

AR-15 Lower Receiver Assembly

AR-15 Lower Receiver Assembly Instructions

Tools

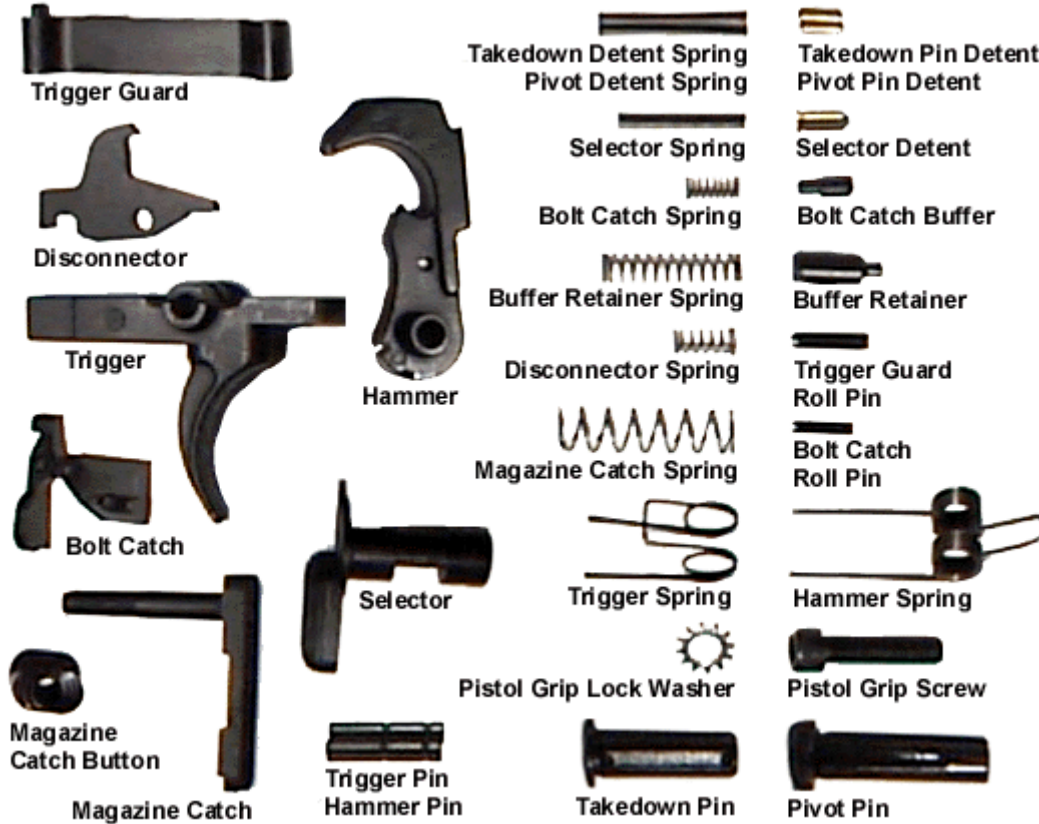
There are a few tools that make it easier to put together these kits, but none of them are necessary. Minimum requirements include a hammer and punch to drive in a couple of roll pins, a flat-blade screwdriver for A2 stock screw, and either a screwdriver or Allen key for the pistol grip screw. Specialized tools are available from Brownells, at 515-623-4000.

- **Roll Pin Punches** - to drive roll pins (3/32", 1/8", 5/32"); these have a small raised projection in the face of the punch to automatically center the punch and prevent the roll pin from collapsing
- **Roll Pin Holders** - used to hold and start roll pins... very convenient
- **Hammer** - used to drive the roll pins
- **#10 Flat-Blade Screwdriver** - used for A2 stock screw and some pistol grips
- **Block of wood** - base to support receiver when driving roll pins
- **Pivot Pin Installation Tool** - handy tool if you build a few lowers
- **Allen Key** - used for some pistol grips
- **Telescoping Stock Wrench** - to tighten telescoping stock lock ring

The Parts

The lower receiver parts kit consists of 30 parts not counting the stock assembly, the receiver, or the pistol grip. It is a good idea to lay all your parts out on a flat, light-colored surface so that you can verify all your parts are there, and find them easily when you need them.

Most parts kits come covered in oil to prevent rust; wipe all the excess oil off before assembly. Because of tight tolerances, some of these parts will be a tight fit. With the exception of the roll pins, no part should need to be hammered into place.



AR-15 Lower Receiver Assembly

SPRINGS

- **Bolt Catch Spring** - *easily confused with the disconnecter spring; disconnecter spring is tapered though.*
- **Buffer Retainer Spring** - *second largest spring in the kit.*
- **Disconnecter Spring** - *similar to bolt-catch spring, but identifiable because one end is wide than the other.*
- **Hammer Spring** - *larger of the two similar springs.*
- **Magazine Catch Spring** - *this is the largest spring in the kit.*
- **Pivot Detent Spring** - *same as the takedown detent spring, so there are two in a kit.*
- **Selector Spring** - *similar to the takedown and pivot detent springs, but there will only be one of these.*
- **Takedown Detent Spring** - *same as the pivot detent spring, so there are two in a kit.*
- **Trigger Spring** - *the smaller of the two similar springs.*

PINS

- **Bolt Catch Buffer**
- **Bolt Catch Roll Pin** - *smaller of the two roll pins.*
- **Hammer Pin** - *same as trigger pin; can be inserted from either side.*
- **Pivot Detent** - *same as takedown detent; both sides usually rounded.*
- **Pivot Pin** - *larger of the two large pins.*
- **Selector Detent** - *one end is flat, the other pointed.*
- **Takedown Detent** - *same as pivot detent; both sides usually rounded.*
- **Takedown Pin** - *smaller of the two large pins.*
- **Trigger Guard Roll Pin** - *larger of the two roll pins.*
- **Trigger Pin** - *same as hammer pin; can be inserted from either side.*

- **Bolt Catch**
- **Buffer Retainer**
- **Disconnecter**
- **Hammer** - *will have a J-pin already installed.*
- **Magazine Catch**
- **Magazine Catch Button** - *some are plastic, some metal.*
- **Pistol Grip Lock Washer**
- **Pistol Grip Screw** - *some are Allen-head, some use a slotted pan-head screw*
- **Selector**
- **Trigger**
- **Trigger Guard** - *some are metal, some plastic. Will already have a detent installed on its front end*

Assembly

The steps for assembly are presented in a sequence which has been effective. It is by no means the only correct method, as it does not make any difference on the end result if the magazine catch is installed before or after the bolt catch for instance. It is important to install the selector before the pistol grip, and a few other steps that must be performed before others. Unless you are experienced, follow the sequence presented and you will be successful.

Always work in a well-lit area, and it is helpful to work on a flat, hard surface. There are many small pins and springs, and they have a tendency to roll or fly away and disappear forever... In addition, look over the lower receiver before you begin the assembly. Many of the small holes can have debris in them from the forging process; a small drill bit, turned by hand, will clean these out nicely.

- Magazine Catch Assembly
- Trigger Guard Assembly
- Bolt Catch Assembly
- Pivot Pin Assembly

AR-15 Lower Receiver Assembly

- Trigger Assembly
- Hammer
- Selector
- Pistol Grip Assembly
- A2 Stock
- Telescoping Stock

MAGAZINE CATCH ASSEMBLY

PARTS: *magazine catch, magazine catch spring, magazine button*

TOOLS: *5/32" roll pin punch*

- Install magazine catch into recess on left of receiver.
- Install spring onto threaded portion of magazine catch from the right side of receiver.
- Screw button onto threaded portion of magazine catch 3 or 4 turns.
- Use a punch (larger than hole in magazine button) or wooden dowel to push in the magazine button so you can turn the magazine catch clockwise until the end of the catch is flush with the magazine button head. You can hold the receiver and press the punch against the table to do this, but put something between the punch and the magazine catch button to prevent marking it. Do this step first, as it will prevent the bolt catch from getting in the way as you turn the magazine catch into place.

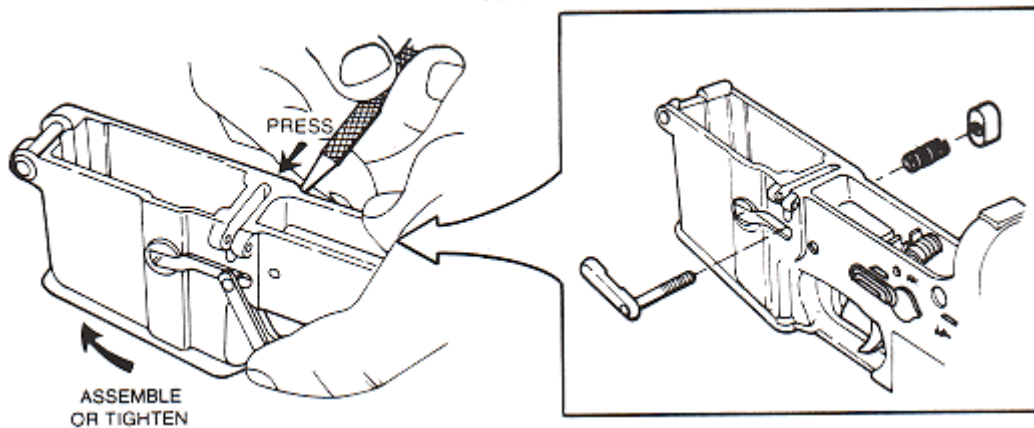
CAUTION:

IT IS POSSIBLE TO SCRATCH THE RECEIVER ON THIS STEP!

Take special care when turning the magazine catch to avoid rubbing against the hump around the bolt catch.

FUNCTION CHECK

- Check that depressing the magazine release button will push the magazine catch out of the magazine well in the lower receiver.
- Spring will return magazine catch to engage in magazine well.



TRIGGER GUARD ASSEMBLY

PARTS: *trigger guard assembly, roll pin*

TOOLS: *1/8" roll pin punch, hammer*

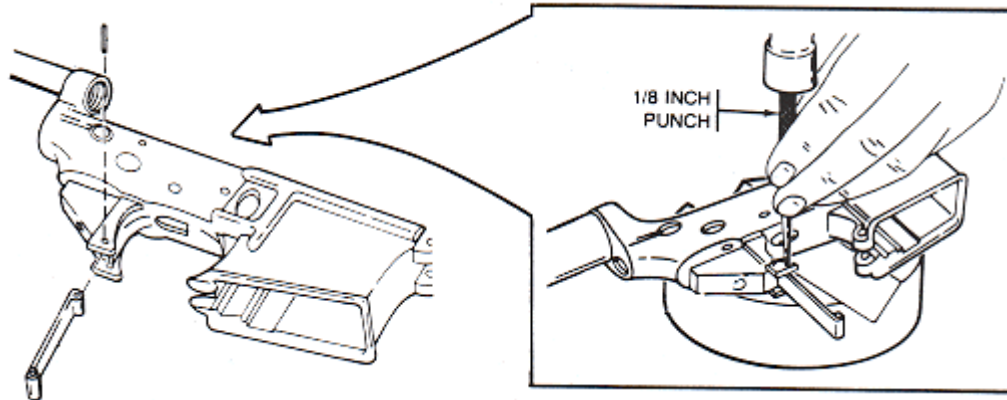
- Attach front of trigger guard assembly to the receiver using the detent.
- Lay receiver on a block of wood, and drive roll pin into receiver and rear of trigger guard using drive pin punch.

AR-15 Lower Receiver Assembly

- Make sure that the small block of wood is supporting the bottom flange and that the trigger guard is in position supporting the top flange otherwise you risk bending or breaking off one of the flanges.
- Also watch as you put in the roll pin that it is going through the hole in the trigger guard correctly.

FUNCTION CHECK

- Check that by depressing the detent on trigger guard you are able to pivot the trigger guard open.



BOLT CATCH ASSEMBLY

PARTS: *bolt catch, bolt catch buffer, bolt catch spring, roll pin*
TOOLS: *3/32" roll pin punch, 5/32" (or larger) punch*

CAUTION:

IT IS VERY EASY TO SCRATCH THE RECEIVER ON THIS STEP!

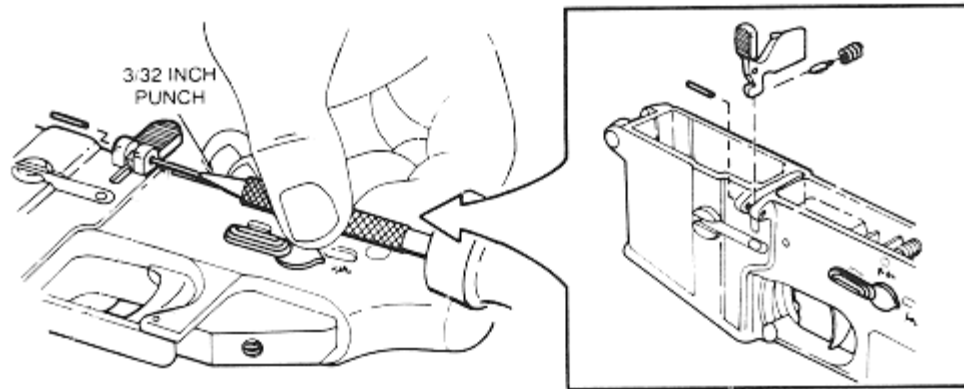
Take special care to make sure pin is in place before driving it, and ensure that it is held securely in place when striking the punch. Fiberglass packing tape - 2 layers thick - taped over the receiver just between the receiver and the punch can help avoid scratching.

- When installing the bolt catch, first drive the roll pin about halfway into the rear hump from the rear of the receiver using roll pin holder. It can be very difficult to get this pin started; you might want to try squeezing the roll pin on one end with pliers or the vise before starting. If you don't have a roll pin holder, then try holding it in place with a pair of needle nose pliers while you drive using a 5/32" punch.
- Install spring in hole on left side of receiver.
- Install bolt catch plunger on top of spring with round portion on top and small end into receiver. Make sure it moves freely in its hole.
- Install bolt catch in receiver; it only fits on one way.
- Use a 3/32" punch to hold the assembly by placing it through the front hump.
- The pin can be driven the rest of the way from the rear as the punch will be pushed out and while holding the bolt catch in correct alignment. (function check as you do it to make sure it's going in correctly)
- Avoid marring/scratching lower by covering receiver with tape, cloth, or other material while you do this.

FUNCTION CHECK

- Verify that the bolt catch functions smoothly and is under tension from the spring

AR-15 Lower Receiver Assembly



PIVOT PIN ASSEMBLY

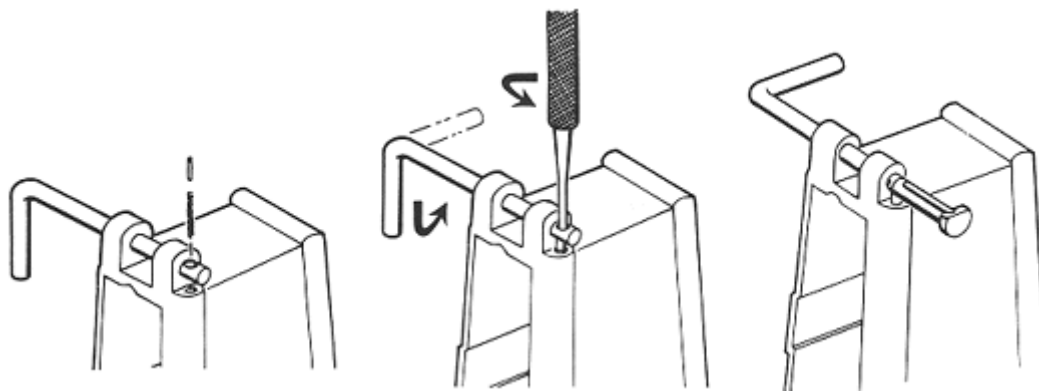
PARTS: *pivot pin, pivot pin detent, pivot pin detent spring*
TOOLS: *pivot pin installation tool, 3/32" drive pin punch*

- This is perhaps the hardest part of the lower assembly, so if available, install the installation tool.
- Insert spring and detent into receiver.
- Compress detent in recess using 3/32" punch and rotate tool.
- Push out tool with pivot pin and rotate until detent is in groove of pivot pin.

FUNCTION CHECK

- Verify that the pivot pin detent prevents the pivot pin from coming off the receiver.

Note: If you do not have an installation tool, it can be difficult to get the pivot pin inserted without losing the detent and/or detent spring; if these parts do fly out, they can be very hard to find. The idea is to insert the spring and detent, and then compress them as you insert the pivot pin. A pair of needle-nose pliers can be helpful. It is difficult to remove the pivot pin once installed, so make sure you do it right the first time and make sure you've cleaned out the detent/spring hole with a drill bit before inserting the spring.



TRIGGER ASSEMBLY

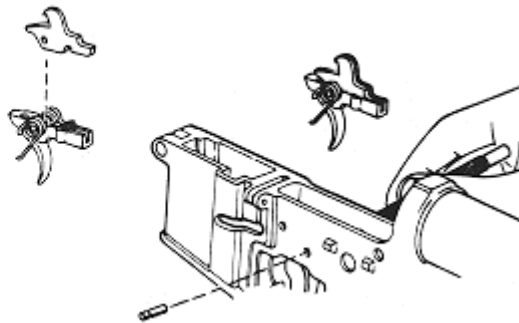
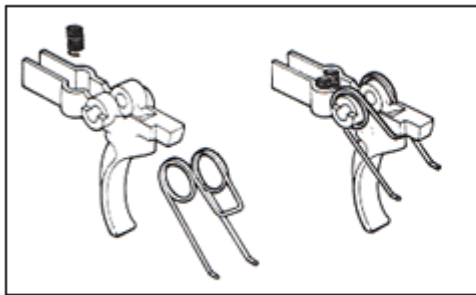
PARTS: *Trigger, Trigger Pin, Trigger Spring, Disconnecter, Disconnecter Spring*
TOOLS: *5/32" drive pin punch*

AR-15 Lower Receiver Assembly

- Shoulder trigger spring onto trigger with ends of spring forward and under.
- Install disconnecter spring with the wider portion of spring down towards trigger and push until it locks in there.
- Position disconnecter on top of trigger, where trigger pin will hold both in place.
- Insert trigger assembly into receiver.
- Insert trigger retaining pin through receiver, trigger, and disconnecter. The trigger pin has 2 grooves in it; one in the middle of the pin and one off to one side. It does not matter which way it is inserted, though common practice is to insert from left to right, with the groove to the left.
- Insert hammer pin from opposite side to help align things as you push the trigger pin in and the hammer pin out. You will have to push down on trigger assembly to align the holes and get the pin in all the way.

FUNCTION CHECK

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- Make sure that the trigger pivots smoothly when depressed.
- Verify that the disconnecter pivots when pushed.



HAMMER ASSEMBLY

PARTS: *hammer (with J-pin installed), hammer spring, hammer retaining pin*

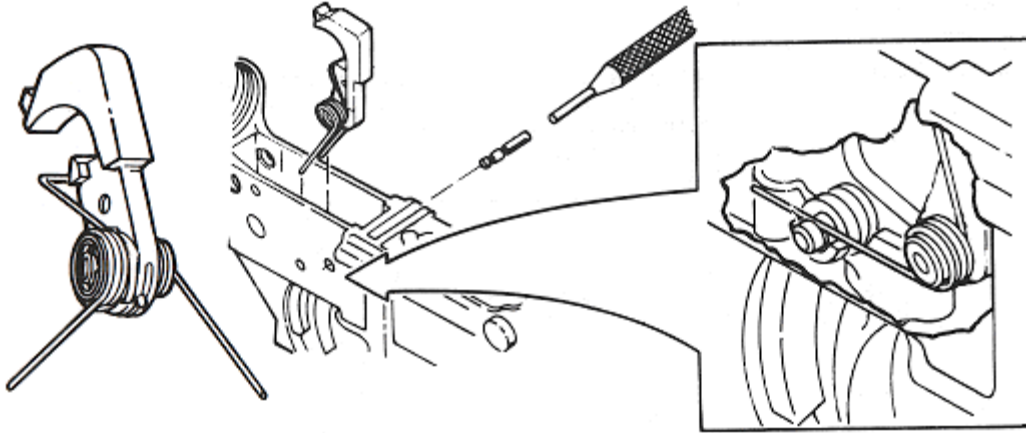
TOOLS: *5/32" drive pin punch*

- Install spring onto hammer, ends of spring to rear and shoulder on back of hammer.
- Install hammer in receiver with feet pointing rearward away from hammer
- Use 5/32" punch to retain hammer in place as you insert hammer retaining pin.
- Like the trigger pin, you may have to push down and align the holes perfectly in order to push the pin in all the way.
- Ends of the hammer spring will rest on top of the trigger pin, with one end in the groove on the trigger pin.
- Inserting the hammer pin may require some effort, as the J-pin in the hammer will catch the grooves in the pin.

FUNCTION CHECK

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- Verify that hammer locks to the rear when pushed back.
- Verify that hammer pivots forward when trigger is pressed.
- Without releasing the trigger, push the hammer back again and verify that it locks (caught by disconnecter).
- Releasing the trigger should not cause the hammer to pivot fully forward (caught by trigger).
- Hammer will fall when trigger is pressed.

AR-15 Lower Receiver Assembly



SELECTOR ASSEMBLY

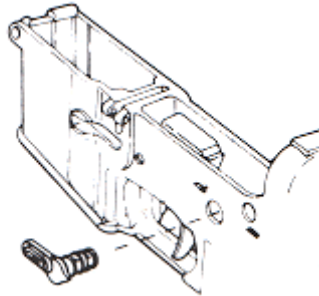
PARTS: *safety selector*

TOOLS:

- With hammer cocked back, insert from left side of receiver, selector pointing up in the 'fire' position.

FUNCTION CHECK

- Make sure selector rotates freely.



PISTOL GRIP ASSEMBLY

PARTS: *selector detent, selector detent spring, pistol grip, pistol grip screw, lock washer*

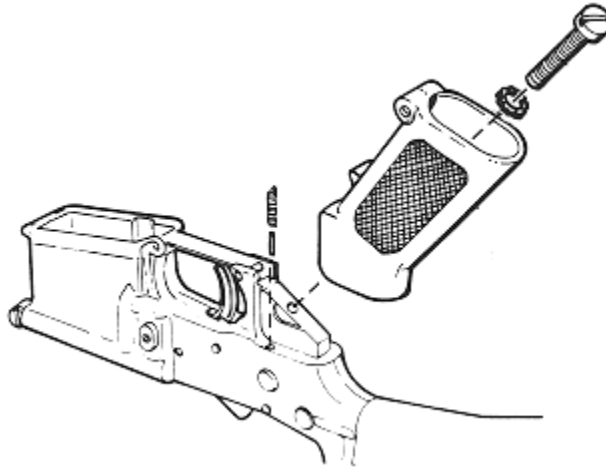
TOOLS: *Allen key or flat-blade screwdriver (depends on your screw type)*

- Install detent, pointed end towards the selector, and the spring into the receiver from the bottom.
- Carefully compress the spring with the grip and make sure spring fits into hole in grip.
- Check the function of the selector with the grip held in place; if too tight (unable to rotate) you may need to either cut the spring, or clean out the hole in the grip.
- Once feel is acceptable, secure the grip in place with the screw and lock washer.

FUNCTION CHECK

AR-15 Lower Receiver Assembly

- Verify selector is able to move from safe to fire and clicks in place. It should not move past the 'safe' or 'fire' positions.
- With selector on 'safe', verify cocked hammer is not released when trigger is pressed.
- With selector on 'semi', verify hammer is released when trigger is pressed.
- NOTE: Selector cannot be rotated to 'safe' unless hammer is cocked.

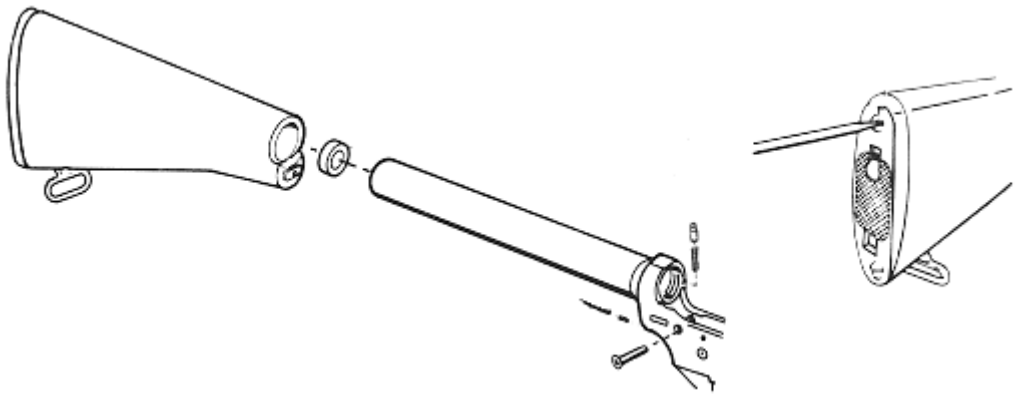


A2 STOCK

PARTS: *takedown pin, takedown pin spring, takedown pin detent, stock, buffer extension, retainer, retainer spring, buffer, buffer spring*

TOOLS: *#10 (or larger) flat-blade screwdriver*

- Insert retainer spring and retainer into recess in lower.
- Install buffer extension, (buffer tube); press detent when necessary; torque to 35-39 ft-lbs add spacer onto stock tube, and insert stock.
- Install takedown pin with groove to the rear and install detent and spring from the rear of the receiver.
- Carefully compress the spring with the stock and secure the stock in place with the self-locking screw.
- Insert stock screw from rear into stock.
- With hammer down, insert buffer spring and buffer into buffer tube until retainer snaps up to lock it in place.
- Function check on takedown pin and buffer retainer.



TELESCOPING STOCK

AR-15 Lower Receiver Assembly

PARTS: *takedown pin, takedown pin spring, takedown pin detent, telescoping stock, buffer extension, backplate, locking ring, retainer, retainer spring, buffer spring, buffer*

TOOLS: *Telescoping Stock Wrench*

- Insert retainer spring and retainer into recess in lower.
- Install buffer tube, backplate, and locking ring onto receiver and depress retainer when necessary to get it to rest under the extension tube. Turn tube until it is about 1/4 turn past the correct location.
- Install takedown pin with groove to the rear and install detent and spring from the rear of the receiver.
- Backplate will now hold spring in place when you turn the extension tube back 1/4 turn.
- Tighten locking ring using telestock wrench for a snug fit.
- With the hammer down, insert buffer spring and buffer into buffer tube until retainer snaps up to lock it in place.
- Function check takedown pin, stock, and buffer retainer.