



Designers and Manufacturers of Mobile Health Clinics

Gas vs. Diesel – Which is Right for You?

ADI Mobile Health has built both gasoline and diesel Mobile Clinics over the years. Many times, we have questions from customers asking which is better or more cost efficient for their Mobile Health program. We have put together the following information to help you decide which is right for you.

When deciding between gasoline and diesel, there are four important things to consider: purchase price, fuel economy, maintenance and operational costs and environmental impact. Let's start with the purchase price.

Purchase Price: A diesel chassis will cost approximately \$40,000 more to purchase than a gasoline chassis. The prices listed below are from the 2016 Winnebago retail price list for an empty shell with fiberglass interior walls, a window in the standard entry door, and no other options such as an LPG furnace or air suspension.

Base Purchase Price						
Model	Ford Gasoline Chassis			Freightliner FRED Diesel Chassis		
	Engine	HP	Price	Engine	HP	Price
WFJ33S	6.8L V-10	362	\$ 110,204.00	Cummins 6.7L	340	\$ 150,916.00
WFJ38S	6.8L V-10	362	\$ 120,500.00	Cummins 6.7L	340	\$ 161,072.00

Fuel Economy (Mileage): Large vehicles may eat up a lot of fuel, but diesel engines are generally more fuel-efficient than gasoline RVs. This extra efficiency can help offset the costs of diesel fuel. A Ford V-10 gasoline engine typically averages between 6-10 mpg, while the Freightliner FRED Diesel averages between 8-14 mpg.

Fuel Cost: Historically, diesel has been more expensive per gallon as a result of higher taxes and environmental restrictions. In addition, there are some areas where stations do not necessarily have a diesel pump, making it harder to find a place to fill up. Here is a chart listing average prices for gasoline & diesel in the US as of September 2016.

Average Price per Gallon		
Location	Gasoline	Diesel
East Coast	\$ 2.15	\$ 2.40
Midwest	\$ 2.14	\$ 2.38
Gulf Coast	\$ 1.97	\$ 2.26
Rocky Mountains	\$ 2.27	\$ 2.49
West Coast	\$ 2.63	\$ 2.67

Maintenance Costs: Another budget consideration will be maintenance costs. Typically gas engines and generators are less expensive to service and maintain. Many “do-it-yourselfers” may be able to take on service projects with a gas engine, but with a diesel engine it's more likely you'll need to seek out a diesel mechanic. Freightliner mechanics can be more difficult to come by whereas there are many Ford locations for servicing your gas engine.

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Since 2010, all diesel engines are required to use DEF (Diesel Exhaust Fluid) which allows the engine to burn cleaner. DEF tanks are usually 13 gallons or so in a Class A. This means that if you drive approximately 10,000 miles a year, you will need to fill it about 3 times a year.

Here is a rough idea of some of the maintenance that needs to be done on a gasoline vs. a diesel engine and what it might cost on a yearly basis (assuming an average of 10,000 miles per year):

Typical Maintenance Costs				
Maintenance Needed	How Often	Gasoline	How Often	Diesel
Oil Change & Filters	5,000 miles	\$ 135.00	6,000 miles	\$ 375.00
Transmission Fluid & Filter	60,000 miles	\$ 170.00	Every 2 years	\$ 315.00
Replace Engine Air Filter	40,000 miles	\$ 80.00	40,000 miles	\$ 300.00
Spark Plugs	100,000 miles	\$ 400.00	N/A	N/A
DEF Replacement	N/A	N/A	3,000 miles	\$ 110.00
Total Yearly Expense (@ 10,000 miles)		\$ 403.00		\$ 1,312.00

Environmental Impact: According to the EPA, the average CO² emissions from a gasoline engine running on 10% ethanol gasoline (typical regular unleaded) is 18.95 pounds while the diesel averages 22.38 pounds from one gallon of fuel. Despite this difference, diesel's higher energy content per gallon results in higher fuel efficiency. As a result, diesel's greenhouse gas emissions are only slightly higher on average than those of a gasoline engine.

Some additional considerations include:

- Diesel engines are heavier than gasoline, and produce more noise and vibration than a gasoline engine.
- A diesel engine has substantially more torque at lower engine speeds, which allows the diesel to climb hills more easily. However, a gasoline engine has more horsepower, allowing you to speed up faster when merging into traffic.
- Gasoline engines operate better in colder climates and at higher altitudes than diesel.

A good way to determine if a diesel engine is right for you is to figure out how many miles you will be driving. Are you driving over 50,000 miles each year? If so, then a diesel might make financial sense. At or below 50,000 miles, gasoline is most likely a better option. On average, you would have to drive over 500,000 miles in order to “break even” on the cost of a diesel compared to the cost of a gasoline powered mobile clinic.