



D27 Observed Microscopic Changes of Bullets Fired From Barrels After Cleaning With Bore Brushes

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The results demonstrate that metal bore brushes have an ability to affect the land impressions. In most instances this appears to be through erosion, as fine striations were broadened and lowered by smoothing or obliterated entirely. Coarse marks were less likely to be affected. While steel brushes were most effective, the effect was also observed after cleaning with bronze brushes.

While all final test fires could still be matched to the initial test fires, fewer areas of good correspondence were observed, and often an easy match became a difficult one with only one or two lands having sufficient striations remaining. In addition, the effect appeared somewhat random, with unequal results on particular land impressions within the same barrel. It is conceivable that with some firearms, this change in the individual characteristics could render the entire bullet unmatchable to an earlier-fired bullet.

Firearms, Land Impressions, Bore Brushes