



# **NATIONAL RIFLE ASSOCIATION**

## **NRA Code of Practice**

### **Hand Loading Firearms Ammunition**

**For all NRA and Affiliated Club Members**

**Issue 1**

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# NRA Code of Practice for Hand Loading Firearms Ammunition

## Introduction

Any person who handloads/reloads ammunition for use on NRA or any MOD range or range covered by insurance provided through the NRA must first read and agree to abide by this **Code of Practice (CoP)**.

Failure to comply with the following recommendations may invalidate insurance, leaving clubs and individuals directly responsible for meeting any financial claim, and may result in damage to firearms, injury and even death.

## Scope

This CoP provides guidance for the safe preparation and use of firearms ammunition. It is not intended to provide comprehensive instruction on handloading techniques, nor is it intended to replace or be a substitute for handloading manuals or handloading training courses, such as the one offered by the NRA.

## Terms & Definitions

For the purposes of this CoP, the following terms and definitions apply:

### Handloading or Reloading

The processes of manually preparing and assembling components to produce firearms cartridge ammunition for personal use; not for resale

### Downloading

See paragraph 7

### Factory Ammunition

Commercially produced ammunition, which is subject to C.I.P. (Permanent International Commission for the Proof of small Arms) approval and Rules of Proof if of European manufacture

### Full-bore Firearm

A rifle or pistol designed to shoot centrefire cartridges

### Small-bore Firearm

A rifle or pistol designed to shoot rimfire cartridges of .22 calibre or less

# NRA Code of Practice for Hand Loading Firearms Ammunition

## 1. GENERAL PRINCIPLES

- 1.1. Handloading requires a technical knowledge of firearms and ballistics sufficient to be able to select appropriate components (case, primer, powder, bullet) and assemble them in a reproducible manner to make cartridges that are both safe to fire in a designated firearm and fall within the particular safety requirements for the ranges on which the cartridges will be fired. Before attempting to handload any ammunition, ask the advice of experienced handloaders or attend a recognised handloading course
- 1.2. You must be prepared to accept responsibility for ammunition that you have created. Badly made ammunition can be lethal so therefore do not attempt to make it until you are confident that you have taken all the relevant steps to ensure that your ammunition is safe to use
- 1.3. Only shoot ammunition that you know is safe and for which you know and understand the ballistic performance
- 1.4. Only make ammunition using known components using a recipe from known and reliable sources. Do not use information gleaned from chat rooms and open-source media. Your best source for reloading information is from Propellant manufacturer's websites or published loading manuals. Study their guidance on handling, storing and working with primers, powders and other ammunition components, and learn how to handload safely. You should not rely on old reloading manuals as propellant formula sometimes change
- 1.5. If you cannot find the exact load data in the manual for the combination of components you intend to use, obtain a manual that does have the data, or change components to those for which you do have data. Alternatively, contact powder manufacturers to obtain the specific data you require in written form (e-mail, fax or letter). Never shoot handloaded ammunition unless you have reliable data confirming your load is safe  
  
NOTE: it may be beneficial for future reference to batch test handloaded ammunition over a chronograph on a suitable range (i.e. one with higher muzzle velocity/muzzle energy limits) to ensure the ammunition is safe for use on the range(s) on which it is normally intended to be used.
- 1.6. Handloaded ammunition of initially unknown ballistic performance should be batch tested by an officially recognised Proof House to ensure that the associated breech pressures and velocities are within acceptable standards
- 1.7. Read and understand all manufacturers' instructions for the handloading equipment you will be using. If you do not have instructions, contact the manufacturers to obtain copies
- 1.8. Consider attending a handloading course such as that offered by the NRA

**If you have any doubt about your ability to handload safely, do not do it – use factory ammunition that is within the ballistic performance of range safety certificates**

# NRA Code of Practice for Hand Loading Firearms Ammunition

## 2. THE PROCESS

Handloading is an enjoyable pastime and everybody understands the benefits. There are however many **safety factors** that must be adhered to in order to safely make ammunition;

- 2.1. DO NOT smoke when making ammunition & keep all naked flames away from your handloading area
- 2.2. Only reload when you can give your full and undivided attention to it. Set up your handloading equipment in a quiet area where you will not be constantly interrupted. Do not handload whilst watching television or listening to music, or being distracted by anything else
- 2.3. Do not handload when you are tired or ill
- 2.4. Do not handload under the influence of alcohol, drugs or medication
- 2.5. Allow plenty of time and handload at a leisurely pace without being rushed
- 2.6. Establish your own handloading routine and stick to it so that you avoid mistakes
- 2.7. Keep all your equipment and components out of the reach of children or anyone else who does not require access to it
- 2.8. Have only one set of components (cases, powder, primers and bullets) on your handloading bench at any one time. Do not attempt to handload more than one type of ammunition at the same time
- 2.9. Do not have food or drink on your handloading bench
- 2.10. Sweep up any spilled powder immediately. Do not use a vacuum cleaner because internal electrical sparks may ignite the powder causing a fire or explosion
- 2.11. Label components and keep them in a convenient place on your handloading bench
- 2.12. Do not use components that you cannot positively identify
- 2.13. Always wear approved safety glasses during all stages of making ammunition
- 2.14. If using a volumetric measure, the weight of a given volume should be checked using a reliable powder scale both before and regularly (e.g. every 10 rounds) throughout the handloading session
- 2.15. A reliable powder scale is one that has been calibrated or checked using a check weight before each handloading session commences
- 2.16. Keep powder scales clean and properly maintained in accordance with manufacturers' instructions
- 2.17. Select the correct type and weight of bullet for the range on which the ammunition will be used
- 2.18. Always abide by current legislation with regard to the purchase, storage and quantities of components being held

# NRA Code of Practice for Hand Loading Firearms Ammunition

## 3. HANDLING

The process of reloading requires you handle certain components and there are considerations that apply.

### POWDER

- 3.1. Handle powder carefully, and follow manufacturers instructions
- 3.2. Store powder in a cool, dry place away from direct sunlight and sources of heat and other possible ignition sources
- 3.3. Where possible and practical, store powders only in original factory containers with original labels
- 3.4. If powder needs to be repackaged, for example when splitting down bulk quantities, the containers should be constructed in such a way that, in the event of a fire they do not provide additional containment that will either increase the explosive force of any deflagration or cause smokeless powder to detonate. Normally plastic/polythene or paper/cloth containers should be used. Metal containers with a screw cap or a push-in lid must not be used. NOTE: Long term exposure to moisture or sunlight will degrade powders, thereby changing burning characteristics and creating a potential hazard when ammunition is fired
- 3.5. If containers for another type of powder are re-used, make sure all traces of the old powder are removed, remove old labels and clearly label the containers to reflect the new contents
- 3.6. Keep powder containers tightly closed when not in use
- 3.7. Never mix powders of different types
- 3.8. Similar, or sometimes even the same naming designation can be used for different powders from different manufacturers. For example, Hodgdon and VihtaVuori both have "110" powders, but they are very different from one another and should never be mixed, or their handloading data inter-changed
- 3.9. Only have one type of powder on your handloading bench at any one time
- 3.10. Pour out only enough powder for immediate use
- 3.11. Return any unused powder immediately to its correct container

### PRIMERS

- 3.12. Handle primers very carefully and follow manufacturers instructions
- 3.13. Store primers in a cool, dry place away from direct sunlight and sources of heat and other possible ignition sources
- 3.14. Store primers only in original factory packaging with original labels
- 3.15. Do not store primers in bulk. For example, do not empty primers from their original factory packing so that they are loose in a large container. Bulk primers will mass detonate if one is detonated
- 3.16. Do not handle primers with greasy or dirty hands. Grease and dirt can affect the characteristics of primers
- 3.17. Do not mix primers from different manufacturers
- 3.18. Do not mix regular primers with magnum primers
- 3.19. Do not mix Berdan primers with Boxer primers
- 3.20. Do not force primers; if resistance is felt when trying to seat a primer, STOP and investigate
- 3.21. At the end of a loading session, return any unused primers immediately to their factory packaging. Do not leave primers in loading bays or feed tubes

# NRA Code of Practice for Hand Loading Firearms Ammunition

## LEAD BULLETS

- 3.22. Lead is a toxic substance. It is advisable to wear appropriate protective gloves when reloading lead bullets or FMJ style bullets with exposed lead cores in the base
- 3.23. Be aware that the handling of lead bullets can lead to airborne lead dust being breathed in during reloading so always ensure you have good ventilation

## 4. USING RECOGNISED RELOADING MANUALS

- 4.1. Never exceed maximum loads given in handloading data tables, stick to CIP/SAAMI limits or the maximum load that you have safely proven for yourself in your firearm
- 4.2. Do not begin handloading with the maximum powder charge shown in handloading data tables. Always begin with the starting load indicated in the data tables. If a starting load is not given, reduce the listed maximum load by 10% and use that as a starting load
- 4.3. Always work up from a starting load towards the maximum load in small steps, watching for signs of excessive pressure at every step. If you see signs of excessive pressure, stop shooting that load immediately. Reduce subsequent loads back to where you no longer see signs of excessive pressure and use that as your maximum load
- 4.4. Cases made to military specifications often have thicker case walls, which reduces the internal volume of the case. Maximum loads quoted in data tables should be reduced, typically by 5%, when handloading military cases. An example is substituted load data from 308 Winchester for 7.62x51 NATO
- 4.5. Never assume your firearm can handle listed load data, older firearms were manufactured with lower pressure limits. An example of this would be the Mauser M96 rifle in 6.5x55 Swedish that cannot tolerate modern pressures as prescribed by various load data publishers. Many of these manufacturers have instead listed safe data specifically for these older rifles
- 4.6. Never substitute load data from similar calibres with a differing max pressure
- 4.7. Never reduce the minimum starting load given in handloading data tables, using too little powder to load cartridges can cause dangerous over-pressure
- 4.8. Always perform a visual check of each case before loading a bullet to ensure that powder level is appropriate
- 4.9. Cartridge Overall Length (COL) is a measurement from the tip of the seated bullet to the base of the case and is specified in Handloading Manuals along with the powder load appropriate for a chosen bullet
- 4.10. Some firearms may have non-standard chambers that require non-standard COL, or it may be desirable when making high accuracy ammunition to fine tune COL to suit a specific chamber. Assembling such ammunition should not be attempted without specialist measuring and handloading equipment and the necessary skill to use it
- 4.11. Bullets should not be in contact with the rifling in a barrel when a cartridge is loaded in the chamber. Bullet jump, i.e. the free space between the barrel lead and the bullet ogive, or wadcutter face, should still be within established safe limits
- 4.12. Be aware that different types of firearm have different handloading data:
  - 4.12.1. Rifles with bolt actions are generally stronger than lever-action carbines and revolvers when chambered for the same cartridge, and so are more likely to withstand accidental high pressures without failing, although signs of excessive pressure may be visible (see paragraph 5)
  - 4.12.2. Do not use handloading data for rifles with strong actions to make ammunition for firearms with weaker actions, e.g. lever-action carbines or revolvers

# NRA Code of Practice for Hand Loading Firearms Ammunition

## 5. EXCESSIVE PRESSURE

- 5.1. If you see signs of excessive pressure, **stop shooting immediately**. Signs of excessive pressure are:
  - 5.1.1. harder recoil than usual
  - 5.1.2. louder report than usual
  - 5.1.3. difficulty when extracting fired case
  - 5.1.4. bulging and/or split fired cases
  - 5.1.5. cratered primers
  - 5.1.6. flattened primers
  - 5.1.7. pierced primers
  - 5.1.8. blown primers, i.e. primer blown out of primer pocket
  - 5.1.9. case head imprinted with bolt face/ejector marks

## 6. GENERAL ADMINISTRATION

- 6.1. Record and label each batch of ammunition you make including:
  - 6.1.1. brand of case, how many times it has been reloaded, full-length or neck sized, etc
  - 6.1.2. brand and type of primer
  - 6.1.3. brand, type and weight of powder
  - 6.1.4. brand, type and weight of bullet
  - 6.1.5. cartridge overall length (COL)
  - 6.1.6. date the ammunition is loaded
- 6.2. Always ensure that the ballistic performance of handloaded ammunition is within the range safety limits
- 6.3. Do not use ammunition that exceeds the calibre, muzzle velocity or muzzle energy limits for the range on which you intend to shoot
- 6.4. Do not use ammunition loaded with a type of bullet that is restricted from use on the range on which you intend to shoot

## 7. THE USE OF DOWNLOADED AMMUNITION

- 7.1. The NRA rule titled APPENDIX VI – DANGEROUS AMMUNITION Prohibitions (3) states: “*Downloading ammunition will not be accepted as a means to bring rounds that would otherwise exceed potential ME/MV values within limits*”. Please refer to this Appendix which may be found in The NRA Handbook Rules of Shooting
- 7.2. The use of downloaded pistol ammunition used at short ranges (50 yards/metres or less) is acceptable

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# NATIONAL RIFLE ASSOCIATION

This declaration must be signed prior to using handloaded, reloaded or downloaded ammunition by NRA or affiliated club members on any NRA Bisley or MOD range. 'Handloaded Ammunition' will be added as a recognised category to the SCC, where required, upon receipt of this signed declaration.

## NRA Members

Individual NRA members may submit their declaration via their club or direct to the NRA by email to: [handloadedscc@nra.org.uk](mailto:handloadedscc@nra.org.uk)

## Affiliated Club Members

Affiliated Club members must submit a copy of this declaration to their club chairman for retention and made available for inspection in the event of any safety incident.

## Declaration

### The Maker of the Ammunition

I hereby confirm that I have read and understood the NRA Code of Practice for Handloading Firearms Ammunition, and that I will abide by this and future versions of this Code of Practice published on the NRA website.

<b>Signature</b>	
<b>Print name</b>	
<b>Date</b>	
<b>Club Name</b>	
<b>Membership No</b>	