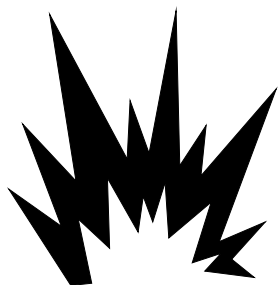


# Be Aware of Static Electricity Risk During Refueling

## Ultra Low Sulfur Diesel (ULSD) Fuel Hazard

## Avoid Static Electricity Risk When Refueling



### WARNING - EXPLOSION HAZARD

Ultra Low Sulfur Diesel (ULSD) poses a greater static ignition hazard than earlier diesel formulations with higher Sulfur content. Avoid death or serious injury from fire or explosion; **consult with your fuel or fuel system supplier to ensure the delivery system is in compliance with fueling standards for proper grounding and bonding practices.**

**Proper Grounding and  
Bonding is Crucial  
When Refueling Any  
Vehicle!**

## Endorsed By:

Agricultural Retailers Association (ARA):  
[www.aradc.org](http://www.aradc.org)

Agricultural Safety and Health Council of America (ASHCA):  
[www.ashca.com](http://www.ashca.com)

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Truck & Engine Manufacturers Association (EMA):  
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Best Practices  
Guidance Bulletin 6/13  
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# ULSD...Not Your Same Old Diesel Fuel Anymore

## What "You" Need to Know About Static Electricity Risk During Refueling



ASSOCIATION OF  
EQUIPMENT MANUFACTURERS

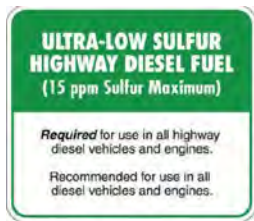
## EPA Regulation Overview for Clean Air Diesel

U.S. Environmental Protection Agency (EPA) regulations require a major reduction in the sulfur content of diesel fuels and emission levels from diesel engines and vehicles. To meet the EPA regulations, the petroleum industry is producing Ultra Low Sulfur Diesel (ULSD) fuel, a cleaner-burning diesel fuel containing a maximum 15 parts-per-million (ppm) sulfur.

Since 2006, diesel fuel produced or imported is required to be ULSD fuel. ULSD is replacing Low Sulfur Diesel (LSD) fuel, which contains a maximum of 500 ppm sulfur. Used in combination with cleaner-burning diesel engines and vehicles, ULSD fuel helps to improve air quality by significantly reducing emissions. As of December 1, 2010, all highway and non-highway diesel fuel offered for sale must be ULSD fuel.

## EPA Suggested Diesel Fuel Pump Labels

Below are example EPA 40 CFR compliant labels that should be seen on ULSD fuel pumps used for on-highway and off-highway applications. These types of labels help identify the different types of fuel now available to users.



EPA 40 CFR 80.572(a)



EPA 40 CFR 80.572(b)  
and 80.573(a)

## Important Changes in Diesel Fuel Formulation

### What You Need to Know About Static Electricity Risk

The removal of sulfur and other compounds in Ultra Low Sulfur Diesel (ULSD) fuel decreases its conductivity and increases its ability to store static charge. Refineries may have treated the fuel with a static dissipating additive. However, there are many factors that can reduce the effectiveness of the additive over time.

Static charges can build up in ULSD fuel while it is flowing through fuel delivery systems. Static electricity discharge when combustible vapors are present could result in a fire or explosion.



Therefore, it is important to ensure that the entire system used to refuel your machine (fuel supply tank, transfer pump, transfer hose, nozzle, and others) is properly grounded and bonded. Consult with your fuel or fuel system supplier to ensure the delivery system is in compliance with fueling standards for proper grounding and bonding practices.

**“Proper Bonding and Grounding of Fuel Delivery Systems is Important During Refueling”**

## What is Basic Bonding and Grounding? Why is it Important During Refueling?

### Bonding:

A properly bonded fuel delivery system has an electrically conductive and unbroken connection between all components of the fuel delivery system.

- Fuel supply tank, transfer pump, transfer hose, nozzle, and others.
- A wire connection from the fuel delivery system to the machine chassis will equalize the static electric potential between the two machines, further reducing the chance of a static electric discharge.

### Grounding:

A properly grounded fuel delivery system has an electrically conductive connection from the fuel delivery system tank to earth ground to allow static and electrical charge dissipation.

**Consult with your fuel or fuel system supplier to ensure the delivery system is in compliance with fueling standards for proper grounding and bonding practices.**