

## Prevent Hydroplaning

**L**osing control of your vehicle on wet pavement is a frightening experience. Skids are scary, but hydroplaning is completely nerve-wracking. Hydroplaning can cause loss of traction and can compromise the driver's ability to steer, accelerate or brake.

### WHAT IS IT?

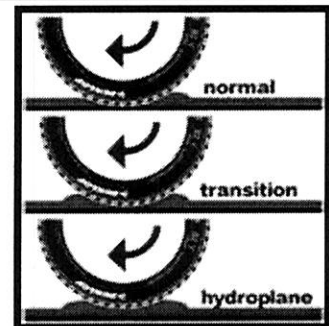
Hydroplaning is caused by a hazardous situation created by rainy weather or other conditions that result in water or slush collecting on the road. Hydroplaning happens when water on the road accumulates between a vehicle's tires and the road's surface, causing the tire to slide on the water like a surfboard. When this happens under a single tire, hydroplaning is often easy to control. However, if under two or more tires, the car may go into an uncontrolled slide.

### HOW DOES IT HAPPEN?

It doesn't take a lot of water to cause hydroplaning. Even the moisture from dew or fog can create proper conditions. It can occur at speeds as low as 30 mph if there is enough water. There are 4 main situations that contribute to hydroplaning:

- **Wet Road Surfaces** can contribute to the risk of hydroplaning. Road surfaces that accumulate a lot of water or that contain grooves where water can collect can create conditions that cause a vehicle to hydroplane. Drivers should be alert for, and try to avoid driving in grooves, cracks, low surfaces or dips in the road surface where water may have collected.
- **Speed** can increase the risk of hydroplaning. The faster the speed, the greater the chance for hydroplaning to occur. Faster speeds give tires less time to disperse water away from the vehicle and cause the tire to actually ride on top of the water.
- **Worn tires or low tire pressure** can also increase the risk of hydroplaning. The grooves in a tire carry water away from the vehicle. If the grooves are not deep enough or the water on the road is more than the grooves can handle, excess water builds up at the front of the moving tires. As the pressure between the water and the tire surface increases, the water acts as a wedge and lifts the tires from the road. Underinflation deforms the tire and does not permit the tire grooves to disperse the water as they were designated to do.
- **The weight of a vehicle** can have an effect on hydroplaning. Lighter vehicles have less traction which results in an increase risk of hydroplaning. Bobtails and empty trucks and tractor-trailers have an especially high risk of hydroplaning because of their relative lighter weights and unbalanced weights. A Texas Transportation Institute study of wet-pavement, over-the-road truck crashes from 1979 through 1981 (*Problems of Combination Trucks on Wet Pavements*:

*An Accident Analysis* by T. Chira-Chavala) found that in wet conditions, empty trucks showed up to three times higher propensity for single-truck crash involvement than did loaded trucks. Distribution of the weight in a loaded or partially loaded vehicle can also increase the risk of hydroplaning. Motor carriers are encouraged to train new drivers during orientation and retrain tenured drivers on proper loading and cargo securement techniques.



### PREVENTING IT

According to a Texas Transportation Institute report (*Strategies for Reducing Truck Accidents on Wet Pavements* by D.L. Ivey, W.B. Horne and R.D. Tonda), there are ways to avoid most hydroplaning situations by driving defensively. The report claims that reducing truck speed to 50 mph in wet weather should prevent hydroplaning of tires which are inflated to 80 psi or more.

The National Safety Council offers the following advice to drivers on how to prevent hydroplaning:

- Reduce your speed on wet roadways and melting snow (slush).
- Increase your following distance.
- Look for standing water. Watch for clear reflections, tire splashes and raindrops on the road. Avoid standing water and large puddles.
- Check your tires frequently for proper inflation and wear. Do not drive on worn or smooth tires.
- Always maintain correct tire inflation pressure and replace worn tires.
- Avoid abrupt steering, braking or accelerating.
- Follow the tracks of the vehicle in front of you, since its tires will have cleared away some of the water for you.
- Have proper weight distribution throughout the cargo area.
- Be extra cautious when driving bobtails and empty trucks since they will hydroplane quicker than loaded trucks.

If your vehicle does begin to hydroplane, remain calm, ease off the accelerator, avoid the brakes and steer straight. To regain control, release the accelerator and depress the clutch. This will slow the vehicle and let the wheels turn freely.

Hydroplaning can take you from driving safely down the roadway, to being dangerously out of control in a matter of seconds. Bottom line - *take it slow on wet roads!*

May, 2018  
*The Shield*  
Prevent Hydroplaning  
Quiz



Driver Name: \_\_\_\_\_ Date: \_\_\_\_\_  
Please Print

Driver Signature: \_\_\_\_\_

Please circle one correct answer for each question.

1. Hydroplaning happens when water on the road accumulates between a \_\_\_\_\_ and the road's surface.
  - a. sidewalk
  - b. vehicle's tires
  - c. vehicle's bumper
  - d. All of the above
2. Which of the following would probably not contribute to hydroplaning?
  - a. Wet road surfaces
  - b. The weight of the vehicle
  - c. Speed
  - d. None of the above
3. Underinflation deforms the tire and allows the tire grooves to disperse the water as they were designated to do.
  - a. True
  - b. False
4. Reducing truck speed to \_\_\_\_ mph in wet weather should prevent hydroplaning of tires which are inflated to 80 psi or more.
  - a. 50
  - b. 30
  - c. 20
  - d. None of the above
5. If your vehicle does begin to hydroplane, which should you do?
  - a. Accelerate
  - b. Brake immediately
  - c. Ease off accelerator
  - d. All of the above

