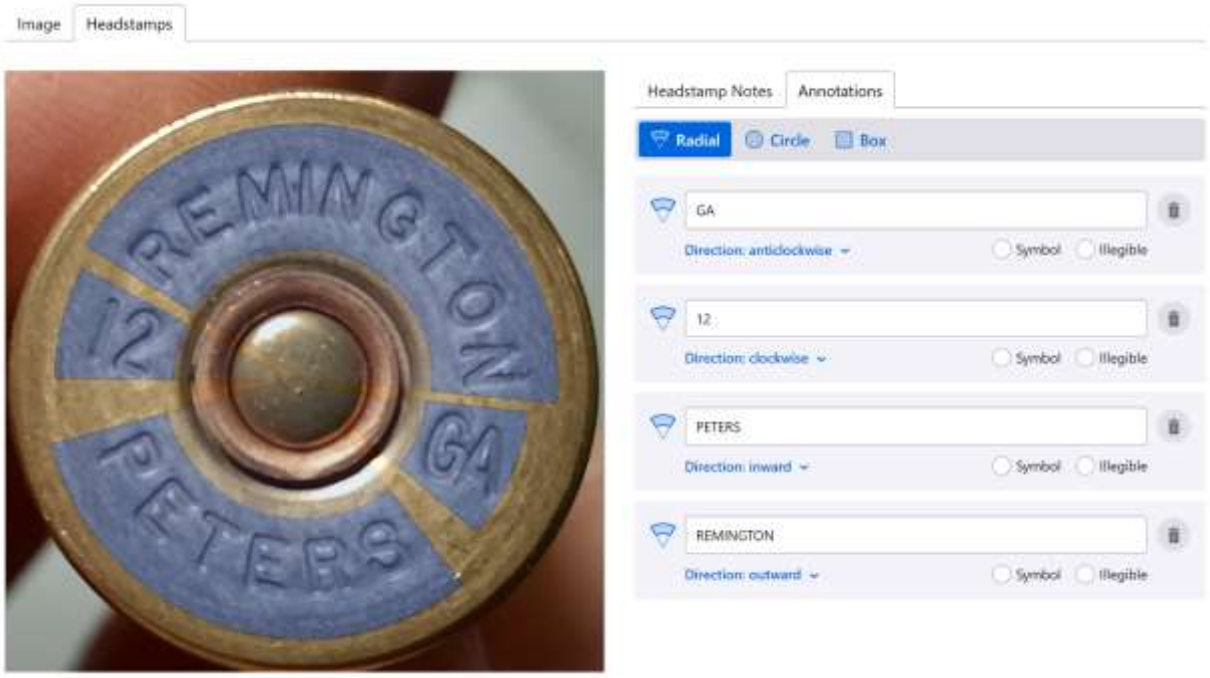
Tech 4 Tracing Annotation Guide

This guide describes the functionalities and steps for annotating a headstamp using the annotation interfaces in the Tech 4 Tracing (T4T) Ammunition Identification and Tracing tool. These interfaces enable curation of training and validation data to facilitate automated detection.

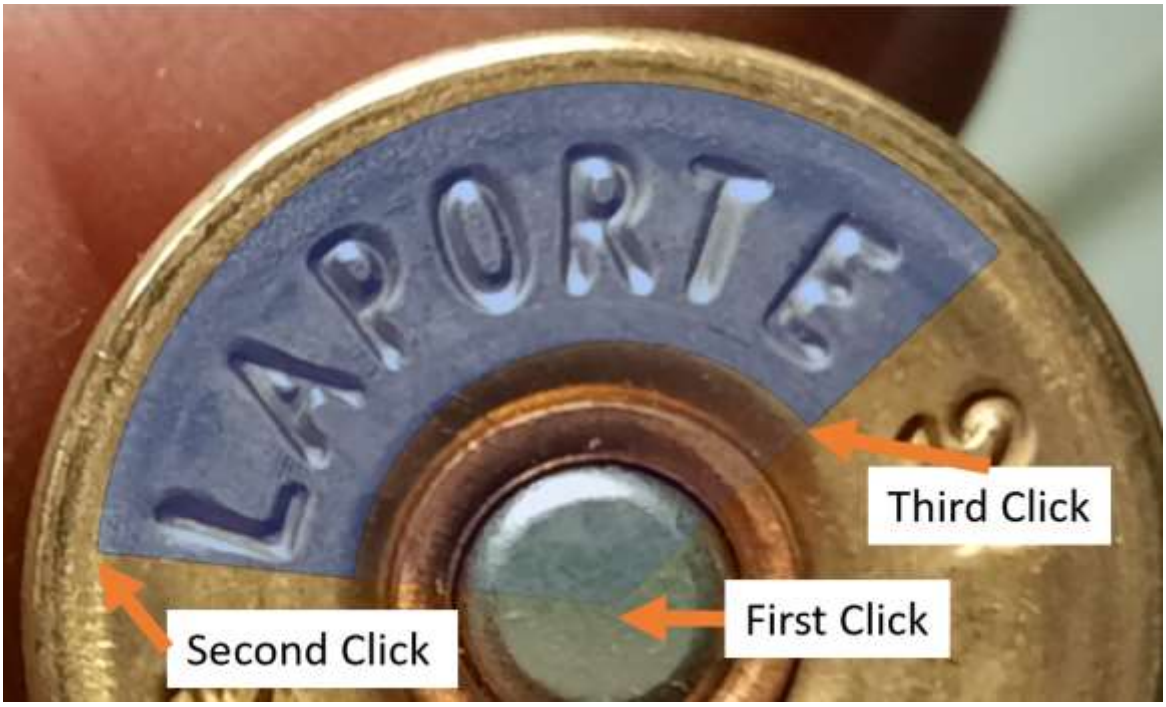
Depicted below is a sample annotated headstamp. Each distinct marked region on the headstamp should be annotated. If the text is illegible or the marking is one or more non-Latin symbols, choose the appropriate radio button. (You may describe the symbol in the text field, e.g., “star” or ‘*’). Each annotation will have a polygon and appropriate direction description. The rest of this guide explains how to draw polygons and set the descriptions.



Drawing Polygons

Regions may be marked using a radial polygon or rectangular bounding box. In this example, since the headstamp is rotated slightly, the “12” and “GA” are best marked with a radial polygon – if the headstamp had been aligned to be upright, a rectangular box would have been the better choice.

To draw a radial polygon, click (and release) at the center of the headstamp, move the mouse to just beyond the left-most outer edge of the text and click again, then move the mouse to just inside the right-most edge of the text and click a third time. *Ensure that the entire area of text is completely contained inside the polygon*. Note: if the text spans more than 180 degrees of the casing, you may need to either a) split the text into multiple polygons or b) adjust the center point slightly away from the text so that the arcs of the polygons span less than 180 degrees.



Rectangular boxes are drawn using simple click-and-drag between opposite corners.

Text Directions

Text direction is defined based on two considerations:

1. Consider a line or curve tracing along the bottom of the text (i.e., the text's baseline). Is the baseline parallel to the outside edge of the cartridge, or does it run at right angles to the edge (i.e. roughly parallel to the radius)? In the image below, "REMINGTON" and "PETERS" have baselines running parallel to the edge, while "12" and "GA" run at right angles to the edge, parallel to the cartridge radius.
2. Next imagine an arrow at right angles to the baseline pointing "up" in relation to the text (i.e. from the baseline to the top of the text if the cartridge is rotated so the text is oriented upright). Consider the direction of the arrow.

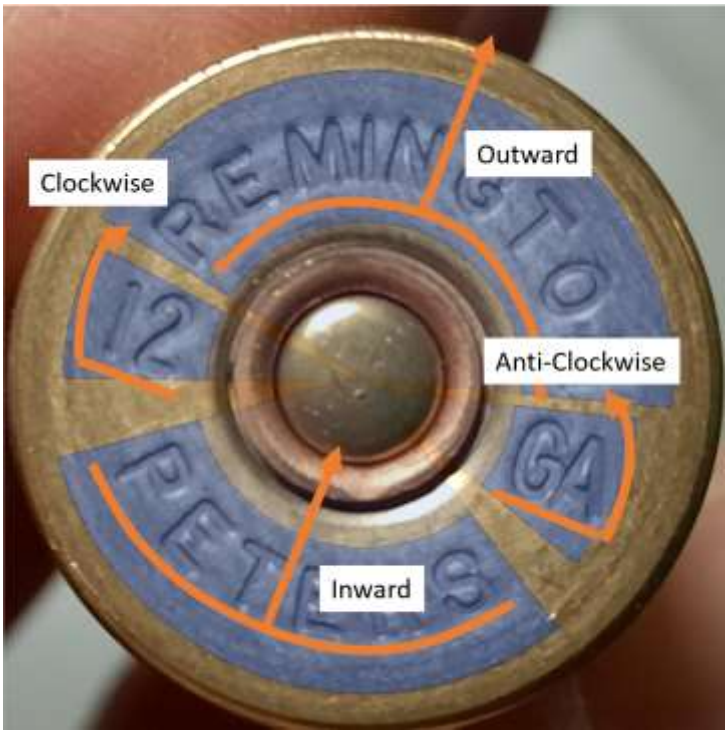
"REMINGTON": Edge-parallel baseline, the arrow points *away from* the cartridge center. Label the annotation as **"outward".**

"PETERS": Edge-parallel baseline, the arrow points *towards* the cartridge center**.** Label the annotation as **"inward".**

"12": Radius-parallel baseline, the arrow points in a clockwise direction tangential to the cartridge edge. Label the annotation as **"clockwise".**

"GA": Radius-parallel baseline, the arrow points in an anti-clockwise direction tangential to the cartridge edge. Label the annotation as "**anti-clockwise**".

Note that these labeling rules are consistent no matter how the cartridge is rotated around its central axis.



Be sure to click “**SAVE”** once all markings on the cartridge are annotated. Click the trash button to discard any mistakes or duplicate annotations.

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TODO: other tool features – bulk annotation, etc.