

HOW TO ADJUST POINT OF IMPACT?

Dear Technoid:

I have a Ber.682 Super Sporting- this model has 2-factory stock inserts provided. One high and one is higher! I have the lowest one in place, but the right side of my neck continues to bother me even with 7/8 oz. loads.

The center point of impact is 4" high and 2" to the left of a three inch dot from 20 yds. w/Lt.Modified Briley X2 chokes installed. Both 28" top and bottom shoot to this point when firing 8 shots from a off the shoulder Sporting Clay move-mount-shoot approach. (no aiming or looking at sights). I want a 50/50 pattern when holding directly on dot, not below it.

Can you guesstimate how much cast and drop I need to do this? I plan on having the stock bent. Note: people tell me that insert cannot be "worked" down any lower because there isn't sufficient wood.

Keep the good info coming!

THX Rob

Dear Rob,

Now THAT is an interesting question. First of all, I always check my point of impact with Full choke. That gives you a more precise picture of where point of impact is. A two inch deviation is a bit hard for me to spot if the pattern is a bit thin. I also check it a bit further out at 30 yards. However, that is neither here nor there.

Unlike many people who consult the oracle of the Technoid, you seem to have actually done some homework. Smart fellow! I don't happen to have the particular gun you are talking about in front of me as the gun rack stuck on the side of my computer is full at the moment, but I am familiar with Beretta's replaceable comb stocks.

I am a bit confused (Technoid's normal status) when you say that it hurts your "neck". Did you mean cheek? Increasing cast off may make this worse, not better. Although you may need cast off (or a slight change in shooting style) to adjust your pattern, increasing cast off tends to increase cheek slap, not decrease it. Every 682 that I have seen has come through with at least 1/8" cast off at heel and a bit more at toe. I have to straighten the stocks back out to neutral in order to shoot them and avoid face slap. Too much cast has always caused me face slap, never too little. Think about the dynamics and angles. Imagine if your stock had a huge amount of cast off and you would see why cast off causes face slap. The gun recoils straight back, but the stock is at an angle to the face and hits the cheek instead of sliding along it.

Too little cast off almost never causes face slap, though it will (as you properly surmise) cause a righty to shoot to the left. People who shoot with an erect head (veddy British) also tend to need more cast off. If you turn your face slightly into the stock and crawl it a bit (very American), you

will find that you need less cast. Shooting slightly more across your body will do this automagically. Very often gun fit is a mounting problem, not a stock problem.

Too much stock height per se does not cause cheek bruising. It is really more the angle of the stock that is the culprit. Too much height merely accentuates an incorrect comb angle or cast.

I am surprised that the Beretta inserts do not have enough meat to be reworked to meet your needs. I did not know that. Beretta makes a decent gun, but they occasionally do some amazingly stupid things (The step rib on the 390 clays gun is one. Parts supply is another.).

Here is what I would suggest that you do. If you want to stick with bending, go to your stock maker and ask him at what distance he would like you to do your point of impact testing. Since bending stocks is his business he should be able to make the translation from pattern sheet to proper bend dimensions as long as you are using his distances. There is a formula for this- 1/16" change in cast or height moves impact so much at such and such a yardage, but I do not have it at hand. If he cannot do it from this information, find a different stock bender who knows shotguns. There are several very good ones in the Millbrook, New York area if that helps. When you do this, be aware that a shotgun is not a rifle and things are never all that precise.

Also, since you have too much height and need cast, you can always sand it down for a perfect fit. You can do this yourself a bit at a time (using a sanding block to avoid dishing, please) and obtain an absolutely perfect fit. Sand a bit, test impact, sand a bit... This is the ONLY way to absolutely, perfectly adjust a fixed stock gun. Stock bending is a one shot affair and is never exact. Sanding is exact. Of course, you will have to restrain and refinish.

You might also consider asking your stocker if the supports of the cheek piece could be reworked to give you additional adjustment room.

One final thought- many people advertise making adjustable stock conversions. Perhaps a phone call to one of them would unearth an inexpensive method of modifying your setup and having a proper adjustable comb installed. By the way, Brownells sells all that adjustable comb hardware for the ruin-it-yourselfers, if you feel so inclined.

Best regards,
Bruce Buck
Shotgun Report's Technoid

P.S. The day after I wrote the above, I was chatting with Paul Smith, instructor and gunfitter for distinguished gun firm of Griffin & Howe (tel: 908-766-2287). I told Paul that I could not remember the formula for how much bend produces how much change in point of impact. Paul had it right at hand. He said that the great English gun entrepreneur Churchill was the one to first come up with it.

Basically Churchill's rule is that a shift of 1/16" in the stock will shift point of impact 1" at 16 yards. There you go.
BCB