Metalwork – Aluminum Scriber

Overview

The engine lathe is an excellent way to turn and shape and drill round stock accurately

- Familiarize yourself with the equipment before you begin set-up procedures (ask for help if unsure)
- Ensure that you have an instructors OK before beginning the knurling procedure

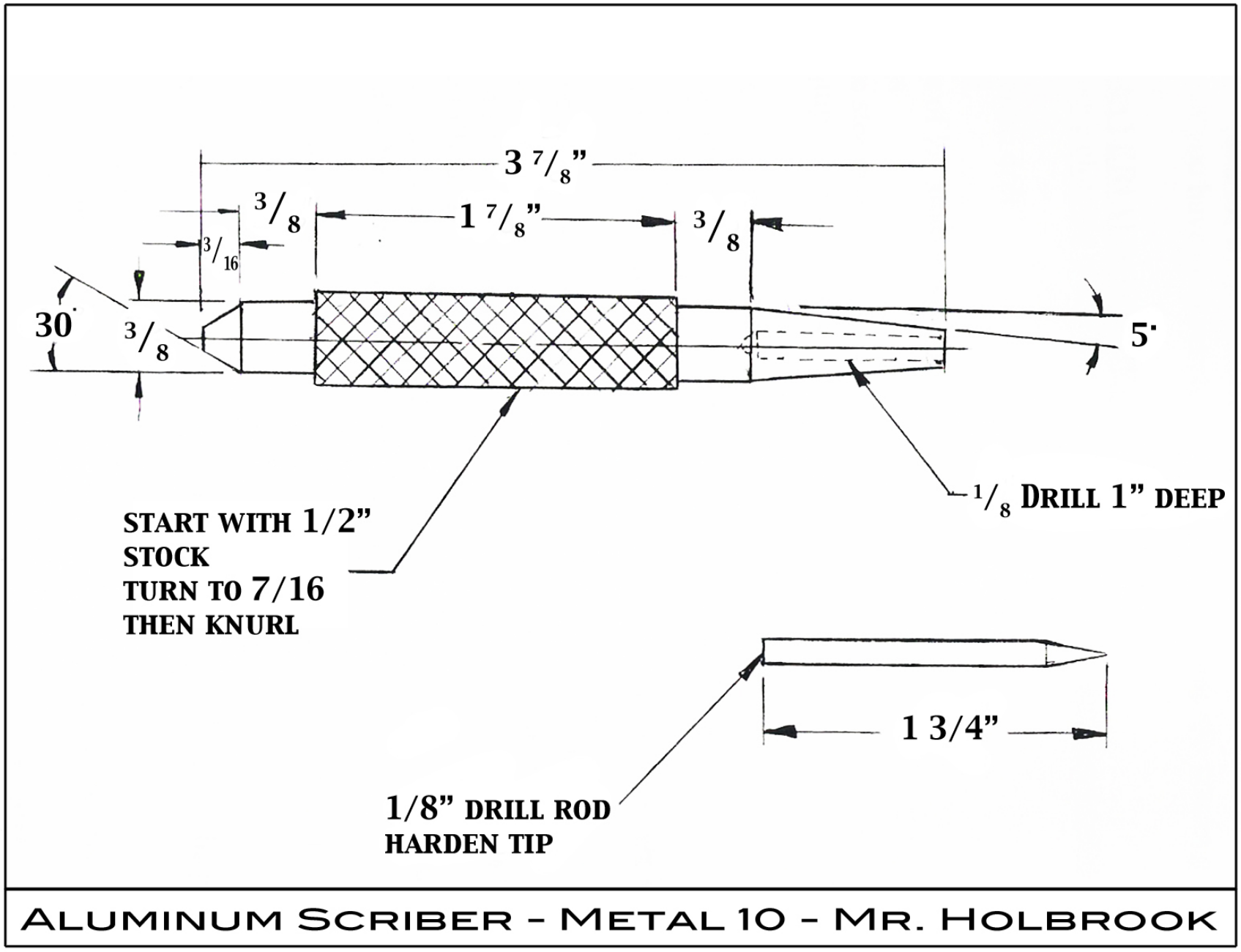
Equipment and Materials Needed

Remember to remove loose clothing and jewelry and tie back long hair. Equipment needed includes:

- Small Centre drill
- 1/8" drill bit
- 6" piece of ½ aluminum round stock
- Callipers
- Accurate steel ruler
- Fully equipped engine lathe

Procedure

1. Clamp stock in chuck with no more than 1" protruding
2. Set up tool but with point at centre line of stock (use sheet metal to check)
3. Set lathe speed and face the end of the stock
4. Install Jacobs chuck in tailstock and using a small centre drill drill the stock to accept the live centre
5. Remove Jacobs Chuck and install live centre, pull stock out with only about ½" clamped in the jaws and the other end supported by the tailstock and live centre
6. Move tool but to turn stock to diameter and turn entire length to 7/16" **(be careful not to hit the chuck or tailstock)**
7. Install knurling tool, choose desired pattern, centre and square the knurling tool to the stock **(Have Mr. Holbrook check your set-up)**
8. Knurl entire length
9. Install tool but and machine off knurl on either side of stock to achieve desired knurl length (**1 7/8"**)
10. Turn both ends of stock to 3/8"
11. Remove stock and insert into copper soft jaws (see demo), clamp in chuck with end for the point protruding
12. Use parting tool to cut off excess stock and face to length
13. Use centre drill to make a small dent in the stock (like a centre punch mark) install a 1/8" drill and drill 1" deep
14. Set compound rest to appropriate angle and machine the 5 degree taper (watch the chuck) Polish this end now if desired
15. Remove stock and turn around
16. Use parting tool to cut to rough length and face
17. Set compound to appropriate angle and machine the 30 degree taper
18. Get the drill rod from Mr Holbrook and use a hacksaw to cut it to 1 ¾"
19. Sharpen point on grinder and use torch to harden as shown in the demo



ALUMINUM SCRIBER - METAL 10 - MR. HOLBROOK