

5. Clean the top surface of the separator screen with a dry, absorbent tissue or cloth making sure all water is removed from the screen cells.
6. **Before proceeding to the next step see that the actuator part is firmly seated in the separator or removed so it will not fall into the fuel tank.**
7. While visually checking the last fuel tank level, pour all the collected fuel samples back into the aeroplane's fuel tank, through the bottom screen segments of the separator, taking care not to tip the GATS jar too far, thereby over-pouring the separator screen.
8. Pour any water that may have been separated out of the fuel samples and become trapped in the collection jar, onto the ground through one of the bypass holes.

## Testing for Heavy Fuel Contamination

**AVGAS Users Only** – Immediately after pouring the sampled fuel back into the tank, gently blow on the separator screen from about 8 to 10 inches away for at least 30 seconds, observing the evaporation of the sample fuel from in-between the screen fibres. Except for any water drops, all screen openings should be free of liquid within about 60 seconds. After the initial wave of evaporation, the remaining fuel trapped in the screen might be jet fuel or some other inappropriately heavy fuel.

**Note:** *If only one fuel tank is refueled, test the tank for jet fuel contamination separately.*

## Warranty

*The GATS Jar Fuel Tester is warranted against defects in manufactured parts and materials for as long as you own your tester.*

### Cleaning

*If the tester ever does not effectively separate fuel and water, or it becomes dirty with contamination particles, cleaning is necessary. First, unscrew the separator from the collection jar. Wash the separator carefully with a mild detergent and water. Rinse with fresh water and let dry. To clean oils or greasy dirt after the water flush, use clean gasoline or charcoal lighter fluid and a soft bristle brush and then let dry. These baths should remove all contaminants and recondition the separator screen material.*

POOLEY'S

# The GATS Jar

Distributed in Europe exclusively by Pooleys Flight Equipment, UK.

## Instructions

**Important:** *Read all instructions thoroughly before using this product.*

Thank you for purchasing the Aviation GATS jar distributed exclusively by Pooleys in Europe. It is the first, finest and only fuel analysis tester capable of separating non-petroleum contaminants and thereby purifying water and debris from contaminated AVGAS and jet fuel. This allows extracted fuel to be put back into the aircraft fuel tank and not on the ground, without the fear of reintroducing contaminants back into the fuel system. It also gives a visual display of jet fuel contaminated AVGAS and can be used with any petroleum fuel grade and octane, including Jet A fuel, automotive gasoline and diesel fuel.



## Storage

The GATS jar comes packaged in a reusable plastic bag. Save this bag to put the tester into after each use, when it is stored in the cabin during flight.

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## How the GATS Jar Works

### The Screen Separator

The separator screen is made of a material that when coated with petroleum based fuels creates a barrier to the passage of water through it, but remains no obstacle to the flow of fuel. It is important to tip the tester only far enough to pour the fuel out through the screen, but not so far that the liquid level ever goes above the top of the screened opening. To work properly the separator screen must be coated with fuel **before** it is exposed to water. ***If water should impregnate the screen it must be removed before it can be used for fuel purification.*** To clear the separator screen of water, use a dry absorbent tissue or cloth and wipe the top of the screen surface thoroughly. The separator screen works equally well with jet fuel or AVGAS. The screen mesh also provides particulate debris filtration to approximately 200 microns.

***Warning: If the separator screen is damaged, do not use the tester.***

### Reversible Sump Actuator

The sump actuator is reversible in order to operate all styles of sump valves. The actuator fits in the hole provided, with the slightly curved side of its collar against the inside wall of the separator housing. This registers the actuator probe to its most central position and keeps it from turning while it's being used.

### The Liquid Seal

The GATS jar employs an O-ring, which seals between the inside base of the separator top and the mouth of the collection jar to prevent unwanted leakage. This O-ring must be in place to achieve a positive seal. To reinstall the O-ring, place it into the separator top above the threads and flat against the screen partition. Do not use any lubricant. Screw the separator top and the collection jar together tightly enough to prevent leakage, but not overly tight.

## Testing for Jet Fuel Contamination in AVGAS

The most accurate and reliable method of testing for jet fuel in AVGAS depends on the difference in the way they evaporate. AVGAS evaporates quickly and completely at moderate temperatures leaving no residue. Jet fuel at the same temperature evaporates much more slowly and will leave an oily film.

To test for jet fuel contamination with the GATS jar, coat the separator screen with the fuel sample. This is done when the extracted fuel is returned to the aircraft fuel tank. After emptying the tester turn the screen upright, so it can be blown on gently with one's breath at a distance to avoid breathing in gas fumes. The heat in the exhaled breath will evaporate the AVGAS within roughly 30 seconds regardless of the ambient temperature. AVGAS alone will leave the holes of the screen empty and the screen looking dry. Jet fuel, if present, will remain in some of the screen holes in a random pattern after the AVGAS has evaporated, in approximately the same proportion as the fuel mixture inside the fuel tank. With a little practice as little as 5% jet fuel contamination can be detected with this method, in any environment, and in any season. A safe percentage of jet fuel mixed into AVGAS has never been established. Therefore, if it can be detected, it should be considered too much.

***Warning: Do not use any form of specific gravity testing ball or device for detecting jet fuel contamination in AVGAS with, or within this tester, doing so will void any manufacturer responsibility or warranties stated or implied.***

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## Operation

***Note: Catch all fuel samples in the GATS jar.  
Never discharge fuel from your aircraft onto the ground.***

1. Check the condition of the separator screen for tears, larger than normal holes or damage of any kind.
2. Select the appropriate sump valve actuator tip.
3. Draw, examine and retain all fuel samples in the normal course of the pre-flight inspection, observing colour for proper octane against the back of the bottle sticker with the main light source from behind the observer.
4. Check for water sitting on the top surface of the separator screen material. Use a by-pass hole to get any excess water droplets inside the collection jar before separation.