![Kestrel Ballistics logo]

What is WEZ and How to Operate these new features?

Kestrel 5700X WEZ is equipped with the powerful AB Elite solver and WEZ analysis.
AB's WEZ gives the user the ability to guide decisions on weapon systems, ammo and shooting skills to maximize their hit percentage. Shooters can determine what matters and optimize their Probability of Hit (P HIT).

Please note: You will need to lock environment to use this feature.

There are several ways you can use this WEZ feature:

- Calculate P Hit for a single target using a specific weapons system.

- Calculate P Hit at multiple distances on a range card

- Calculate P Hit of multiple targets on a range

- Compare P Hit of multiple gun profiles at various ranges

- Determine P Hit of distances for each gun profile

- Minimize range where your P Hit drops below a certain percentage

How to Access the WEZ Feature and put on the Main Ballistic Screen

E   3.50 U

W   1.20 / 1.60 L

A

Accuracy 1st...
WEZ...

On the main ballistic screen, scroll down until you see WEZ and press the center button.

WEZ
Std Deviations
Target Geometry
Single Solution

⊡ exit   ◀▶ adjust
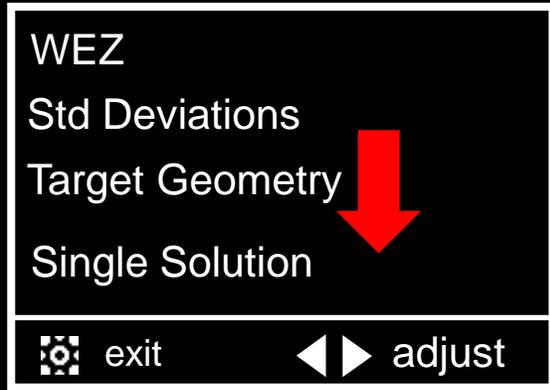
We will go through these menus items one by one but for now, scroll down Until you see Phit on Main

WEZ
Phit-Range
Phit-Distance
Phit on Main   On

⊡ exit   ◀▶ adjust
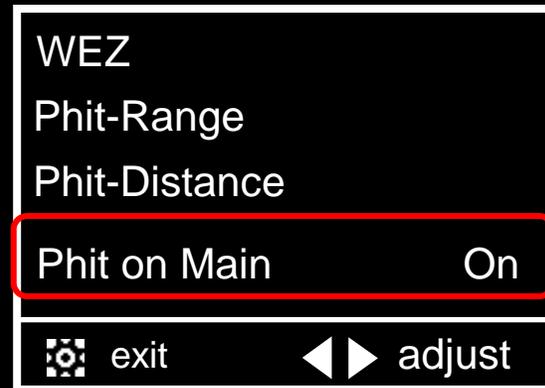
Highlight Phit on Main and press right button to toggle to On

E   3.50 U

W   1.20 / 1.60 L

A

Phit   90.5%
Tgt...   000⁰   700m
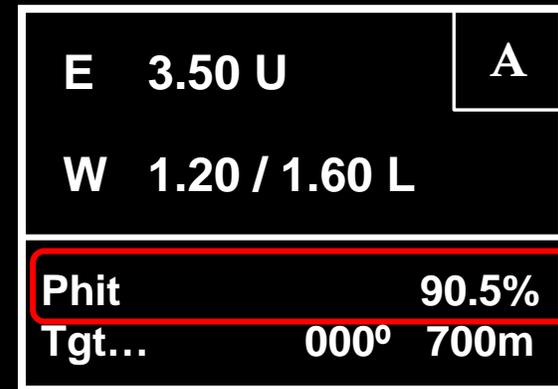
When you exit back to main screen you will see this new menu item

This is going to give you the probability of a hit using the gun profile you have selected of the single target entered (Target A) using the standard deviations entered (see next slide).

What are Standard Deviations?

Standard deviations in the WEZ menu are the "uncertainties" that are found throughout the solution for the conditions which you are experiencing.

E 3.50 U	**A**
W 1.20 / 1.60 L	
Accuracy 1ˢᵗ…	
WEZ…	

WEZ	
Std Deviations	
Target Geometry	
Single Solutoin	
⚙ exit	◀▶ adjust

Std Deviations	
Wind…	1.0 mph
Temp…	1.0°F
Pres…	0.05 inHg
⚙ exit	◀▶ adjust
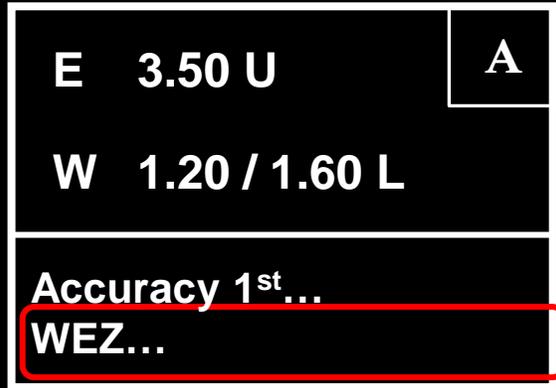
Highlight WEZ and press center button.
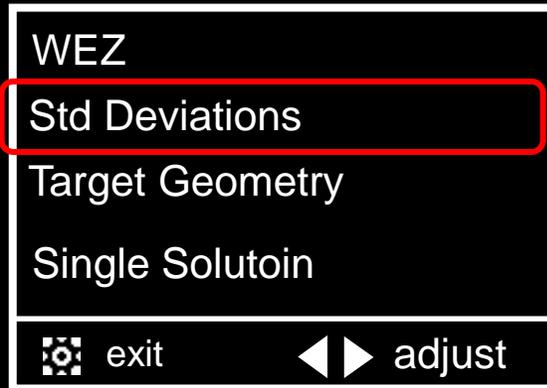
Highlight Std Deviations and press center button
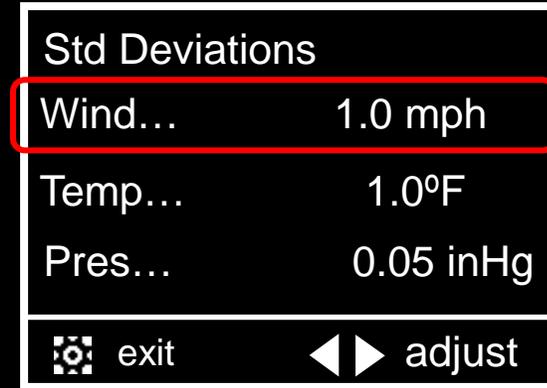
Highlight which variable you would like to change and use right and left buttons to adjust

If you are not confident that you know the wind speed to the nearest 1 mph, you can adjust this higher. The same can be done with temperature, pressure, humidity, range, inclination, heading, and latitude.

For example, if you know your latitude is precise, make this zero. If you don't know, increase this number.

What are Muzzle Velocity Standard Deviations and Precision?

Two other new variables can be found under your gun profile that will factor into your WEZ solution. You will see MVSD and Precis under the gun menu:

Gun	6.5CRED
MV	2850 fps
MVSD	5 fps
Precis…	0.30 mils
⬡ exit	◀ ▶ adjust

MVSD is the standard deviation of your muzzle velocity. Not every bullet is going to come out of the barrel at the exact same speed. This value can be found by using any standard chronograph and firing several shots.

Precis is the group size. This can be inputted as tmoa (moa) or milliradian (mils). If you measure your group size in inches or centimeters; you will need to convert that to either moa or mils. Measure from the outermost edges of your impacts on your grouping. Recommend 100 yards or meters for simplicity if you have to convert inches or centimeters to moa or mils.

What is Target Geometry?

Kestrel Ballistics

Target Geometry	
Shape	Rectangular
Width	20 in
Height	20 in
⚙ exit	◀ ▶ adjust

Target Geometry helps the solver understand the target you are trying to hit and include the uncertainties based on size. You can choose from:

Rectangular and enter the Height and Width or

Circular and enter the diameter of the Circle.

At the bottom of this menu is where you can change the units from inches, cm, meters and feet.

Height | Width

Diameter
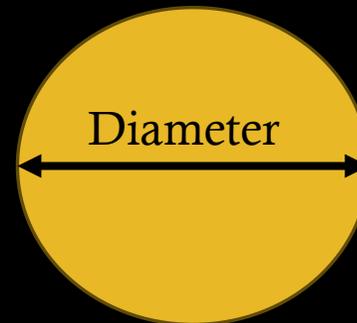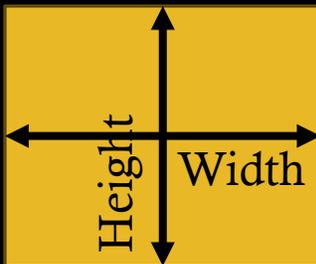
What is Single Solution?

Single solution is going to be the same number as the one found on the ballistic screen (if you toggled it on). You can adjust the range and view updated Phits. You can also look at where the uncertainties and sensitivities are in the overall solution. Be aware if this solution only matches the one of the main screen if your wind is set to zero on the main screen.

Single Solution	
Range	600 m
Prob of Hit	90.9%
Uncertainty	

🔲 exit   ◀ ▶ adjust

UNCER (in/in)		
Input	Drop	Drift
Wind	0.234	-5.466
Temp	0.155	0.001

🔲 exit   ◀ ▶ adjust

Highlight Range to adjust the range using right and left buttons.
Prob of Hit will adjust to this new range.

Uncertainty will show you the Input, Drop and Drift for that measurement.

Input will be things such as Wind, Temp, MV, Range, etc.

Drop is the amount of uncertainty in the up and down direction.

Drift shows you the amount of uncertainty in the left and right direction.

Sensitivity is similar but is going to be a derivative of these values. Think of this as the rate of change.

What is P Hit Range?

P Hit Range is going to show you the probability of hitting the target at various ranges across your different gun profiles. You can compare up to 30 different at a time.

```
Phit at Range

Rng      Gun1      Gun2

100      99.9%     99.9%

200      99.8%     99.9%


 ⚙ exit        ◀▶ adjust
```

Use the left or right arrows to scroll through the various gun profiles you have on your Kestrel.

You can press the center button on this screen to change the following:

Units: Meters or Yards
Start: The lowest range to start the comparison
Stop: The highest range to stop the comparison
Incr: The increment between the ranges from 5 to 100
Scroll: When scrolling up and down, you can go by line or page
Gun1:   You can define which profile shows up as Gun1 on chart

```
PHIT  RNG  CFG

Units                  m

Start                100

Stop                5000


 ⚙ exit        ◀▶ adjust
```

What is P Hit Dist

P Hit Distance is similar to P Hit range but shows transcribes the column and rows to show you at which range will you have 100%, 90%, 80%, etc probability of hits with your various gun profiles.

Dist to Phit		
Phit	Gun1	Gun2
100%	120	150
90%	705	725
⬡ exit	◀▶	adjust

Use the left or right arrows to scroll through the various gun profiles you have on your Kestrel.

You can press the center button on this screen to change the following:

PHIT DIST CFG	
Units	m
Start	100
Stop	5000
⬡ exit	◀▶ adjust

Units: Meters or Yards
Incr: The increment between the percentages from 1 to 50
Scroll: When scrolling up and down, you can go by line or page
Gun1: You can define which profile shows up as Gun1 on chart