

The Riser

The riser has most of the mass and provides the mounting points for accessories such as sights, stabilizers and a quiver. The riser is where the limbs attach and it's also where you hold the bow. The riser has to provide the stability for all the other components of the bow to flex against.

Source: <https://targetcrazy.com/archery/resources/compound-bow-anatomy/>

1, 2 - Axles

The axle is... well it's the axle on which the cam turns. You might think of this as the hinge or load bearing point for the cam. The distance between the top and bottom axle of a compound bow is called the 'Axle-To-Axle' distance and is usually outlined in bow specifications.

3, 4 - Cams

Cams differentiate a compound bow from any other bow are the cams. These are located at the ends of the limbs and look like little wheels.

Cams can have different types such as single, dual (which the example bow has) or hybrid. Their purpose is to transfer and store energy away from the string. This is called let-off, and this feature of a compound that means when the string is fully drawn you get a more powerful shot than the actual weight you are holding back.

For example on an 70 lbs bow with 70% let off, the archer needs only hold back about 49 lbs of weight and the bow will provide 70 lbs of force to the arrow upon release.

5, 6 - Limbs

At the top and bottom of the bow are the limbs. These are the pieces of the bow that flex and that flex provides the power for the shot. Limbs can be either single piece or split (2 piece). Split limbs offer durability, strength over single piece limbs however can introduce issues such as riser torque if they are inexactly matched.

Usually limbs are constructed out of a composite laminated material which can consist of wood, fiberglass and carbon.

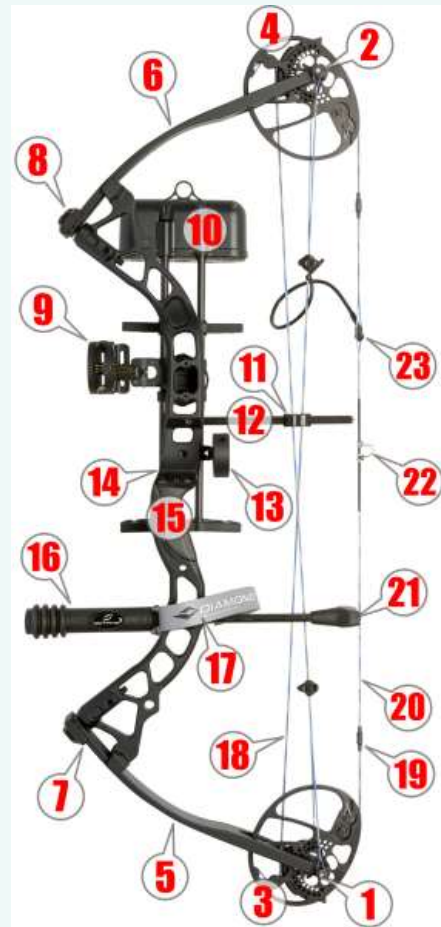
7, 8 - Limb Bolts

Limbs are attached to the riser by means of sliding into a limb pocket and being secured by a bolt.

9. Sight

This bow is fitted with a pin sight which is an adjustable aperture with aiming pins through which an archer can aim.

Compound Bow Parts



10. Quiver

This bow is fitted with a quiver. Not all compounds are fitted with these by the manufacturer so don't always expect to see one. Most risers will come with attachment points for a quiver even if one isn't supplied.

Example: the tips of the arrow will fit into the top of the quiver so that the arrow would point upwards and be stored pointing upwards seemingly (you might think) upside down.

11. Cable Slide

The cable slide is a movable retaining slide that keeps the cables out of the way of the arrow whilst a shot is taken.

12. Cable Guard

The cable guard is the pole attached to the riser that the cable slide attaches to and slides along.

13. Arrow Rest

The rest that holds the arrow in place. There are a few different types of rest. They can 'drop away' after shooting and there's one called a 'whisker biscuit' that holds the arrow in place with whiskers.

14. Shelf

Where you hold the bow. Grips are normally ergonomically fashioned on modern bows and may be slightly cushioned or coated with tactile materials to assist in keeping the bow firmly in your hand when shooting or carrying it.

16. Stabilizer

Stabilizers are optional and act to give the bow stabilizing balance when fully drawn. They usually screw into a mounting hole on the riser. They can help to resist twist or torque in the riser when a shot is fired and add weight below the grip of the bow.

The additional weight of a stabilizer also helps to alter the center of balance of the bow at full draw, settling it quickly during the aiming process.

17. Sling

You don't grip a bow, and if you hold and fire a bow correctly (without a sling) it will fall forwards and out of your hands. A sling wraps around the back of your hand and stops this happening.

18. Cables

Cables run from cam to cam and are part of the workings of the compound bow. They do not touch the arrow.

19. Speed Nock

Little weights added to the bowstring called 'speed nocks' that help to decrease the oscillations in a string as it is pulled by the cam during arrow release. This makes the string return to the groove in the cam more quickly. Less energy is lost in string oscillation and friction and this increases the speed rating of the bow.

20. Bowstring

The string that you pull and that shoots the arrow forward.

21. Vibration Arrester

The vibration arrester stops the string from vibrating once fired. Imagine a bow like a harp with one string, if you released the string it would 'twang'. The vibration arrester is made of rubber and stops that vibration making the shot quieter. This is useful when hunting.

22. D-Loop

The arrow nock will rest on the face of the D. The bend of the D will be hooked onto a mechanical release aid. There are different types of release, thumb, wrist, trigger and even back. A release aid allows for a clean release of the string without any sticky fingers to affect the path of the string.

23. Peep Sight

This peep sight is a 'tube' sight as it has a little tube attached that, when at full draw will allow the archer to sight down it. Bow sights are similar to sights on rifles, there are 2 things you need to align. The main sight on the bow has pins and you sight those pins to the target