Historic Vehicle Association

www.historicvehicle.org

What is Ethanol?

An alcohol-based liquid typically made from corn for large scale commercial production and blended in fuel

Ethanol absorbs water, is a solvent and can be corrosive. These chemical properties can cause problems

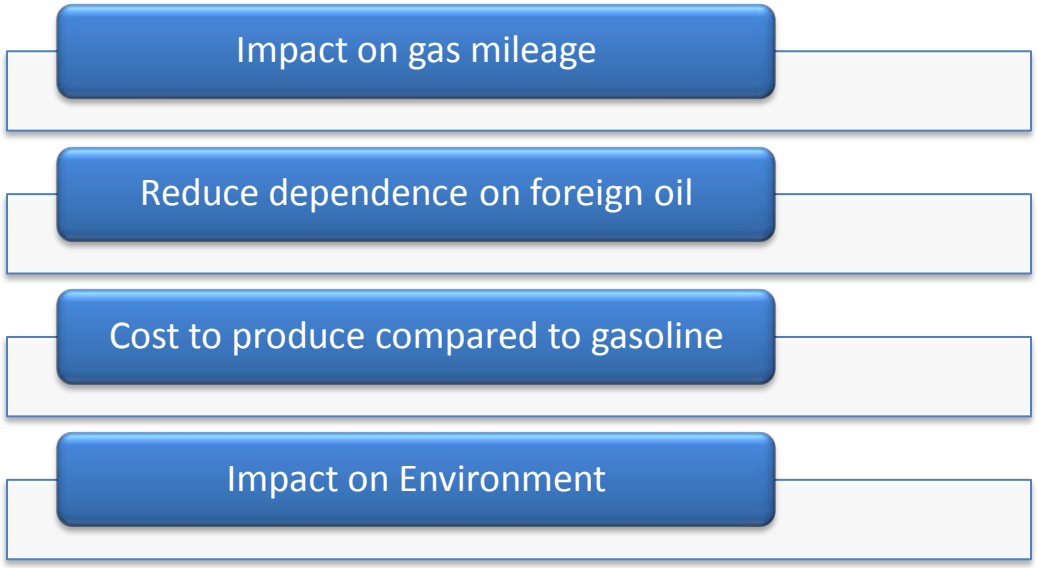
Ethanol (E-85) is 85% ethanol and 15% gasoline blended fuel used in engines specially designed to be compatible with high concentrations of ethanol

Ethanol (E-10) is up to 10% ethanol blended in fuel and is present at the majority of pumps nationwide

The Controversy Surrounding Ethanol

There is a growing controversy about whether or not ethanol is accomplishing the goals and objectives used to justify the policy support for production and taxpayer backed subsidies for fuel blending (E-10 and E-15).

Here is a look at some of the disputed issues:



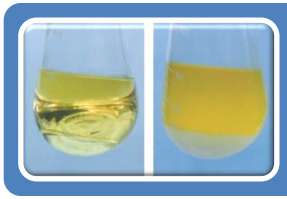
For a detailed look at the facts surrounding these issues click here

Why Does Ethanol Effect Historic Vehicles?

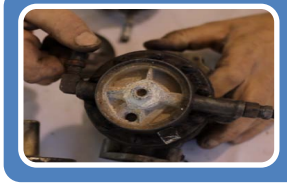
Historic Vehicles…

have an open loop fuel system which makes them more susceptible to the water-absorbing properties of ethanol

have no means to automatically adjust the fuel/air ratio, causing a ‘lean condition’



have limited or infrequent use which makes the fuel storage and shelf life problems with ethanol worse



use materials in their fuel delivery system that are more susceptible to the corrosive and solvent properties of ethanol

Ethanol in Historic Vehicles?

Know the Common Symptoms Associated with Ethanol Blended Fuel Damage:

Possible Symptoms

- Stalling
- Hesitation
- Increased Engine Temperature
- Smoke Released from Exhaust

Possible Causes

- Damaged Fuel Pumps
- Scorched/Pitted Valves
- Clogged Carburetors & Fuel Filters
- Dried, Cracked & Disfigured Rubber Hoses, Diaphragms & Components

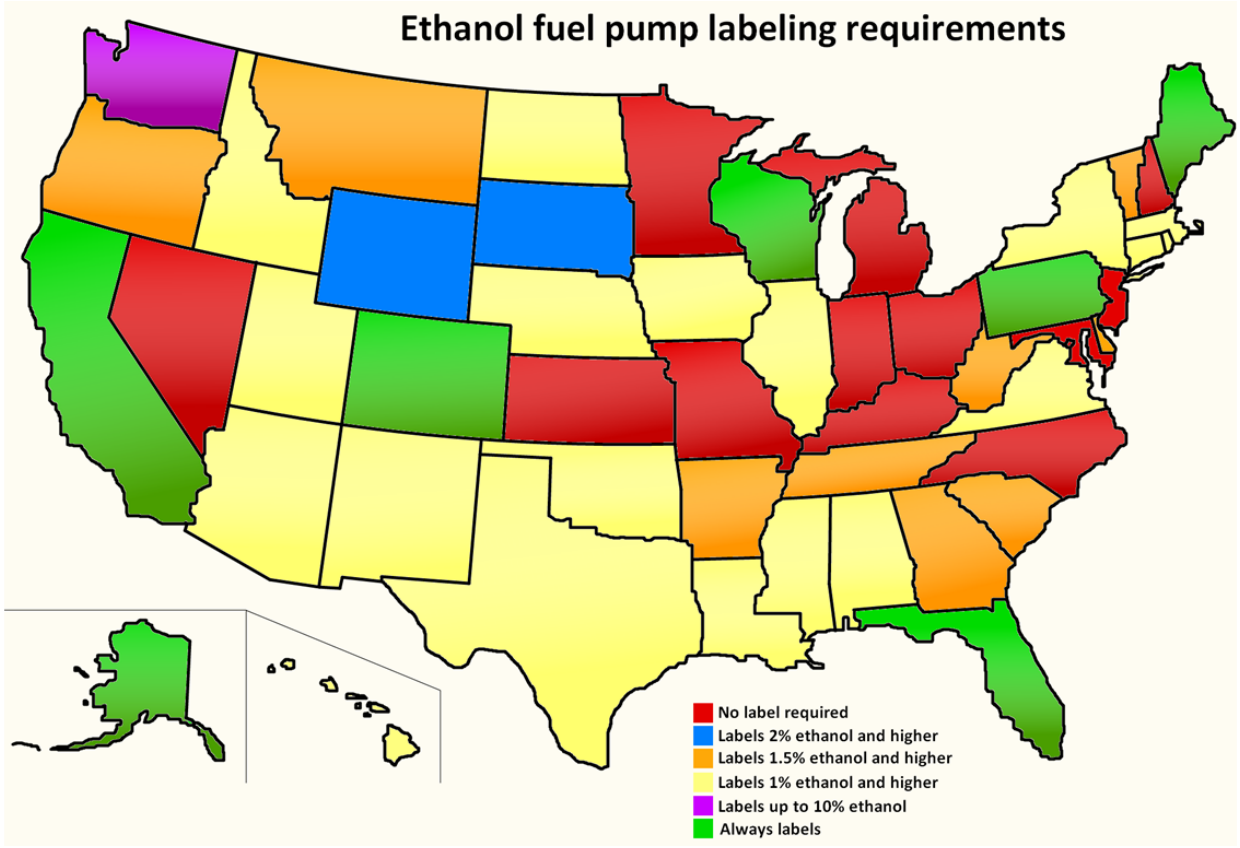
Treatment Options

- Test Fuel with a Fuel Test Kit
- Clean & Replace Fuel Filters as Needed
- Replace Rubber Components as Needed
- Consult a Mechanical Professional

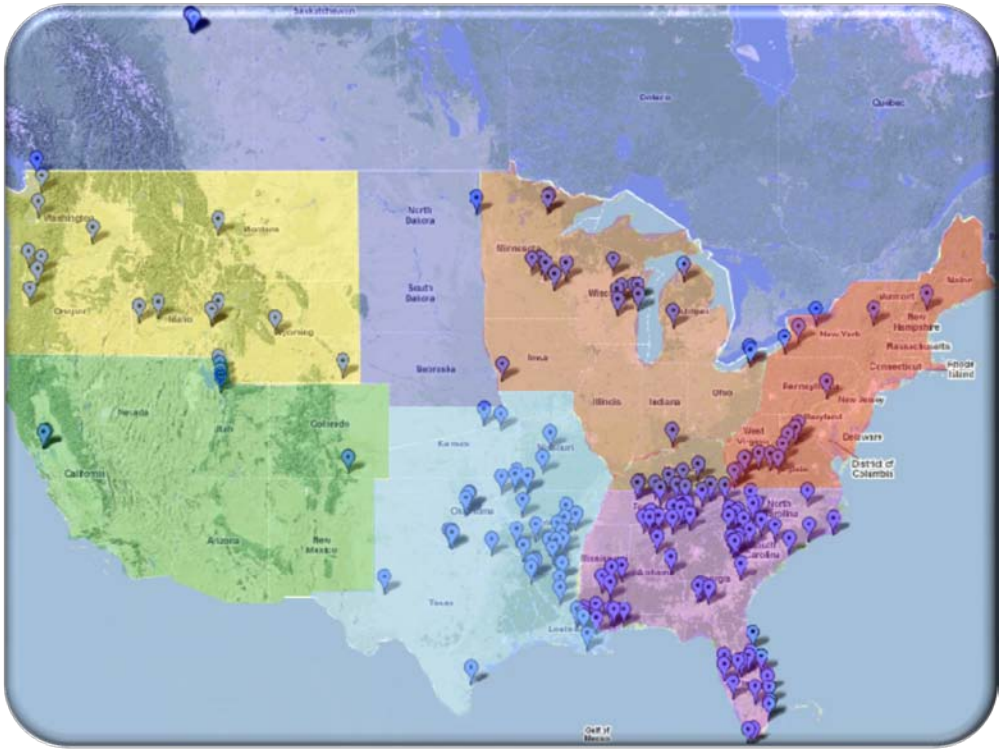
What Can Be Done to Limit or Prevent Engine Damage from Ethanol?

Find Out What Ethanol Blend You Are Putting In Your Vehicle…

Be Aware of the Fuel Pump Labeling Laws in Your State



Try To Avoid Using Ethanol Blended Fuel…



Click here to find gas stations selling ethanol-free fuel in your area

Tips and Suggestions

Fuel Test Kit

- Consider purchasing a fuel test kit to determine the quality of your gas and how much ethanol is actually in it
- Examples of fuel test kits for purchase online:
  - www.fueltestkit.com
  - www.testgas.com

Higher Octane Rated Fuel

- Consider fuel with higher octane ratings; some experts suggest a higher octane rating can help in situations where fuel is susceptible to water contamination
- If fuel becomes contaminated with water as a result of the water-absorbing properties in ethanol, it will lower the octane ratings and could result in poor performance and engine damage

Tips and Suggestions

Avoid fuel additives and fuel system treatment products that contain ethanol or alcohol - most octane boosting additives and fuel system cleansers contain some form of alcohol.

Avoid These Ingredients:

Other Names for Ethanol:	
ethyl alcohol	carbon disulfide
isopropyl alcohol	denatured alcohol
grain alcohol	diacetone alcohol
alcohol sulfuris	rubbing alcohol
ammonia in alcohol	spirit of wine
aromatic spirit of ammonia	t-Butyl alcohol

Chemicals Similar to Ethanol:	
2-Butoxyethanol	mono-n-butyl ether
Butoxyethanol	Ethylene glycol monobutyl ether
Butyl cellosolve	Monobutyl ethylene glycol ether
2-butoxy-Ethylene glycol	n-Butoxyethanol

Tips and Suggestions

Storage and shelf life considerations for ethanol blended fuel:

- Limit the amount of moisture and humidity that can come in contact with fuel
  - Store your car or gas can in a dry place with a fairly consistent temperature
- Be aware of the shelf life of fuel blended with ethanol
  - Most experts say that in dry environments with moderate temperatures, blended fuel can remain good for up to 3 months
  - In warmer, humid climates blended fuel is generally only good for 2-3 weeks

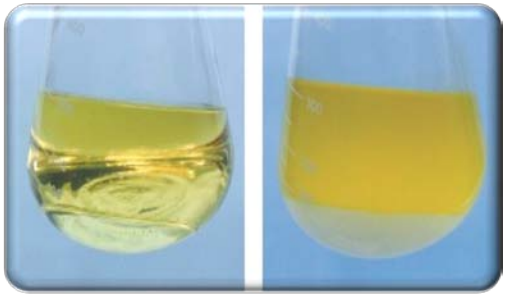
Water Contamination and Phase Separation

Water Contamination

occurs when gasoline containing Ethanol has absorbed water from the air or environment. Blended fuel that is stored for a period of time becomes contaminated with water which can lead to "phase separation."

Phase Separation

occurs when gasoline containing Ethanol has absorbed too much water. When the water in blended fuel reaches a saturation point and sits for a period of time the Ethanol and water will "phase separate" and come out of solution to form two or three distinct layers.



Once phase separation occurs you cannot re-blend the fuel, it must be thrown out.

How Can I Take Action or Get More Information?

click here to sign the petition

http://www.historicvehicle.org/Commissions/Commissions/Legislative/Say-no-to-E-15-fuel

www.historicvehicle.org

HVA Ethanol Resources

Ethanol Resources for 'Car Guys'
Click Here

Ethanol-Free Gas Stations
Click Here

Fuel Pump Labeling Requirements
Click Here

Ethanol Timeline
Click Here

http://www.historicvehicle.org/Resources/Media-Center

www.historicvehicle.org

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ENTER THIS COUPON CODE WHEN YOU REGISTER AT www.historicvehicle.org/coupon
COUPON CODE: **ETHANO**

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Keeping Yesterday's Vehicles on Tomorrow's Roads

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