Rebated Boattail Die Set, RBT-2

The RBT-2 die set consists of two dies and four punches. The first die is used to hold the flat-based jacket while the core is first seated. This forms a boattail-shaped base on the bullet caused by the lead pressure pushing the jacket into the shape of the die.

The second die accepts this boattailed jacket with its core already seated, and forms the rebate or shoulder on the base. The same external punch is used for both dies, but each has its own internal punch. The internal punches are used to eject the bullet on the down stroke.

The final punch is one which accepts the boattail base in a cavity, and fits into the point forming die (PF-1) which is part of your jacketed bullet swage set. It is NOT used in any other die except the optional lead tip forming die (LT-1).

The lead core is NOT seated into the jacket with the usual flat-base core seating die and punch. Instead, the lead core is swaged in the CSW-1 core swage, placed in the jacket, and the assembly is put directly into the first RBT die. The core is seated in this die, using whatever core seating punch fits inside the jacket best. The same external core seating punch may be used for flat base bullets in the CS-1 core seater, if you have one. A shouldered punch may be required to keep the jacket from extruding forward, depending on the softness of the jacket material. Adjustable shoulder punches are available, optionally, for various lengths of jackets. The shoulder just stops the edge of the jacket from becoming longer as pressure is applied to the base. Some jackets will extrude and become longer under this pressure, even to the point of pulling the jacket apart.

The boattail needs to be formed well enough so that it fits correctly into the second RBT die. Use sufficient pressure to form a good boattail shape. The second die should form a sharp step. In the point forming operation, the external punch which supports the RBT base will finish the edge of the rebate. Do not use this punch for anything else, as it will crack if it is not supported correctly in the die when pressure is applied. If the bullet is so long and heavy that there is pressure before the punch is completely inside the die, the punch will crack. Use a weight and jacket length that lets you get the punch inside the die for support.

RBT (Rebated Boattail) bullets have these advantages over regular boattails.

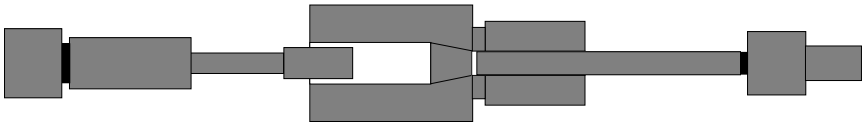
(1) Muzzle blast dispersion (causing inaccuracy) is reduced by at least 15%. The muzzle gas is deflected in a ring with the bullet shooting through the clear space in the center, as compared to the ball of fire that focuses in front of the standard boattail bullet (caused by the laminar flow of muzzle gas around the smooth conventional boattail, focusing like a water hose nozzle in front of the barrel).

(2) Barrel life is increased and bullet gas cutting is reduced by the sealing action of the rebate. Gas pressure acting normal (90-degrees) to the surface tends to peel a boattail angle back from the bore. The 90-degree rebate shoulder makes the gas press straight forward rather than giving it leverage to vector the force down and pull the gas seal away.

(3) Punch and die life is greatly increased compared to a standard boattail die set, because of the thicker edge sections on the punch and the general design of the dies.

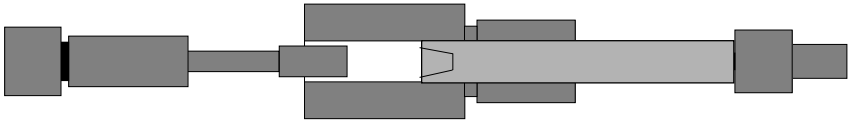
RBT bullets have one advantage over flat base bullets.

(1) The air flow over the rebated boattail base is less turbulent than that of the flat base design, so drag is reduced by up to 40% in sub-sonic bullets and up to 15% in super-sonic bullets. A bullet passing through the speed of sound will experience an increase in ballistic coefficient below the speed of sound, to a greater degree than a flat base bullet passing through the same velocity/time curve. RBT pistol bullets tend to strike higher on target provided recoil and other effects do not affect the attitude of exit.



Same External Punch (CS, EXT.)

BT-1 Slightly smaller bore, no shoulder in the die.



BT-2 Slightly larger bore, RBT internal punch

Bullet base should fit smoothly into the PF EXT. RBT punch.