

## The 3 Types Of Hydroplaning, And How To Prevent Each One



*Bernal Saborio*

There aren't many worse feelings than hydroplaning your airplane on a runway. Here are the three ways you can go slipping down the runway, and how to prevent each one.

### 1) Dynamic Hydroplaning

Dynamic hydroplaning happens when water lifts your wheels off the runway. This usually happens when a wedge of water builds up in front of your tires and lifts them off the runway. When it happens, you're riding on water, and that's not good.

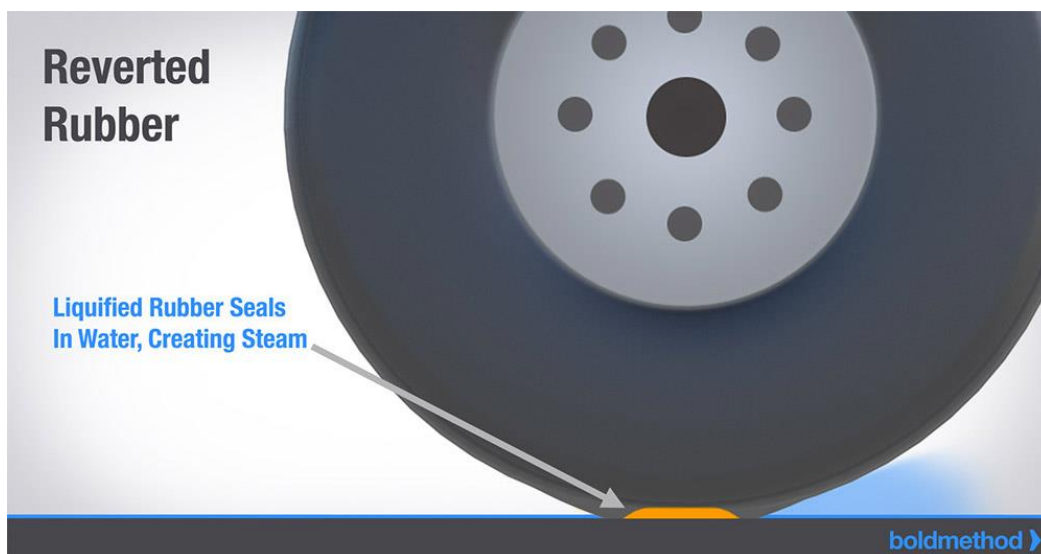


## How To Prevent Dynamic Hydroplaning

- Don't land fast on a wet runway. Dynamic hydroplaning happens at about 8.6 times the square root of your tire pressure. For a Cessna 172 with 42 PSI tires, that's about 56 knots.
- Keep your tires inflated - under-inflated tires hydroplane easier than properly inflated ones.
- Use back pressure and aerodynamic braking to slow down - the more weight you have on your tires, the better.

## 2) Reverted Rubber Hydroplaning

Reverted rubber hydroplaning happens when your tires lock up, the rubber begins to melt, and trapped water under the tire turns into steam. *When it happens, you're riding on steam, and melting your tires in the process.*



## How To Prevent Reverted Rubber Hydroplaning

- Use light brake pressure, and use aerodynamic braking to keep maximum weight on your landing gear.
- It goes without saying, but never lock your tires on landing.

### 3) Viscous Hydroplaning

When oil or accumulated rubber combines with water on a runway, it can form an impenetrable layer of liquid your tires can't break through. This is especially problematic on smooth asphalt runways.



#### How To Prevent Viscous Hydroplaning

- Land on a grooved runway, if possible.
- Don't land fast.
- Keep your tires inflated - under-inflated tires hydroplane easier than properly inflated ones.
- Use back pressure and aerodynamic braking to slow down.

#### Keep It On The Runway

Use these hydroplaning tips, and you'll handle any wet runway like a pro.