to as a "side focus" knob, parallax and focus are not the same thing. Parallax error occurs when the target's image and the reticle are not aligned on the same focal plane inside the scope. To visualize this, pick a picture on the wall of a room as your "target", and stick your thumb up in front of it like you are a hitch-hiker. Your thumb represents the reticle of the scope. Closing one eye and using your thumb to "aim" at the picture on the wall, you will notice that moving your head around changes where your thumb appears to be aimed. This is because your thumb is not located in the same focal plane as the picture on the wall. Any slight change in your head position will change your point of aim, and your point of impact. Adjusting the Parallax/Side Focus Knob (G) eliminates parallax error at different ranges by bringing the reticle into the same focal plane as the target, like having a friend place their thumb directly against the picture on the wall. Parallax error is most noticeable at high magnifications. Adjustment is much easier with your rifle secured by sandbags or a bipod.

1. Turn the Parallax/Side Focus Knob (G) until the target appears to be in focus. This will get you close to the correct adjustment.
2. Looking through the scope at the target, move your head just slightly from side to side. If you lose the sight picture you are moving too much. Go slowly, and see if the reticle appears to move relative to your target. A target that appears to be floating around the reticle as you move your head indicates parallax error.
3. If the target appears to move in the opposite direction of your head, turn the Parallax/Side Focus Knob (G) counterclockwise. If the target appears to move in the same direction as your head, turn the Parallax/Side Focus Knob (G) clockwise. These adjustments are very small. Move the Parallax/Side Focus Knob (G) just a little bit at a time and re-check.
4. Once the reticle and target hold their positions as you move your head from side to side, parallax error is eliminated for targets at this range. Normally this adjustment will also keep the target nicely in focus. However, to gain the most consistent hits on target, it is more important to eliminate parallax error than to have the target perfectly in focus.

## RETICLE ILLUMINATION

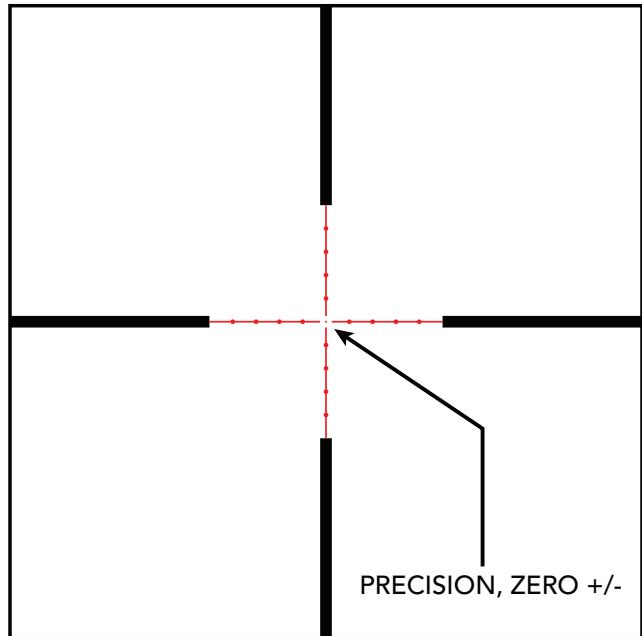
The Reticle Illumination Knob (F) on the left side of the scope is marked with numbers of increasing brightness from 1 to 11. Between each number is an OFF setting. The cap unscrews counter-clockwise, holding a CR2032 battery with the positive (+) side facing towards the cap. Reticle illumination is most useful in low light situations like sunrise and sunset, or indoors. The lowest two settings are compatible with night vision devices and cannot be seen by the naked eye. Reticle "bleed out", abnormalities and small imperfections may be visible when viewed indoors or in low light conditions at the brightest settings. This is a normal result of the reticle etching process. Abnormalities at these settings will not be visible when viewed in daylight conditions. Using

the brightest settings in low light situations will overpower your eye's ability to see the target and make the reticle appear distorted. The right amount of illumination creates a clear contrast between the reticle and your intended target, without straining the eye.



## ESTABLISHING ZERO

Using a bipod or sandbags, preferably on a bench or in the prone position, turn the Power Ring (E) to a high magnification to see your target as easily as possible. Dial in point of impact to coincide with the tip of the chevron. When sighting in your rifle, if your shots are hitting low, turn the Elevation Knob (C) counterclockwise to bring the point of impact up. If your shots are hitting to the left, turn the Windage Knob (B) counterclockwise to bring the point of impact right.



## SETTING THE RETURN TO ZERO SYSTEM

The return to zero system mechanically prevents the Elevation Knob (C) from dialing below a point the user chooses. When shooting at extended ranges where the elevation turret might be hundreds of clicks away from zero, simply spin the Elevation Knob (C) back down without counting clicks to stop at the rifle's original zero. This saves precious time so you can begin counting clicks back up to the next firing solution more quickly or transition to using the holdovers built into the mil-dot reticle.

### Before Zeroing Your Rifle

Loosen the 3 set screws positioned around the Elevation Knob (C) using the included 1.5mm Allen wrench. The set screws do not need to be entirely removed, just back them out enough to release all tension against the central shaft. Remove the knob by pulling it straight up. Loosen the three set screws holding the black metal return-to-zero ring in position ring in position around the central shaft and remove it by pulling straight up. Replace the Elevation Knob (C) on the central shaft by pressing straight down, and secure it using its 3 set screws. Do not overtighten these tiny set screws!



### Zero Your Rifle

Zero your rifle at the desired distance. The position of the numbers on the Elevation Knob (C) is totally irrelevant at this stage; just get the point of aim and point of impact to coincide at the distance you have chosen (traditionally 100 yards).

### After Zeroing Your Rifle

Remove the Elevation Knob (C) as before by loosening the 3 set screws and pulling straight up. Replace the return-to-zero ring on the central shaft as before and turn it clockwise until it stops. You can see two tiny protruding screws touching each other between the return-to-zero ring and the turret base. With the return-to-zero ring in this position, secure it in place using its 3 set screws. Now replace the knob by pressing it straight down on the central shaft, being careful to align the "0" marking on the knob with the centerline mark on the scope body. Secure the Elevation Knob (C) using its 3 set screws. Remember, do not over-torque them! Now the zero is marked "0" on the Elevation Knob (C) and the return-to-zero ring will physically halt the central shaft from turning past that point.

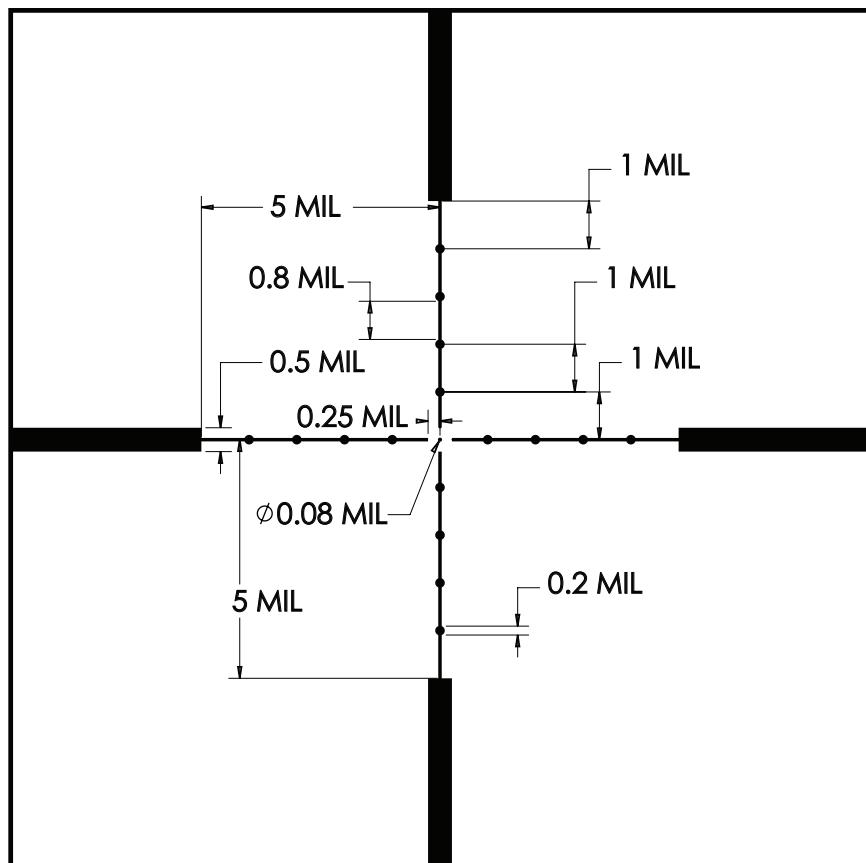
You can also reset zero on the Windage Adjustment Knob (B) similarly, by loosening the set screws, pulling the external knob straight off, and replacing it with the "0" aligned with the centerline mark on the scope body. The Windage Adjustment Knob (B) does not offer a return-to-zero feature.

## THE MIL-DOT RETICLE

The MIL-DOT reticle may appear simple to the eye, but every detail is a tool that can help you make accurate ranging estimates at extended ranges.

The namesake of the MIL-DOT reticle comes from the dot-shaped stadia that run along both the horizontal and vertical crosshairs. These dots are exact subtensions, spaced 1 Milliradian (MIL) apart. Each dot is .2 MIL in diameter, meaning the space between the edges of each MIL dot equal to .8 MIL. Each crosshair runs 5 MIL from center to the taper point, which is .5 MIL thick. Because the taper point starts at exactly 5 MIL, the distance from the edge of the 4th MIL dot to the taper point is .9 MIL. At the center of the reticle is a fine aiming point, which floats between the crosshairs. The center point itself is .08 MIL across, and the distance from the center point to the starting edge of any crosshair is .25 MIL.

Since all current Primary Arms Platinum Series Optics are First Focal Plane, these subtensions are true at every level of magnification. You can use these known measurements with the ranging formula on the next page to establish a distance to target in yards.



## RANGING WITH A MIL-DOT RETICLE IN INCHES, YARDS, AND METERS

There are two common systems of measurement in the optics world: MOA and MIL. MOA reticles using Minute of Angle subtensions, which equal 1.047" at 100yds and usually adjust in .25 MOA increments. MIL reticles use Milliradian subtensions, which equal 3.6" at 100 yards and usually adjust in .1 MIL increments.

A Milliradian, by definition, is an angular measurement that equals 1/1000th of the distance between the observer and the target. Therefore, 1 MIL represents 1 yard at a 1000-yard distance. This ratio is true regardless of what measurement unit you choose. 1 MIL equals 1 foot at a 1000-foot distance, and 1 MIL equals 1 meter at a 1000-meter distance. That's why MIL-based scopes are so popular: the MIL system is robust and easy to communicate.

The ranging process involves size estimation, comparison, and mathematics. Start by making an estimate of the target in your desired units. The easiest units are meters and yards, since it has unit consistency between distance-to-target and target size. Inches have some extra math associated in converting inches to yardage. Here's an example of a ranging process:

Let's say I see a window at a distance, and I know that window is 18" tall (or 0.5yd). This is my starting point.

Once you have an estimated size of target, find the size of the target in MILs by using your scope reticle for comparison. For SFP scopes, this must be done at maximum magnification, while FFP scopes can range at all magnification levels. Using the known subtensions of your reticle, determine the size of the target in MILs.

Let's say our window is 1 MIL tall when looking at it through the scope. This is your Target MIL Measurement.

You now have everything you need to make a range estimation. For yards and meters, the math is simple:

$$\text{Target Distance in Yards/Meters} = \text{Target Size in Yards/Meters} * 1000 / \text{Target MIL Measurement}$$

For the window, this math equals:  $0.5\text{yd} * 1000 / 1 = 500\text{yd}$ . The window is 500 yards away.

Inch-based measurements are more complicated, as the target size and target distance are different units. We must convert units, which means we divide the 1000 by 36 (inches/yard) to get 27.8. This makes the inch-MIL equation:

$$\text{Target Distance in Yards} = \text{Target Size in Inches} * 27.8 / \text{Target MIL Measurement}$$

For the window, this math equals:  $18" * 27.8 / 1 = 500\text{yd}$ . The window is still 500 yards away.

As you can see, the MIL-DOT system is a powerful tool when applied correctly. Experts become proficient at estimating sizes of targets at a distance. Ranging with any MIL or MOA-based reticle requires constant practice to achieve this level of skill, but there are tricks that trained shooters can teach you to speed up and improve your accuracy.

## MIL MEASURING TABLES

This page contains useful tables that show the comparative measurements of MILs at different distances. As you can see, the size of a MIL is always equal to 1/1000th the total distance. We've also included some handy conversions if you're moving between MIL units and MOA units. Generally, shooters should centralize on one system of measurement to build a stronger core proficiency.

DISTANCE (YARDS)	ONE MIL IN INCHES
100	3.6
150	5.4
200	7.2
250	9
300	10.8
350	12.6
400	14.4
450	16.2
500	18
550	19.8
600	21.6
650	23.4
700	25.2
750	27
800	28.8
850	30.6
900	32.4
950	34.2
1000	36

CONVERSIONS (100 YARDS):	CONVERSIONS (200 YARDS):
1 MIL = 3.438 MOA	1 MIL = 3.438 MOA
1 MOA = 1.047"	1 MOA = 2.094"
1 MIL = 3.60"	1 MIL = 7.20"

## MIL LOAD DATA TABLE

Included here is an example of a Load Data table, which helps to guide a shooter with pre-calculated drop values at 100-yard increments. Every table will be different, depending on the rifle and cartridge details. Muzzle velocity is different with each combination, so finding your own unique details is very important. You can use online ballistic calculators or applications such as Strellok to generate your data to fill the rest of the table.

LOAD DATA SAMPLE FOR REFERENCE			
168gr Sierra Matchking		Muzzle: 2700FPS	G1 BC: 0.462
Distance (Yards)	Drop (in)	Drop (MOA)	Drop (MIL)
100 (Zero)	0.00	0.00	0.00
200	-3.00	-1.43	-0.42
300	-12.42	-3.95	-1.15
400	-29.42	-7.02	-2.04
500	-55.42	-10.59	-3.08
600	-92.24	-14.68	-4.27
700	-142.09	-19.39	-5.64
800	-207.71	-24.80	-7.21
900	-292.31	-31.02	-9.02
1000	-399.59	-38.17	-11.10

With this data table prepared, you can improve your speed on target by using the MIL-Dot reticle for holdovers. For example, if you were shooting at a target 500 yards away, this table tells you that your drop would be about 3 MIL. You can dial this into your elevation turret, or you can take the faster method and use the 3rd MIL dot below center as a vertical hold.

**SPECIFICATIONS**

Magnification: 6-30x	Field of View:
First focal plane	16.6 feet @ 100 yards at 6x
Objective lens diameter: 56 mm	3.3 feet @ 100 yards at 30x
Eye Relief: 3.3" – 4.0"	Total elevation adjustment:
Ocular lens diameter: 34.5 mm	95 MOA / 26.18 MIL
Exit Pupil: 8.2 mm - 1.9 mm	Total windage adjustment:
Click Value: 0.1 MIL	45 MOA / 13.09 MIL
Length (w/o lens covers): 14.3"	Tube diameter: 34 mm
Weight (w/ battery, w/o lens covers): 38.2 oz.	A6061-T6 aluminum, anodized matte black

**FEATURES**

Red partial Illumination + NVC	Nitrogen purged
Fast focus eyepiece	High quality flip-up lens covers included
Waterproof: Meets IP67 standard	Uses one CR2032 battery (included)
Fog resistant	Made in Japan
Fully multi-coated lenses	Lifetime warranty (see website for details)

*Specifications may vary and are subject to change without notice.*

**LENS CARE**

Please do not use any organic solvent such as alcohol or acetone on your scope. First, blow dust or any foreign objects off of the lens. Then, use a soft cotton or microfiber lens cloth to clean any fingerprints or smears off the lens. Alternatively, you may use a piece of professional lens paper for further cleaning, if necessary.

- ⚠ WARNING: Always ensure your firearm is unloaded (chamber empty and magazine removed) before installing optics or accessories.
- ⚠ WARNING: Improper installation of firearm parts or accessories may result in death or serious personal injury. If you are not properly trained in the installation of these parts, have them installed by a gunsmith or armorer.

**REMEMBER: THE FOUR RULES OF FIREARMS SAFETY**

1. Treat every firearm as if it were loaded
2. Never let your muzzle cover anything you are not willing to destroy
3. Keep your finger off the trigger until your sights are on target
4. Be sure of your target and what is behind it

## NOTES

## NOTES

P L A T I N U M   S E R I E S

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### **WARRANTY**

Your Primary Arms Platinum Series PLx5 scope is covered by the Primary Arms Lifetime Warranty. If a defect due to materials or workmanship, or even normal wear and tear, has caused your product to malfunction, Primary Arms will either repair or replace your product. You can find out more details at [www.primaryarmsoptics.com](http://www.primaryarmsoptics.com).

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