

# PWD ENGINEERED SOLUTIONS

Congratulations and THANK YOU for purchasing your new PWD Engineered Solutions LLC X-2 Handguard. There are two basic methods for installation on both AR-15 and AR-10 rifles based on what type of upper receiver you choose to use. We highly recommend using the Aero Precision Enhanced series uppers because they offer a much stronger and stiffer handguard mount as well as a stronger barrel nut than a standard AR-15/M4 upper receiver and barrel nut.

## **Installation Option #1 using Aero Precision Enhanced series upper receivers (HIGHLY RECCOMENDED).**

### Tools Required for installation

1. Upper receiver holding jig
2. Vice
3. Aero Precision Enhanced barrel nut tool (Typically supplied with upper receiver)
4. 5/64" Allen Wrench
5. ½" Torque Wrench
6. Anti – Seize compound
7. Blue thread locking compound (optional)

### Parts Required for Installation

1. Aero Precision AR-15 or Ar-10 Enhanced Upper receiver with barrel nut
2. X-2 Handguard Kit
3. Complete Barrel
4. Gas Block with Gas Tube

### Installation Steps:

1. Remove Barrel nut from upper receiver and mount upper receiver into holding jig in your vice with the picatinny rail horizontal and on top.
2. Slide complete barrel into the upper receiver with the locating pin pointing up (Gas port should also be pointing up). The locating pin should slide into its mating slot in the upper receiver.
3. Apply anti – seize compound to barrel nut threads and slide barrel nut over barrel and thread it into the upper receiver
4. Using barrel nut tool and torque wrench torque barrel nut to 45-55 ft-lb

5. If your gas block and gas tube are smaller than the ID of the X-2 handguard, then you can install it at this time. Ensure gas port in gas block and gas port in barrel are in alignment. IF GAS BLOCK IS LARGER THAN X-2 HANDGUARD THEN YOU MUST INTALL THE X-2 HANDGUARD FIRST!
6. Slide X-2 handguard over barrel and onto the handguard mounting boss on upper receiver. QD cup should be at the bottom on the front (muzzle) end of the handguard.
7. Line up the 8 slots in the handguard with the 8 threaded mounting holes in the upper receiver.
8. Using the 8x provided 8-32 screws and washers (apply blue thread lock if desired) and install all 8 screws through handguard into upper receiver. We recommend torque to 25in-lb.
9. If your gas block is larger than the ID of the X-2 handguard then you must install the gas block and gas tube now. Ensure gas port in gas block and gas port in barrel are in alignment.
10. After the gas block and gas tube are installed you may install any muzzle devices.
11. Remove upper from jig, install charging handle and bolt carrier group and check mechanical function.

## **Installation Option #2 using standard AR-15 or AR-10 upper receivers with Aero Precision special Barrel Nut**

### Tools Required for installation

1. Upper receiver holding jig
2. Vice
3. AR-15 or AR-10 Barrel Nut Tool
4. Gas tube alignment tool
5. 5/64" Allen Wrench
6. ½" Torque Wrench
7. Anti – Seize compound
8. Blue thread locking compound (optional)

### Parts Required for Installation

1. AR-15 or Ar-10 Upper receiver
2. Aero Precision special barrel nut for your reciever
3. X-2 Handguard Kit
4. Complete Barrel
5. Gas Block with Gas Tube

## Installation Steps:

1. Mount upper receiver into holding jig in your vice with the picatinny rail horizontal and on top.
2. Slide complete barrel into the upper receiver with the locating pin pointing up (Gas port should also be pointing up). The locating pin should slide into its mating slot in the upper receiver.
3. Apply anti – seize compound to barrel nut threads and slide barrel nut over barrel and thread it into the upper receiver
4. Using barrel nut tool and torque wrench torque barrel nut to 30-50 ft-lb.
5. Using Gas port alignment tool, check for one of the 4 holes to align to the gas port hole in the upper receiver. If the hole is not aligned then remove the barrel nut and use the shims supplied with your Aero Precision barrel nut to bring one of the 4 gas port holes into alignment when the barrel nut is tightened to the torque shown above. Apply oil, a light coat of grease or anti – seize to the shims before tightening barrel nut to prevent shims from galling.
6. If your gas block and gas tube are smaller than the ID of the X-2 handguard, then you can install it at this time. Ensure gas port in gas block and gas port in barrel are in alignment. **IF GAS BLOCK IS LARGER THAN X-2 HANDGUARD THEN YOU MUST INSTALL THE X-2 HANDGUARD FIRST!**
7. Slide X-2 handguard over barrel and onto the barrel nut on upper receiver. QD cup should be at the bottom on the front (muzzle) end of the handguard.
8. Line up the 8 slots in the handguard with the 8 threaded mounting holes in the barrel nut.
9. Using the 8x provided 8-32 screws and washers (apply blue thread lock if desired) and install all 8 screws through handguard into barrel nut. We recommend torque to 25in-lb.
10. If your gas block is larger than the ID of the X-2 handguard then you must install the gas block and gas tube now. Ensure gas port in gas block and gas port in barrel are in alignment.
11. After the gas block and gas tube are installed you may install any muzzle devices.
12. Remove upper from jig, install charging handle and bolt carrier group and check mechanical function.