

# MD – RA

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## FUEL SYSTEM

The following information has been gleaned from the Part V - Airworthiness Manual Chapter 523 - Normal, Utility, Aerobatic And Commuter Category Aeroplanes. It is presented

### General

The fuel system, on an amateur built aircraft, must be constructed and arranged to ensure fuel flow at a rate and pressure established for proper engine operation in all aircraft ground and flight attitudes and engine power settings

The fuel system comprises three sections;

Fuel Tank Sump

Fuel Strainer or Filter, (gascolator)

Fuel System Drains

### Fuel Tank Sump

Each fuel tank must;

(1) have a drainable sump.

(2) allow drainage of any hazardous quantity of water from any part of the tank to its sump with the aircraft in the normal ground attitude and flight attitudes.

The fuel system must have a sediment bowl or chamber that is accessible for drainage.

Each fuel tank outlet must be located so that, in the normal flight attitude, water will drain from all parts of the tank except the sump to the sediment bowl or chamber.

### Fuel Strainer or Filter, (gascolator)

On all amateur built aircraft there must be a fuel strainer or filter between the fuel tank outlet and the inlet of either the carburetor or an engine driven fuel pump.

The fuel strainer or filter must:

(a) be accessible for draining and cleaning and must incorporate a screen which is easily removable;

(b) have a sediment trap and drain.

(d) have the capacity to ensure that engine fuel system functioning is not impaired, with the fuel contaminated to a degree that is greater than that established for the engine during its type certificate.

**Note;** Exemption from section 549.01 of the CAR's paragraph (26) stipulates that;

Unless otherwise indicated in an applicable part of this appendix, amateur-built aircraft shall have the following minimum equipment:

(a) gascolator located at the lowest point in the fuel system;

## **Fuel System Drains**

(a) On all amateur built aircraft there must be at least one drain to allow safe drainage of the entire fuel system with the aircraft in its normal ground attitude.

(b) Each drain must:

- (1) discharge clear of all parts of the aircraft;
- (2) have a drain valve that has manual or automatic means for positive locking in the closed position;
- (3) be easily opened and closed;
- (4) allow the fuel to be caught for examination;
- (5) be observed for proper closing; and
- (6) that is either located or protected to prevent fuel spillage in the event of a landing incident.

It is the responsibility of the builder to ensure that the fuel system on his aircraft meets every requirement as stated above.

### **References:**

**523.951 General**

**523.971 Fuel Tank Sump**

**523.997 Fuel Strainer or**

**523.999 Fuel System Drains**