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Adjusting and Using the Stanley Number 78 Rebate Plane

©Trevor Pope (tpope AT iafrica.com) – June 2007

The first section is copied from http://www.supertool.com/StanleyBG/stan10.htm - by Patrick Leach - well written and duly acknowledged.

No 78 Duplex fillister and rabbet plane, 8 1/2"L (8 1/4", 1936 on), 1 1/2"W, 3lbs, 1885-1973.

This is another popular Stanley plane, on which the company built a great fortune. Nearly every workman of the time had one of these planes in their kits. This plane was so popular and functional, that it still is made today. Any hand tool enthusiast should consider this plane, or one like it, be it a competitor's or a wooden version, as part of his arsenal.

The plane has two beds for the cutter - one positioned for normal work, and the other for bull-nose work. The cutter has no cap iron, and is held in place by a thumb screw activated lever cap. Earlier models, with the common floral vines cast into the handle, required hand adjustment to set the iron, but in 1925, a lever, which engages machined grooves in the backside of the iron, was provided to accomplish this. Around 1910, the handle has a fish scale-like pattern cast into it.

There is an adjustable depth stop on the right hand side of the plane, secured in place by a thumb screw. Directly below the depth stop, is a three-pronged spur to score the grain that sits flush with the side of the plane. It can be turned up out of the way when it isn't needed. There is no spur on the left of the plane.

A rod, threaded on one end, is used as the arm on which the fence is secured. The arm can be attached either to the left of the plane, for working right-handed, or to the right of the plane, for reversing the plane to work left-handed. This is a nice feature designed to handle problem grain while working. However, there is no provision for the depth stop on the left side of the plane, so you'll need to plane to a gauged line, or do it by eye, when using the plane left-handed. The threaded rod has a hole drilled through it on its end. This hole permits a nail, or something similar, to pass through it in order to tighten or loosen the rod. Many of the rods are bent right where the threads start so check this area by unscrewing the rod - you'll notice whether it's bent as you unscrew it.

The fence is secured to the arm with a thumb screw. Sometimes you'll find examples where the thumb screw is replaced with a slotted round head screw. This is due either to the thumb screw being misplaced, or the original thumb screw being stripped. Also, the fence is sometimes broken; when the fence is attached to the left side of the plane, the back portion of the fence is longer than

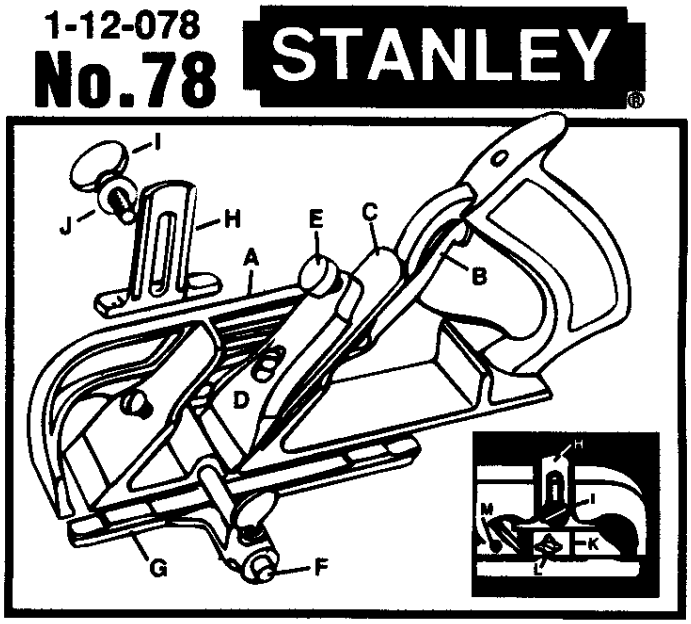
the front portion by about 3/4". Look at the fence, with the thumb screw toward you. The aperture for the arm should noticeably be to the left.

This plane is often found with parts missing - most often it is the depth stop and/or fence. You can usually scrounge parts from other models, but this approach usually ends up costing you more for an assembled one than it does for buying a complete one. It's also possible to find the plane with the section of the sole ahead of the bull nose bed snapped off. Some guys ground this section off so that they could use the plane as a chisel plane or to worked stopped rabbets right to their very end, which can't be done with this portion of the sole present. Planes that were accidentally broken will have the section brazed back onto the main casting.

The **No 78** pictured with its original box dates from the 1920's, with the most obvious clue being the depth adjustment lever for the cutter. It has the common decal on the handle, which Stanley applied to many of their planes and other hand tools. It can be found applied to the totes on the Bailey and Bed Rock bench planes, special purpose planes such as this one, sliding bevels, try squares, etc. The block planes and some of the other smaller planes, like the **No 95**, used a smaller decal that's noticeably yellow (see the **No 220** for an example of this decal).

This **No 78** also illustrates another common occurrence with Stanley - the use of early labels on boxes of later planes. The label on this plane, often called the "picture label" because of the line drawing of the tool contained within, was in widespread use starting around 1905. When this plane was made, Stanley was in the midst of what is known as the sweetheart era, where tools have the heart logo stamped in them somewhere. Even the box labels had a tiny heart on them as part of the logo. However, Stanley was also frugal in their unwillingness to toss something that was still perfectly usable, in this case a label. So, here is a plane made during the 1920's with a label used a few decades earlier. Keep in mind that it's impossible to date accurately Stanley stuff by the boxes alone. Generally, the latest feature on the tool, in this case the label, is the more accurate clue to the plane's approximate date of manufacture.

<End of extract from Patrick's web site>



Adjustment and tuning of the No 78

The term rebate or rabbet plane is refers to a plane without fences or depth stops. When the plane is fitted with a fence and depth stop as shown, it is also called a fillister

plane. The Stanley No 78 is the most common rebate/fillister plane and as recorded above, has been produced for over a century. It is still used and is widely available second hand as a result. It has a square blade and a single spur or nicker on the right-hand side. A single rod projecting from the left side supports the fence, as you can see from the diagram. The design of the Record No 778 is slightly better in this respect in that it has two rods to support the fence, which is more rigid as a result.

When buying second hand, be sure to properly inspect the plane for cracks and missing parts. As mentioned above, sometimes the front toe is broken off and often the fence and depth stop are missing. Spares are still available from Stanley. Quote the plane model and the name of the part from the list below, to get the right parts.

DUPLEX RABBET PLANE	
A	Plane Body
B	Adjusting Lever
C	Plane Iron or Cutter
D	Lever Cap
E	Lever Cap Screw
F	Fence Arm
G	Fence
H	Depth Gauge
I	Depth Gauge Screw
J	Washer
K	V-slide for Depth Gauge
L	Spur
M	Screw Hole for Fence Arm

The No 78 can be used for making fine adjustments to tennons, but if you have one, a shoulder plane (Stanley No 90, No 92 or No 93 or equivalent) with a finely set mouth and low blade angle may be better. To fine tune the width of a groove a Stanley No 79 side rebate plane can be used after the No 78 has done the heavy cutting.

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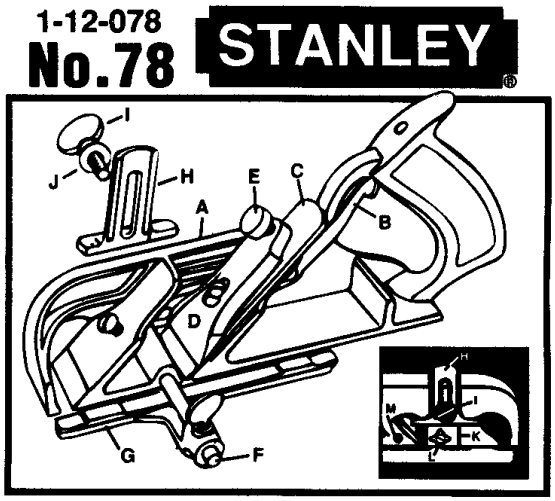

When buying second hand, be sure to properly inspect the plane for cracks and missing parts. Sometimes the front toe is broken off. Often the fence and depth stop are missing. The Fence Arm is sometime bent at the weakest spot, where the threaded portion leaves the sole. This should be carefully straightened so that the fence is parallel to the body. Spares are still available from Stanley in Robertville. Quote the plane model and the name of the part from the list below, to get the right parts.

DUPLEX RABBET PLANE	
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To tune up the plane, first check that the sole is flat, particularly around the area of the mouth. The right-hand side should also be flat and at 90º to the sole. Check that the bed for the iron is flat, so that it seats well enough to prevent chatter. The lever cap has a rather blunt end at the bottom, so shavings are inclined to hang up against the bottom of the lever cap and bunch up in the mouth. Grinding a bevel on the bottom end and making sure the underside is flat ensures a clean exit for shavings.

When sharpening the iron, follow the usual procedure of flattening the back behind the cutting edge to a fine finish. Then ensure the cutting edge is close to 90º to the longer axis of the blade, otherwise it will be difficult to set the blade properly. Errors are more likely on a used blade. Use a square to check the blade and correct any significant errors by regrinding. Small errors can be corrected on the oilstone. Sharpen and hone the iron. Also pay attention to the right hand side edge. Make sure the corner is sharp and well defined – this is important for the plane to make a clean, vertical side to the cut. The right edge should be slightly relieved so that there is a sharp edge defined so as to cut/scrape the side of the cut. Depending on the use, you may want to do the same to the left hand side as well. However, you must remove only the minimum of metal, Do not reduce the width of the blade if at all possible, as the blade needs to be wider than the sole, so that the plane can cut up to the edge on the left hand side as well, if required.

The spur or nicker is intended mainly for cross-grain use to sever the wood fibres. It may be of help when planing difficult grain with working with the grain. If this is the case, you are likely to experience other problems such as tear-out as well. One way to deal with tear-out is to reduce the width of the mouth (the gap between the edge of the cutter and the sole) by putting a shim between the bed and the iron. This moves the cutting edge closer to the front of the mouth. Sharpen the spur only on the inside, so that the outside remains lined up with the edge of the sole. Careful bending can allow some fine-tuning of the alignment of the two to be done.

Once sharp, the iron is set so that the edge is parallel with the sole and the right hand side is aligned with the outside of the sole, just projecting so the corner takes enough of a cut to keep the cut at right angles. If needed, slack off the cap iron thumbscrew slightly to make the blade easier to move with the adjusting lever, and then tighten it up to stop the blade moving while cutting.

Usage.

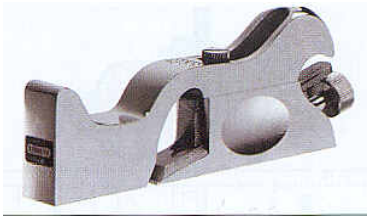
Planing with the grain. This cut is called a **rebate** or **rabbet** when made down the side of the board, and a **groove** when made away from the side of the board. The No 78 can make grooves, but these must obviously be as wide as or wider than the sole width. For narrower grooves, a plough plane with different width irons is used. Use the fence to locate the edge of the sole a fixed distance from the left hand side of the board. The depth stop can be used to regulate the depth as well. Free hand planing to a marked line

is quite possible - it just requires more care. A fence can be fastened to the board as well to guide the plane, particularly if the edge is not regular. Be sure to hold the fence against the side of the work as well as pushing downwards and forwards.

Planing across the grain. This cut is called a rebate when on the edge of the board, and a dado when away from the edge. The spur may be useful to make a clean cut. A sacrificial block of wood clamped at the exit of the cut may be required to prevent grain blow-out by supporting the grain at the end of the cut.

When planing a stopped rebate, the cutter can be positioned in the forward location. Unfortunately, adjustment is more difficult as there is no lever – you will have to use techniques for adjusting wooden planes to make fine adjustments.

The fence can also be fitted on the right-hand side for planing a rebate on the right. Unscrew the fence arm on the left side and screw it into the hole provided on the right hand side.



The No 78 can be used for making fine adjustments to tenons, but if you have one, a shoulder plane (Stanley No 90, No 92 (see right) or No 93 or equivalent) with a finely set mouth and low blade angle may be better. To fine tune the width of a groove a Stanley No 79 side rebate plane can be used after the No 78 has done the heavy cutting.

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