

Determining Actual MOA When Using Burris Signature Zee Rings

Method 1- Using 100 yd. shift method:*

❖ Formula:

➤ $[(\text{Total Offset} / \text{Ring Spacing}) \times 3600] / 1.047 = \text{MOA @ 100 yds}$

Total Ring Offset = Total of Ring Insert Dimension (e.g. Using 0.010 inserts = $0.010 + 0.010 = 0.020$)

Ring Spacing = Distance rings are spaced apart in inches (measured to 0.001 inches)

3600 = Inches in 100 yds

1.047 = inches per MOA

➤ Example:

▪ Using 30mm Burris Signature Zee Rings w/0.010 ring inserts

• Total Ring Offset = $0.010'' + 0.010'' = 0.020''$

• Ring Spacing = $3.546''$ (picatinny standard rail slot spacing = $0.394''$, 10 picatinny slots = $3.940''$, therefore 9 picatinny slots = $3.546''$)

♦ $[(0.020 / 3.546) \times 3600] / 1.047 = \text{MOA}$

♦ $[(0.05640157) \times 3600] / 1.047 = \text{MOA}$

♦ $[20.3045652] / 1.047 = \text{MOA}$

♦ $19.393089 = \text{MOA}$

➤ Therefore using 30mm Burris Signature Zee Rings, MOA gain using standard picatinny rail is:

▪ 21.7 MOA @ $3.152''$ spacing (8 standard picatinny slot spacing)

▪ 19.3 MOA @ $3.546''$ spacing (9 standard picatinny slot spacing)

▪ 17.4 MOA @ $3.940''$ spacing (10 standard picatinny slot spacing)

Method 2 – Using arc tan Method:**

❖ Formula:

➤ $\text{Arc tan} (A / B) / 0.0167 = \text{MOA}$

A = Total Ring Offset = Total of Ring Insert Dimension (e.g. Using 0.010 inserts = $0.010 + 0.010 = 0.020$)

B = Ring Spacing = Distance rings are spaced apart in inches (measured to 0.001 inches)

0.0167 deg (or 1/60 degree equivalent to 1 MOA)

Arc tan = arc of the tangent

➤ Example:

▪ Using 30mm Burris Signature Zee Rings w/0.010 ring inserts

• Total Ring Offset = $0.010'' + 0.010'' = 0.020''$

- Ring Spacing = 3.546" (picatinny standard rail slot spacing = 0.394", 10 picatinny slots = 3.940", therefore 9 picatinny slots = 3.546")
 - ◆ $\text{Arc tan } (0.020 / 3.546) / 0.0167 = \text{MOA}$
 - ◆ $\text{Arc tan } (0.005640157) / 0.0167 = \text{MOA}$
 - ◆ Using a scientific calculator:
 - (0.005640157 {inv tan}) to obtain arc tan
 - ◆ $0.323153818 / 0.0167 = \text{MOA}$
 - ◆ 19.3505 = MOA
- Therefore using 30mm Burris Signature Zee Rings, MOA gain using standard picatinny rail is:
 - 21.7 MOA @ 3.152" spacing (8 standard picatinny slot spacing)
 - 19.3 MOA @ 3.546" spacing (9 standard picatinny slot spacing)
 - 17.4 MOA @ 3.940" spacing (10 standard picatinny slot spacing)

As evidenced, the further apart your Burris Signature Zee Rings are the less MOA advantage you will obtain. If you are using 1inch Burris Signature Zee Rings two counter opposed 0.020 inserts might be recommended to obtain 20 MOA with greater ring spacing.

I utilize the 30mm Burris Signature Zee Rings with the 0.010 inserts because they, along with 0.00 inserts, are the only inserts currently supplied. Therefore to obtain a 20 MOA advantage a closer ring spacing of 3.152 inches or 3.546 inches must be used. Apparently, I assume, this closer ring spacing is the reason Burris has 'beefed' up the 30mm rings when compared to the 1inch rings.

When using Burris Signature Zee Rings always ensure the inserts are opposed, with the 'fat' insert on the bottom in the rear ring, and 'fat' insert on top in the front ring. This lifts the rear and lowers the front of the scope to obtain increased MOA and increased scope area.

*extracted from [Elevation Shift with Burris Sig Rings](#) within AccurateShooter.com

**found in LongRangeHunting.com online magazine forum. I wrote down the formula but can't find the thread to reference. My Bad.