

Ready for reload

The ejector mechanism is an often overlooked but critical feature of any shotgun, as Longthorne Gunmakers explain...

The purpose of ejectors in a gun is to eject the spent cartridges or bullets and allow rapid reloading, therefore a fast, crisp ejection is a desirable feature. But not all guns use this method of ejection.

Some good examples of other methods of removing cartridges are a semi-auto, where the breech slides backwards and extracts the empties by gas or spring recoil and then flicks them sideways with a spring, and a Darne, which is a French side-by-side with a sliding breech where the cartridges are simply extracted from the

chambers and fall to the ground at either side of the gun.

As gunmakers making English over-and-unders or side-by-sides, we aspire to having both cartridges ejecting simultaneously as this tends to be best practice and what a modern gun owner prefers to see. However, this has no mechanical benefit whatsoever and is merely cosmetic; as long as the cartridges eject, the job is done.

Many factors influence the ejection of cartridges, and these are quite often overlooked by the owner of the gun. All guns in the UK are

supposed to be manufactured in accordance with CIP standards and have standard-sized chambers. This being the case, cartridges which are made to CIP standards should, in theory, perform in the correct manner.

In practice, this sometimes does not happen... we all have bad days! Some lesser quality (quite often, cheaper) cartridges and those not manufactured in accordance with stringent CIP standards can suffer from inconsistencies, such as variances in the brass head length and diameter, over or under crimping and perimeters set too high or too low.

The same goes for your gun; if your gun is old or has been manufactured using old un-calibrated tooling, the chambers may not necessarily be made to the correct CIP standard, and if the cartridges are, this could also cause problems. The chamber size of new guns in the UK are

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The ejection of both cartridges at the same time is a purely cosmetic feature

The gun should be opened smoothly to aid good cartridge ejection



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tested for this when proofed so this should not be an issue.

It is preferable to have a cartridge with at least 10mm of brass and an optimum of 12-16mm of brass in modern guns with 3" chambers, for example. This assists in guiding the cartridge smoothly from the chamber when ejected. This, together with the general tolerance, is one of the things you pay for with the better quality cartridges. In fact, we have been working closely with cartridge manufacturer Eley Hawk, who also don't recommend going over 25mm of brass as this can cause 'sticking' in the chamber. With less depth of brass, and therefore less cost, the brass and plastic can sometimes expand and stick in the chamber when fired and the ejection will not be as crisp, and sometimes not happen at all.

To achieve good cartridge ejection, the gun should be opened smoothly and cleanly. If the gun is opened slowly, the cam timing is affected and the cartridge ejection is restricted.

It is only actually necessary to eject cartridges cleanly from the gun, however a popular trend is to have the cartridges thrown from the gun at a good distance. We prefer our guns to do the latter and we achieve this by using a stronger spring and adjusting the cam timing.

As a gun owner, you should always ensure that your chambers are thoroughly clean, smooth and free from any imperfections, e.g. scratches, as this will also affect the ejection of empty cartridges. The chambers can be cleaned with a good-quality bronze chamber brush. When



The ejector parts from a Longthorne gun

cleaning, it is better if the stroke is longitudinal, i.e. in line with the axis of the barrel, rather than using a twisting motion, which can cause circular scratches in the chamber, adding resistance and preventing the cartridge from moving out smoothly. Once the chambers are clean, you can lightly oil with a good-quality gun oil.

Occasionally breakages will occur, as in any mechanical device. Should this happen in a Longthorne gun, it is very simple for us to replace any of the parts in the ejector mechanism with ease, ensuring that you are back shooting with minimal inconvenience. ■

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