

ADDING BARREL WEIGHT

Dear Technoid:

Still reading you and enjoying your stuff.

I have a Beretta 682 Sporting, 30", which in all ways is satisfactory, except that I would like to add a little weight forward of the balance point.

It seems to me that a really simple way to add 3 to 4 ounces of weight would be to have lead strips fitted under the forearm, attached to the mid-rib. It is so simple I assume someone else must have thought of this, but I have never seen this modification on a shotgun.

If know one else had done this, do you think I am missing something? (other than the obvious few screws that most shooters are missing) Have you ever known of this retrofit being made to a shotgun? Do you see any disadvantages, or potential problems, in doing this?

I look forward to hearing from you.

Andy

Dear Andy,

People change the weight and balance of their guns all the time. It is actually something of an art when done correctly. Trap shooters have been adding weight to the rear of their guns for years with recoil reducers and heavy adjustable stocks. Since trap guns are shot mounted, weight added to the rear has little noticeable effect on the dynamics of the gun.

Skeet shooters gleefully add over 3/4 of a pound of road hugging weight when they pound in a set of sub-gauge tubes. Then again, American style skeet is also a mounted gun game with very little vertical gun movement. Grossly nose heavy guns work well in that sport as you can see in the preponderance of tube sets over barrel sets. The winners use those heavy tube sets.

Without going to skeet tubes or adjustable stocks, there are a lot of things that you can do to add some weight to the front of your Beretta. Let me say this first though- although you can add weight, you cannot add it absolutely correctly. You are going to have to add the eight pretty much in one place (or two) and that is NOT the same as, or as good as, adding it all along the length of the barrels. It all has to do with moment of inertia.

Example: take a broomstick and two bricks. If you tie both bricks to the center of the broomstick and wave the broomstick around, the broomstick will feel very lively and will start and stop quickly, like a too muzzle light field gun.

If you take the same bricks and tie them on each end of the broomstick and then move the broomstick around, it will be very hard to start and stop. It will feel very slow, like a tubed skeet

gun. The weight of the broomstick and bricks has not changed. The balance point of the broomstick is still in the center. What has changed is the moment of inertia.

If you could "melt" those bricks down and distribute them both equally along the full length of the broomstick, you would find that it had yet a third moment of inertia- and a much more pleasing one.

This is what you are up against when attempting to alter the balance of a shotgun. If you are going to add weight to the front, you are forced to add it all pretty much in one place (under the forend if you wish to retain aesthetics). Adding it all in one place alters the moment of inertia for the worse. Also since you are adding it so close to the center of gravity, you will have to add more weight.

That is the downside. The upside is that adding and subtracting weight is relatively easy. Here are some ways to add a bit up front.

1) Try extended chokes. A pair will add about an ounce right at the front where you will notice it the most. One ounce hanging off the front is a fair amount.

2) Remove weight from the rear of the stock. This will shift balance forward. You can remove stock weight by hollowing out the stock or by skeletonizing the recoil pad from the inside. "100 Straight Products" from Brownell's make ultra light spacers.

3) You can add a skeet weight to the barrels. Skeet shooters to compensate use these clamp on weights, when the weight of sub-gauge tube sets are removed. Smaller weights semi-permanently held on with double stick tape are also available. "Stick on" auto wheel weights can also be used.

4) You can hollow out the forend a bit and put in some lead. How you do it depends on how thick your forend is and how much you want to add. The Russian Baikal MU-8 International Skeet guns had little pockets built into the forend for just such a purpose. Lead shot mixed with epoxy glue is best for subtle changes. Remember though, weight added to the forend wood will put extra stress on that wood and also on the forend iron- not a place of great strength in Berettas.

Screwing strips of lead through the side ribs will also work on some guns. It depends on barrel convergence (room between the barrels) and how the forend is fit.

None of these approaches are ideal. The best way is always to fit slightly heavier barrels so that the weight will be evenly distributed and the correct moment of inertia is preserved. Then again, doing it the right way takes all the fun out of it.

I have personally tried all of the above approaches, but do not pretend for a moment that someone more imaginative than I cannot come up with a better way to increase muzzle weight. If so, I would certainly like to hear about it.

Regards,
Bruce Buck
Shotgun Report's Technoid