

ADJUSTING AND OPERATING THE HANCHETT "AT" SWAGE FOR WORK

CARE OF THE SAW TEETH – In the first place, all saws which are swaged should be ground on an automatic saw grinding machine such that all the teeth will be of uniform size and shape – otherwise it would be impossible for any swage to do even work. All teeth should be straightened before swaging, for in case a tooth is bent to one side the swage will often throw it farther, but will never straighten it. Before swaging, therefore, the saw should be carefully inspected for bent teeth, and if any bent teeth are present, these teeth should be straightened in the proper manner. The back of the teeth should form a straight line for at least one-fourth of an inch back from the point. When saws are being swaged for the first time, the rear die lever stop should be set in a low position so as to allow a longer than usual stroke of the die lever. The saw should then be swaged once around and then ground until the mark of the eccentric die on the face of the tooth is ground out – then swage the saw again and the points of the teeth should be of full working size.

1. Loosen the Anvil Set Screw on side of swage block.
2. Screw the Anvil Adjusting Screw downward until the swaging die will just pass the corner of the Anvil.
3. Give the Anvil Adjusting Screw one-quarter turn more. This allows the die to strike the Anvil in the proper position.
4. Tighten Anvil Set Screws. This locks Anvil in position.
5. Place Swage on the Saw.
6. Pull the Die Lever "11" down (open position). This leaves the face of the Anvil free.
7. Loosen the Cap Screws "on top of 15 and 16." This lets the Block "1" move freely in the Saddle "14."
8. Set the Swage on the tooth to be swaged and roll the Block "1" back and forth until the Anvil seats itself squarely on the back of the tooth. Carefully turn the Swaging Die with Lever "11" until you feel it take hold of the front of the tooth.
9. Tighten the Clamping Screw "5" with Lever "12" just enough to hold the Block in position.
10. Adjust Saddle "14" so that the Front Rest "26" is on two teeth. You will also note that the front rest is equipped with a spring which will allow the swage to rock slightly during the swaging operation, and consequently pull the tooth ahead and slightly downward during the swaging operation. The amount of movement of this spring can be controlled through the adjustment of the adjusting nut

B. It is desirable for the swage to pull the point of the tooth slightly forward so that the tooth will face up rapidly without removing much stock from the face of the tooth when it is sharpened. It is also advisable for the swage to pull the point of the tooth a very slight amount downward as this will result in most of the grinding being done in the throat and back of the tooth with the grinding wheel not touching the point of the tooth until the finishing cut is made. By adjusting the swage and grinding in this manner, the tooth form as determined by the cams of the grinder will be maintained and there is no danger of the filer losing the teeth of the saw if the swage is adjusted in this manner, assuming that the grinder is supplied with the proper cams. If the teeth should be bent upward or cut back at the point, the filer will very quickly lose the saw teeth on his saw and when a condition of this type arises, the filer must very quickly adjust his swage such that it will swage in the proper manner.

11. Tighten Cap Screws on top of "15 and 16."
12. Bring the Back Rest "25" down until it too rests squarely on the teeth.
13. Lock it in position by its Cap Screw.
14. Slide the Opening Stop "22" up against the Lever "11" and tighten in place.
15. Clamp swage securely by Lever "12."
16. Pull Die Lever "11" forward until die lays against the Anvil.
17. Set the Finishing Stop "22" to within $\frac{1}{4}$ inch of the Die Lever "11." This allows for a little spring in the Lever "11."
18. Unclamp Swage and remove it from the Saw.
19. Examine the tooth swaged.

If it is spread too wide, adjust the Stop "22" a little closer to Lever "11." This makes the stroke shorter and in turn reduces the depth of bite on the tooth face.

If it is not spread enough, adjust the Stop "22" a little farther away from Lever "11." This makes the stroke longer and in turn increases the depth of bite. In carefully adjusting the Stops in this manner, any amount of swage can be obtained with as little loss of metal as possible.

DIE ADJUSTMENT – To obtain a new working surface of Die, simply give Set Screws in Die Lever "11" one turn to loosen Die. Slide Die to new surface and tighten Set Screws.

CLAMP SCREW ADJUSTMENT – The Clamp Screw "5" has 4 to 6 flats which make it possible to adjust Clamping Lever "12" to your most convenient working position.

Before a Hanchett "AT" Swage leaves the factory it is tested on a standard 45 degree tooth unless the order calls for a swage to be used on a certain tooth and we are given the saw specifications. Then we will adjust the swage for that saw. If it is found necessary to change the style tooth or swage these few notes may be of value to you.

To Swage Short and Wide: Shorten the Die Lever stroke. It may be necessary to narrow down the face of the Anvil, or use a smaller working diameter Die, or use a deep eccentric Die.

Short and Narrow: Use a mild eccentric die. Use a smaller working diameter die if necessary.

Long and Wide: Use a large working diameter Die with a deep eccentric and use the full stroke of the Die Lever.

Long and Not So Wide: Use a large working diameter mild Die. It may be necessary to set the Anvil down to retard the stroke of the Die.

Very Slim or Blunt Teeth: It may be necessary to grind the Anvil face at an angle in order to get the correct action on the face of the tooth.

In Re-Swaging a Saw one (draw) stroke of the Die Lever is sufficient to spread the tooth point.

Beveled Grinding or Filing on the tooth face or back will cause the teeth to be swaged to one side.

Unevenly Shaped Teeth will cause the teeth to be swaged to one side. Be sure the Shaper Jaws are set and ground the same.

To Build Up a Heavy Working Corner the swage should spread the steel only slightly wider at the point than the finished tooth. This can be regulated by raising or lowering the Anvil which advances or retards the Die.

The Anvil Corner must be so adjusted that it will not bite off the steel, and the point of the tooth must be left so that in shaping, the point will not curl up or the steel become checked.

One-Eighth Turn Variation on the Anvil Screw makes a big difference in the results obtained by the swage.

If the Anvil Corner is Too Far Advanced (that is, flat on Anvil is too wide) the Die will pull out a long slim tooth and will not swage wide enough at the point.

If The Anvil Corner is Too Far Retarded (that is, flat on Anvil is too narrow) the Die will pull out the point only. This will bite off the point and waste the saw steel.

One-Sixty-Fourth Inch Difference in Anvil Face Width makes a big difference in the action of the swage.

To Adjust Anvil Location to Die, screw Anvil Adjusting Screw down until the Die will just pass the corner of the Anvil. Give the Anvil Adjusting Screw one-fourth turn more.

Use the Largest Die possible for all soft fibrous woods if not frozen because it obtains the longest and strongest tooth.

For Sawing Frozen and Hard Woods it is better to use a smaller Die. Use a Die whose diameter is 4 times the width of the swaged tooth.

When a Smaller Working Diameter Die is Used, it may be necessary to use a wider faced Anvil.

Adjust the Swage so that the Clamping Screw strikes the tooth in line with the gullet. See illustration on page 3. On slim or blunt teeth the Anvil may need grinding at an angle. This reduces the tendency of the swage to crawl forward and it gives the Die and Anvil an equal chance to perform their duties.

If the Swage Does Not Work Right after some use, look for one of the following:

Die and Anvil are incorrectly set.

Clamping Screws are worn on the clamping face.

Anvil face is broken or worn down.

Clearance on tooth back has been changed.

Hook on face of tooth has been changed.

Die face is worn where it is being used.

Keep to a Standard 45 Degree Tooth and the swage will give you the best results.

Extra Adjustment for "AT" Swages

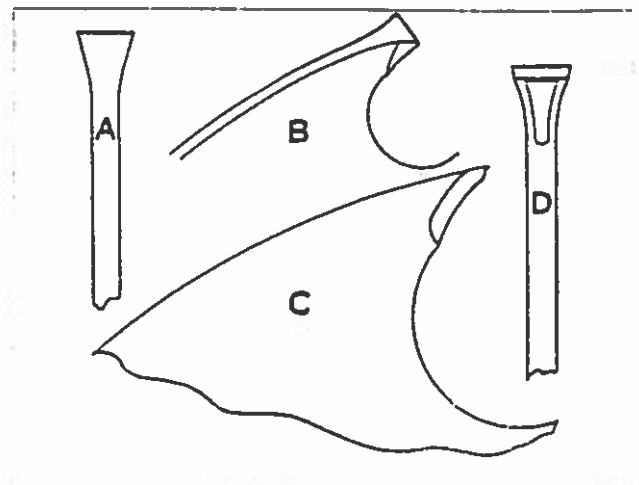
We show here illustration of a shape of tooth which some filers prefer.

Illustration "A" shows top view; "B" slanting side view; "C" straight side view; and "D" under throat of the swaged tooth.

The shape may be given when desired by adhering to the following instructions:

Place Die Finishing Stop one-quarter to one-half inch forward in Die Stop Bracket.

This affects the Die Lever so the Die has a space between Die and Anvil at the finishing point of Die.



RECOMMENDED AIR PRESSURE 40 TO 60 P.S.I.

INSTALLATION INSTRUCTIONS FOR CONVERSION OF "AT" SWAGES TO AIR OPERATION

The conversion kit is supplied with the air lines between cylinder and control valve assembled in correct operating sequence. Remove and discard die lever and fit new die lever supplied. Move spring fork bracket (Part 17) to forward end of slot and fit cylinder mounting bracket beside Part 17.

Mount cylinder and attach clevis on cylinder rod to new lever. Remove allen head stud on saddle clamp and fit control valve mounting bracket on top of saddle clamp; replace stud. Control valve will line up with clamp lever. Remove and discard forward stop on Part 15 and install new rear die lever so that screw lines up near center of die lever.

**CAUTION - WHEN APPLYING AIR SUPPLY, AIR CYLINDER MAY ACTUATE.
KEEP HANDS AWAY FROM DIE OPENING STOP, OR FROM AREA BETWEEN DIE
LEVER AND SWAGE BLOCK.**

OPERATION OF NEW AIR OPERATED "AT" SWAGES

Adjustment of the swage is the same as manual model except that it is necessary to disconnect air cylinder to make initial anvil setting and then slide the air cylinder in its mounting bracket so that the cylinder rod is at maximum forward stroke when the die lever is fully forward; this eliminates the need for the stop previously fitted on Part 15. Fine adjustment is made by small movements of the air cylinder in the circular bracket.

Clamp swage on saw by using wrench on lever clamp screw. Fit lever to nearest position on clamp screw and make final setting by adjusting stationary clamp screw so that at desired clamping pressure the lever is depressing the knob on the air control valve only 1/2 of available movement. This is sufficient to change the air direction and will insure the mounting bracket is not subjected to unnecessary force.