Operator's Manual:

Trijicon ACOG® (Advanced Combat Optical Gunsight)

Crosshair Models

- 3.5x35
- 4x32

Trijicon®

Brilliant Aiming Solutions™

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WARNINGS AND CAUTIONS

Warning

Before installing optic on a weapon, ensure the firearm is CLEAR. Remove the magazine, pull the charging handle to the rear and ensure the chamber is clear.

☢ RADIOACTIVE MATERIALS SAFETY PRECAUTIONS ☢

The Crosshair ACOG®s contain radioactive material for nighttime illumination. The radiation source is Hydrogen-3 (^{3}H), commonly known as Tritium. Tritium is an odorless, tasteless, colorless gas that reacts to the human body in the same manner as natural hydrogen. The human body does not easily retain Hydrogen or Tritium as a gas. However, the oxide, HTO, which is formed by the burning of Tritium, is 10,000 times more hazardous. For this reason great care should be taken to avoid flame in the presence of the ACOG® with a Tritium lamp which is broken or is suspected of leaking. If the Tritium lamp in the ACOG® scope breaks follow the procedures on the following page. The ACOG® is regulated under an EXEMPT LICENSE from the United States Nuclear Regulatory Commission (NRC) held by Trijicon, Inc. Disassembly of the scope is prohibited except by Trijicon, Inc.

Handling a Damaged ACOG® (exposed internals, fire, or crushed)

DO NOT handle a defective unit if you have open skin cuts or abrasions (use gloves). If the Tritium lamp in an ACOG® is broken or suspected of being broken, work in a well ventilated area and avoid inhaling air near the unit. Place the unit in a sealed plastic bag and contact Trijicon for return and proper disposal. Immediately following contact with the unit wash your hands with soap and water.

DO NOT eat, drink, smoke, or apply cosmetics in the presence of a damaged ACOG®.

CAUTION

DO NOT allow fiber optic collector to contact harsh chemicals.

INTRODUCTION

The ACOG® 3.5x35, 4x32 crosshair models are designed to provide enhanced target identification and hit probability for the M16 and AR15 rifle out to 600 meters to 1200 meters, except for the TA01LAW model which does not feature a BDC reticle. They have a tritium illuminated reticle for night and low light use. This means the center area of the crosshair pattern is illuminated in low light or complete darkness. The original TA01 models will have black crosshairs during the daytime and TA11 and TA31 crosshair models will illuminate during the day as well using fiber optics. The fiber optic light collector adjusts reticle brightness according to light levels. This automatically balances aiming point brightness.

CHARACTERISTICS

Descriptive Power/ Objective Lens	Eye Relief	Exit Pupil	Field of View	Length	Weight w/out Mount	Field of View @ 100 Yards	Adjustment Increments @ 100 meters (Internal Adjusters)
3.5x35	2.4 in (61 mm)	0.39 in (10 mm)	5.5°	8 in (203 mm)	14 oz (397 g)	28.9 ft (9.69 m)	3 clicks (4 clicks)
4x32	1.5 in (38 mm)	0.32 in (8.0 mm)	7.0°	5.8 in (147 mm)	10.9 oz (309 g)	36.8 ft (12.29 m)	2 clicks (3 clicks)

CONTROLS AND INDICATORS

Figure 1

IDENTIFICATION & MARKINGS

External Markings

Figure 2 identifies where the serial number for all 3.5x35 and 4x32 ACOG®s can be found. This number is unique for each ACOG® sold.

Figure 2

Internal Markings

Figure 3 illustrates how to identify the reticle. Each ACOG® has a reticle code. This code is found at the bottom of the field of view when looking into the optic.

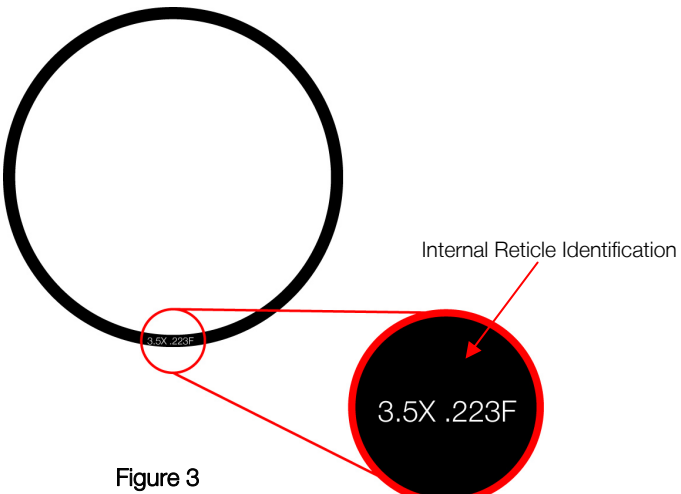


Figure 3

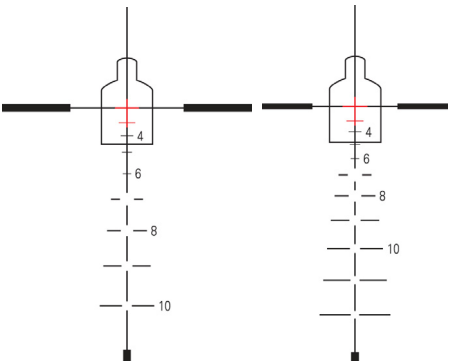
PREPARATION FOR USE

Inspection

It is recommended that the tritium lamp be checked prior to the use of the optic and every six months or immediately following any incident which might lead to lamp failure such as the dropping of the ACOG® onto a hard surface.

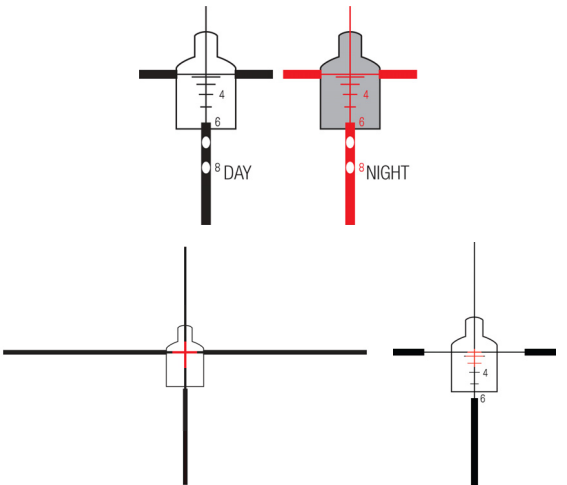
To determine that the tritium lamp is functioning in the ACOG®, enter a dark room and look through the optic. The reticle should be illuminated like the red ones shown in Figure 4 and 5, on pages 11 and 12. The illumination provided by the Tritium lamp is very faint and will be hard to see without a dark adapted eye. Remain in the dark room for approximately 10 minutes to adapt your eyes to the dark.

The reticle is illuminated in low light or complete darkness. If the reticle does not appear to illuminate in the dark, please contact TRIJICON, INC. See further cautions under **SAFETY** on page 32.



3.5x35

Figure 4 (other colors available)



4x32

Figure 5 (other colors available)

INSTALLATION PROCEDURES

WARNING:
Before installing the optic on a firearm, ensure the weapon is CLEAR. Remove the magazine, pull the charging handle to the rear and ensure the chamber is clear.

Flattop Version

The ACOG® with flattop adapter is easily attached to the M4 flattop receiver MIL-STD-1913 Rail. Prior to attempting to mount the optic, loosen the Thumb Screws and pull the Interface Clamp Bar back against the Thumb Screws as illustrated in Figure 6. Place the ACOG® onto the flattop receiver rail.

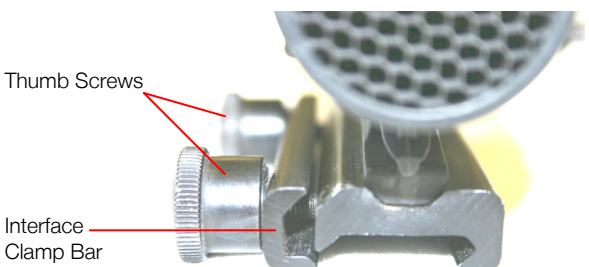


Figure 6

Be sure to align the Interface Studs located on the bottom of the adapter with the grooves on the MIL-STD-1913 Rail of the flattop receiver as illustrated in Figure 7.

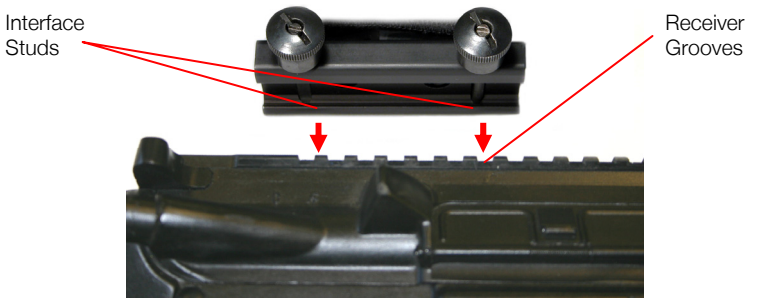


Figure 7

The ACOG® can be placed in any of the slots on top of the receiver to allow for eye relief adjustment. Once the ideal position has been determined, apply forward pressure on the optic and tighten the knobs firmly using finger pressure only. Then, add no more than another ¼ turn utilizing a coin or a bladed screwdriver. This will ensure the mount will not loosen under recoil.

Installing the ACOG® in the same position on the flattop rail and using the same torque on the Thumb Screws will ensure maximum zero retention. To replicate the same torque setting, tighten using the recommended method and mark the Thumb Screws and Interface Bar Clamp (**Figure 8**) with indelible marker or other semi permanent means.

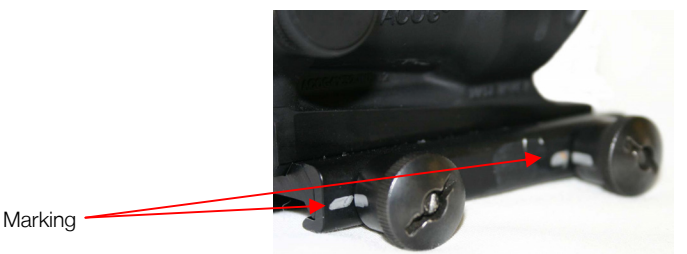


Figure 8

Adapter Disassembly

The TA51 mount is removed by removing the two screws from the underside of the mount as identified in Figure 9. The screws have a thread locking compound applied to them by the manufacturer.

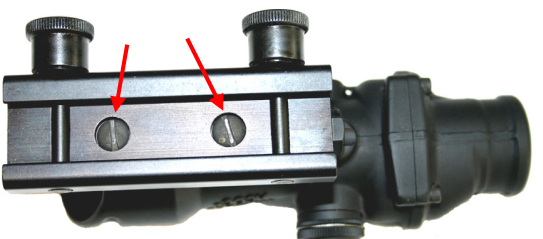


Figure 9

NOTE: Use a 1/4 inch flat tip screwdriver to remove the screws.

Carry Handle Versions

The ACOG® is easily attached to the M16 and AR-15 carrying handle. One screw set is provided with your scope. The forward screw hole is toward the objective lens and is provided with a specially shaped washer to fit the inside surface of the M16/AR-15 carrying handle. The forward screw hole should be aligned with the existing hole in your weapon's handle. The specially shaped washer matches the curved surface of the handle and assures a tight clamping that will not work loose. As an accessory, Trijicon, Inc. offers a thumb screw for quick release from the carry handle.

Figure 10

Installation Procedure - M16/AR-15 with Carrying Handle

The special washer should be placed on the screw after the lock washer so that the U shape fits under the handle against the curved surface. Using the provided hex key, the screws should be tightened snugly, but not over tightened.

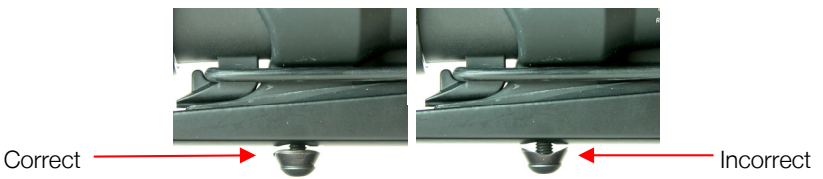


Figure 11

The mounting foot has a special hole through the base that allows the original iron sights to be used in an emergency.

NOTE: Use caution on some older AR-15 and M16A1 rifles. The flip up rear aperture sight must be in the "leaf toward the shooter's eye" position. If it is in the opposite position, it will be trapped under the rear edge of the ACOG® base. This is less secure and puts the scope at an angle, which makes it impossible to zero the weapon.

Installation on Other Firearms

Trijicon offers a variety of adapters for various firearms (see page 38).

ADJUSTMENT PROCEDURES

CAUTION

The windage and elevation adjusters should never be moved all the way to the extremes in adjustment. It is possible that over-adjustment will damage the precise alignment of the prism assembly inside the riflescope. If the adjuster resistance increases, the limits of adjustment travel are being approached. Adjust further only with caution.

As the limits of the adjustment are reached, the adjustment mechanism will become more and more difficult to adjust. If the adjustment mechanism is adjusted past this point, it will break. Adjustment beyond the center of the adjustment range should not be necessary. If it seems that you need more adjustment than is available, please contact Trijicon, Inc.

The ACOG® is internally adjustable. Adjustment is made using the adjuster mechanisms located inside the adjuster caps on the top and right-hand side of the scope. The ACOG® is shipped with a pre-centered setting. Normally this means that only small adjustments are necessary. Do not adjust the scope to the extremes. It is possi-

ble that over-adjustment will damage the precise alignment of the prism assembly inside the riflescope (see *CAUTION* above).

The method of adjustment with the ACOG® 4x32 is slightly different than other scopes. Adjustment increments are 1/2 inch per click at 100 meters. This means that 2 clicks (3 clicks internal adjusters) are required to move the bullet one inch on the target.

Figure 12

Adjustment increments with the ACOG® 3.5x35 are 1/3 inch per click at 100 meters. This means that 3 clicks (4 clicks internal adjusters) are required to move the bullet one inch on the target.

To make adjustments remove the adjuster cap. The arrows on the adjusters point in the direction which they must be moved to cause the bullet to move in that same direction. In other words, if the point of impact is two inches to the left of the aiming point, the adjuster on the side of the 4x32 riflescope should be moved 4 clicks in the direction marked R (right) while the adjuster on the side of the 3.5x35 riflescope should be moved 6 clicks in the direction marked R (right). This will move the bullet 2 inches to the right and onto target. Similarly, if the bullet is striking low on the target, you must move the adjuster on the top of the riflescope in the direction U (up). [Of course if the bullet is right or high of center, the adjusters must be turned the other directions, away from the R and U directions indicated.] The amount of clicks can be detected through audible and physical feedback.

Figure 13

Figure 14

For carry handle models the units come centered for mounting in the carry handle. The flattop versions will be centered for using on the flattop rail. Normally this means that only small adjustments are necessary.

Adjuster Caps

The adjuster caps, identified in Figure 15, are designed for added protection of the adjusters. It is recommended that the adjuster caps be reinstalled after every adjustment. The caps must be tightened until the adjuster cap makes contact with the main housing. This should be accomplished with fingers only. This will prevent possible damage to the cap or the adjuster housing threads. No use of tools is required to tighten the caps.

CAUTION: Damage may occur to the cap or the threads of the adjuster housing if the cap does not make contact with the main housing when the cap is exposed to impact.

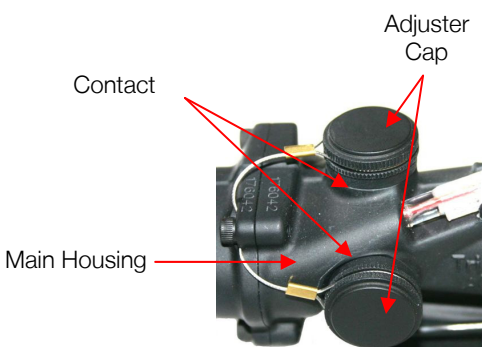


Figure 15

RETICLE REFERENCES

The Bullet Drop Compensator (BDC)

The Bullet Drop Compensator was designed to give accurate aiming points out to 1000 or 1200 meters (caliber dependent) without making mechanical adjustments to the sight. When zeroed properly, the Point of Aim/Point of Impact at the designated distance is shown below in Figure 16.

3.5x35 Reticles

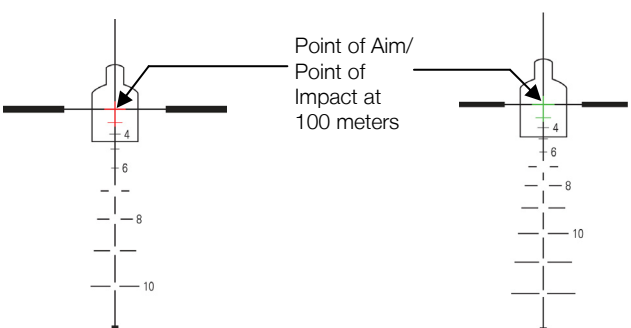


Figure 16

Ranging Feature

The horizontal stadia lines below the crosshair portion of the reticle represents 19" at the indicated range (19" is the average width of a man's shoulders). Range your target using the width of the horizontal stadia lines for 400-600 m as identified in Figure 17.

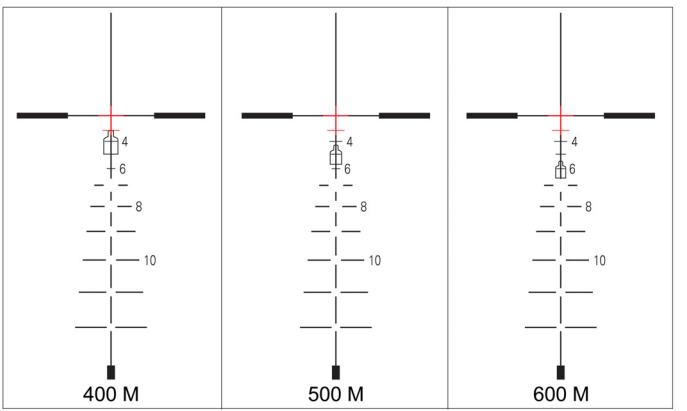


Figure 17

Beyond 600 m determine which stadia line best fits the target's shoulders and use that as your Point of Aim. Because the BDC is calibrated for the correct trajectory, your Point of Aim is your Point of Impact at each distance. Figure 18 illustrates proper sight picture at each distance. From 700 to 1000 m, the opening between stadia lines represents 38".

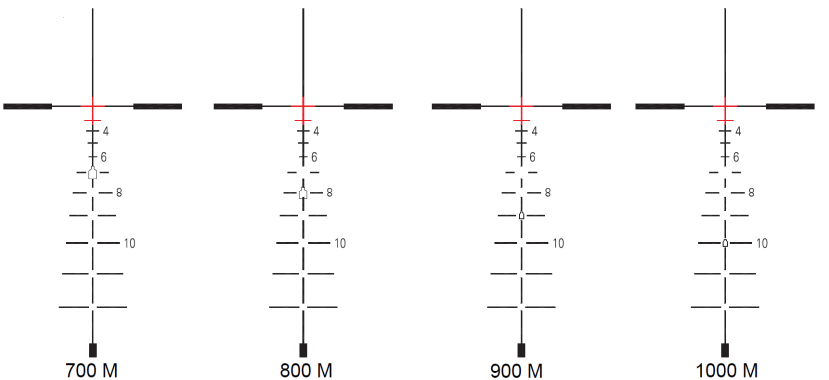


Figure 18

4x32 Reticles

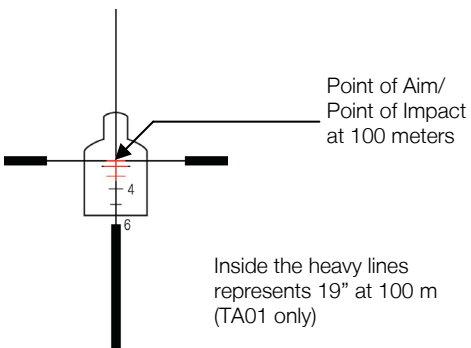


Figure 19

Ranging Feature

The horizontal stadia lines below the reticle represent 19" at the indicated range (19" is the average width of a man's shoulders).

For 200 m and beyond, determine which stadia line best fits the target's shoulders and use that 'crosshair' as your Point of Aim. Because the BDC is calibrated for the correct trajectory, your Point of Aim is your Point of Impact at each distance. Figure 20 illustrates proper sight picture at each distance.

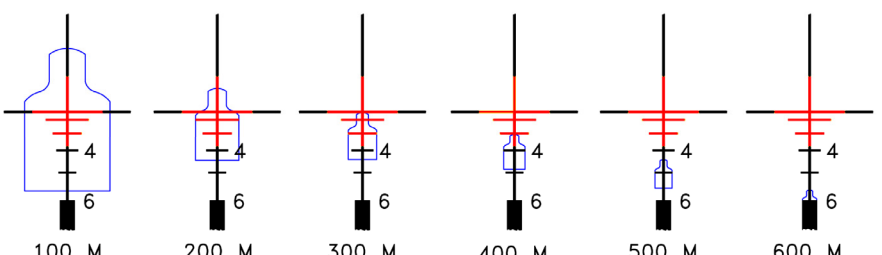


Figure 20

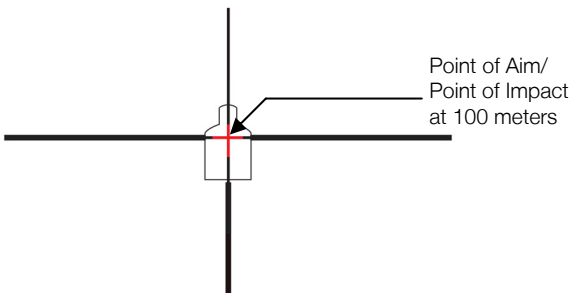


Figure 21

OPERATION

Non-fiber optic ACOG® scopes

The original 4x32 was designed without a fiber optic. This means that during the day you will see black crosshairs and at night the Tritium will illuminate those crosshairs.

Figure 22

Fiber Optic ACOG® scopes

ACOG® scopes with the fiber optics will collect ambient light to automatically adjust and illuminate the crosshair reticle during the day. Tritium will illuminate the reticle in low-light or no light conditions. This means the reticle will be visible during the day and night.

Figure 23

SAFETY

The ACOG® scope contains radioactive material for nighttime illumination. The radiation source is Hydrogen-3 (^{3}H), commonly known as Tritium. Tritium is a naturally occurring, odorless, tasteless, colorless gas that reacts with the human body in the same manner as natural hydrogen. The body does not easily retain Hydrogen or Tritium as a gas. However, the oxide, HTO, which is formed by the burning of Tritium, is 10,000 times more hazardous. For this reason great care should be taken to avoid flame in the presence of the ACOG® scope with a Tritium lamp which is broken or is suspected of leaking.

If the Tritium lamp in the ACOG® is broken or is suspected of being broken, place the unit in a sealed plastic bag and contact Trijicon, Inc. for handling and replacement instructions.

After contact with a unit with a broken lamp, a person should wash their hands carefully with soap and water. Do not handle such a defective ACOG® scope if you have open skin cuts or abrasions. Work with a defective unit only in a well-ventilated area and avoid inhaling air near the unit.

Do not eat, drink, smoke or apply cosmetics in the presence of a defective unit. Repair of these defective units is only authorized by the manufacturer, Trijicon, Inc. Contact Trijicon, Inc. for handling and replacement instructions. See page 43.

CLEANING AND GENERAL CARE

CAUTION

DO NOT allow the fiber optic light collector tube of the ACOG® (**Figure 1**) to come into contact with harsh organic chemicals such as Acetone, Trichloroethane, or other cleaning solvents. They will affect the appearance of the fiber optic light collector tube though they will not affect its performance.

The ACOG® requires very little maintenance. If the lenses become dirty, wash using fresh water and a soft clean cloth. Be sure to wash the lenses fully before wiping them with a soft cloth. The lenses can be scratched if dirt is pulled along the lens by the cloth. The outside lens may fog over in cold weather. Remove fog by using a dry, clean soft cloth.

Anti-fog solutions can be applied to the exterior of the lenses to help prevent fogging during temperature changes.

Using the LensPen®

To clean the Crosshair ACOG® utilizing the LensPen® (Figure 24), first depress and push forward the Lens Brush Slider, exposing the Lens Brush. Use this brush to remove all foreign material from the unit if fresh water is not available. Pay special attention to the lenses.

Figure 24

CAUTION

Remove all foreign material from the lenses before cleaning them with the LensPen®. This will prevent damage to the lenses.

Next, remove the cap from the opposite end of the LensPen® to expose the Felt Lens Cleaner. Ensure there is NO foreign material on the felt surface. Starting in the center

of the lens, press the felt surface of the lens cleaner against the lens and in a spiral motion, work from the center to the outside edge of the lens. Repeat if necessary.

When finished, depress Lens Brush Slider and retract the brush into the LensPen®. Replace the cap over the Felt Lens Cleaner as seen in Figure 25.

Figure 25

TROUBLESHOOTING

This section contains troubleshooting information and tests for locating and correcting most of the troubles which may develop in the operation of the Crosshair ACOG®. Each trouble symptom for an individual unit is followed by a list of tests or inspections for determining probable causes and suggested actions to remedy the problem.

The Crosshair reticle is blurred or fuzzy:

1. Inspect the eyepiece lens to ensure it is free of any foreign materials and/or smudges. Clean the lenses if needed as per Cleaning and General Care section.
2. Inspect the objective lens to ensure it is free of any foreign materials and/or smudges. Clean the lenses if needed as per Cleaning and General Care section.
3. Contact Trijicon for repair or replacement.

The Crosshair optic will not adjust:

Contact Trijicon for return information.

The Crosshair optic will not zero:

1. Inspect the mounting on the firearm and to the base of the optic.
2. Mount the optic to another firearm to ensure the problem is the optic and not the firearm.
3. Contact Trijicon for return information.

3.5x35 & 4x32 CROSSHAIR ACOG® MODELS & AVAILABLE ACCESSORIES

Optics

MFG #	Description
TA01	ACOG® 4x32 Scope, Full Illuminated Red Crosshair .223 Ballistic Reticle
TA01B	ACOG® 4x32 Scope, Full Illuminated Red Crosshair .308 Ballistic Reticle
TA01LAW	ACOG® 4x32 Scope, Illuminated LAPD Red Crosshair Reticle
TA11J	ACOG® 3.5x35 Scope, Dual Illuminated Red Crosshair .223 Ballistic Reticle w/ TA51 Mount
TA11J-308	ACOG® 3.5x35 Scope Dual Illuminated Red Crosshair .308 Ballistic Reticle w/TA51 Mount
TA11J-A	ACOG® 3.5x35 Scope, Dual Illuminated Amber Crosshair .223 Ballistic Reticle w/ TA51 Mount
TA11J308-A	ACOG® 3.5x35 Scope, Dual Illuminated Amber Crosshair .308 Ballistic Reticle w/ TA51 Mount

Optics (cont.)

MFG #	Description
TA11J-308G	ACOG® 3.5x35 Scope, Dual Illuminated Green Crosshair .308 Ballistic Reticle w/ TA51 Mount
TA11J-G	ACOG® 3.5x35 Scope, Dual Illuminated Green Crosshair .223 Ballistic Reticle w/ TA51 Mount
TA11J-RMR	ACOG® 3.5x35 Scope, Dual Illuminated Red Crosshair .223 Ballistics, RMR and TA51 Mount
TA31RMR	ACOG® 4x32 Scope, Dual Illuminated Red Crosshair w/3.25 MOA Trijicon RMR and TA51 Flattop Mount

ACOG® Mounts

MFG #	Description
TA03	ACOG® adapter for H&K rifles
TA12	A.R.M.S.® quick release adapter
TA12W	A.R.M.S.® throw lever adapter for Weaver Rail
TA22	A.R.M.S.® #19LD ACOG® throw lever adapter for Picatinny Rails.
TA30	Extra screw & lock washer
TA51	ACOG® Picattiny Rail adapter
TA51W	ACOG® flat top Weaver adapter
TA53	Thumb screw for ACOG® w/M16 base

ACOG® Mounts (cont.)

MFG#	Description
TA53A	ACOG® Thumb Screw (RCO)
TA77	Extended Eye Relief Pictatinny Rail adapter w/Colt style thumb screws for ACOG® 4x32 scopes
TA98	Trijicon ACOG® Quick Release Mount

ACOG® Accessories

MFG #	Description
TA52	Rubber dust cover for ACOG® 4x32
TA57	Tenebraex® killFLASH® Anti-Reflection Device for 4x32 ACOG® scopes
TA56	Trijicon LENSPEN® for all optics
TA63	Scopecoat fitted for 3.5x35 ACOG® scope models
TA64	4x32 ACOG® Scopecoat™
TA66	Tenebraex® killFLASH® Anti-Reflection device for 3.5x35 ACOG® scope
TA71	ACOG® Internal Adjuster Caps & Lanyard
TA71E	ACOG® External Adjuster Caps

ACOG® Accessories (cont.)

MFG #	Description
TA90	4x32 ACOG® Flip Cap Set (requires TA91 killFLASH®)
TA91	Tennebrex® killFLASH® Anti-Reflection Device for 4x32 RCO ACOG® scope
TA94	4x32 ACOG® Flip Cap for Objective (requires TA91 killFLASH®)
TA95	4x32 ACOG® Flip Cap for eyepiece

** Denotes a special order item*

Contact Trijicon's Customer Service Department at 1-800-338-0563 for further instructions and visit our website at www.Trijicon.com to view our latest products.

PATENTS AND TRADEMARKS

The ACOG® is covered by the following patents:

- U.S. 4,806,007
- Germany D.B.P. No. P3853127.5
- Great Britain EP 0315379
- Canada 1,305,341
- Austria EP 0315379
- Australia 605076
- South Africa 88/8185
- Switzerland EP 0315379+NO
- France EP 0311579
- Japan 2632976

Other U.S. and foreign patents are Pending.

The ACOG® is covered by the following design trademarks:

- U.S. 3,190,442
- U.S. 3,047,581
- U.S. 3,047,582

Other U.S. and foreign trademarks are pending.

LIMITED LIFETIME WARRANTY

The original owner of the Trijicon product registered with this card is entitled to repair or replacement (at our option) of the registered item if it should fail due to defects in material or workmanship during normal use. This warranty specifically applies to the optical systems and metal structure of the product and does not apply to the illumination system. The Tritium lamp is warranted to glow for five years for orange night sights, ten years in non-fiber optic scopes, twelve years in green and yellow night sights or fifteen years in fiber optic scopes from date of original manufacture. If repair is necessary, please contact our Customer Service Department for return instructions. This warranty does not apply to defects caused by anything which is deemed abnormal, abusive, or improper including any fault resulting from an accident or improper service. Special Note: Trijicon PRODUCTS CONTAIN TRITIUM AND ARE REGULATED BY THE NUCLEAR REGULATORY COMMISSION. THEY MAY NOT BE DISASSEMBLED BY ANYONE OTHER THAN TRIJICON, INC WHICH HOLDS THE NECESSARY LICENSES. Any attempt at disassembly or repair will annul this warranty. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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