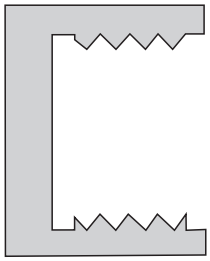
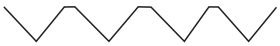
CUTTING A THREAD

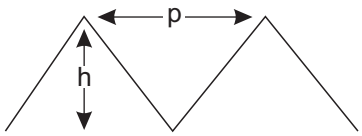


Cut the female thread with a 1 - 2 mm flat lead-in and a 1 - 2 mm run-out.

Close-up the thread should have small flats instead of a point.

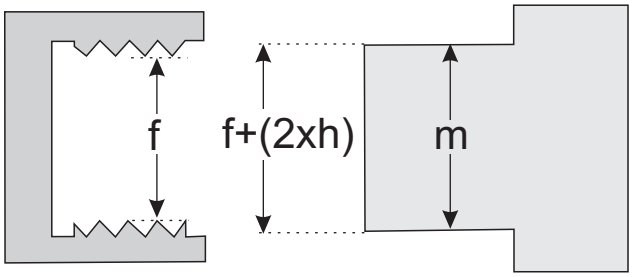


Note that the cutter will not go fully to the bottom. Nor will it later cut all the length of the male part. So the lead-in and run-out flats are important to ensure that the parts fit together. They also make it easier for the threads to meet when putting the parts together.

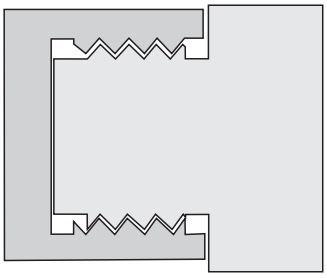


If a 60° cutter is used then the thread height is equal to p x 0.866

With this height known and the female thread measured (f), the male part of the work can be made to a measured size of f + (2 x h)



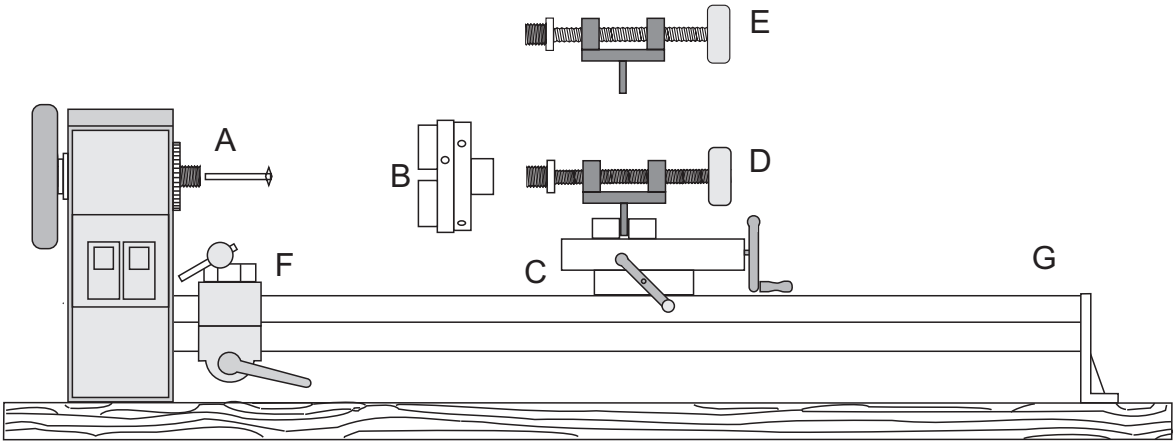
But m actually needs to be a little smaller than f + (2 x h) to allow for the flat points on f and to ensure that there is a little bit of space between the two parts of the thread.



Now, cut a thread on the male part with a lead-in and run-out so that it will fit into the female part.

THREADING JIG

The threading jig uses the lathe to spin a cutter while the operator rotates the shaft of the jig and thus passes the wood being threaded against the spinning cutter.



A The cutter may be any of a variety of shapes and sizes with one, two, or four cutting points. It should be rotated at 3000rpm or faster. Ideally it will cut a 60° groove in the wood. If this cutter is to be held in a jacobs chuck then that chuck should be secured into the headstock with a tieback.

B The work to be threaded remains in the chuck that it was turned on and this chuck is attached to the threaded shaft (D or E) of the Threading Jig.

C The cross slide allows for movement of the entire wood-holding area in relation to the cutter. It is particularly useful when the cut depth needs to be adjusted by small across-the-bed amounts.

D Rotation of the threaded shaft in the jig moves the wood being threaded against the spinning cutter. The threaded shaft causes this movement to be both rotational and along the direction of the lathe bed. The thread pitch of this shaft causes the thread pitch being cut in the wood to be the same as that of the shaft.

E If a different thread pitch is needed then a different threaded shaft needs to be made.

F The toolrest is not needed and the banjo is well out of the way.

G The tailstock is not needed and may be removed from the lathe.