



# IES WRK Recoil Kit User Guide

## FN F2000/FS2000



IES Interactive Training

## Introduction

The purpose of the FN F2000/FS2000 recoil kit is to quickly convert a live rifle into an effective training weapon that is both realistic and safe. No live ammunition can be loaded into, or fired from the weapon when the recoil kit is installed.

When the weapon is fired with the recoil kit installed an infrared (non-visible) laser clamped to the front of the barrel is fired, allowing interaction with the IES simulator.

**ALL FIREARMS SAFETY RULES AND GUIDELINES SHOULD BE FOLLOWED AT ALL TIMES!**

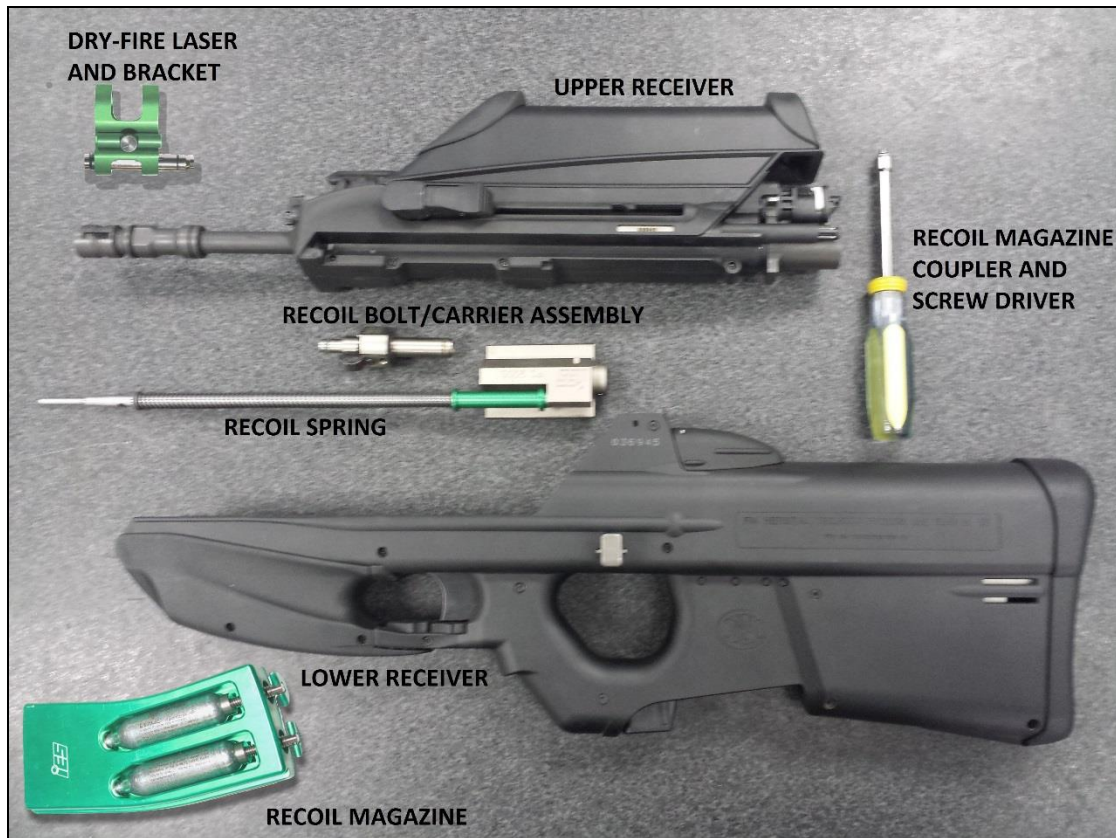


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## Parts & Components of the Weapon & Kit

There are several parts of the original weapon needed in addition to the recoil kit components, in order for proper operation.



The following original weapon components are used:

- Upper Receiver (and all sub components)
- Lower Receiver (and all sub components)

The following recoil kit components are provided as part of the recoil kit:

- Recoil Bolt & Carrier Assembly: Takes the place of the weapon's original bolt/carrier assembly.
- Recoil Magazine (2): Takes the place of the weapon's original magazine.
- Recoil Magazine Coupler: Couples CO2 port from recoil magazine to recoil bolt assembly.
- Barrel Mount Clamp: Attaches the laser to the forward end outside of the barrel.
- Laser: Installed using the barrel mount clamp. Mount on the outside of the front of the barrel to provide indication of shots fired on an IES simulator. Note the laser is infrared and is not normally visible. The laser is eye safe, but should never be pointed or fired at another person.
- Spare Parts & Tools:
  - Magazine top port gasket (2)
  - Magazine piercing nozzle gasket
  - Recoil Bolt Assembly Large replacement O-ring
  - Bolt Connector O-rings
  - Bolt Connector Installation Tool and Wrench
  - Bolt Oil & Magazine Grease



## Recoil Kit Installation

**NOTE:** Before proceeding, ensure that the weapon is properly cleared and safe.

- 1) Push the stripping pin located on the right side of the weapon. The stripping pin will protrude from the left side of the weapon. Pull the stripping pin from the left side until it will go no further.
- 2) Remove the upper receiver from the frame by pushing it forward.
- 3) Remove the original spring and bolt/carrier assembly from the frame by sliding it forward and then pulling it upward.

**NOTE:** Before proceeding, ensure that the weapon is properly cleaned to avoid live ammunition residue and excess weapon oil from entering the recoil kit components and causing degraded performance.

- 4) Assemble the recoil spring and bolt/carrier assembly as shown in the pictures below. Notice the notched side on the bolt that needs to be aligned properly for the spring to be inserted properly.



Top View



Bottom View

- 5) Install the recoil spring and bolt/carrier assembly into the upper receiver as shown in the pictures below.



- 6) Install the upper receiver onto the lower receiver, taking care to properly align it to the recoil bolt and carrier assembly. Ensure that the tab that protrudes from the bottom of the bolt/carrier assembly doesn't become bent or distorted in any way during assembly.

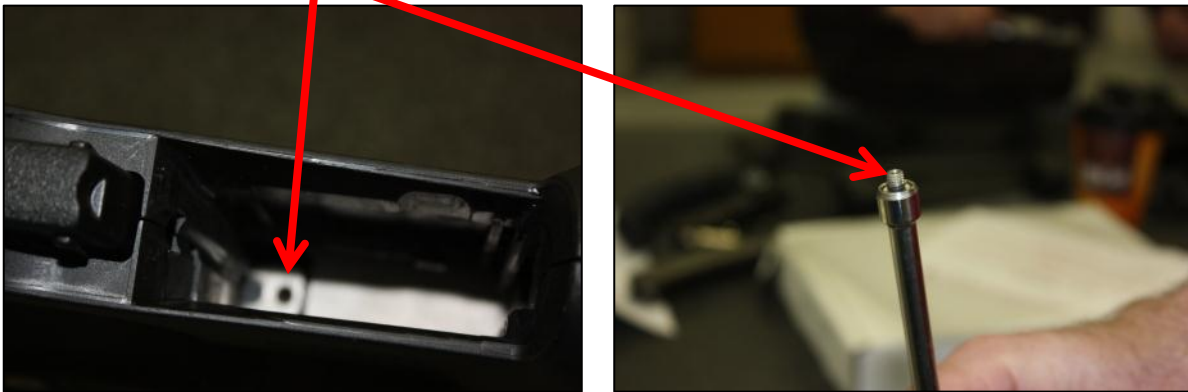


- 7) Push the upper receiver onto the lower receiver, then push the stripping pin from the left side until fully seated in the frame when the upper and lower receivers are flush together.

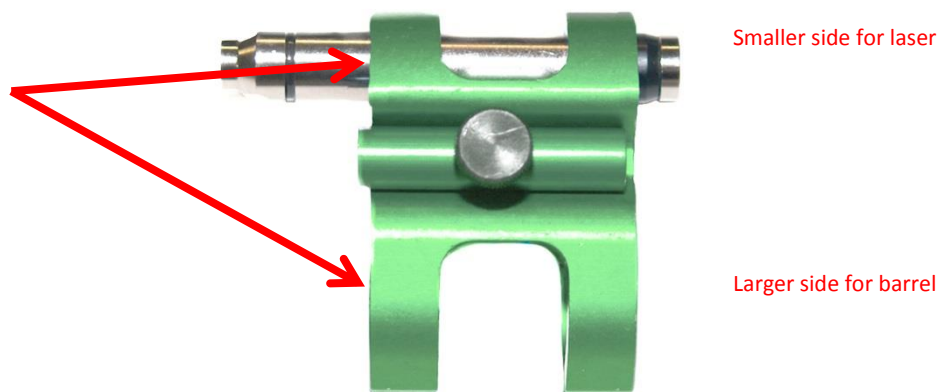




- 8) Install the recoil magazine coupler into the bolt through the magazine well.



- 9) To install the laser onto the weapons barrel you must attach it using the supplied barrel mount clamp. There is a clearly visible size difference on opposite ends of the barrel mount clamp. Make sure that the laser is installed on the side with the smaller opening, and that the clamp is attached to the rifle barrel using the larger opening.



- 10) The image below shows how the barrel mount clamp should look installed on a typical barrel.



- 11) To install the CO2 cartridge into the magazine place the smaller diameter portion of the cartridge into the magazine first and align it with the piercing nozzle at the top of the magazine. Then firmly tighten the thumb screw at the bottom of the magazine to secure the CO2 cartridge in place and pierce it for use.



- 12) Install the magazine into the weapon. If charging of the slide is required for this weapon, do so. Test fire the recoil weapon.



## **Recoil Kit Removal**

To remove the recoil kit take out the magazine and fire the weapon once to ensure the recoil bolt is not charged. Note that some recoil kits may require you to release the magazine and manually pull on the magazine to remove it.

- 1) Remove the bolt coupler from the bolt through the magazine well.
- 2) Push the stripping pin located on the right side of the weapon. The stripping pin will protrude from the left side of the weapon. Pull the stripping pin from the left side until it will go no further.
- 3) Remove the upper receiver from the frame by pushing it forward.
- 4) Remove the recoil spring and bolt/carrier assembly from the frame by sliding it backwards off of the upper receiver.



## Laser Information

An infrared (IR) laser insert module is provided with each recoil kit. The IR laser emits a pulse of light each time the weapon is fired. The pulse is not visible to the human eye. The laser pulse is detected by the IES simulator and is used to indicate the shot location.

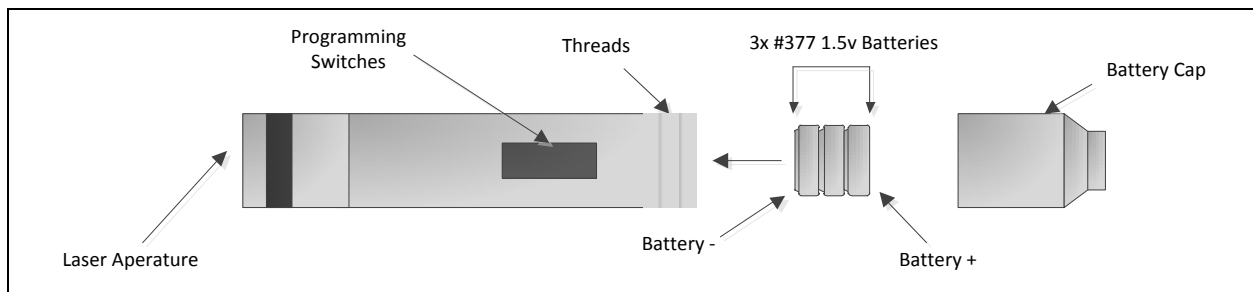
Recoil Rifles use standard IES Laser Insert.



**NOTE:** If you are setting up a laser for use with a recoil rifle for the first time, or need to change the ID of the laser please see the IES Laser Programming Guide for proper dip switch settings.

## Laser Batteries

To power the laser three #377 batteries are used. A set of batteries should last 100,000 shots or six months, whichever occurs first. The batteries should be installed with the negative (-) side facing into the laser.



**CLASS 3R LASER PRODUCT**

**INVISIBLE LASER RADIATION**

**AVOID DIRECT EYE EXPOSURE**

## Maintenance

Every 5,000 shots or as needed you should perform the following maintenance on the recoil kit:

### Lubrication of weapon

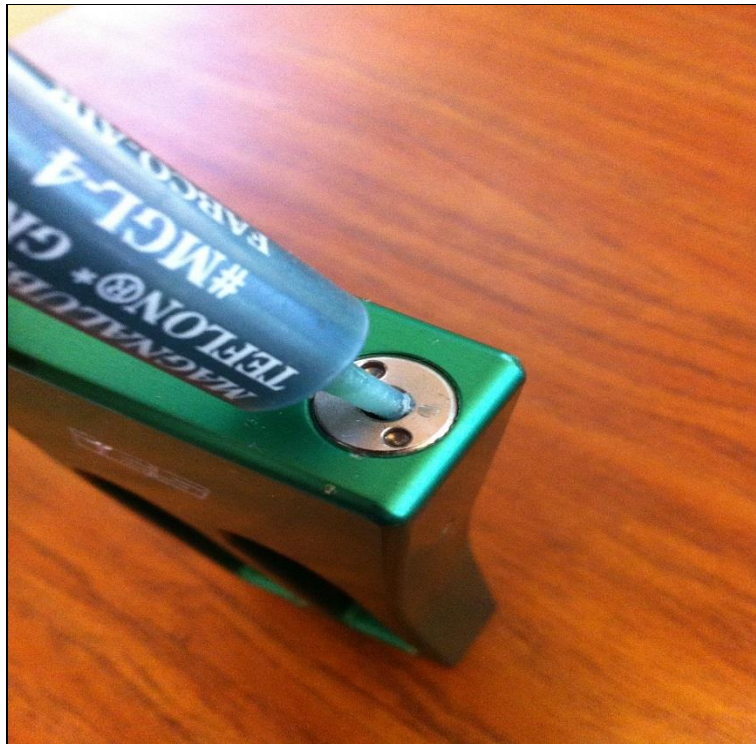
If your weapon normally requires lubrication on slide rails or elsewhere be sure to apply it.

### Lubrication of recoil barrel

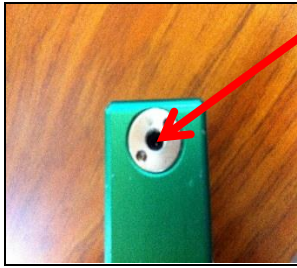
Place a few drops of oil or grease on the edges of the recoil bolt assembly.

### Lubrication of magazine port:

Place a small amount of grease in the top port of the magazine.



## Troubleshooting



### Air leak on top port of magazine when not in weapon

An air leak from the top port of a magazine that is not installed in a recoil weapon is an indication that the magazine itself has a loose coupler or a worn gasket. Tighten the coupler with the provided tool and if the leak persists, follow the repair guide for magazine gasket replacement. If the magazine continues to leak afterwards contact IES Customer Service.



### Air leak at top of CO2 cartridge in magazine when not in weapon

An air leak from the top of the CO2 cartridge is an indication that the gasket around the piercing nozzle of the magazine is worn or missing. Follow the repair guide for piercing nozzle gasket replacement. If the magazine continues to leak afterwards contact IES Customer Service.

### Air leak coming from gun when magazine is installed in weapon

There is a single O-ring that is underneath the bolt coupler screw and it is possible for this O-ring to become warped. If this happens the O-ring needs to be replaced. Remove the coupler screw using the supplied recoil tool or wrench and pull the O-ring off. Slide on the new O-ring from the supply of replacements and reinstall the coupler screw.



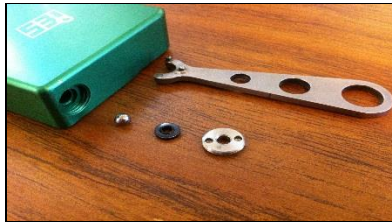
## Repair Guide

### Magazine CO2 Port Gasket

- 1) Remove any CO2 cartridges in the magazine.
- 2) Hold the magazine and remove the coupler from the top of the magazine using the provided tool.



- 3) Pull the black gasket out of the magazine and discard it. Do not lose the ball bearing.



- 4) Verify that the ball bearing is still in the magazine.



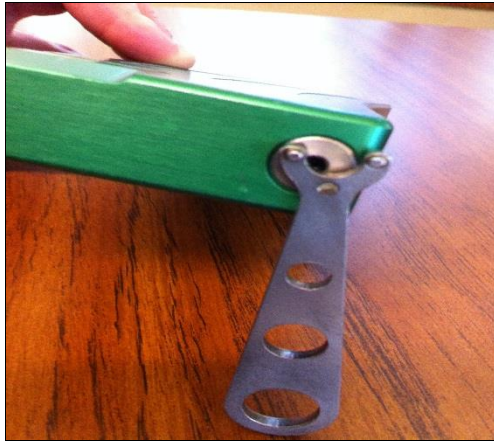
- 5) Place a new gasket into the magazine and secure it firmly in place using the provided gasket installation tool. Make sure that it is seated fully in the recessed area.



**CORRECT**

**WRONG**

- 6) Secure the coupler back into the magazine.



- 7) Grease the opening at the top of the magazine.



### Magazine Piercing Nozzle Gasket

- 1) Remove any CO2 cartridges in the magazine.
- 2) Hold the magazine upside down and pry out the piercing nozzle gasket.
- 3) Place a new gasket on the piercing nozzle and ensure that it is fully seated.

