FUEL SYSTEMS

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Purpose

Parts
- Fuel pumps
- Fuel tanks
- Fuel gauges
- Fuel selectors

Fuel grades
The fuel system provides uninterrupted flow of clean fuel from fuel tanks to engine in all phases of flight.
Fuel Pumps

- Some Airplanes with fuel pump systems have two fuel pumps
  - Engine Driven Fuel Pump (Gear Connection to Crankshaft)—provides positive pressure to Carburetor or Fuel Injector
  - Auxiliary pump provides positive pressure fuel to Engine Driven Pump
    - Aux Fuel Pump - Electric
    - For engine starts and if Engine driven pump fails
Fuel Tanks

- Fuel tanks usually in airplane wings – but may be in other spaces
- Tanks vent to ambient atmosphere to maintain atmospheric pressure inside tank
Fuel Gauges

- Fuel gauges measure fuel tank quantity
  - gallons or pounds
- Rule or Thumb — DON’T TRUST FUEL GAUGES — Keep track of fuel consumption
  - Fuel gauges indications are often inaccurate, especially in small GA aircraft.
  - Always do your own Fuel computations
Fuel Selectors

- Fuel selector valve allows selection of fuel from various tanks
  - Tank Choices (GA)
    - LEFT, RIGHT,
    - BOTH and OFF
- On large aircraft, fuel management is a critical crew task
# Fuel Grades

- Fuel Grades match Fuel Colors
- Fuel Match with Engine – Critical
- Conventional Engines – AVGAS
- Jets- Jet A (or other, several kinds of Jet fuel)

<table>
<thead>
<tr>
<th>FUEL TYPE AND GRADE</th>
<th>COLOR OF FUEL</th>
<th>EQUIPMENT COLOR</th>
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</thead>
<tbody>
<tr>
<td>AVGAS 80</td>
<td>RED</td>
<td>80 AVGAS</td>
</tr>
<tr>
<td>AVGAS 100</td>
<td>GREEN</td>
<td>100 AVGAS</td>
</tr>
<tr>
<td>AVGAS 100LL</td>
<td>BLUE</td>
<td>100LL AVGAS</td>
</tr>
<tr>
<td>JET A</td>
<td>COLORLESS OR STRAW</td>
<td>JET A</td>
</tr>
</tbody>
</table>
Summary

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References

- www.vx-aviation.com