



Balsawood Derby Kit



Scouts
High Peak Scouting

Before you begin, have a think about what you want your car to look like. You might like to sketch your design on paper first and try out some colour schemes. Providing the car stays within the rules (see rules sheet) then you are free to adjust the shape of the body until you get the shape you want. The body is made from balsa wood which is very soft and easy to shape using just the sand paper in your kit; it is so soft in fact, it is very easy to accidentally mark the body with your finger nails so take care.

1 - Shaping

Before assembling your car, you need to shape the body and then decorate it. Using your piece of sandpaper, rub the car in the areas where you want to remove the wood - you should not need to press really hard. It will make some mess so do it outside or ask your parents where to do it. Wear your provided dust mask while you are sanding and avoid blowing the dust around.

2 - Decorating

Once you have finished shaping the body, it's time to decorate and personalise your car. Whether you add "go-faster" stripes or scorching flames, or simply paint it your favourite colour, the choice is yours.

Before painting though, you need to prepare (seal) the wood surface so the paint sticks properly. Mix up a Water:PVA glue solution (half and half) and cover the entire body. Some of it will simply soak into the wood so when that has completely dried, apply a second coat.

Now the wood should be sealed and ready to accept paint. You can either paint it with acrylic paints or if you don't have them handy, you can make your own acrylic like paint using PVA glue and poster paints (50:50 mix).

3 - Beginning Assembly

There are 4 holes drilled through the body for the axels. You therefore have a choice over the location of the front and rear wheels. Which might be better?



4 -Securring the weight

Turn the car upside down and place the weight in the slot. Add hot-melt glue beside the weight and allow it to cool down. You may need adult help here as the glue can be hot if you get it on your skin. When fitted correctly and the metal block should not fall out.

5 - Checking the wheels

Before assembly, inspect each wheel around the axel hole for signs of excess protruding plastic (known as flashing) which may interfere with smooth running. If necessary, this can be removed with a sharp craft knife or a gentle turn of a suitably sized drill bit if available. You may need adult help here.



6 - Inserting the axels

Begin by very lightly sanding the ends of the axels just a tiny bit so that the bushes and hub caps are easier to push on. You are aiming to put a small chamfer on the end of the axel but you do not want to sand the axels too much otherwise the hub caps may not stay on. Don't worry though, if you do sand too much, the application of a small amount of hot-melt glue will hold the hub caps on.

6 - Inserting the axels - cont

After sanding both ends of each axel, it is time to fit the first bush to each axel. Lay the bush flat on the desk and gently push the axel in all the way. Once it is in as far as it will go, place a wheel face down on the table and gently push the axel through the wheel hole until it reaches the table.

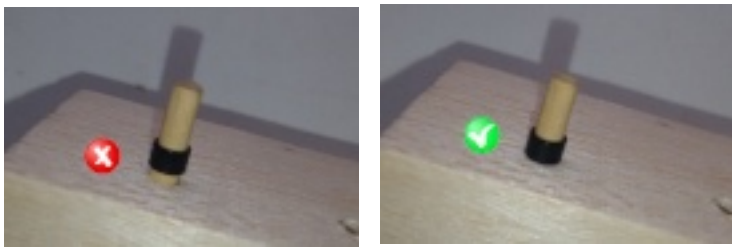


The bush will now be on the axel approximately 11mm (8mm of axel will protrude).

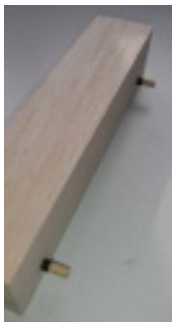
Repeat for the second axel.

NOTE: It requires quite an effort to push the axel through the bush so adult help will be required.

Decide which pair of holes you wish to use for your axels and insert one at a time, pushing it through the body fully. You need to push it far enough so that the bush just touches the body, but not too far so that the bush sinks into the body.



NOTE: The axels are a tight fit through the body to prevent them moving when assembled - adult help may be required again.



In a similar way to earlier, fit the second set of bushes, one on each axel, by first pushing into the bush and then pushing through a wheel hole until the axel touches the desk. They should then push on until they just touch the body.

NOTE: You will not find it as easy to grip the axel this time therefore you can instead press down with your thumb on the end of the axel (you may need a thimble over your thumb as it takes quite a bit of pressure).

7 - Fitting the wheels

Now that the axels and bushes are fitted, simply drop on each wheel and fit the hub cap to stop it falling off. Press the hub cap on until it is flush with the end of the axel.



All your wheels should rotate easily; if you find any that are sticking, check to ensure that your hub caps have not pinched the wheel against the bush. You may need to pull a hub cap off slightly if that happens. If you find that a wheel is sticking but it is not being pinched, check if you have removed excess plastic "flashing" and try again.

8 - You're finished!

Well done, you should now have a finished car ready to race!



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