Installation and Operating Instructions

Including RFA and EAS adapters and specific instructions for the S&W, VP9 and P320 pistol kits

CoolFireTrainer.com

SAFETY NOTICES

**ALWAYS use safe gun handling practices!

**NEVER point the CoolFire laser at anyone.

**NEVER use any other compressed air or gas with this system!!

CoolFire is designed to use CO_2 only!

**BEFORE returning your gun to normal operating condition, ALWAYS ensure the CO_2 has been purged from the barrel. This is achieved by inserting the 0.050 in. Allen wrench into the fill tip to purge the barrel.

WE RECOMMEND SAFETY GLASSES FOR ALL PARTICIPANTS

European Union (EU) Information

This product is manufactured in compliance with European Union (EU) directives and carries the CE mark. The following information is provided to comply with EU documentation requirements.

Note: Products with CE marks perform their required functions safely and adhere to relevant standards as specified by EC directives provided they are used according to their intended purpose and that the applicable instructions are adhered to. The protection provided by equipment may be impaired if this equipment is used in a manner not specified in this manual. Only replacement parts supplied by CoolFire Trainer Inc. or its agents should be used for this equipment. A listing of international CoolFire Trainer affiliates is available at our Web site: http://www.Coolfiretrainer.com

SELV Circuits
All electrical circuits connected to the communications port receptacle and the firing pin sensor receptacle are rated as Safety Extra Low Voltage (SELV).

Environmental Specifications
Operating temperature: 0 C to 40 C; 32 F to 104 F
Storage temperature: -10 C to 60 C; 14 F to 140 F
Operating humidity: 90% (non-condensing)
Air Composition: No corrosive gases permitted.

CE

FCC COMPLIANCE:
This device complies with Part 15 of the FCC rules. Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept (tolerate) any interference received, including interference that may cause undesired operation.

Laser Information

Manufacturer:

CoolFire
9402 East 55th Street
Tulsa, Ok 74145

Date of manufacture:

August 2020

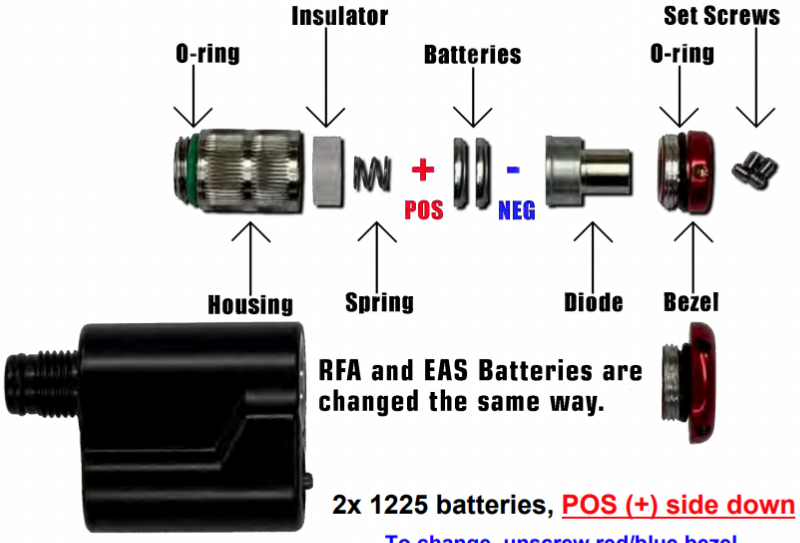
This laser complies with US FDA performance standards for laser products, except for deviations pursuant to Laser Notice No. 56, dated May 8, 2019.

CLASS 1 LASER PRODUCT CLASSIFIED EN/IEC 60825-1 2014

	Visible Red	Infrared
Laser Model:	LM1	LM2
Wavelength:	630-650 nm	780-850 nm
Pulse Group Length:	3 milliseconds	6 milliseconds

Caution - use of controls or adjustments of performance or procedures other than those specified herein may result in hazardous radiation exposure.

Do Not Open or Modify except for battery change



2x 1225 batteries, POS (+) side down

To change, unscrew red/blue bezel.

The unit has to be returned to factory for any service or repair.

WARNING: Do not modify this laser. It may result in hazardous laser radiation.

WARRANTY: The CoolFire Laser has a one year limited warranty on parts and labor beginning from the date of purchase.

Items included in your CoolFire kit

Included in the Basic Kit:

a) Coolfire Recoil Assembly
b) Recoil Spring or Guide Rod
c) 0.050 in. Allen wrench
d) Gasket grease
e) Slide Release Inserts(9 or 45)
f) Striker Tips

a)

b)

c)

d)

e)

f)

Not included in the Basic Kit:

g) Bottle Adapter (90gr, SMA, PBA)
h) Screw-on Laser*
i) Gaskets
j) O-rings
k) Charging Station*
l) Rapid Fill Adapter (w/Laser)*
m) Extend-A-Shot (w/Laser)*

*Purchased separately

g)

h)

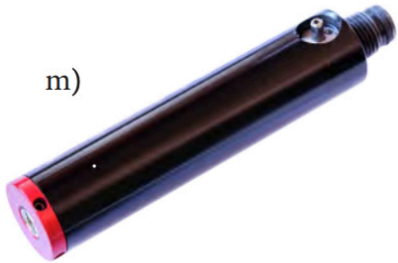
i)

j)

**Reflective targets included with visible laser or purchased separately

k)

l)

m)


*Photos on this page are NOT to scale.

CoolFire Installation and Operation

1. Verify the chamber is clear of your firearm.

2. Remove any ammunition and ensure the magazine is empty. Store any ammunition and any removed parts, to prevent loss or damage.

3. Following the firearm manufacturer's instructions, remove the slide, barrel, and recoil spring.(Figure 1).

Figure 1.

4. Insert the CoolFire barrel into your slide (Figure 2).

Figure 2.

5. Install the CoolFire recoil spring on the factory guide rod or use the supplied guide rod ensuring that the flat end contacts the barrel (see Figure 3).

6. Reinstall your slide onto your weapon (Figure 4). If the slide will not lock to the frame with the CoolFire barrel installed, push on the tip of the CoolFire barrel.

Figure 3.

Note: Do not use the stock recoil spring with the CoolFire barrel, it may not function properly!

Figure 4.

WARNING: DO NOT INSTALL THE RECOIL SPRING ASSEMBLY BACKWARDS. IT MAY DAMAGE THE COOLFIRE BARREL AND/OR FIREARM.

For More information, please view videos available at
https://coolfiretrainer.com/videos.asp

Smith & Wesson and Select Sig Sauer Models only:

*****Due to inherent frame variability on handguns from these manufacturers, an adjustable wedge is included that allows the kit to be fitted to the frame to minimize slack.**

1. The CoolFire barrel **must** be fit to the frame before use. Use the supplied Allen wrench to adjust the wedge in the barrel block (Fig. 5).

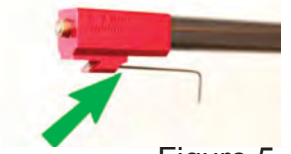


Figure 5.

2. To verify proper fit, lock the CoolFire barrel into your firearm (Figure 6), there should be only minimal play of the muzzle up and down and the block front to back. (see red arrows). Slight pivoting is normal (green arrow).

Figure 6.

You should only need to use your fingertips when rotating the takedown latch into the lock position (Figure 7).

**After adjustment, rack the slide slowly. Repeat until satisfactory.*

Figure 7.

3. To install CoolFire in Sig Sauer P320 variants, (Full, X5, Compacts/Carry and similar) The takedown lever MUST be vertical and pressure MAY be needed against the muzzle during lockup. (seen below)

4. If using your magazine during training, you can install the slide release insert into your magazine as shown. (Figure 8).

5. Insert the magazine and cycle the slide to ensure it does not lock back.

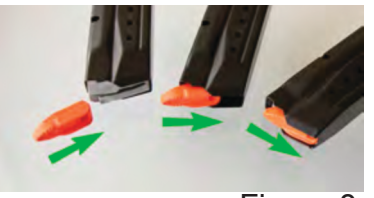


Figure 8.

Note: A stock recoil spring may not function properly with CoolFire barrel.

WARNING: DO NOT INSTALL THE RECOIL SPRING ASSEMBLY BACKWARDS. IT WILL DAMAGE THE COOLFIRE BARREL /OR PISTOL.

Charging your CoolFire Kit

1. Apply a small amount of grease into the hole in the fill nose. Do this before each use to ensure proper lubrication of the system (Figure 9). If you hear a gas leak, refer to the troubleshooting part of this manual.

Figure 9.

NOTE: Before installing adapters with knobs, turn knob counterclockwise fully. To activate adapters with a knob, turn clockwise full travel.
Turn Counterclockwise when not in use

Figure 10.

2. Thread your CO_2 bottle into your CO_2 adapter. As per Figure 10, there are 4 types:

A) 90 gram CO_2 Cartridge Adapter
B) 20 oz. CO_2 Tank Adapter
C) Soda Make Adapter
D) Charging station, with clamp.

Note: due to hardness of some SMA seals / gaskets, it may be necessary to tighten with a wrench when attaching to tank

3. Hold the CO_2 bottle vertical(+/-45 degrees), align the fill tip with the fill nose on the fill adapter. (Figure 11). Press the fill tip into the fill nose for 1-2 seconds. A small "pop" sound upon release, indicates a successful charge. Repeat as necessary.

4. Thread the laser into the muzzle end of the CoolFire barrel until snug (Figure 12) if this option is present.

Figure 11.

NOTE: The bottle must be held upside down (+/- 45 degrees) with the charging adapter at the bottom to ensure proper charging of liquid CO_2 into the CoolFire barrel.

Figure 12.

Laser adjustment

WARNING: PREVENT DAMAGINGYOUR LASER OR BARREL, DO NOTOVERTIGHTENTHE LASER SCREWS.

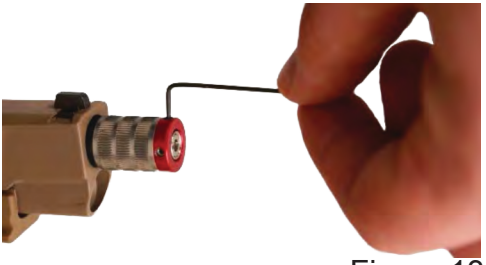


Figure 13.

Suggested zeroing procedure

You will need:

- 0.050 in/1.25 mm Allen wrench
- Medium strength thread locker compound (We use Loctite® 222MC).
- Target provided in kit

- Using the 0.050 in/1.25 mm Allen wrench provided, completely un-screw one set screw from the laser bezel. Dip the set screw into the thread locker liquid. Screw the set screw back into the bezel. Repeat for all 4 set screws.

- For convenience and precision, dry fire only (i.e. do not charge your CoolFire barrel with CO2; only rack the slide and pull trigger). Aim at your target.

- Carefully pull the trigger and observe the impact point of your laser.

- Adjust the zero on your laser using the set screws as required— loosen a set screw, then tighten the opposing screw.

- Allow the thread locker to cure following the manufacturer's instructions (24 hours for Loctite® 222MC) before recoil training with CoolFire. Your CoolFire system is now ready for training!

WARNING: DO NOTOVERTIGHTEN THE SET SCREWS. THIS WILL DAMAGE THE BEZEL AND/ORLASER.

Striker Inspection and Wear

WARNING—ENSURE THAT YOUR COOLFIRE KIT IS NOT PRESSURIZED WHILE PERFORMING ANY KIND OF MAINTENANCE.

Your striker tip will experience wear and tear and is designed to serve as the wear point. The replaceable tip makes maintenance easy. After several hundred cycles, the repeated impacts of your gun's firing pin against thestriker tip will destroy the plastic tip(Figure 14).

Figure 14.

Inspect the tip to determine if your striker tip needs replacing. Degraded performance is an indicator

Figure 15.

Replacing the Striker Tip

Remove CoolFire from pistol.

Purge CO_2 as per instructions.

Grasp old tip with pliers(Figure 15).

Figure 16.

Unscrew or rock back and forth until free, discard(Figure 16).

Align Striker over new tip, placed on hard flat surface(Figure 17).

Figure 17.

With pliers, press or screw striker into tip until seated completely(Figure 18)

Additional tips are available from our website.

A heavily worn striker will need to be replaced. Contact us for service.

CoolFire is not responsible for damage to the striker caused by shooting without a tip installed.

Figure 18.

Maintenance

Storage

NOTE — applies to paintball and soda maker bottles only; not applicable to pierced disposable CO_2 cartridges. Any remaining CO_2 will leak out if disconnected (Figure 19).

For storage (1 week or more), we recommended you remove your CO_2 Charging Station) from the paintball bottle. Open valve on PBA and SMA adapters

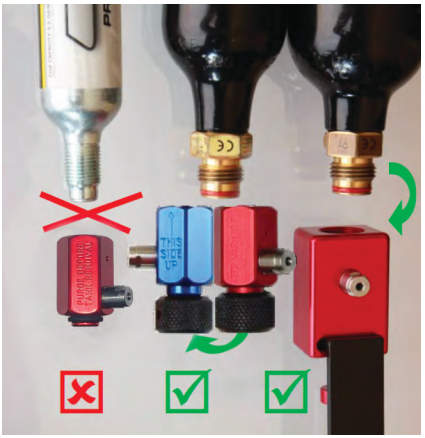


Figure 19.

WARNING: Glasses and Gloves are recommended for safety.

For More information, please view videos available at https://coolfiretrainer.com/videos.asp

O-ring replacement

Please note that some CoolFire fill devices have a spare O-ring on them(Figure 20). Spare O-rings are also provided in the Care Kit.

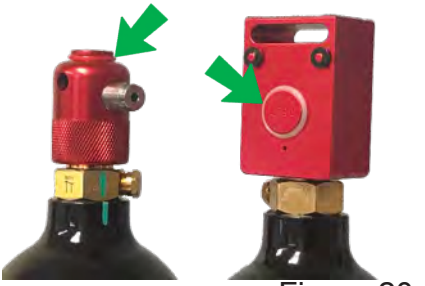


Figure 20.

1. Remove and discard the old O-ring from the CO_2 bottle.

2. Remove O-ring from device or Care Kit.

3. Install on bottle.

4. Apply a small amount of grease.

Fill Nose gasket replacement

Each Fill Device has a gasket that will eventually need replacing. If you hear a slow hissing sound from the fill nose area, disconnect your CO_2 bottle.

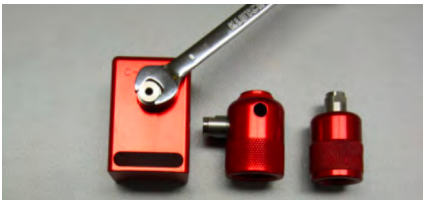


Figure 21.

WARNING:
WE RECOMMEND EYE PROTECTION AND GLOVES FOR PURGING BOTTLES TO AVOID ANY RISK OF FREEZING AND/OR IMPACT INJURY.

Figure 22.

NOTE: A 90 gram CO_2 cartridge cannot be resealed. You can either use it up or purge the remaining CO_2 by inserting the Allen wrench into the fill nose

Figure 23.

To replace the gasket on your fill device, you will need:

A) A new 7mm black gasket from your Care Kit
B) A 9mm open-end wrench
C) A wood screw
D) Supplied grease

Figure 24.

1. Using a 9mm wrench, remove the fill nose (Figure 21).

2. Remove parts inside the fill nose (Figure22).

3. Insert wood screw, lodge into inner gasket, pull free (Figure 23, 24).

4. Press new gasket into fill nose (figure 25).

Figure 25.

Maintenance

For More information, please view videos available at
https://coolfiretrainer.com/videos.asp

Fill Nose gasket replacement

5. Insert steel ball into brass spacer as shown (Figure 26).

6. Use Brass spacer to press gasket into fill nose (Figure 26, 27).

7. Reinstall fill nose onto fill adapter (Figure 29).

8. Lubricate inner fill nose with supplied grease.

Steps 1-8 above apply to all adapters. Current model bodies may differ from photos.

WARNING: The green lubricant is NOT suitable to lubricate the entire CoolFire barrel. it will become sticky as it cools and impede slide travel.

Figure 26.

Figure 27.

Figure 28.

WARNING: Do not over-tighten fill nose.

The above procedure applies to all adapter types.

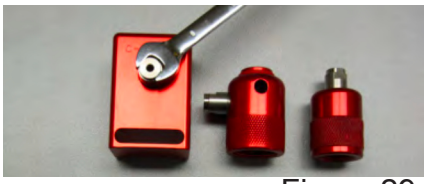


Figure 29.

Troubleshooting

Charging /Weak Recoil

If you are not getting at least a "magazine full" worth of good shots, you are not getting a full CO_2 charge.

Your CO_2 bottle may be low or the bottle is too cold. Please consider the following:

Ensure that you are holding the CO_2 bottle upside down, plus or minus about 45 degrees to ensure that liquid CO_2 fills the CoolFire barrel.

To charge the CoolFire barrel, push the fill tip into the Fill Adapter or Charging Station for 1 to 2 seconds. You should hear a slight “pop” when you pull the tip away from the Charging Device.

CO_2 pressure and temperature will impact the performance of CoolFire . If the barrel is too cold (due to rapid shooting) The piston will slow down. If the CO_2 bottle gets cold, less CO_2 may be charged into the CoolFire barrel, resulting in fewer shots. Allow the barrel and/or the CO_2 bottle to warm up slightly or warm the bottle to **80-85**degrees Fahrenheit. A digitally controlled cup warmer is recommended for this. Do NOT over heat. A digitally controlled cup warmer is recommended for this. Do NOT over heat.

Indications that a CO_2 bottle is empty, or nearing empty:

An empty 20oz. bottle should weigh about 850 grams. When filled, it should weigh about 1450g. (figure 31, 31)

Note: Weights are approximate and WITHOUT fill adapter.

883 GRAMS

Figure 30.

An empty 24oz. bottle should weigh about 907 grams. When filled, should weigh about 1500 grams.

1480 GRAMS

Figure 31.

Additional weights (grams)

	Empty	Full
Soda maker 3oz.	**268**	**362**
Soda maker 14.5oz.	**807**	**1258**

Troubleshooting

Charging /Weak Recoil

Indications that a disposable CO_2 bottle is empty, or nearing empty:

An empty 90 gram disposable cylinder should weigh approximately 417 grams. When full, it should weigh approximately 510 grams.

***with new style adapter*

(figure 32, 33)

Figure 32.

Figure 33.

The 90 gram should weigh approximately 401 grams empty and 510 grams full.

**old style adapter

(figure 34, 35)

Figure 34.

WARNING: PURGE DISPOSABLE CYLINDERS BEFORE REMOVING ADAPTER.

GLOVES AND EYE PROTECTION RECOMMENDED.

Figure 35.

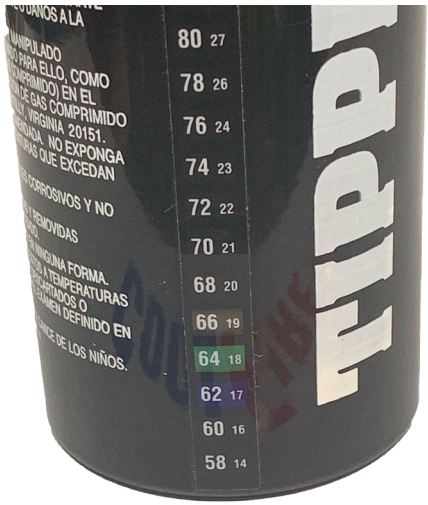
Note: Weights are approximate and WITH fill adapter.

Troubleshooting

Charging /Weak Recoil

CO_2 pressure and temperature will impact the performance of CoolFire . If the barrel becomes too cold, the piston may slow down. (often due to repeated rapid shooting) If the CO_2 charge bottle gets cold, less CO_2 may be charged into the CoolFire barrel, resulting in fewer shots. Allow the barrel and/or the CO_2 bottle to warm up slightly or warm the bottle to **80-85**degrees Fahrenheit. (Figure 36,37)

A digitally controlled coffee cup warmer works well for this.



DO NOT EXCEED 87.9 degrees Farenheit.

WARM **COLD**

Figure 36. Figure 37.

TROUBLESHOOTING PERFORMANCE

CoolFireTrainer.com

Low Shot Count / Weak Recoil

Table A. CO2 Tank Weights (approximate)

Paintball	Empty	Full	Soda Maker	Empty	Full
12oz.	540 grams	913 grams	3oz.	268 grams	362 grams
20oz	845 grams	1480 grams	14.5oz	807 grams	1258 grams
24oz.	956 grams	1700 grams			
90gram	419 grams	508 grams			

See pages 13-14 of this manual for more detailed information

Please Call
(918) 973-2665

or email
tech@CoolFireTrainer.com

CoolFire

Troubleshooting

CO2 leaking from CoolFire barrel

The barrel may have become unthreaded from the barrel block. Hand tighten the barrel to the barrel block. If the barrel loosens frequently, apply a drop of Loctite® Thread Locker Blue 242® to the barrel thread. Do not completely remove the barrel. Simply unscrew it to expose the top couple of threads and apply the drop of Loctite®.

Ensure that lubrication is applied as outlined in the Maintenance section to keep the CoolFire seals and O-rings lubricated. Damage to the seals and/or O-ring may result in leakage.

If tightening the barrel does not resolve the issue, repair may be required (please contact technical support).

LASER IS INCONSISTENT

This can have several causes:

Laser is not fully seated in the barrel. Ensure that the laser is fully seated against the barrel by hand-tightening.

Laser adjustment screws have loosened. Using your 0.050 in/1.25 mm Allen wrench, tighten the adjustment screws to snug only.

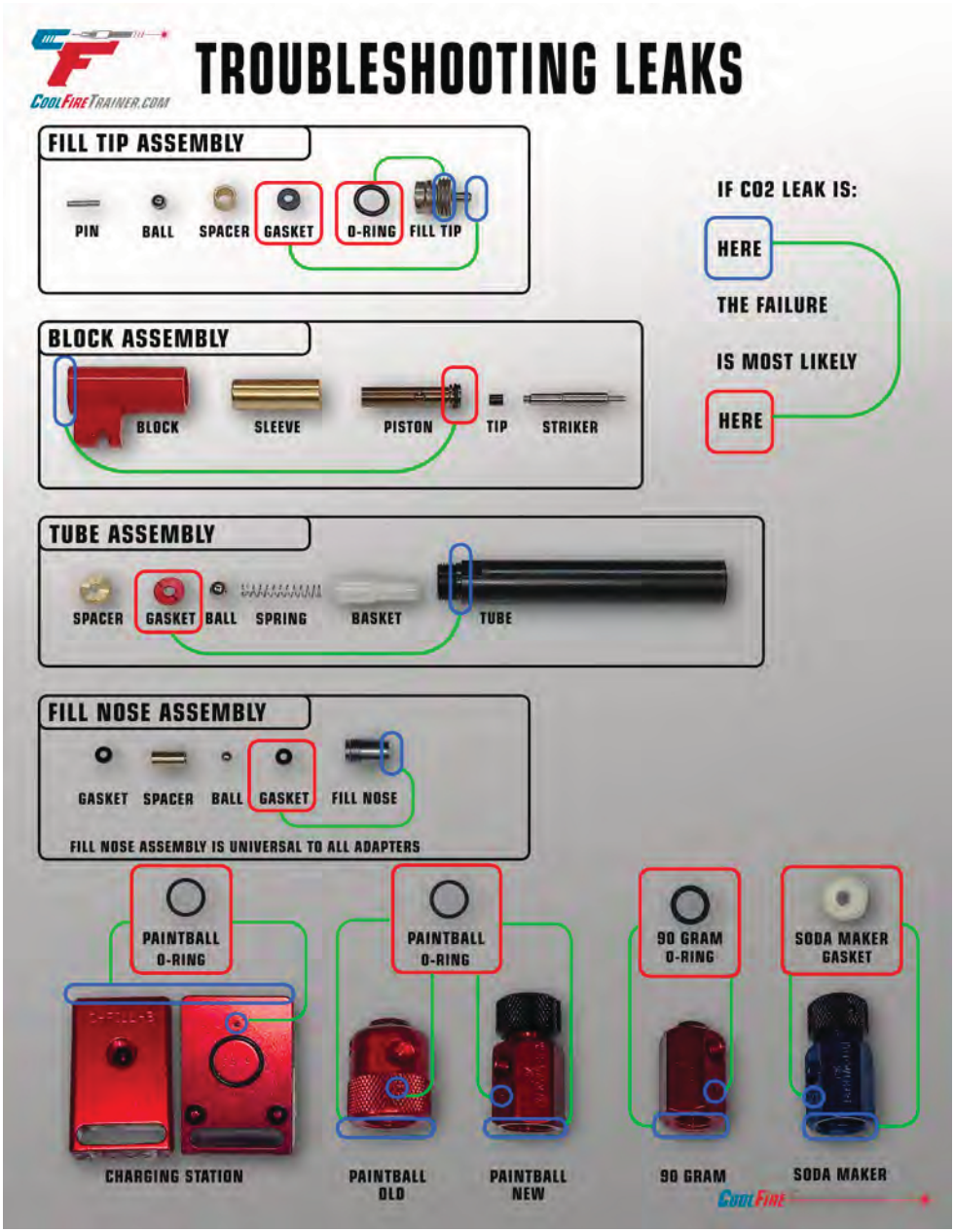
WARNING: DO NOT OVER-TIGHTEN TO PREVENT DAMAGE TO YOUR LASER!

Check the laser point of impact, and adjust the screws as required to zero the laser with your sights.

Batteries are drained: Batteries are not making adequate contact. Ensure that the laser bezel is tight against the laser housing. Handtighten only. Do not over-tighten!

The laser has become damaged and inoperable. Contact CoolFire for additional troubleshooting information.

For More information, please view videos available at
https://coolfiretrainer.com/videos.asp


CoolFireTrainer.com
TROUBLESHOOTING LEAKS
FILL TIP ASSEMBLY
PIN
BALL
SPACER
GASKET
O-RING
FILL TIP
IF CO2 LEAK IS:
HERE
THE FAILURE
IS MOST LIKELY
HERE
BLOCK ASSEMBLY
BLOCK
SLEEVE
PISTON
TIP
STRIKER
TUBE ASSEMBLY
SPACER
GASKET
BALL
SPRING
BASKET
TUBE
FILL NOSE ASSEMBLY
GASKET
SPACER
BALL
GASKET
FILL NOSE
FILL NOSE ASSEMBLY IS UNIVERSAL TO ALL ADAPTERS
PAINTBALL O-RING
PAINTBALL O-RING
90 GRAM O-RING
SODA MAKER GASKET
CHARGING STATION
PAINTBALL OLD
PAINTBALL NEW
90 GRAM
SODA MAKER
CoolFire

Rapid Fill Adapter
Extend-A-Shot

Installation Instructions
for use with CoolFire recoil systems

Rapid Fill Adapter

Extend-A-Shot

1. The adapter must be installed after the barrel has been installed in the gun.

NOTE: Many steps apply to both the Rapid Fill Adapter (RFA) and the Extend-A-Shot (EAS)

2. If installed, remove the laser from the end of your barrel.(Fig. 1)

Fig. 1

3. To purge the kit, push the 0.050" allen wrench (provided with your kit) into the fill tip until CO_2 escapes. (Fig. 2)

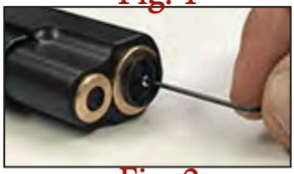


Fig. 2

4. After purging, **use the fill tip tool to remove the fill tip by unscrewing it.** (Fig.3)

5. Store the removed fill tip to prevent loss.

Fig. 3

DO NOT remove RFA or EAS under pressure. Purge first.

6. Apply a small amount of grease (supplied) to the O-ring (Fig. 4)

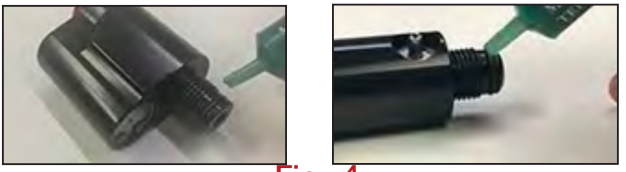


Fig. 4

7. Use the supplied washers to “clock” the adapter, orienting the fill tip in a manner to ease filling.(Fig. 5)

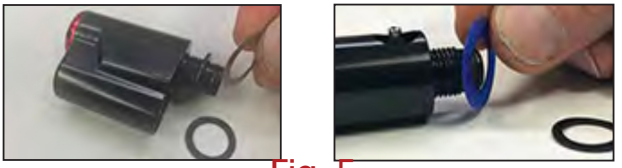


Fig. 5

8. Thread the adapter into the end of your barrel. Do not over-tighten. (Fig. 6)

Fig. 6

9. To fill the system, press the fill tip of the adapter into the fill nose of your bottle adapter (90gr, 20oz or Charging Station) for approx. 2 seconds. (Fig. 7)

Fig. 7

10. To remove the fill adapter, purge system with the allen wrench. (Fig. 8)

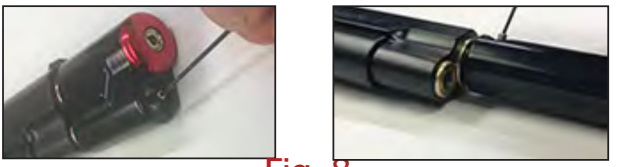


Fig. 8

11. Unscrew and store the adapter.

12. Apply a small amout of grease to the o-ring on the fill tip removed in step 4.(Fig.3) Reinstall with supplied tool. (Do not over-tighten.)

DO NOT remove RFA or EAS under pressure. Purge first.

DO NOT USE COOLFIRE IN YOUR VP9 UNTIL READING AND UNDERSTANDING THIS MANUAL.

H&K VP9 CoolFire Installation

CLEAR WEAPON OF ANY LIVE AMMUNITION AND STORE SEPARATELY.

1. Remove magazine and any ammunition.

fig - 1

2. Remove slide by putting it to "Slide-Lock" and rotating the locking lever downward 90 degrees.(fig-1)

fig - 2

3. Holding slide, release slide lock, pull trigger, remove slide.(fig-2)

fig - 3

4. While pulling trigger, continue rotation of slide lock forward until it starts to come out of the frame. (fig-3)

fig - 4

5. Remove slide lock from frame.(fig-4)

fig - 5

6. Remove recoil spring / rod and barrel.(fig-5)

Remove Stock firing pin spring.

7. Using supplied hex key or pick, Press the firing pin sleeve forward.(fig-6)

fig - 6

8. While pushing down on the firing pin sleeve, push firing pin stop forward.(fig-7)

fig - 7

9. Remove firing pin stop.(fig-8)

10. Remove firing pin assembly through the rear of the slide.(fig-9)

fig - 8

11. Support the assembly in a vertical position, resting on the exposed portion of the firing pin, compress the firing pin spring.
(fig-10)

fig - 9

12. Remove the two firing pin spring cups while compressing the firing pin spring. (fig-11)

fig - 10

13. Remove the stock firing pin spri and replace with the supplied spring found in your CoolFire kit.(fig-12)

fig - 11

14. Reassemble firing pin assembly in verse order with supplied spring.

fig - 12

FAILURE TO REVERSE THE FIRING PIN SPRING BACK TO STOCK AFTER TRAINING MAY RESULT IN UNFAVORABLE PERFORMANCE

Reassemble VP9 with CoolFire.

1. Insert Coolfire into slide as you would the stock barrel. (fig-13)

2. Install Recoil assembly, compressing it to catch on the recess in the red block. (fig-14)

3. Push limiter to the front (fig-14)

4. Install complete upper onto frame.(fig-15)

5. Pull slide to slide lock and lock. (fig-15)

6. Insert take down lever at approximately a 10:00 O'Clock rotation with trigger pulled. (fig-17)

7. Rotate lever downward (fig-18) pressing in until at rest in "locked" position. (fig-19)

8. Release slide, charge CoolFire and train. (fig-20)

For Assistance:
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