

DRAGSTER BLANKS 101

Balsa or basswood:
Which should you use?

Have you tried a CO₂ basswood blank only to find the car was too heavy? Have you recently used balsa blanks with youngsters with less-than-great results? Choosing the right wood for your needs is the key.

Steve Snider, who worked as Pitsco technical support for 25 years and helped run dragster races at TSA and other events for 24 years, has collected quite a few tips for selecting the right wood for the activity and age level as well as for other factors.

FOR YOUNG STUDENTS

Many teachers lean toward balsa wood for youngsters because it's so soft and easy to cut. However, those very characteristics can make it a poor choice for youngsters with motor skills still in development.

"Balsa would be used for advanced students – I would suggest high school level or above," Snider said. "The reason being the delicacy of the wood. You can make more intricate shapes with it, being a softer wood."

He adds that some middle schoolers can handle it, depending on their dexterity and ability to use tools, but overall it's problematic for a first-time dragster builder.

"They destroy their blanks easily, especially with power tools. A balsa blank is something we'd recommend for a second dragster, not the first one."

However, he says there is an exception to this.



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"If you're not going to do a lot of design and cutting on it, balsa would be fine," Snider said. "Then it's the best thing to use because it's light and you'll get a fast time – even using a raw blank because the mass of the car is the number one speed factor."



FOR HIGH SCHOOL AND COLLEGE STUDENTS

By the time students are in high school and working on their second dragster, it's a different story.

"In high school, you'd want to use balsa because they can be more detailed. You can do a whole lot more with them. If you want to make a shell car [bullet-shaped car that is hollowed out with the wheels inside the body], it's really difficult with basswood. With balsa wood, because it's so soft, you can hollow out the frame.

"There are certain challenges that each wood gives. If you do a shell car with balsa, you have to be careful because the thinner it gets, the more fragile it is."

On the flip side, basswood still has some applications for this age group.

"If I were a high school or college student and I wanted to make something detailed [such as Custom Cruisers], I would prefer to use basswood because I can use more carving tools on it and it would be more durable. I could make an intricately detailed car without the fear of it being destroyed on the first run."

The downside to basswood is that it's heavier.

ABOUT BALSA AND MASS DIFFERENCES

A common question Pitsco gets is why there is so much variation in the mass of balsa wood blanks. It goes back to how the balsa tree grows.

"First and foremost, we buy balsa from a provider that gets it from a balsa tree farm, not the Amazon jungle," Snider said,

addressing another common concern of customers. "The density of the balsa is determined by where it is taken from the trunk of the tree. The higher you go, the lighter and less dense the wood. The lower or closer to the base of the tree, the denser the material."

Steve explained that when someone buys a balsa blank off the shelf from Pitsco, the mass cannot be guaranteed because of the way balsa trees grow – blanks can range from 40 grams to 200 grams. That's why Pitsco offers premium balsa blanks, which means someone weighs the blanks to ensure they are between 40 and 80 grams.

BAROMETRIC PRESSURE AND HUMIDITY

Other factors can affect the weight of your dragster material – and even cause problems for those who travel long distances to a national competition. Barometric pressure and humidity can both alter the mass enough so that a finished car that was within weight to enter competition could be disqualified elsewhere.

"For example, Florida students competing in Denver traveled with their car in a cooler to maintain temperature and humidity level and didn't take it out until they weighed it in," Steve said. "If they're on the borderline, that could come back to bite you because when you check it in, it's legal. But if they ever weigh it again, you could get disqualified."

Balsa wood is affected more than basswood because it is lighter and more porous. Other woods similar to basswood that are sometimes used include aspen, birch, and white pine.

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