

How to Create a Hovercraft

by [moofis](#) on December 17, 2008

Table of Contents

- License: Attribution Non-commercial Share Alike (by-nc-sa) 2
- Intro: How to Create a Hovercraft 2
- step 1: Materials 2
- step 2: Directions 3
- step 3: What Worked Well and What Did Not 4
- step 4: The Physics Behind It 4
- step 5: Additional Sources 4
- Related Instructables 4
- Advertisements 4
- Comments 4

Intro: How to Create a Hovercraft

What could be more fun than riding across the ground on a great, mighty hovercraft? This tutorial will teach you how to build a hovercraft for your own personal use.



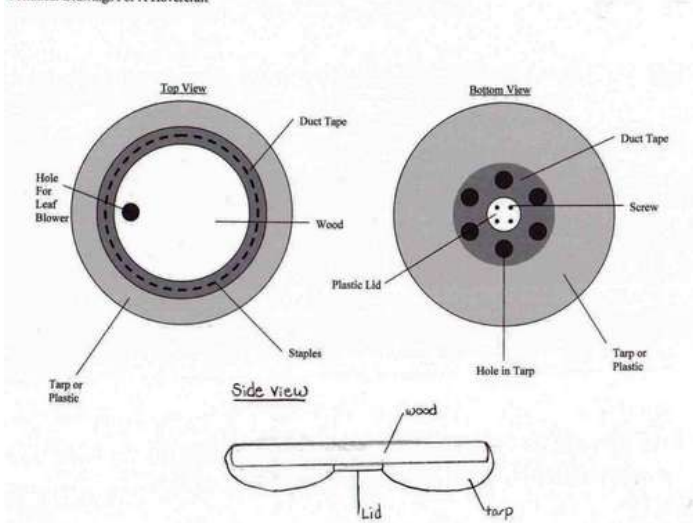
step 1: Materials

How to Create a Hovercraft

Materials:

- " 4ft x 4ft piece of plywood
- " Tarp or plastic shower curtain
- " Leaf blower
- " Duct tape
- " Staples/staple gun
- " Plastic coffee can lid
- " Jigsaw
- " Drill/ screws
- " Measuring tape
- " String/pencil
- " Sandpaper (optional)

Technical Drawings For A Hovercraft



step 2: Directions

Directions:

1. Take the 4x4 piece of plywood and find the center using measuring tape.
2. Take a piece of string and attach one end to a pencil and place the other in the center. Use this method to draw a circle on the plywood that has a diameter of 4ft.
3. Then on the inside of the circle measure the nozzle of the leaf blower and trace that also.
4. Use the jigsaw to cut out the circle and the hole for the leaf blower using the pencil lines as a guide. Dont forget to wear safety goggles.
5. Once you cut out the circles you might want to take the time to sand the plywood with sandpaper. This will decrease the roughness of the wood and you will be less susceptible to getting splinters.
6. After completing the previous step you are going to place the tarp or the plastic shower curtain (smoother side down) underneath the circle (platform) that you created. Make sure that the tarp or curtain can completely cover the underside of the platform with about 8 inches of excess or so in order to attach it to the platform. Trim any excess that is not needed.
7. With the 8 inches of excess you are going to use the staple gun and staple the tarp or curtain to the platform. Dont make the tarp tight around the circle. You want it to be loose that way when the air blows into the tarp it will be able to puff outward. Be sure not to cover the top of the hole meant for the leaf blower.
8. Once you have stapled the tarp or curtain all the way around the platform use duct tape and go over the edges of the tarp, where the staples are. This will help prevent the air from leaking out.
9. Flip the platform over so that way you are viewing the underside, the side where the tarp is covering the board entirely. Once again you are going to use the measuring tape and find the center of the platform and mark it.
10. Take the plastic, circular lid and place it directly in the center. You are then going to drill a hole in the center of both the lid and the platform. Secure the two together by screwing in a screw in the hole you just created. Screw in a total of five screws. It is ideal if the screws dont stick up through the top side.
11. Once the lid is secure to the platform with the tarp in between you are going to create a total of six holes in the tarp on the underside (side you are currently looking at). The holes should be 5 inches from the outer edge of the lid and should be evenly spaced among each other. The holes should have a diameter of 2? inches or so.
12. If you decided to use a plastic shower curtain you might want to secure the holes so that way they wont rip even further. You can do this by securing them with duct tape by placing it around all the holes on the underside of the plastic curtain.
13. After finishing the previous step you can flip it over, place the leaf blowers nozzle in the hole designated for it, turn the leaf blower on, and ride. Have fun!



step 3: What Worked Well and What Did Not

Fortunately, we did not face any real difficulties or problems during our process. The only slight mishap that occurred was that the shower curtain we used continuously had new rips and tears in it, but other than that we experienced no problems. Our hovercraft held us up very well and was well constructed. The position and the size of our holes worked perfectly. We found that using a circular base tends to be better.

step 4: The Physics Behind It

There are a few physics concepts that apply to this project.

First there is the concept of pressure, air pressure to be more exact. Air pressure played a huge role, along with the skirt. As the leaf blower continued to blow, air pressure inside the skirt would build up and when under pressure, the molecules would try to spread out. However, the skirt prevents that from happening so the end result is the air bursting out of the holes made at the bottom side of the skirt. If the air pressure inside the skirt rises to the point where the air molecules exert more force than gravity would on the hovercraft and for whoever is riding it, the hovercraft is lifted.

Second there is the concept of friction. Friction is the resistance to sliding motion between two surfaces that come into contact with each other. In our case with the hovercraft, there needs to be as little friction as possible between the skirt and the ground to avoid potential damage and to allow the rider to glide faster.

Another physics concept would include torque. Torque is the amount of force acting on an object that causes the object to rotate. The object then rotates about its axis. So in our case if the rider places more force on one side of the object after being pushed or while being pulled on the hovercraft the hovercraft will then spin.

step 5: Additional Sources

<http://teachersdomain.org/phy03.sci.phys.matter.zhovr/>

<http://www.physics.uoguelph.ca/tutorials/torque/Q.torque.intro.html>

Related Instructables



Our HoverCraft
by Tam123



Pimp'n Hovercraft
by Flyingsquirrel



Simple Rideable Hovercraft
by Spl1nt3rC3ll



the science and making of a hovercraft
by scienceguy0402



Picoo Z Hovercraft Mod
by oldschoollstructure



Hovercraft
by dbc1218



\$.05 Toy Hovercraft / Helicopter
by Hoopajoo



Extreme Hovercraft
by sweny

Comments

13 comments

[Add Comment](#)



M4industries says:
OMG Kari Byron!

Dec 17, 2009. 6:04 PM [REPLY](#)



MCASEY74 says:
Will it work with 2 Leaf blowers?

Jun 8, 2009. 6:51 PM [REPLY](#)



raimen says:
why would you need two?

Jun 22, 2009. 4:14 PM [REPLY](#)



QwertyuiLP says:
one for lift and one for thrust.

Jul 27, 2009. 5:00 AM [REPLY](#)



Capt. Fat says:
I created one in seventh grade. No offense, but a smaller bag would work better

Dec 19, 2008. 6:28 AM [REPLY](#)



raimen says:
there's fine I think, they just need to tape it down closer to the edge

Jun 22, 2009. 4:15 PM [REPLY](#)



kimiharu says:

im thinking of making one with a old skateboard would this work? if so please anwser me back.

Jan 17, 2009. 6:25 PM [REPLY](#)



I_Like_Lotsa_Spahgetti says:

I made mine with a boogie board THat works better

May 28, 2009. 10:52 AM [REPLY](#)



I_Like_Lotsa_Spahgetti says:

the boogie board i mean

May 28, 2009. 10:52 AM [REPLY](#)



Lftndbt says:

Nice work!! That looks like a very stable design. Congrats on the build.

Dec 18, 2008. 8:06 PM [REPLY](#)



ewilhelm says:

I'm enjoying the hovercrafts. Looks like this was a class project? Could you ask the instructor to contact to me? I'd like to know how posting on Instructables turned out.

Dec 18, 2008. 10:39 AM [REPLY](#)



Lftndbt says:

I was thinking the same thing. Class project. What an awesome teacher to choose l'bles.com for a display medium. I would think it a good oppotunity to create some type of school section, to conglomerate these together as not to let them spread apart into l'bles infinity, if you get my drift. Perhaps that would encourage more schools to use us. If not, then I would be more than happy to establish a group dedicated to display school projects. I would add this group as the first.... Anyway a lil' food for thought.

Dec 18, 2008. 8:05 PM [REPLY](#)



jschmadeke4life says:

well done!!! great work :)

Dec 18, 2008. 8:43 AM [REPLY](#)