The Sizing and Numbering of Hollow and Round Planes

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In his book, *Woodworking Planes,* Al Sellens says; "The size numbering refers to iron width but the numbering schemes appear to have been established to confound the scholar and to confuse the collector." It's not difficult to understand his confusion. There often seems to be no standard to the sizing of hollows and rounds.

W.L.Goodman, in *British Planemakers from 1700* makes a pretty good case for there being two different British numbering systems. He offers little about the sizing of early hollows and rounds, and there appear to be few surviving sets from which to gather the information.

Hollows and rounds from before about 1750 were generally unmarked as to their size or number. Examples given by Goodman are some of the earliest recorded commercial plane makers--the succession of makers starting with Granford (1687-1713), then Wooding (1706-1739) and on to Jenion (1738-1778). Like most things about old planes, I'm not sure this should be a considered a rigid rule. We have a JENION plane with early features that is marked. It is possible the number was added at a later date but it seems to be original.

One standard appears to develop in British planes by the beginning of the 19th Century. Variations from this numbering and sizing information are common. The major British makers seem to have followed this emerging standard relatively closely. Under this system, numbers correspond to the number of 16ths of an inch in cutting width; except on those planes wider than ¾" the increment of change switches to 1/8". For example, a number 11 would be 11/16" wide; number 12 would be ¾" wide, and a number 13 would be 7/8" wide rather than the expected 13/16ths. This change, I believe, was an attempt to offer planes which allowed for visual weight of the profiles cut. Visually, there's little difference between a 1 ½" diameter cylinder and a 1 5/8" diameter circle.

The width of hollows and rounds directly relates to the radius of the arc they cut. Most planes cut 1/6th of a circle, or 60º of arc. This means the cutting width of these planes is equal to the radius of the arc -- a number 8 plane will have a ½" cutting width and cut an arc with a radius of ½". It is convenient to judge the size of a circle by the width of the sole of the plane. My observation is that this too has some exceptions. Larger hollows and rounds tend to cut less than 60º and often cut a radius larger than the sole of the plane would indicate. For instance, a #18 from an unused set of GRIFFITHS, Norwich (c. 1860) planes we have cuts a cylinder with a 2" radius rather than the expected 1 ½". This matches the #18 profile of a little used set of MOSELEY (c. 1810).

Another exception is that number 1 planes were listed as being 1/8” bare or less than 1/8” but larger than 1/16”.

Many American plane making firms closely followed the British system. Some didn’t and used a variety of systems. Greenfield avoided the increment change found in the British system. Sargent offered only planes that represented the even numbers of the British system but numbered them sequentially. Those American makers who didn’t follow the British system appear to have had their own different systems and no alternative American system is apparent.

When selecting a numbering system to follow, we chose to follow this later British system except to stay with planes cutting 60° of arc. This way the plane’s width will be the radius of the arc cut. Woodworkers today and in the past found the smaller profiles the most useful. Often old sets don’t include the larger sizes, and today’s woodworkers generally seek the smaller sizes for their own use.

The numbering we use includes the following:

Number	Width	Radius
#1	1/16”	1/16”
#2	1/8”	1/8”
#3	3/16”	3/16”
#4	1/4”	1/4”
#5	5/16”	5/16”
#6	3/8”	3/8”
#7	7/16”	7/16”
#8	1/2”	1/2”
#9	9/16”	9/16”
#10	5/8”	5/8”
#11	11/16”	11/16”
#12	3/4”	3/4”
#13	7/8”	7/8”
#14	1”	1”
#15	1 1/8”	1 1/8”
#16	1 ¼”	1 ¼”
#17	1 3/8”	1 3/8”
#18	1 ½”	1 ½”

We think this is close to the British system and takes advantage of its most useful features.

Surviving old inventories indicate that in the past, craftsmen usually purchased planes a pair at a time. When they purchased sets, the set usually included only the even numbered pairs and is known as a half set. Occasionally though, some craftsmen chose to purchase a half set of the odd numbered planes. These odd sets appear to be less common than full sets of 36 planes. It appears that full sets were relatively uncommon.

Whatever numbering system or mix of numbering systems is used to accumulate a set or partial set, the most important consideration is to obtain a useful variety of pairs. Your hollows and rounds should give you a range of design options suitable for the scale of your work.