

TO BLUE, OR NOT TO BLUE

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Debate continues to rage in the reenacting community over whether an Enfield barrel and iron furniture pieces should be finished blued or bright. This subject has been debated since (at least) the late 1970s, and this author frankly cannot understand why it is still debated. However, letters and articles in national hobby periodicals and on Internet forums continue the debate.¹

In a nutshell, the debate is not primarily whether the original muskets were blued, but whether this finish was removed by Union and/or Confederate authorities, or by the soldiers in the field. This author has seen some rather wild claims on this subject recently; ironclad claims of “all” or “none,” generally with no quoted sources to back them up. These claims include (printed here as they appeared in print or on the Internet):

1. “Many Enfields, etc., produced for Southern Army were not blued when made. It saved money but mostly time to skip the blueing process.”

2. “The blueing on period Enfields was not nearly the quality featured on modern rifles and it wore off in the field.”

3. “The finish was browned, not blued.”

4. “I have never seen a period image of a blued Enfield, and if anyone has, I’d sure like to hear about it.”

This article will address the issue, and provide plenty of sources for backup. One caution: If I have learned one thing in over 25 years of researching Enfields, it’s that there is no “all” or “none.” To every rule, there can be an exception. Limited production “Enfields” made by obscure makers may not adhere to the following analysis. But what follows here is the story of blueing on the normal, run-of-the-mill P53 Enfield, made by commercial contractors in England to sell to American arms purchasers in the early 1860s.

The Pattern 1853 Enfield was manufactured in England with a rust-blued barrel and heat-blued barrel bands. In all my Enfield research, I have found only one documented case in which the finish was deliberately left bright: a lot of muskets (perhaps 2500 total) made expressly for Colt in 1862, to match the Springfield standard in bore, barrel length, and bright finish.² I have never seen any reference to any makers leaving the blueing off to save time or money. This may have been done by some Southern arms manufac-

turers, but not by the Enfield makers in England. This blued finish was applied by two different methods: the barrel and small iron parts were rust-blued, a process in which the finish was built up through a series of applications of the blueing solution, followed by rusting and removal of the rust, until the desired finish had been achieved. The barrel bands were heat-blued: that is, the metal was heated to a certain temperature, then quenched, which produced the blue-black finish.³

Both of these blueing methods are different from that used on modern repros, which involves the parts being immersed in a heated chemical bath. The quality and durability of the blued finish depends on many things, not necessarily the overall method. Hot tank blueing can be poorly applied today, and wear off quickly, just as cold rust blueing could wear quickly. In contrast, a good rust-blue is an extremely durable finish, and will last much longer than a poor hot tank blue. In my experience in examining original Enfields (over 250 personally examined, both here and in England), the original cold rust-blue appears to have been applied properly, so that it would last. In my collection is an Enfield-derivative rifle dated 1863, one that has apparently seen use, with a rust-blued barrel very nearly as dark blue as any modern repro. Not to say that some makers may not have taken shortcuts in the blueing process, with resultant shorter life of the finish, but the cold rust-blue method is, as a rule, every bit as high quality and durable as a modern hot tank blue.

Period British nomenclature, coupled with the appearance of many original Enfields today, has led many reenactors to believe the original finish was brown. Indeed, most period references refer to the barrel being “browned.” I can only suggest that this nomenclature was an example of the extreme conservatism in British arms making, similar to the Enfield still being called a “musquet” in 1853 literature. DeWitt Bailey, probably the foremost living authority on period British military weapons, states that British muskets were bright up to ca. 1815, at which time browning came into use, up until 1844-46. Blueing then came into general use, and the Enfield period arms had rust blued barrels.⁴

Indeed, years of examination of original P53 Enfields has failed to show me a single one that was originally browned (as we define “browning” today). Those with brown finishes now invariably show either a bright or blued bottom of the barrel, indicating the top surface has rusted brown. Or, in some cases, the blued finish itself may have turned somewhat brown. This phenomenon, called “turning plum,” is familiar to antique arms collectors. I do not pretend to an

in-depth knowledge of the chemistry, but both blueing and browning are, of course, different forms of iron oxide (rust). I have been told that over time, some blued finishes can lose an atom of oxygen in their chemical formula, changing from one type of iron oxide to another, and giving the purplish "plum" appearance. In these cases, the bottom of the barrel will (again) show the original blue (I have such an Enfield, dated 1861, in my collection).

So what did the original blued finish look like? In the absence of a time machine, we can only speculate based on the Enfields in the Ministry of Defense Pattern Room in England. This superb collection houses the original "pattern" weapons: those made as representative models to govern further manufacture. They were not made with any special finishes, but were supposed to be an example of normal manufacture. These pattern guns were never issued, but were stored in as-new condition. Those Enfields today display a shiny deep blue-black finish, essentially identical in look to a modern reproduction blue. They aren't browned, and they haven't turned plum. They are blued.

So much for the original finish. The normal P53 Enfield was made with a rust-blued finish on the barrel, and was shipped over here that way. Now to the heart of the debate: was the finish removed after the musket reached this country?

The simple answer is both Yes and No. In all of my Enfield research, I have yet to run across a single reference stating there was any sort of official program on either side to remove the finish. For what it's worth, period Regulations and Ordnance Manuals on both sides forbade "burnishing" the barrel to polish it, and soldiers were instructed to leave all weapons in the state in which they were originally finished.⁵ For another thing, why would the Confederates (for example) take the time and trouble to remove the finish from perfectly good weapons, which were urgently needed at the front? For that matter, why would the Federals do this, prior to 1863? Any such program would only result in a longer delay in these badly-needed first-class arms being placed in the hands of combat troops.

In spite of the above, it is evident that some removal of blueing did occur, on both sides. Period photos show both Federals and Confederates holding Enfields that have obviously been polished bright (either in the field or in an arsenal, makes no difference to us). There is some photographic evidence that some Federal units may have polished all of their Enfields in the field, to match the Springfield standard. It is possible that the U.S. government pursued some sort of arsenal polishing program, from perhaps 1863-on. From late 1863, the Springfield Armory was able to meet the Federal demand, and Federal importation of Enfields dropped sharply after that. Those Enfields that had

not yet been issued may have been polished bright in arsenals, and later issued to rear echelon troops (note several photos of U.S.C.T. units with bright shiny Enfields).

But just how widespread was this polishing? Although that is really impossible to say today, one thing can be said with certainty: it certainly did not affect all Enfields, nor perhaps even a majority. In spite of claims by several reenactors, there is ample evidence that not all Enfields were struck bright during service. For those who claim to have never seen a period image showing a blued Enfield, I offer the following lists. True, there may be some debate on some of these images, but the Enfields shown are certainly not clearly bright. Again, it is true that we cannot say the finish is "blued," in the absence of color photography, but we can say that these weapons show a dark finish, and many show a shiny dark finish that is surely the original blueing (some, as noted, have an obviously original blued finish).

Some reenactors have assumed that a shiny finish appearing in an image means the barrel was bright: when in reality, this is nothing more than light reflecting off the shiny dark finish, in contrast to the less glossy stock finish (this phenomenon sometimes appears in period images of British troops, whose Enfields were never struck bright). When in doubt, look closely, comparing images where all the metal looks bright, and you will see the difference. Compare the finish on the nosecap to that on the barrel: barrels that have been struck bright will look similar to the brass nosecap, while those that were blued will be noticeably darker. In addition, look closely at the rammer and bayonet (if visible): the rammer and bayonet blade were always bright, and contrast well with dark blued barrels.

Federals with Blued Enfields

18th NY Inf. - William G. Gavin, *Accoutrement Plates, North and South* (York, PA: Geo. Shumway, 1975 ed.), 337

23rd NY inf. - William C. Davis, ed., *The Image of War*, Vol. 1 (Garden City, NY, 1981), 159

USCT - *Image of War*, Vol. 3 (1982), 233

Maine Inf. - Gavin, p. 345

19th Iowa Inf. - *Military Images*, Vol. 15, No. 1, Nov-Dec 1993, 29

19th Iowa Inf. - *America's Civil War*, Vol. 7, No. 2, May 1994, 31 (very blued)

31st Ohio Inf. - *Civil War Times Illustrated*, Sep-Oct 1993, 90 (very blued)

149th Pa. Inf. - *Military Images*, Vol. 15, No. 2, Sep-Oct 1993, 7

2nd Vt. Inf. - Emil and Ruth Rosenblatt, eds., *Hard Marching Every Day* (Lawrence, KS: Univ. Press of

Kansas, 1992), dust jacket cover and frontispiece
 103rd Ohio Inf. - Digbey G. Seymour, *Divided Loyalties* (Knoxville: East Tenn. Hist. Soc., 2nd Ed., 1982), 105
 Unk. US - Gavin, p. 347 (very blued)
 Unk. US - Goldberg Textile Co. catalog, 1996
 Unk. US - Philip Katcher, *The Civil War Source Book* (NY: Facts on File, 1992), 78
 Unk. US - Time-Life Books, *Echoes of Glory*, Federal volume (cover) (very blued)

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13th Va. Inf. - *Echoes of Glory*, CS volume, p. 203
 61st NCST - *Military Images*, Vol. 11, No. 3, Nov-Dec 1989, 24
 5th Tx. Inf. - Felder brothers (this image has been published in lots of places; for example, Confederate Calendar, March 1988, and *Military Images*, Vol. 12, No. 4, Jan. 1991, 27)
 2nd NC Arty (36th NCST) - Confederate Calendar, May 1993
 46th Ga. Inf. - D.A. Serrano, *Still More Confederate Faces* (NY: The Metropolitan Co., 1992), 83 (very blued)
 3rd Ga. Inf. - Rod Gragg, *The Illustrated Confederate Reader* (NY: Harper & Row, 1989), 7 (also *Military Images*, Vol. 14, No. 1, Jul-Aug 1992, 14)
 Unk. CS - *CWTI*, Vol. 16, No. 6, Oct. 1977, back cover (very blued)
 Unk. CS - Wiley Sword, *Firepower from Abroad* (Lincoln, RI: Andrew Mowbray, 1986), 8, 20, 30

In addition to period images, there are several surviving identified Enfields that still show their original blued finish. For example, the Virginia Historical Society at Battle Abbey in Richmond has an Enfield identified to a Confederate soldier named Green, still showing a nice shiny blue. The Museum of the Confederacy has displayed another identified Southern Enfield with blueing still on the barrel. I have seen several Enfields in private collections, with identifications to both sides, with remains of their blued finish.

Some reenactors who insist that all Enfields were struck bright cite as evidence several surviving original specimens that have been polished. This ignores the pitfalls of generalizing based on evidence that has had 135 years to be altered. Just because a weapon is bright now, does not mean it was bright in 1865. It could have been polished by any number of owners since then (as opposed to weapons that are still blued, which would be far more difficult to refinish by subsequent owners). Indeed, the US Government reconditioned many thousands of Enfields that were held in store after 1865, for eventual sale as surplus (many of these

ended up in hands on both sides during the Franco-Prussian Wars, 1866-1871). This reconditioning almost certainly included burnishing (for illustration, almost all of the Enfields in the Springfield Armory Museum have obviously been reconditioned, including burnishing).

So what's the bottom line of all of this? It's plain and simple — there is no period evidence to support an argument that all, or even most, British Enfields had their blueing removed after they arrived in this country. This practice was probably much less widespread than many reenactors think. If you want to remove the blueing on your reproduction Enfield, go right ahead, but don't believe for a moment that it will be any more authentic than a properly blued musket.

NOTES

¹See, for example, the series of letters to the editor of the *Camp Chase Gazette*, April - September 1987, Jan-Feb 1988, May 1992, August 1992, October, 1997; rules for the living history event at Harper's Ferry in 1994; several recent Internet postings on reenactors' forums.

²Major R.T. Huntington, "Colt's Imported Enfield Rifles," *The Gun Report*, Dec. 1957, 19.

³DeWitt Bailey, *British Military Longarms, 1715-1865* (Lodon: Arms & Armour Press, 1986), 87. *Equipment of Infantry* (London, 1865), 34 (the period instructions refer to "browning," but the directions given are clearly for a rust blue finish).

⁴Bailey, 87.

⁵*Revised Regulations for the Army of the United States* (Philadelphia: J.G.L. Brown, 1861), para. 105; *Regulations for the Army of the Confederate States* (Richmond: J.W. Randolph, 1863), para. 97; *The Ordnance Manual for the Use of the Officers of the United States Army*, Third Ed. (Philadelphia: J.B. Lippincott & Co., 1861), 202-203; *The Field Manual for the Use of the Officers on Ordnance Duty* (Richmond: Ritchie & Dunnivant, 1862), 61-62.