Managing Clip Quality: Push Down Steps and Clipper Block Shims

Need help? If you have questions, problems, or comments about this note, call us at +1 (360) 764-8850 or email office@nmt.us.

If you experience poor or inconsistent clips, including hangers (adipose fin still attached to fish at leading edge) and jagged clips, first check (1) the clipper will clip doubled-up 3M Super 33, or Super 88 electrical tape and (2) that it is properly aligned with the clamps. Correct these issues before adjusting the number of shims or push-down steps.

This note describes:

- what happens when you add or subtract shims when building the clipper block
- what happens when you adjust push-down steps
- the intended application for these two actions.

Clipper block shims move the blade and anvil vertically to achieve the proper clipping depth for removing the adipose fin. Adding more shims moves the blade and/or anvil downward which results in clipping deeper. Removing shims moves the blade and/or anvil upward which results in shallower clips. Most fin clipping will use a 3-shim clipper block, but you may have to vary by one shim depending on the group of fish you are marking. A shim is 0.003”, or three thousandths of an inch, thick.

The clipper push-down step refers to the amount of pressure that is put on the fish’s back to align the clipper block as it moves into position to clip the fish. By adding or subtracting push-down steps, you change the vertical position of the entire clipper assembly.

The clipper assembly requires some pressure against the back of the fish to enable the angle of the clipper block to rotate to match the angle of the back of the fish that is being clipped. This necessary pressure is why the clipper assembly contains the plungers and springs. Push-down steps allow the operator to attain adequate travel on the y-axis to ensure the proper amount of gimbal to the clipper block and pressure on the fish’s back.

If there isn't enough pressure, only the top portion of the adipose fin will be clipped. Too much pressure on the back of the fish can result in deep clips that cut into the fish’s back. Excessive pressure can cause the fish’s back to bow downward, resulting in only removing the top portion of the adipose fin. This is especially evident on fish that don’t have a properly arched back.

The default for push-down steps is two. If you need to adjust by more than two or three push-down steps in either direction, check the setup and ensure that the clipper mechanism is functioning properly. A push-down step is equivalent to 0.0048”, or just under five thousandths of an inch.

In summary, if a clipper does not have the proper amount of gimbal or pressure on the fish’s back, you may need to adjust the number of push-down steps. Keep in mind that a change of more than two or three push-down steps indicates a potential issue in the setup or function of the clipper mechanism. If a line is clipping slightly deep or shallow an adjustment to the number of shims in the clipper block may be necessary.