

The Lower Receiver & Common Subassemblies Introduction

The lower receiver contains the fire control system, the magazine well, and serves as the attachment point for the buttstock and pistol grip. The lower receiver is common for all upper receiver and buttstock types.



In this segment we'll discuss the common sub assemblies, their purpose and operation, and the parts that make them up. There are nine sub assemblies that are contained or attached to the lower receiver, they are; the buttstock, pistol grip, fire control selector, trigger group, magazine group, bolt catch, trigger guard, and the rear take down pin and the pivot pin.



Brownells offers each of these sub assemblies as individual parts, in subassembly kits and also as lower receiver parts kits that contain everything for the lower receiver except the buttstock. We also sell complete lower receivers that are already assembled including the buttstock, and complete lower receivers that need to have the buttstock of your choice installed.

There are different sizes of trigger and hammer pins that you should be aware of when ordering your lower receiver parts. The most common are .154" for military and aftermarket receivers, and .171" which are currently manufactured by Colt as Sporter rifles. You'll need to know which size pins your receiver uses and make sure your fire control group, trigger pin and hammer pin match. If you're not sure, use a set of calipers to measure your existing pins. Because of the variety of buttstocks and triggers and how they are assembled we'll discuss these in their own segments.



In the upper receiver introduction segment we discussed the differences in pivot pin sizes. Make sure when you order your parts that the pivot pin and take down pin sizes match your upper and lower receivers. The common size is .250" inches for both pins. Some Colt rifles use a .312" diameter for the front pivot pin. There are adapters that will allow rifles with .312" pivot pin holes to work with .250" upper or lower receivers. The pivot pin adapters have an offset pin or an eccentric bushing to ensure proper alignment. Available for adapting the Colt upper to an aftermarket lower or a Colt lower to an aftermarket upper, be sure to measure your pivot pin before ordering.

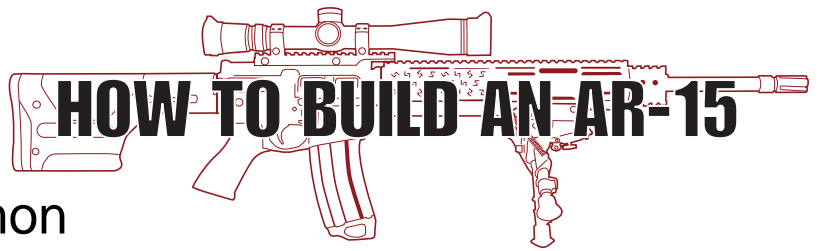
The pivot and take down pins hold the upper and lower receivers together. When you push out the take down pin the upper and lower receiver are allowed to pivot on the pivot pin for cleaning or disassembly. You can push out the pivot pin and separate the two halves.

The six parts for the pin assemblies are; two pin detents and two pin detent springs, the pivot pin and the take down pin. The pivot pin has a flat cut in the head and the take down pin head is round. Even though these pins share the same diameter, they are not interchangeable.

The next subassembly is the bolt catch. The bolt catch can manually lock the bolt carrier group back for inspection; it locks the bolt back automatically when the follower of an empty magazine engages it. The bolt catch subassembly is comprised of 4 parts, they are; the bolt catch spring, bolt catch plunger, bolt catch and the bolt catch pin. The bolt catch is used often in the course of regular operation so there are quite a few aftermarket catches and attachments that make locating and operating it easier.

Some bolt catches have two pads, one for releasing the bolt and the other for easy location that provides a mechanical advantage in locking the bolt back. Other types of attachments include extended bolt release buttons that allow the thumb of the shooting hand to release the bolt carrier group and bolt catches with adjustable or oversized pads. Be sure when ordering one of these bolt catches or attachments that you take into account other accessories and parts so that they don't interfere with each other.

The magazine catch retains the magazine in the magazine well by engaging a cut on the left side of the magazine. Tension to retain the magazine is provided by the magazine button catch spring, depressing the magazine release button on the right hand side releases the magazine.



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There are three parts that make up the magazine catch; they are: the magazine catch, the magazine release button spring and the magazine catch button.

This sub assembly is used regularly in the normal course of operation, and therefore there are quite a few aftermarket accessories to help locate and provide mechanical advantages in operating the magazine catch.

Oversized and over length buttons help locate and improve the shooters purchase on them when releasing the magazine. Ambidextrous magazine releases use a lever mechanism on the left side of the rifle to allow the left hand to release of the magazine.

Again, be sure that you take into account other accessories and parts when ordering these aftermarket parts so that they don't interfere with each other.

The fire control selector or more commonly called the safety selector, is located on the left side of the rifle and is operated by the shooters right thumb while still holding onto the pistol grip. On the civilian rifles this selector has only two positions, safe and fire.

When the fire control selector is rotated in the safe position it blocks the trigger's rear extension preventing it from moving up and releasing the trigger and hammer sear engagement. When the fire control selector is rotated to the fire position, a flat cut in the fire selector shaft allows the triggers rear extension to move upward thus allowing the trigger and hammer sear to disengage allowing the hammer to strike the firing pin. We'll cover more about the trigger group in another segment.

There are three components that make up the fire selector subassembly, they are; the fire control selector, the fire control detent spring and the fire control detent. The fire control detent and spring are held in place by the pistol grip.

The fire control selector is used often in normal operation so here again there are quite a few aftermarket options. Oversized selectors provide quick and sure engagement, and ambidextrous selectors allow the shooter to manipulate the selector from the right hand side of the rifle.

The pistol grip is your primary point of contact with the rifle. Whether left or right handed you will always maintain control of the rifle from the pistol grip and use your supporting hand to change magazine and perform other procedures.

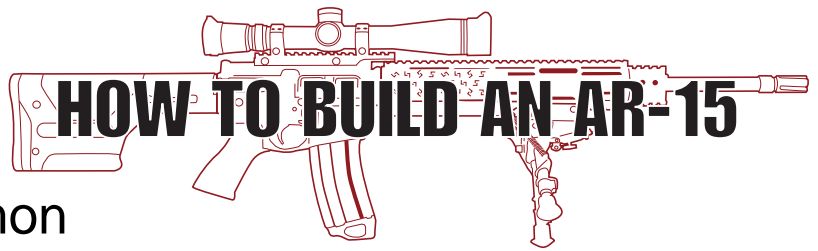
The pistol grip has three parts, they are; the pistol grip, the pistol grip lock washer, and the pistol grip screw.

There are a wide variety of pistol grips available to match your preferences as well as plugs to fill in the opening at the bottom of the grip and give you an extra place to store things like spare batteries for your electronic optics. The aftermarket pistol grips are designed to attach directly to the receiver with out fitting.

The final subassembly on the AR-15 lower receiver is the trigger guard. The trigger guard protects the trigger from being accidentally pressed, and it also adds some rigidity to the lower receiver when it's in place. The trigger guard of the AR-15 is unique in that it was originally designed to be rotated out of the way for winter combat when the shooter needed to use a gloved hand to press the trigger.

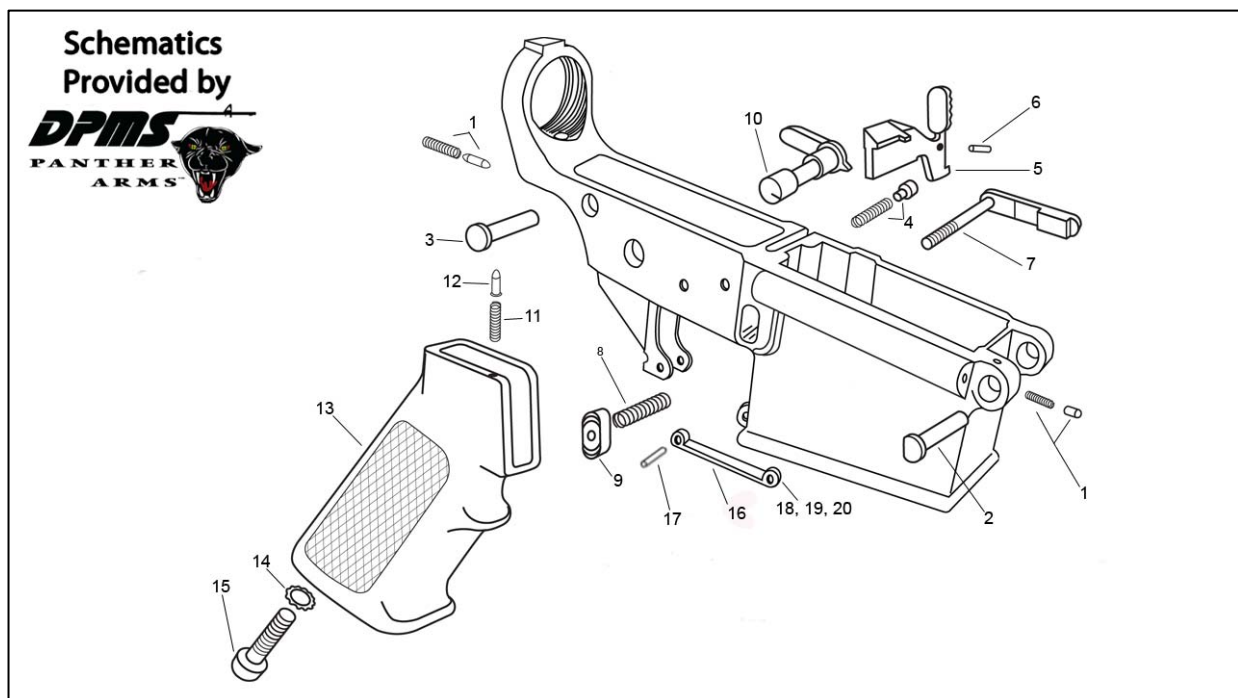
The trigger guard subassembly is made up of 5 parts, they are; the trigger guard, the trigger guard pivot pin, the trigger guard pin, the trigger guard spring and the trigger guard plunger.

There are aftermarket trigger guards that provides a protected oversized opening that allow for gloved hand operation. Brownells sells kits for each subassembly, or as a lower receiver parts kit that contains all the parts for the lower receiver. Or you can purchase each component individually so, if you want a specific magazine release button or fire control selector you can order only the parts you need.



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LOWER RECEIVER & COMMON SUBASSEMBLY SCHEMATIC



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|-----------------------------------|--------------------------------|
| 1. Detent Pins & Detent Springs | 11. Fire Control Detent Spring |
| 2. Pivot Pin | 12. Fire Control Detent |
| 3. Take Down Pin | 13. Pistol Grip |
| 4. Bolt Catch Spring & Plunger | 14. Pistol Grip Lock Washer |
| 5. Bolt Catch | 15. Pistol Grip Screw |
| 6. Bolt Catch Pin | 16. Trigger Guard |
| 7. Magazine Release | 17. Trigger Guard Pivot Pin |
| 8. Magazine Release Button Spring | 18. Trigger Guard Pin |
| 9. Magazine Release Button. | 19. Trigger Guard Spring |
| 10. Fire Control Selector | 20. Trigger Guard Plunger |