

Fuel Systems

and does not require a fuel pump. This type of system is limited to smaller, single-engine aircraft.

The most significant drawback to the gravity-feed system is its tendency to develop *vapor lock*, a condition where fuel changes from a liquid to a vapor. The fuel lines, filled with vapor, are unable to supply sufficient fuel to maintain engine combustion, resulting in a fuel-starved engine. Vapor lock is caused by excessive fuel temperature, high-altitude operations, or a combination of the two. Fuel vaporization is most likely the result of shutting down an engine on a hot summer day, causing fuel lines, located under the cowling and next to the engine, to be exposed to extremely hot temperatures with no cooling airflow. High-altitude operation, where there is lower atmospheric pressure, also may induce vaporization at a lower temperature. The solution to the problem of vaporization is to provide positive fuel pressure with a fuel pump.



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Fig. 6-2. Cessna 152 gravity feed fuel system.