

It's all in the proof

Longthorne Gunmakers make a trip to the London Proof House to help unravel some of the mysteries surrounding proofing

In the UK, as in many European countries, guns sold must undergo a proof to test the basic soundness of barrel and action prior to being offered for sale. The London Proof House (and also the Proof House in Birmingham) provides proofing and other services to the British gun trade. Since taking the position of London Proof Master several years ago, Richard Mabbitt has worked to the Gun Barrel Proof Act and to the

decisions made by the CIP (Commission Internationale Permanente pour l'épreuve des armes à feu portatives – an international organisation responsible for setting the safety standards of firearms) so that the common standard is adhered to as in other member states. (In the USA they adhere to slightly different standards set by the Sporting Arms and Ammunition Manufacturers' Institute [SAAMI]).

This basically assures that the methods, cartridges and sizes should be the same for all tests and used in the same way. As gunmakers we have had to ensure that all our chambering is exactly the size required by CIP and in fact since February this year any guns submitted for proofing not to these sizes have been rejected. In real terms, as manufacturers, this has meant investment in special gauges and tooling for all the different chamber sizes and gauges.

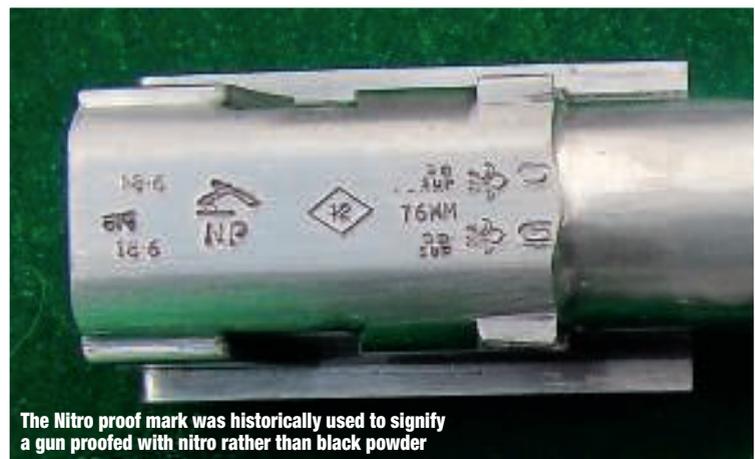
At Longthorne all our guns are proofed at the London Proof House, quite a discreet looking building in Commercial Road, and a long way from Lancashire you may think. But the truth of the matter is that the London Proof Master and team have been instrumental in helping make our gunmaking dream a reality.

Our first encounter with Richard Mabbitt was when we telephoned and asked his advice on chamber sizes. Richard went out of his way to help. In a somewhat institutionalised industry where negativity seemed to prevail in many areas, this was a refreshing change. Over the years our relationship with the Proof House has grown.

Most of the staff at the London Proof House are ex-military and it must be said that they get few thanks for what they do, which is basically attempting to blow up makers' guns to make sure they aren't going to blow up in the field. No one likes it when their guns fail proof for whatever reason, and it must be devastating for a maker when after having spent hundreds of hours on a gun it is damaged beyond the point of repair. (It does happen!) However, to our way of thinking, the Proof House are providing a vital service to both us gunmakers and the public, and if something is going to fail it is better to find out before it gets to the end user.

Health and Safety is paramount when proofing. Masks and ear protectors are worn to minimise exposure to lead dust.

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The Nitro proof mark was historically used to signify a gun proofed with nitro rather than black powder

The antiquated firing machine is activated by pulling a string that is threaded through the wall into the next room



In reality blowing barrels up beyond the point of repair is a rare occurrence. Prior to the actual proof test itself second in command, Superintendent Darren Surtees will examine the barrels to make sure there are no visible flaws within the barrel cavity. This is an 'eye' test and relies purely on the expertise of the examiner, who has some idea of what he is looking for due to the fact that the London Proof House process between 18,000 to 20,000 barrels per year, although some manual tools are used to check the measurements of the barrels. Barrels are deemed to have failed prior to testing if they show marks of any sort inside. Should this happen the maker is sent away, tail between legs, and advised to 'get it better' and to return again another day when they have done so.

Most shotguns in the UK are currently proofed for lead (with 2.75" chambers), which involves inserting a lead cartridge load (25% over the maximum commercial load) into each chamber of the gun and firing it twice for each barrel. Most of the cartridges used for the proof tests are manufactured by the Birmingham Proof House in accordance with CIP standards. This test is performed using an effective but somewhat antiquated 'firing machine' enclosed within a sound-proofed room, a warning buzzer sounds prior to each shot taking place. The machine is a very old, but a tried and tested device which is actually operated by pulling a string from outside the test room.

At Longthorne we proof our guns for steel, and because our chambers are 3" (in 12- and 20-bore) the proof test is referred to as 'Magnum', 'Fleur De Lys' or 'Superior Steel'. This is a much harsher test because lead deforms as it is fired and is less likely to cause damage to the barrel cavity. The test involves placing a load into each chamber (again 25% over and above the maximum steel

Superintendent Darren Surtees performs an initial inspection of a set of barrels



The barrel and action are inspected to ensure that there are no visible signs of weakness or undue wear.

cartridge load available) and instead of firing it twice it is fired three times in each barrel. This is the highest level of proofing available for shotguns. We don't do this because we want to blow our guns up, to the contrary, we do this because we can. It proves the integrity of the barrel design and material we use and is also a better safety test for the end user of the gun. And, of course, it ensures that our guns are 'future proofed' in the event of a lead ban. Under normal circumstances it is not recommended to Magnum proof test after 1/2-1/2

the barrels can be proof marked accordingly. Should the barrel fail this test for any reason, the maker is given the chance to rectify the problem. There isn't a limit as such as to how many times proofing can be attempted, however questions would be asked for repeat offenders as it wouldn't be considered good practice for a set of barrels to fail repeatedly.

If your barrels have English proof marks it doesn't necessarily mean that they have been made in England. For example, the SAAMI

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choke. However, with Longthorne 12-bores (at least) we can achieve Magnum steel proof with a full choke, and our first 20-bore has recently been proof tested with 50 thou of choke, which is over and above 'extra full' (normal for full choke in a 20-bore is 30-33 thou choke and extra full 34+ thou). As far as we are aware, we are the only company achieving this level of proof in the UK.

Once the test has been completed the superintendent will again examine the barrel to look for deformation, bulges, scratches, gouges, cracks, etc. The action and barrel fit will also be checked to ensure that they are still in contact with each other. If they are not this is known as being 'off the face' and the gun will be rejected. Once all tests have been completed successfully

standard used in the USA only deems it necessary to proof a percentage of a batch rather than every gun, so any guns arriving in the UK from US shores which have been proofed to SAAMI standard have to be reproofed and it is not uncommon for European barrels to be reproofed with a UK proof mark.

As a gun owner it is recommended that you look out for deterioration in overall condition, such as pitting, rust, scratches and barrel wall thickness, especially with older guns. As it can be an expensive process to rectify, check second-hand guns carefully prior to purchase. If you are in any doubt it is strongly recommended that you ask a reputable gunsmith to make sure the barrels are 'in proof' and to check the overall condition. ■