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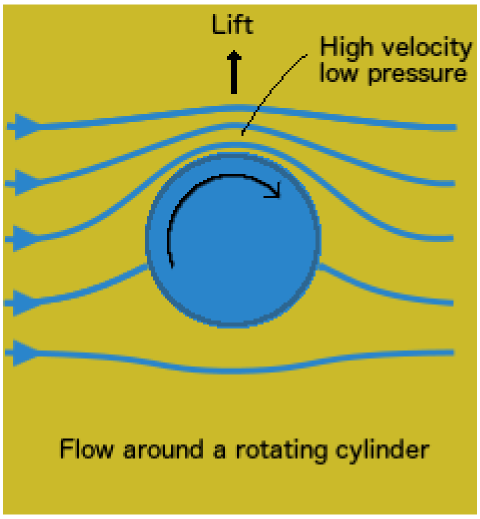
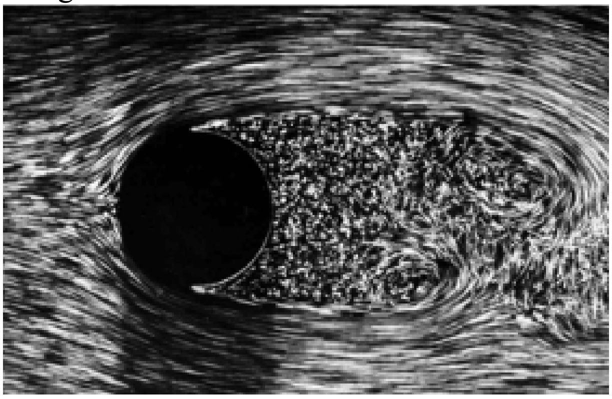
Engineers may explain lift as a result of the interaction between the velocity field and the pressure field.
It will be explained by describing air parcels traveling a curved path and accounting for the forces acting on them.
While this is a correct way of accounting for the lift force it doesn't explain why the parcels take the path they do.
The reason for lift is the pressure field that arises as a consequence of Newton's first law. Air parcels cannot just follow the curved surfaces of the wing. On the other hand when they try to follow a straight line (Newton's first law) they are hit unevenly by neighboring air parcels which result in acceleration away from the hardest and most frequently hitting parcels (higher pressure) and that gives them a curved path.

It seems to me that aircraft engineers like to explain lower pressures as a result of higher fluid speeds (Bernoulli theorem) in fact around an airfoil it works the opposite way around, high air velocities are results of high pressure gradients caused by low pressure areas created as a result of Newton's first law. Take a look at how lift typically is explaining for a rotating cylinder:



See how the sketch is drawn in a way to “document” the theory of how a curved path interact with the pressure field and “high velocity equals low pressure”.

If you take a look at a picture of the real thing, things are not so evident:



On the picture the stagnation point may be situated slightly low but not as low as depicted on the sketch, it looks rather like if the flow breaks on the middle of the cylinder and the curvature of the fluid going above and below the cylinder is about the same. And still lift is created on that cylinder!

A consequence of high velocities around convex objects and the tendency of the fluid to follow a straight line and not the surface curvature, is that the centrifugal force will result in a lower pressure close to the surface. So when it comes to fluids close to convex surfaces higher velocities do mean lower pressure but that has nothing to do with Bernoulli's theorem.
Over the top of the rotating cylinder the fluid is accelerated both mechanically by the cylinder and by the pressure differentials. When the fluid interact with the cylinder surface it is accelerated and the pressure will drop, not because pressure is exchanged for velocity but because when fluid-parcels start rubbing against the rotating cylinder they are pulled away from nearby parcels following just behind and on top of that centrifugal forces (inertia) is leading the parcels away from the surface and that will lower the pressure.

Parcels on course for the lower part of the cylinder surface will be slowed down by reverse flow created by the cylinder's rotation and fluid viscosity. Parcels further upstream will then catch up with the slower moving parcels and pressure will increase.

On the leeward side of the cylinder, parcels coming over the top with high inertia are not easily diverted down to fill the void behind the cylinder a circumstance that is less predominant for the parcels going below with a lower speed and thus lower inertia.
This fact is easily seen on the picture.

And so!
Baseballs with a spin will curve because Newton's first law is in play, Bernoulli takes no part in the game. (I'm sorry but that's how it is.) I know this is going against the stream and it will take some time before the flow in that stream is reversed. Pls. Wake up!

Other aircraft engineers like to explain lift as a result of Newton's third law.
In other words they like to think that an aircraft accelerates air vertically down in quantities where the mass and acceleration of air balance the aircraft weight.
I think if you sum up the vector forces which are acting on all airparcels influenced by the flying aircraft, the resulting vector force can always be broken up into two vector forces of which one of them have a vertical direction and a force equal to the aircraft weight.
But the idea that the aircraft wings are pushing air down with a force equal to the aircraft weight is not very acceptable by military pilots experienced in the art of flying close trail in formation.
We are missing a sign on the aircraft tail saying “Don't come too close - severe downdraft will result!”
Same goes when we make a cross under in formation