

The Ultra-Low Drag Bullet

Corbin provides two styles of ULD bullet designs, the ULD and the ULD-TIP. Both use a different point forming die with all other dies and punches being the same.

The ULD ogive (on the right)...

ULD (Ultra Low Drag) is a hybrid of a tangent and secant shape, starting with about 7-S curve and extending to a small open tip (or lead tip, with optional lead tip finishing die). This shape eliminates the “step” or discontinuity in the curve typical of a standard secant ogive, eliminating the secondary shock wave sometimes generated by the airflow passing over a sudden change in the surface shape.

Any swage die set can make the ULD bullet by either specifying the ULD ogive or adding a ULD point forming die to an existing set. The ULD ogive point form die is a conventional PF-1 die for either -S or -H and can be made in any caliber. For best results at longer ranges, the base should be Rebated Boattail (RBT) rather than flat, to help reduce base drag. There is no additional cost compared to any other ogive shape with the ULD design.

The ULD-TIP ogive (on the left)...

The ULD-TIP ogive is triple hybrid ogive, starting with a tangent curve, flowing into a secant curve and then blending smoothly into a metal tip insert with a spire shape. The metal tip insert extends the length of the bullet beyond the jacket length, and provides a very sharp airframe with nearly zero meplat width, greatly reducing the initial nose drag. The metal tips are CNC machined and packaged in lots of 500 tips.

The tips are inserted and formed to the bullet in two steps, using the PF-1-HT die. This die is provided with two internal punches, instead of just the ejection pin wire found in a conventional PF-1 die. One punch creates a hole in the lead core while it begins to shape the ogive and close the tip just enough to accept the tip insert. The punch diameter is larger than that of an ejection pin, so the die makes a large meplat hollow point open tip bullet without using the tip insert.

After processing a number of bullets with this punch and die combination, the same die is used with a second punch, which has a cavity in the tip to prevent damage to the sharp tip during ejection. The bullet is reformed so that the jacket flows smoothly to the large end of the tip insert, making a smooth step-free surface all the way from tip to base.

The ULD-TIP design can be added to any conventional set, but only works with calibers from .284 (7mm) up. The TIP-30 is used from .284 to .338 and the TIP-50 is used from .338 to .510 or larger. At .338, either tip can be used depending on desired appearance and weight.



PO Box 2659, White City, OR 97503 www.corbins.com
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