



*There are reasons the companies shown above use the LHG and it's not because they're into wasting money. Why, after careful consideration, did they choose to use it?*

- a) It protects a vehicle investment and maximizes the potential lifespan of the vehicle.**
- b) It saves money by reducing operational and maintenance costs**
- c) It dramatically improves safety & comfort**

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**It protects a vehicle investment and maximizes the potential lifespan of the vehicle.**

## Things We Know...

### The Cost of a Diesel Truck

In 2023, at time of writing, a base model Ford diesel F-Series Super Duty truck, for example, has a starting price of \$56,000 and can easily climb to and surpass \$100,000.

The diesel engine option package on a new truck easily adds \$10,000 to \$12,500 to the retail price.

**It's a major investment!**

### The Consequences of Running Cold

*"Cold weather running or other causes that prevent the engine from reaching proper operating temperature can cause a buildup due to incomplete burn..."*

*"Common causes for a clogged or blocked DPF filter include excessive idling, short trips with the engine not reaching operating temperature"*

*"...excessive idling, short run time, light work and city type driving, all contribute to deposit formation... these operating conditions do not allow efficient combustion of the diesel"*

Experts say you should only cold idle enough to get the oil spread around the engine (a minute or two). **You should drive, not idle a diesel to warm the engine up.** Yet weather and traffic conditions can conspire to keep your engine from reaching its proper running temperature quickly, if at all.

Heat and pressure combine for efficient diesel combustion - so the best thing you can do is to get your engine to operating temperature fast and keep it there.

### The Damage to Your Investment

**Loss of Power:** Carbon buildup can rob your engine of up to 10% of its horsepower in 10,000 miles.

**Carbon & Soot on Engine Parts and DPF Filter:** Anything that prevents your engine from running optimally can cause damage and necessitate maintenance and repairs.

**Carbon & Soot Buildup Damage and Failures** can result in expensive repairs such as engine/DPF/turbo/etc. carbon cleaning or parts replacement, which can run in the hundreds, even thousands. Turbocharger assembly replacement necessitated by soot and carbon currently costs in the \$1,800 to over \$3,000 range.

### An Affordable Insurance Policy

List price of the LHG is \$2,400 (about 4% the cost of a BASE model diesel pickup). Much less than the cost of vehicle insurance per year. About the same price as a very nice bed-liner and Tonneau cover - you protect your bed - why wouldn't you protect your engine?

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**It saves money by reducing operational and maintenance costs**

## Things We Know...

### The Cost of Fuel and DEF

In 2023, at time of writing, the average U.S. price of diesel fuel is \$4.50/gallon. The average U.S. price of DEF is \$4.22/gallon. Even if the price of diesel fuel goes down, we can be pretty sure from historical trends that it will not stay down.

### The Cost of Running Cold

**Lower Fuel Economy in the Cold:** Running cold in and of itself uses more fuel, this can add up to thousands of dollars in extra costs over the life of your truck.

**Lower Fuel Economy from Buildup:** Carbon buildup from running cold can rob your engine of as much as 10% of its horsepower in 10,000 miles. Less horse power means more fuel to do the same amount of work. This decrease in HP over all can add up to thousands of dollars in additional fuel costs over the life of your truck.

**Additional Fuel and DEF Costs:** Incomplete combustion leads to more frequent Re-gen/"Drive to Clean"/OCR. This uses additional fuel and additional DEF which can add up to hundreds of dollars over the life of your truck.

**Costly Potential Repairs:** See the previous page - "To Protect Your Investment."

### It Pays To Own an LHG

The LHG gets your engine to proper running temperature faster than anything else. This saves money because you get better fuel economy than you would running cold.

The LHG helps prevent carbon buildup which robs your engine of HP and diminishes your over all fuel economy. This saves you on fuel expenses over all.

Running at the proper engine and after-treatment temperature means fewer regen/ "Drive to Clean"/OCR events, which use fuel and DEF. This is additional savings that could add up to hundreds, even thousands over the life of your truck.

A few dollars here and there adds up to thousands over the life of your truck. Fuel and DEF are expensive so an LHG can pay for itself in Fuel and DEF savings alone.

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**It dramatically improves safety & comfort**

## Things We Know...

### Diesel Trucks Don't Heat Up Fast

**The colder it is out**, the longer it takes for the cab to heat up - this can be quite uncomfortable.

**The colder it is out**, the longer it takes for the windows to defrost, and idling a diesel truck (especially in the cold) is not good for the engine. Long defrost time can cause you significant delays, is bad for the engine, AND it is unsafe to drive if the windows aren't clear.

**The colder it is out**, the more chance the truck engine will run cold and not be able to keep the cab warm or the windows defrosted - both a comfort and a safety issue.

### The LHG Defrosts Better and Faster.

**The LHG defrosts your windows in minutes** (*faster than any other option*) - as it is also heating the cab, bringing the engine coolant to temperature fast and putting a small load on an the cold idling engine. - Improving your safety and comfort while protect-ing the engine.

Check out the video: [https://youtu.be/dsQIb\\_nWvxM](https://youtu.be/dsQIb_nWvxM)

### The LHG Heats the Cabin Better and Faster.

**The LHG heats your cabin in minutes** (*faster than any other option*) - as it is also defrosting the windows, bringing the engine coolant to temperature fast and putting a small load on an the cold idling engine. - Improving your safety and comfort while protecting the engine.

Check out the video: [https://youtu.be/6\\_gneFI\\_fOM](https://youtu.be/6_gneFI_fOM)

### And remember, the LHG also maintains cabin comfort and defrosted windows.

**If the engine can't keep up because it is that cold outside, the LHG steps in** - The LHG ECU monitors the coolant temperature and will engage the LHG if it drops too low. Making sure the windows stay clear and the cabin stays warm. Improving your safety and comfort while protecting the engine.

### So once again, why does installing an LHG make sense?

*Protects your investment*

*Reduces fuel & maintenance costs*

*Improves safety and cabin comfort*

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### *It just makes sense*

If you're the technical type and really want to learn more, the links below provide valuable insight. This product isn't about hype. It's about efficiency, cost reduction and working to mitigate the very real threat of a reduced engine lifespan. Hit the links to learn more.

[Turbocharger diagnosis and maintenance | Vehicle Service Pros](#)

[Carbon buildup in diesel engines \(bellperformance.com\)](#)

[Diesel Carbon Clean - Diesel Performance Tune](#)

[Causes of Carbon Deposit Buildup in Diesel Engines and How to Prevent It - Engine Builder Magazine](#)

[Diesel Engine - Glaz-ing & Carbon Buildup \(auroragenerators.com\)](#)

[Diesel Engine Equipment in Cold Operating Temperatures - Industrial Radiator Service \(industrial-radiator.com\)](#)

[Cat, Cummins, Mack & Detroit oil soot, carbon and blowby issues - Cost Effective Maintenance](#)

[Wet stacking - Wikipedia](#)

[The Ultimate Guide to DPF Filter Cleaning and Engine Carbon Cleaning - News | NoveNews](#)

