Action Blueprinting
June 23-27, 2025
$400 or 2 credit hours

Focuses on the study of the necessary modifications to convert the standard bolt action into a varmint, bench rest, or match rifle action. Emphasizes the re-machining of the main line and lock up areas of the action. These operations create a straight action concentric to its bore. Lab work will consist of building specialized tools and fixtures and re-machining of actions and bolts.
Prerequisite – Basic and Advanced Machine Shop or Machine I at TSJC

Instructor: Logan Schmit

Tool List

(Please keep in mind that the tools suggested for each class are the minimum tools you should bring. Please feel free to bring any additional tools you feel you may need)

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- Remington 700 action or another action (with prior approval of the instructor)
- Pre contoured barrel of choice.
- One factory recoil lug, an aftermarket lug is also acceptable (only required for actions that need a separate lug)
- Reamers of most standard SAAMI spec. Calibers are available at the TSJC tool room for your use. If you have specific dimensions you are trying to meet it is best that you buy or rent a reamer and headspace gauge to meet your needs. Various manufacturers offer discounts to our students.

- 6” quality dial caliper.
- 1” quality micrometer.
- Depth micrometer 0 – 3”
- Tap guide
- Small tap wrench (#0 to ¼” tap capacity), (it should have a center hole in the back of it for alignment purposes)
- 1.5 to 5mm Allen Wrench Set (or equivalent)
- Two 1/4” high speed steel lathe bit blanks.
- One 5/16” high speed steel lathe bit blank.
- Calculator and notepad.
- Thread pitch gauge

- One set of thickness gauges (only required if you are working on an action with a cone breech)
- Set of hex wrenches .050 to 3/8.
- 1” dial indicator (0.001” or .0005” resolution)
- Dial test indicator (.0001” resolution)
- Magnetic base indicator holder (Noga Model: NF10433 preferred).
- Magnetic backplate for your dial indicator, or a “Mighty mag” indicator holder.
- Boring bar with ½” minimum bore, 1.250” to 1.5” max bore depth, (similar to MSC #08062093)
- 9/64” Diameter endmill (to enlarge the scope base screws on a Remington 700 to 8-40)
- Two 8-40 taper or plug taps (to enlarge the scope base screws on a Remington 700 to 8-40).
- A boring bar with a minimum bore diameter if 3/8” and a max depth of cut compatible with the cartridge that you are planning to ream. As an example, MSC # 05253489 would be workable for chambers with a case head to shoulder length of less than 2”. Other bars are acceptable as well. If you have any questions about this, please contact me.
- Safety glasses.

Please call me if you have questions about any of these items.