Hydroplaning

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Summary

➢ Overview
➢ Statistics
➢ How to Spot Hydroplaning
➢ Hydroplaning Accident Causes
➢ How to Prevent Hydroplaning
➢ Impact of Improperly Inflated Tires
➢ How to Recover from Hydroplaning
➢ Summary
Overview

- Hydroplaning is when a layer of water builds up between the vehicles tires and the road surface causing the loss of traction and possible control.
- It is caused by a combination of road conditions, vehicle speed, tread depth and vehicle weight.
- If all four tires become waterborne at once, the vehicle will lose steering, braking, and power control until the tires regain contact with the pavement.
- All-wheel drive vehicles are more likely to hydroplane than two-wheel drive vehicles, because their computerized differentials may shift power from the front to the rear tires, creating a hydroplaning situation.
- Most automobile safety experts agree that hydroplaning is most likely to occur at speeds greater than thirty-five miles per hour.
An average of nearly 1 million accidents occur each year due to wet pavements.

Per the Federal Highway Administration (FHWA) 75% of weather-related crashes which occur on wet pavements:

- 47% involve active rainfall
- 15% involve snow or sleet
- 13% involve ice/freezing rain
- 11% a mix of snow/slush covered pavement

This results in about 4,700 deaths and 384,000 injuries.
How to Spot Hydroplaning

➢ If a vehicle’s drive wheels are hydroplaning, engine RPMs may suddenly increase as the wheels spin on top of the water.
➢ While driving straight, a vehicle may vibrate or “wiggle” in the steering mechanism or feel like the steering is “loose” or “soft.”
➢ Not seeing tire tracks (in the mirror) immediately behind the vehicle may be due to the tires not “cutting through” the water effectively.
➢ Any sideways motion (skidding, fishtailing, etc.) while navigating curves is a strong indicator of hydroplaning.
Hydroplaning Accident Causes

➢ The following are some of the most common causes of a hydroplaning accident:
  o Water pools on the roads surface, creating deep puddles and becomes a potentially dangerous water hazard
  o Driver is travelling way too fast for road conditions
  o The design and curvature of the road is inadequate (i.e., poor drainage)
  o Tire pressure is incorrect or not optimal
  o Inadequate water drainage

➢ While there are many situations that may cause a hydroplaning accident, the list above mark the most frequently seen contributors.
How to Prevent Hydroplaning

- The following are some of the most common ways to prevent hydroplaning:
  - Keep your tires properly inflated
  - Consistently check your tire tread
  - Don't use cruise control in the rain
  - Reduce your speed in wet conditions
  - Avoid puddles and standing water
  - Stay calm if the vehicle begins to hydroplane
  - Give extra space between vehicles
  - Avoid distractions – concentrate on the feel and the sounds of the vehicle
  - Do not tailgate – consider following in the tracks of a preceding vehicle
Impact of Improperly Inflated Tires on Hydroplaning

- Under inflated tires do not effectively push away water

- Over inflated tires do not provide maximum traction or “grip”
How to Recover from Hydroplaning

➢ If a vehicle is sliding, skidding and/or fishtailing, take your foot off the accelerator – do not hit the brakes. The sudden application of brakes can lock the wheels, contributing to the slide, and loss of control. As the tires slow down, traction should return.

➢ Do not make sudden moves with the steering wheel (if already in control) – do not try to swerve to see if you are hydroplaning – it might not end well.

➢ If in a slide, allow the vehicle to slow down to get traction and make gradual moves instead of sharp, sudden movements.

➢ You have a much higher chance of recovering from hydroplaning if you stay calm and make the right moves.

EXAMPLE: if the rear end of the vehicle slides to the RIGHT, steer quickly and smoothly to the RIGHT. This is known as “turning into the slide.”
Hydroplaning can occur on any wet road surface; however, the first 10 minutes of a light rain can be the most dangerous.

It is said that it only takes water as deep as a nickel to be at risk. That means only one-twelfth of an inch of water is needed to cause hydroplaning.

Car and truck tires are designed to push away rain, snow, and mud, but sometimes a tire may come upon more water than it can displace.

A tire with adequate tread depth will always resist hydroplaning better than one that's worn out.

Best way to deal with hydroplaning is to avoid it:
- Slow down on slippery roads & leave extra space between vehicles.
- Slow down before driving across large puddles.

Whether you're on a straight or curved road, you have a much higher chance of regaining traction if you stay calm and make the right moves.