



Vehicle Storage and Gasoline

Summary: Keep the fuel system dry, and use current hose technology.

Almost everyone has a story about the effects of long term storage due to gasoline deterioration whether it was a complete car or simply a carburetor that got put on the shelf still containing gasoline. First we will discuss short-term storage (three to six months), then long term storage of a year or more.

Before we talk about storage, we need to discuss fuel system materials. For anyone with a car manufactured before 1980, make sure your hoses are compatible with unleaded gasoline. Technology in making gasoline has changed in the last 40 years just as cars have. Your 1955 hose technology should be upgraded to 2000+ technology. This goes for gaskets and fuel pumps too. The parts suppliers have done a good job of upgrading the materials used in their gaskets, hoses, pumps, etc. but owners have to step up and take the initiative to be sure these updated materials are on their cars. A 1955 NOS fuel pump may be a great find for a museum piece with a dry fuel system, but if you want a car that you can drive reliably, buy a pump with upgraded materials.

Short Term Storage

For all of you folks that live in a part of the country where it gets really nasty during the winter, you may be storing your street rod/street machine/muscle car for several months. Or you may be one of those people like myself that has an extensive travel schedule and your car does not get driven much. If you suspect that your tank contains moisture before you are ready to store it, use a commercial gas-drying product to carry the moisture out through the consumption of a tank of gasoline before storage. If you are not sure about moisture, look at the inside of the gas cap for indications of corrosion. For short-term storage with today's gasoline, there is no need to do anything to the fuel system except park the car in a dry place. Before storage, it is best to fill the tank with gasoline so the vapor space at the top is at a minimum. This is especially important for pre-1970 vehicles that have vented gasoline tanks. Cars that have non-vented tanks are not as likely to draw moisture from the atmosphere into the tank. Be sure the fuel system is free of moisture before storage, otherwise corrosion can occur during storage. Carburetors, fuel tanks and fuel lines all are susceptible to corrosion when moisture is present.

Carburetors are the biggest problems if moisture is present. The alloy (pot metal) that carburetors are made from is not very resistant to moisture and will corrode if moisture is present. If no moisture is present, there should be no problem with corrosion.

The gasoline can leave a scum or slight deposit in the carburetor if evaporation is significant. It is especially critical for pre-1970 carburetors vented to the atmosphere. This is where heated garages can be a disadvantage if they are kept too warm. Sixty degrees is a good storage temperature.

Early FI systems (50's and 60's) used vented tanks, but by the mid 80's when FI systems were rapidly replacing carburetors, all cars had non-vented systems and are not as likely to collect moisture as earlier systems.

Long Term Storage

If you are going to store a car for one to two years, read on. The worst part about long term storage with a carbureted engine is that the gaskets have a tendency to dry out whether or not you drained the fuel system. The fuel pump diaphragm can also dry out and fail. My suggestion is to drain the carburetor, but leave fuel in the fuel line to the carb and leave the tank full. When you are ready to put the car back in service, check the carburetor by tightening the screws on top (Carter Carbs) or tightening the float bowl screws (Holley Carbs) , replace the gaskets if necessary, reset the floats, disconnect the fuel line from the carburetor and pump a pint of fuel through the fuel pump and discard it, then attach the fuel line to the carburetor and start the engine. A shot of starting fluid may be helpful here. (Be sure to reinstall the air cleaner if starting fluid was sprayed down the carb.) The old gas in the tank may not be the freshest, but it will keep the fuel system from drying out.

Under good storage conditions, today's gasoline can be stored for up to two years. If your storage is going to be longer than two years, read on.

Drain it dry. When (or if) you are ready to put the car back in service after two years or more of storage, the fuel system will need some service. It is better to put a few gallons of fresh gas in the tank after the storage period and try to get it running rather than have 20 gallons of five-year-old gasoline that you don't know what to do with.

Today's gasoline is good up to two years under good storage conditions. Service station gasolines contain an anti-oxidant additive that prevents gum from forming. In California, one of the undesirable components in gasoline (olefins) is much less than in other parts of the country which is a plus for any of you in California. Be wary of some racing gasolines that do not store well due to lack of an anti-oxidant additive. Some of these gasolines will contribute to gum, sludge, and jells in your fuel system. This is not the case with Rockett Brand Racing Gasolines which contain additional anti-oxidants compared to street gasoline, and are stable in storage for several years under good storage conditions.

The ***Rockett Brand***[™] Gasoline that car enthusiasts should be aware of is Rockett Brand 100 Unleaded Racing Gasoline. It is a 100 octane product and is legal in all states, including California. It works especially well in modified engines, stock high compression ratio small blocks and big blocks, and in late model computer controlled engines with knock sensors. Many late model engines have such a sensitive knock sensor that you may not know when knock is occurring and spark is being retarded. The 100 octane product can make a significant improvement on performance by preventing spark timing from being retarded.

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