

Barrels Overview and Specifications

Beyond directing the bullet down range, the AR15 standard barrel serves 3 other purposes. It acts as the attachment point for the front sight base, supports part of the gas operating system, and it's the point where the handguards attach.

The barrel has 22 parts, they are: barrel extension, barrel, locator pin, barrel nut, handguard retainer ring, slip ring spring assembly, handguard slip ring, gas tube, 2 handguards, handguard cap, front sight block. 2 taper pins, gas tube pin, forward sling swivel and pin, front sight detent, front sight detent spring, sight post, flash hider and peel washer.

16" barrels and 20" barrels use different handguards, sight posts, and gas tubes so make sure you select the correct parts.

Quite a few of the mil spec barrels are sold with the entire front sight block components installed, and unless otherwise specified by the manufacturer the barrel extension and locator pin come installed also. You can also order each part individually if you choose to.



Now the one item that has the biggest impact on accuracy for your AR15 is the barrel. There are quite a few considerations you will have to make when choosing the right barrel for your use.

The first of these is the caliber that the barrel is built for. Now we assume that you're shooting either .223 Remington or 5.56mm. Now while these cartridges may look the same they're not. Let me explain.



.223 Remington

5.56 NATO

The 5.56mm and .223 Rem. cases share the same outside dimensions, but the military 5.56mm operates at higher chamber pressures than the .223 Remington. The 5.56mm case typically has thicker walls at the web to deal with these higher pressures. A rifle chambered for 5.56mm has a longer throat to accommodate and help control the higher operating pressure curve. Shooting a .223 Remington cartridge in a 5.56mm chamber is safe. You may see a decrease in accuracy and velocity but its pressures are within safe limits. A rifle chambered for .223 Remington has a shorter throat that is designed for lower operating pressures and improved accuracy. While you'll be able to chamber a 5.56mm in a .223 Remington chamber; the excessive pressures can cause functioning issues and dangerous pressures to develop.

So if you want a good competition rifle that will operate reliably with all sorts of ammunition then choose a barrel chambered for 5.56mm. If you want a rifle for long distance shooting then choose a barrel chambered in .223 Remington and only shoot .223 Remington cartridges in it.

The second consideration is rate of twist. The rate of twist is the distance, in inches, it takes for the bullet to make one revolution in the barrel. So a fast 1 in 7 twist means that in 7 inches the bullet will make one full revolution and a slower 1 in 12 twist the bullet will complete one revolution in a foot. The faster the rate of twist like a 1 in 7 is better for stabilizing heavier bullets and a slower rate of twist is better for lighter bullets. A 1 in 9 rate of twist is a good compromise for most bullet weights and therefore fairly standard.

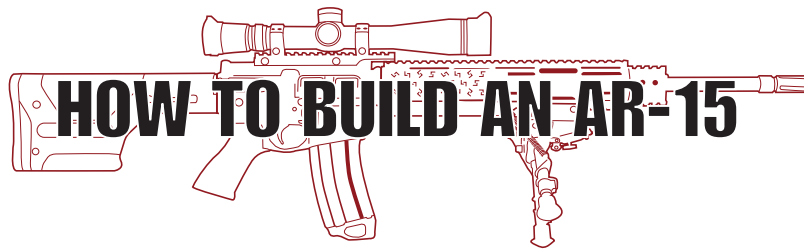


Next is chrome lining. Whether or not your barrel is chrome lined may have an effect on accuracy. Common opinion is that non lined barrels are more accurate. However, chrome lined barrels and chambers may be just as accurate. The chrome lining was added to make cleaning easier and to add longevity.



Barrel length affects bullet velocity. The longer the barrel is, the higher velocities you can achieve, of course only to a certain point. The 16" barrel is more than capable to maintain accuracy but if you need higher velocities, you may want to install a 20" or a 24" barrel.





Barrels Overview and Specifications

Make sure you get the correct gas tube for your particular barrel. There are two common lengths they are; rifle length, which typically fits on 20" and 24" barrels and the carbine length that fits on 16" barrels or shorter.

The fifth thing to consider is barrel diameter. Barrel diameter or thickness determines how long your barrel maintains its accuracy when shooting long strings of fire. Thinner or "pencil or A1" barrels while lighter to carry will be affected faster as the barrel heats up. Heavy barrels or "H Bars" are less affected by heat but add weight to the rifle. A medium weight barrel offers a compromise between both types and therefore is the most common type manufactured.



When it comes to barrel diameter you do need to pay attention to the diameter of barrel at the gas block if your barrel doesn't come with one installed. The common diameters are .750" for standard barrels and .936" for heavy barrels. If you have an A1 or a "pencil" barrel then your diameter will be .625". Make sure you know this information when ordering your gas block.



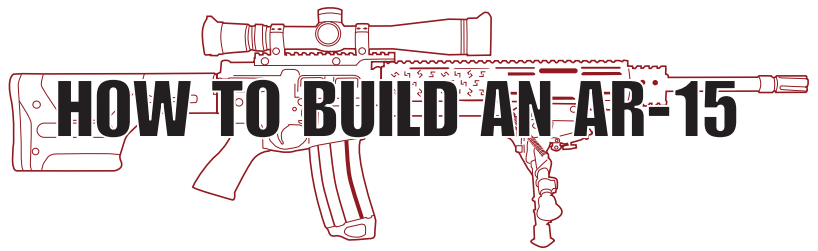
There are quite a few options to choose from in gas blocks. If you want to keep the standard front sight base and use it with an A3 or flattop receiver, you can. There are detachable and flip up aftermarket rear sights available that are designed to work with your standard front sight which allows you to switch between iron sights and an optical sight or use the two in conjunction with each other for co-witnessing. Because the height of the standard front sight partially obstructs the field of view when using an optical sighting system, you may want to consider a low profile gas block. There are a bunch of options available. There are smooth sight blocks, sight blocks with Picatinny rails that allow the attachment of accessories, and even ultra low gas blocks that will fit under long free floated handguards. If you choose a gas block with a Picatinny rail you can install a flip up front sight. Or install a gas block with a flip up front sight built in.



The last option to affect accuracy is free floating your barrel. The standard mil spec barrel handguards are attached at the back of the barrel at the handguard slip ring and just behind the front sight base with the handguard cap. This can cause the shooter to exert pressure on the barrel when holding the handguard and affect the point of impact when shooting. In typical battle field situations this isn't a concern. But if you're looking for consistent long range accuracy then you'll want to free float your barrel.



By free floating your barrel, the handguards are supported at the barrel nut only which improves shot to shot consistency and the overall accuracy of the rifle.



Barrels Overview and Specifications

Handguards come in a wide variety of options. From standard mil spec to light weight carbon fiber to 4 rail Picatinny types for attaching all sorts of accessories. It really depends on what type

of shooting you'll be doing when it comes to making a choice. Just remember to choose the correct length handguards when ordering. There are two standard sizes, either carbine or rifle, and these are dictated by the barrel length.



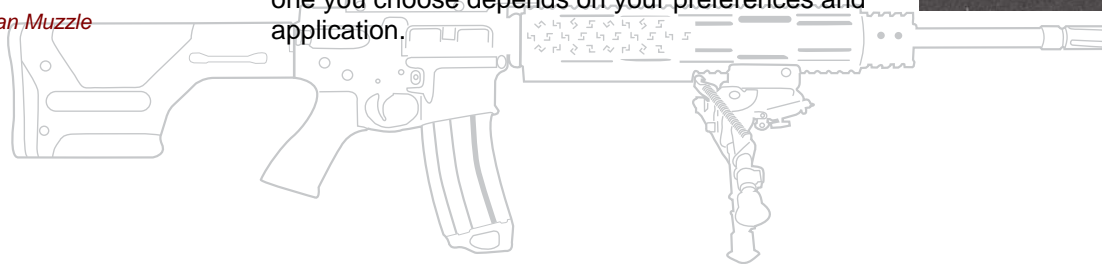
Pre-Ban Muzzle

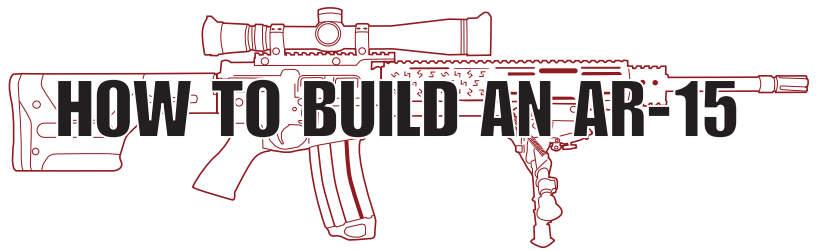
There are two different types of muzzles; post-ban and pre-ban. Post-ban barrels lack threading at the muzzle in order to comply with certain current state laws and the 1994 Federal Crime Bill that has now expired. There are aftermarket adapters that allow you install flash hiders and muzzle brakes and some that don't require an adapter to install that are available for these barrels. Just be sure that by installing one of these you're not violating a local or state ordinance. The pre-ban muzzle is threaded with the common size of 1/2" - 28 threads.



Post-Ban Muzzle

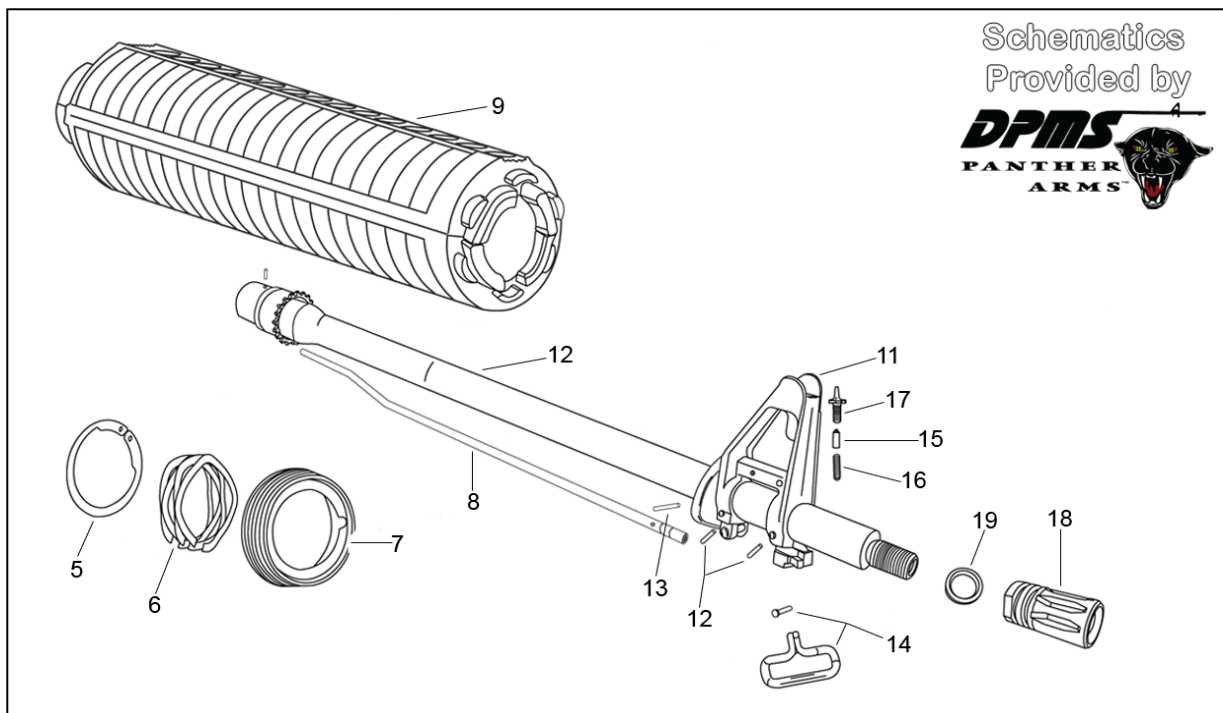
There are quite a few choices in flash hiders and muzzle brakes available and even some that will serve both rolls. Beyond reducing the muzzle flash or recoil and muzzle climb; they also protect the muzzle crown and the threads of the barrel. Which one you choose depends on your preferences and application.





Barrels Overview and Specifications

BARRELS OVERVIEW & SPECIFICATIONS



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|------------------------------|----------------------------------|
| 1. Barrel Extension | 11. Front Sight Block |
| 2. Barrel | 12. Taper Pins (2) |
| 3. Locator Pin | 13. Gas Tube Pin |
| 4. Barrel Nut | 14. Forward Sling Swivel And Pin |
| 5. Handguard Retainer Ring | 15. Front Sight Detent |
| 6. Slip Ring Spring Assembly | 16. Front Sight Detent Spring |
| 7. Handguard Slip Ring | 17. Sight Post |
| 8. Gas Tube | 18. Flash Hider |
| 9. Handguards (2) | 19. Peel Washer |
| 10. Handguard Cap | |