

and plenty of oil. In this setup, the tap is smaller than the hole in the work and only one set of teeth does the cutting.

Another method of using a tap is shown in Fig. 18. In this instance a tap having the desired lead is used and the thread dial is employed to split the thread. This method is handy for small holes where a single-point tool could not be used. The original tap thread can be split into double or quad thread, but not triple. The example shown in Figs. 19 and 20 uses an 11-thread, or lead, tap. Splitting the 11-lead gives a double thread of 22-pitch. The bore diameter should be for 22-pitch thread, with due allowance for clearance. In this setup, all teeth of the tap cut.

Setting threads with compound: This method is sometimes useful, especially for roughing the thread for 3, 5 and 6 starts which are cleaned up later by chasing with a tap of proper pitch. As shown in Fig. 21, the compound is set parallel. Assuming 6 starts and 4-lead, the thread will be 24-pitch. Gear for a 4-lead and cut a single thread to the depth of a 24-pitch thread, making successive plunge cuts by infeeding the cross slide. Then move the compound back a distance equal to the pitch, in inches, of a 24-pitch thread. Table 3 shows this to be .042 in. Make the second thread and proceed with remaining threads in the same manner. Threads cut by this method may show a slight variation in pitch, but this is equalized readily by running a few chasing cuts with a 24-pitch tap.