

Guide to Reloading – Step by Step



One of the most demanding areas in shooting sports is **reloading**. Making your own ammunition gives you full control over precision while also saving money. The process requires focus and a solid understanding of the individual components. This article provides a practical guide with a complete step-by-step process for handgun cartridges and rifle cartridges. Beginners will also find everything they need here to get started.

Key Facts at a Glance

- **Reloading saves** up to 70% of ammunition costs depending on the caliber by reusing brass
- Four components per cartridge: brass, primer, powder, bullet
- Requirement in Germany: training course under explosives regulations and official permit
- Basic equipment: reloading press, die set, scale, tumbler, case trimmer
- Seven work steps from case inspection to function testing at the range

Reloading Basics

Reloading means assembling or rebuilding cartridges yourself from their individual components.

A cartridge consists of four parts: **brass**, **primer**, **powder**, and **bullet**. After firing, the brass remains in the chamber or is left on the ground and can be reused multiple times. Primer, powder, and bullet are replaced with every reloading cycle.

Advantages at a Glance

The biggest advantage is **customization**. Carefully reloaded ammunition can be matched to your firearm more precisely than many factory loads. Hunters and sport shooters also benefit from significantly lower running costs. The largest share of a cartridge's cost lies in the **brass**. If it is reused multiple times, the cost per shot drops by 50 to 70 percent depending on the caliber. With a rifle caliber such as .270 Winchester, reloaders often pay only a third per shot compared to factory ammunition from retail stores. In addition, bullet weight, powder type, and charge weight can be tailored specifically to the firearm and intended purpose, which is not possible with factory ammunition in most cases. This is especially relevant in hunting: different bullet weights and constructions are suitable for roe deer than for wild boar, and reloading makes this kind of adjustment possible.

Safety First

Reloading is safe if you consistently work according to fixed rules. **Full concentration without distractions** is essential. Always wear **safety glasses**. Never work under the influence of alcohol or medication that affects attention. Use only verified **load data** from trustworthy [manuals](#), and always begin load development with **starting loads**. Continuously watch for **signs of overpressure** such as discolored case heads, stiff bolt operation, or flattened primers. Double charges and no-charge cases must be avoided at all costs.



Order and routine are essential. A clean workspace, a clear sequence of steps, and a systematic approach prevent mistakes. Experienced reloaders keep a load log in which every load is

documented with powder type, charge weight, bullet, and result. Always load only one caliber at a time and remove all unnecessary components from the workbench.

Legal Requirements

In Germany, a training course under explosives regulations and an official permit are required in order to purchase and handle propellant powder. Storage is also subject to legal requirements: in private households, propellant powder may only be stored in limited quantities and in suitable containers. Primers are also subject to storage regulations. Before getting started, everything should be clarified with the responsible authority. Information on the training course is available from your local shooting sports association or directly from the authorities, in many cases by email as well. The course teaches the safe handling of propellant powder and primers and is a prerequisite for the permit being issued.

What Can Be Reloaded

Almost all centerfire cartridges can be reloaded. **.22 LR cannot be reloaded** because the primer compound in the rim cannot be replaced. The service life of a case depends on caliber, material, and gas pressure. Five to twenty loading cycles are common, and with mild loads in handgun calibers, significantly more are possible. Brass cases generally last longer than steel ones. Cases fired in different firearms often show uneven stress and should be processed separately. In competition shooting, cases for match loads are sometimes reloaded more than thirty times, provided they are neck-sized only and trimmed regularly.

Basic Equipment and Tools

A manageable reloading setup is enough to get started. Here is an overview of the most important equipment and tools:



A [reloading press](#) is the heart of the setup. Beginners often choose the Lee Breech Lock Challenger or a comparable single-stage press, which is robust and affordable. Lee offers a wide product range for beginners through to advanced reloaders. Those who later move to progressive presses such as the Dillon 550 or a Lee Loadmaster can still keep the single-stage press for precision loads.

You will also need [die sets](#) for the relevant caliber, a shell holder, a precision scale, either digital or beam scale, and a [powder measure](#). For cleaning brass, a [case cleaning device](#) (tumbler) is suitable, polishing the brass in stainless steel pins or corn cob media. A wet tumbler delivers cleaner results than dry cleaning, but requires a little more follow-up work when drying. A [case trimmer](#) is especially important for rifle cartridges because cases lengthen after every shot. Simple models can be driven with a cordless drill, which significantly speeds up processing larger quantities. Other essentials include a deburring tool, a caliper, a primer seating tool, as well as loading blocks and ammo boxes.

Anyone who wants to go further can expand their setup with a [chronograph](#), competition dies, or equipment for [case neck annealing](#). Specialized forums and trade publications are good sources for user experience and equipment recommendations. These are places where people who have been reloading for years share practical product recommendations for presses, tumblers, and other tools.

Reloading Handgun Cartridges - Step-by-Step Guide

Handgun cartridges include [ammunition for pistols and revolvers](#) and are used both in sport shooting and hunting. Common calibers include 9 mm Luger, .45 ACP, and .357 Magnum. The process is similar to reloading rifle cartridges, but the specific characteristics lie in the cylindrical or slightly tapered case and in the different types of crimp.

1. Inspect and Prepare the Brass

Ideally, use new [brass](#) or cases fired in your own firearm, preferably from the same production lot. Cases that have been stressed differently lead to inconsistent accuracy. Check each individual case for **cracks at the case mouth, damaged rims, bulges in the case body, expanded or blown primer pockets**, and **heavy fouling**. Questionable cases are consistently discarded.

2. Deprime, Resize, and Flare the Case Mouth

First, the old primer is removed and the case is brought back to the correct shape. Carbide sizing dies save time because they do not require lubrication and are standard for handgun cartridges.

After resizing, clean the primer pocket, clear the flash hole, and inspect the case again for damage. Then the case mouth is flared just enough so the bullet can be seated a few millimeters by hand without shaving material.

3. Seat the Primer

The new primer is seated firmly but with care. It should sit flush with or slightly below the case head. Misalignment can lead to ignition failures. **Hand priming tools** provide much more control here than the press's integrated priming system. Make sure the primer system, Boxer or Berdan, matches the case type.

4. Charge the Powder



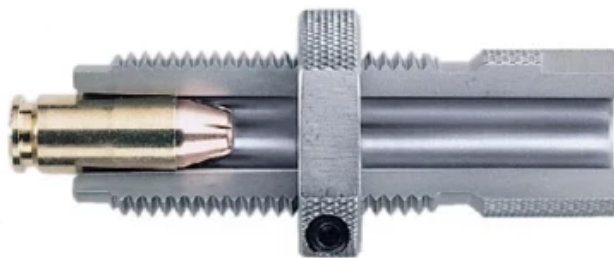
The powder is dispensed with a measuring device and checked regularly with a scale. Even deviations of 0.1 grain can matter with small charges in handgun cartridges. An open workflow in which the cases move from one loading block to the next allows **absolute control** over every charge. After charging, visually compare the powder level in all cases under a bright light source. This allows you to spot double charges or empty cases immediately.

5. Seat the Bullet

The bullets are inserted a few millimeters by hand into the flared case and then brought to the correct **cartridge overall length (OAL)** using the **seating die**. The OAL comes from the load data. Seating depth can vary considerably between round nose and flat nose bullets, even within the

same caliber. Deviations of just a few tenths of a millimeter can change gas pressure or cause the cartridge not to chamber smoothly.

6. Crimping



The type of crimp depends on the caliber and intended use. Pistol cartridges that headspace on the case mouth with a taper crimp must not be crimped heavily. Too much crimp unnecessarily raises pressure. Revolver cartridges with heavy loads require a **firm roll crimp** so the bullet does not move forward under recoil. The crimp die is adjusted step by step until the desired tension is reached. If cracks appear at the case mouth, the cartridge is **discarded**.

7. Packaging, Labeling, and Function Testing

The finished cartridges are packed in [ammo boxes](#) and clearly labeled with caliber, powder and charge weight, bullet type and weight, primer, cartridge length, date, and the number of previous reloads of the brass. This is followed by a **function test in the firearm**. First, check dry whether the cartridge chambers cleanly, then carry out the live test at the range.

Reloading Rifle Cartridges - Step-by-Step Guide

The process for [rifle ammunition](#) is fundamentally the same, but some steps require special care with rifle cartridges. The higher gas pressure and bottleneck case shape place different demands on preparation and tools.

1. Cleaning and Inspection

Fired brass is cleaned in the tumbler after shooting. Inspect each case for **neck cracks, tears or deformities, deposits in the primer pocket**, and **case growth**. Rifle cases lengthen more than

handgun cases because of the higher gas pressure. **Regular measuring** with a caliper is **mandatory**.

2. Lubricating and Resizing Cases

Anyone who presses rifle brass into a steel die without lubrication risks galling damage to both the case and the die. Cases must therefore be lubed before resizing unless carbide dies are being used. Resizing is done as needed: **full-length resizing** if the ammunition needs to function in several firearms, or **neck sizing** if the goal is maximum accuracy in a single firearm.

Neck-sized brass is easier on the material and significantly extends case life, often by one and a half to two times compared to full-length sized brass.

3. Trimming and Deburring



After resizing, the case is trimmed to the **correct length**. For larger quantities, a case trimmer that can be chucked into a cordless drill is worthwhile. After trimming, the inside and outside edges must be carefully deburred so the bullet can be seated evenly and cleanly. Check the case length with a caliper against the maximum value given in the load data.

4. Prepare the Primer Pocket and Seat the Primer

Clean the primer pocket, inspect the **flash hole**, and seat the correct **primer**. Especially with precision loads, consistency in primer seating is critical. Use a hand priming tool that gives you tactile feedback on seating pressure. Seating depth should be as uniform as possible across all cases.

5. Weigh and Charge the Powder

Rifle cartridges use a larger powder volume than handgun cartridges. **Fine metering** with a **precision scale** is standard, especially for match loads. Before finalizing a charge, the load should be calculated using verified load data. **Ballistics software** such as [QuickLOAD](#) can help by modeling gas pressure, load density, and expected velocity. Increase the charge in increments of 0.3 to 0.5 grain and document every result. After charging, **check the fill level of all cases**: place the charged cases on a loading block and compare powder height under a bright lamp. Differences in fill level become immediately visible.

6. Seat the Bullet



With calibers such as .270 Winchester or .308 Winchester, a difference of just 0.02 inch in seating depth can noticeably change group size. Cartridge length, freebore, and seating depth influence both accuracy and gas pressure. Rifle cartridges react more sensitively to length deviations than handgun cartridges. Measure cartridge overall length with a caliper and compare it with the figures in your load data.

7. Final Inspection and Storage

After seating, check **case dimensions and cartridge length**. The finished cartridges are **labeled** and stored **dry and safely** in suitable containers. Avoid moisture and direct sunlight. For high precision, using a chronograph is worthwhile to check muzzle velocity and consistency, including extreme spread. Record the values in your load log so you can reproduce or fine-tune the load later if needed.

Conclusion

Reloading is a precise and responsible craft. Anyone who learns it carefully and uses high-quality tools can achieve consistent performance while significantly lowering the cost per shot.

For both handgun cartridges and rifle cartridges, the key factors are careful brass preparation, precise powder metering, controlled bullet seating, and a thorough final inspection. Anyone who follows these steps consistently will soon find that reloaded [ammunition](#) often performs better than factory loads. With patience and a systematic approach, reloading becomes a natural part of hunting or shooting sports.

Hunting Sport - Your Reloading Expert

At Hunting Sport, reloading is our specialty. With more than 30 years of experience in this field, we help hunters and sport shooters get the most out of their ammunition. We will help you find the right equipment for your needs and are always happy to answer your questions.