SWFA SS

USER'S MANUAL

SWFA SS 6x42 30mm GEN 2

SS220000

MIL-Quad, 1/10 MIL Clicks, 5 MIL Rev,
Rear Focus, MTS, Zero Stop

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SWFA SS

UNMATCHED PERFORMANCE

In sub-zero temperatures or searing desert heat, the waterproof, shockproof, fogproof SS performs. Whatever the weapon, from .22 LR to .50 BMG, the SS handles the recoil. Whatever the target, the SS gives you the best advantage. Made of lightweight aluminum but strong as steel, it has superior multi-coated optics for maximum light transmission. Built to NATO specs.

***NOTE** Images are for illustration purposes only. Product may vary slightly from what is shown.*

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SPEC SHEET INFO

SWFA SS 6x42, Rear Focus, Mil-Quad

MAGNIFICATION:	6X	**TOTAL ADJUSTMENT RANGE (ELEVATION):**	36 MRAD
OBJECTIVE LENS DIAMETER:	42 MM	**TOTAL ADJUSTMENT RANGE (WINDAGE):**	36 MRAD
MAIN BODY DIAMETER:	30 MM	**ZERO STOP SYSTEM:**	YES *(ELEVATION)*
FIELD OF VIEW:	20 FT/100YDS	**PARALLAX ADJUSTMENT:**	REAR FOCUS
EYE RELIEF:	3.4 INCHES	**FINISH:**	MATTE BLACK
LENGTH:	14.1 INCHES	**FOCAL PLANE:**	2ND FOCAL PLANE
WEIGHT:	21.3 OZ	**RETICLE:**	MIL-QUAD
ELEVATION TURRET STYLE:	MTS *(MODULAR TURRET SYSTEM)*	**WATERPROOF :**	YES
WINDAGE TURRET STYLE:	MTS *(MODULAR TURRET SYSTEM)*	**FOGPROOF:**	YES
ADJUSTMENT CLICK VALUE:	0.1 MRAD	**SHOCKPROOF:**	YES
TRAVEL PER ROTATION:	5 MRAD		

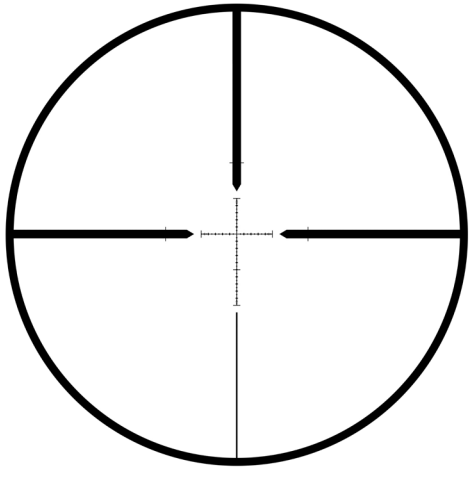
GETTING TO KNOW YOUR SCOPE

All reticles found in riflescopes can be classified as either first focal plane (FFP) or second focal plane (SFP), depending on the internal positioning of the reticle within the riflescope. **This specific model is equipped with a second focal plane design.**

SECOND FOCAL PLANE RETICLES

Second focal plane (SFP) reticles are positioned near the scope's eyepiece behind the image erecting and magnifying lenses. This style of reticle does not visually change in size when you change the magnification. The advantage of an SFP reticle is that it maintains the same appearance on all magnifications.

NOTE: *On fixed power scopes the focal plane does not affect your ranging, holdover, and correction for wind drift as you are not adjusting the magnification.*



WINDAGE AND ELEVATION ADJUSTMENTS

Depending on the specific model you purchased, your SWFA Gen 2 riflescope will incorporate adjustments and reticles calibrated in either MOA or MRAD. Minute-of-angle (MOA) and milliradian (MRAD) arc scales are equally proficient for tasks such as ranging or making adjustments to the riflescope to account for bullet trajectory. **This specific model is equipped with MRAD adjustments.**

MRAD ADJUSTMENTS

MRAD unit of arc measurements are based on the radian. A radian is the angle subtended at the center of a circle by an arc that is equal in length to the radius of the circle. There are 6.283 radians in all circles and 1000 milliradian in a radian for a total of 6,283 milliradians (MRAD) in a circle. An MRAD will subtend 3.6 inches at a distance of 100 yards (10 cm at 100 meters). SWFA riflescopes with MRAD adjustments use .1 MRAD clicks, which subtend .36 inches at 100 yards (1 cm at 100 meters) .72 inches at 200 yards (2 cm at 200 meters), 1.08 inches at 300 yards (3 cm at 300 meters), etc.

GETTING TO KNOW YOUR SCOPE *CONT.*

MTS (MODULAR TURRET SYSTEM)

Your SWFA Gen 2 riflescope comes equipped with the Modular Turret System which contains a built in zero stop and 6+ possible unique turret combinations for the ultimate user customizable experience regardless of the application. In order to remove a turret, simply loosen the set screw and lift the turret cap off of the turret assembly. Your MTS also features thread protectors to cover your threads when running any of the turrets exposed. The thread protectors have small slots on them 180 degrees apart from one another, these can be used with your fingernail or a small flat head screw driver to tighten or loosen your thread protectors if necessary.

Thread protectors OFF

Thread protectors ON

6+ POSSIBLE UNIQUE TURRET COMBINATIONS

Capped – Capped

Capped – Small Turret w/ Thread Protector

Capped – Big Turret w/ Thread Protector

Small Turret w/ Thread Protector – Small Turret w/ Thread Protector

Big Turret w/ Thread Protector – Big Turret w/ Thread Protector

Small Turret w/ Thread Protector – Big Turret w/ Thread Protector

IMAGE FOCUS AND PARALLAX CORRECTION

SWFA riflescopes feature a side/rear focus, which should be used to fine-tune the image focus. When the image is sharply focused, parallax error will also be eliminated. This specific model is equipped with a rear focus.

Parallax is a phenomenon that results when the target image does not quite fall on the same optical plane as the reticle within the scope. This can cause an apparent movement of the reticle in relation to the target if the shooter's eye is off-centered. Correctly focusing the target image will allow it to fall on the same optical plane as the reticle within the riflescope. A good everyday life example of this is a driver and passenger seeing the needle on the speedometer aligning with a different number based on their POV in the vehicle.

FOCUSING YOUR SCOPE

WARNING! *Looking directly at the sun through a riflescope, or any optical instrument, can cause severe and permanent damage to your eyesight.*

TO ADJUST THE RETICLE FOCUS:

1. Look through the riflescope at a blank white wall or up at the sky, away from the sun. Using the **rear focus**, set the focus to the infinity marking prior to step 2.

2. Turn the diopter adjustment in or out until the reticle image is as crisp as possible.

NOTE *Try to make this adjustment quickly, as the eye will try to compensate for an out-of-focus reticle.*

Once this adjustment is complete, it will not be necessary to re-focus every time you use the riflescope. However, because your eyesight may change over time, you should re-check this adjustment periodically.

NOTE *If you normally wear corrective lenses, wear them when using your scope.*

USING THE REAR FOCUS

1. Be sure the reticle is correctly focused *(see Reticle Focus section above).*

2. Turn the rear focus until the target image is as sharp as possible.

3. Check for parallax error by moving your head back and forth while looking through the scope. The focus is correct if there is no apparent shift of the reticle on the target. If you notice any shift, adjust the focus knob slightly until all shift is eliminated.

MOUNTING YOUR SCOPE & ADJUSTING THE TURRETS FOR BORE AND RANGE SIGHTING

RINGS AND BASES

Be sure to select a base and rings appropriate for your rifle and mount according to the manufacturer's instructions.

NOTE *We recommend not exceeding 20 in/lbs (inch/pounds) of torque on the ring screws.*

TIP Select the lowest ring height that will provide complete clearance between the riflescope and rifle in order to avoid contact with barrel, receiver, bolt handle or any other part of the rifle (except on flattop style rifles such as the AR platform as they require a 1.45-1.55" mount height for proper alignment). A low mounting height will help assure proper cheek weld, aiding in establishing a solid shooting position, and promote fast target acquisition.

WARNING! *Never assume a firearm is unloaded, always double check yourself and be sure to keep the muzzle pointed in a safe direction at all times.*

RIFLESCOPE MOUNTING

To get the best performance from your riflescope, proper mounting is essential. Although not difficult, the correct steps must be followed. If you are unsure of your abilities, it would be best to use the services of a qualified gunsmith.

MOUNTING YOUR SCOPE & ADJUSTING THE TURRETS FOR BORE AND RANGE SIGHTING

CONT.

EYE RELIEF AND RETICLE ALIGNMENT

After installing the bottom ring halves on the mounting base, place the riflescope on the bottom ring halves and loosely install the upper ring halves. Before tightening the scope ring screws, adjust for maximum eye relief to avoid injury from recoil:

1. Set the riflescope to the maximum magnification.
2. Slide the riflescope as far forward as possible in the rings.
3. While viewing through the riflescope in a normal shooting position, slowly slide the riflescope back towards your face. Pay attention to the field of view. Stop sliding the riflescope back as soon as you see the full field of view.
4. Without disturbing the front-back placement, rotate the riflescope until the vertical crosshair exactly matches the vertical axis of the rifle. Use of a reticle leveling tool, a weight hung on a rope, flat feeler gauges, or a bubble level will help with this procedure.

MRAD ADJUSTMENTS

Each click of the turret will move the point-of-impact .1 MRAD. *(Refer to MRAD Adjustments on page 5 for more details).*

BORE SIGHTING

Initial bore sighting of the rifle and scope will save you money and time at the range. This initial sighting can be done in a number of ways. You may want to use a mechanical or laser bore sighter according to the manufacturer's instructions. On some rifles, bore sighting can be done visually by removing the bolt and sighting through the barrel.

TO VISUALLY BORE SIGHT A RIFLE

1. Place the rifle solidly on a rest and remove the bolt.
2. Align the sight through the bore over a target approximately 100 yards away.
3. Move the rifle and rest until the target is visually centered inside the barrel.
4. With the target centered in the bore, make windage and elevation adjustments until the reticle crosshair is also centered over the target.
5. If using a mechanical or laser boresighter, set up according to manufacturer instructions.

MOUNTING YOUR SCOPE & ADJUSTING THE TURRETS FOR BORE AND RANGE SIGHTING

CONT.

FINAL RANGE SIGHT-IN

Once the riflescope has been boresighted, final sight-in should be done at the range shooting the same ammunition expected to be used in the field. 100 yards is the most common zero distance, although a 200 yard zero may be preferred for long distance applications.

- Be sure to follow all safe shooting practices.
- Before shooting, be sure the reticle and rear focus are properly set (see Reticle Focus on page 8, Image Focus and Parallax Correction on page 7).
- At your preferred zero distance, fire a three-shot group as precisely as possible. Next, adjust the reticle to match the approximate center of the shot group (see section on Windage and Elevation Adjustments). If the rifle is very solidly mounted and has not shifted you can simply look through the scope and adjust the reticle until it is centered on the fired group.
- Carefully fire another three-shot group and see if the bullet group is centered on the bullseye. Repeat process until group is centered in desired spot.

ZERO STOP

The Zero Stop allows for a definitive stop when the turret is returned to zero.

NOTE *The O-rings underneath the turret assembly must be clean and free of defects and debris. While setting and adjusting the Zero Stop, please ensure that these mechanical components remain free of dirt and contaminants. If you are satisfied with your ammunition selection and zero/sight-in, follow these instructions to finalize the setting of the Zero Stop feature:*

1. Remove the elevation turret cap by loosening the set screw(s); however, do not remove the screw(s) entirely. The cap can now be lifted off of the turret assembly. *(See Image 1, pg.15) (Use 2.5mm Hex Key)*
2. You may feel slight resistance while lifting off the cap. You should NOT feel any clicks at this time; if you do, the turret cap set screw(s) should be loosened further. Place the turret cap aside on a clean surface. Take care to keep the inside of the turret cap clean and free of debris. *(See Image 2, pg.15.)*
3. The Zero Stop assembly is now exposed. Maintain the cleanliness of the Zero Stop assembly. *(See Image 3, pg.15)*
4. Using the supplied 1.5mm Hex Key loosen - but do NOT remove - each of the set screws on the Zero Stop assembly. *(See Images 4a, 4b, 4c, pg.15)* Note the stop step at the top of the turret's base assembly. When this engages the zero stop assembly, this establishes the firm stop position of the Zero Stop.
5. With the Zero Stop barrel assembly loosened, slide it to the bottom of the turret stim. *(See Images 5a, 5b, pg.15)* Rotate it clockwise (from the shooter's position) until the Zero Stop contacts the stop step *(See Image 5c for proper positioning of the Zero Stop and stop step.)*

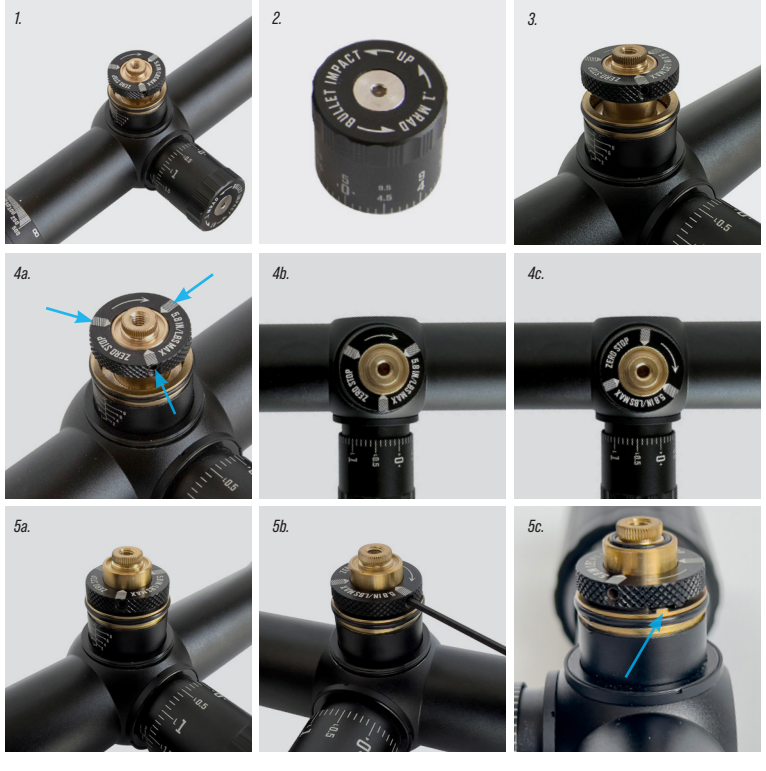
MOUNTING YOUR SCOPE & ADJUSTING THE TURRETS FOR BORE AND RANGE SIGHTING

CONT.

6. While holding the Zero Stop barrel assembly mechanism in proper position, tighten the set screws to ~5.3 in-lbs. Do NOT over tighten the screws. If you do not have a calibrated torque driver, we suggest the following: turn the Hex Key approximately 1/8 - 1/4 turn past initial resistance to obtain a secure position setting. Improper torque settings can cause the Zero Stop to slip during turret adjustment.

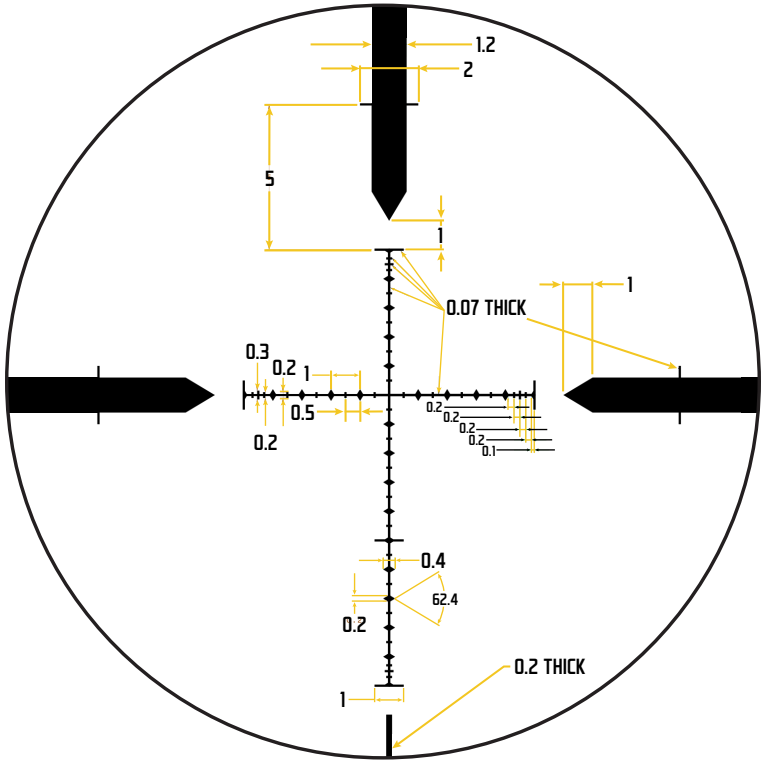
7. Check to be sure the entire assembly is clean and free of debris, replace the turret, center it over the turret body assembly, align the cap's engraved numerical "0"/ zero index mark with the vertical engraved center line on the turret's base housing and press down lightly into position. Maintain slight downward pressure on the cap and tighten set screws to ~5.3 in-lbs. If you do not have a calibrated torque driver, we suggest the following: turn the Hex Key approximately 1/8 - 1/4 turn past initial resistance to obtain a secure position setting. Improper torque settings can cause the turret's cap to slip during turret adjustment. Your Zero stop is now set.

NOTE *If you want to change your zero after setting your Zero Stop to your initial zero, simply remove the Zero Stop or position back at the very top of the turret stem prior to doing so in order to ensure it does not interfere with you making adjustments while attempting to achieve a new zero.*



RETICLE IMAGE WITH SUBTENSIONS

SWFA SS 6x42 30mm GEN 2



MAINTENANCE

CLEAN

Your fully waterproof and fogproof SWFA riflescope requires very little routine maintenance other than periodically cleaning the exterior lenses. The exterior of the scope may be cleaned by wiping with a soft, dry cloth.

When cleaning the lenses, be sure to use products, such as Fog Free cleaning products or Lens Pen, that are specifically designed for use on coated optical lenses.

- Be sure to blow away any dust or grit on the lenses prior to wiping the surfaces.
- Using your breath, or a very small amount of water or pure alcohol, can help remove stubborn things like dried water spots.

LUBRICATION

All components of the SWFA riflescopes are permanently lubricated, no additional lubricant should be applied.

***NOTE** Other than to remove the turret caps, do not attempt to disassemble any components of the riflescope. Disassembling of riflescope may void warranty.*

STORAGE

If possible, avoid exposing your SWFA riflescope to direct sunlight or any very hot location for long periods of time.

SWFA SS 4-LIFE WARRANTY

THE NAME SAYS IT ALL AND WE STAND BEHIND IT

Never Expires.

Transferable, No Receipt Required.

If We Cannot Repair It, We Will Replace It.

LEARN MORE AT **WWW.SWFA.COM**

NOTES

DEPENDABILITY YOU RELY ON, PRECISION YOU TRUST

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