



"TAKE YOUR CESSNA HOME
FOR SERVICE AT THE SIGN
OF THE CESSNA SHIELD"

SINGLE ENGINE CUSTOMER CARE SERVICE INFORMATION LETTER

MARKETING DIVISION / CESSNA AIRCRAFT COMPANY / WICHITA, KANSAS 67201 / CABLE ADDRESS - CESSCO WICHITA

June 18, 1979

SE79-30

USE OF FUEL ADDITIVES FOR COLD WEATHER OPERATION

AIRCRAFT APPLICABILITY: Single Engine Aircraft

As described in Cessna Service Letter ME73-25 dated November 2, 1973, all aviation gasolines contain some water in both dissolved and liquid form.

Some factors affecting the amount of water concentration are:

- 1) Variations in refining procedures used throughout the world.
- 2) Age of fuel and the storage facilities that are used.
- 3) Techniques used in transporting fuels.
- 4) Ambient temperatures and atmospheric humidity.

To advise owners and operators of the importance and proper use of fuel additives during cold weather operation, the attached Owner Advisory will be mailed to owners of single engine aircraft.

Cessna recommends that these instructions be followed closely when refueling single engine aircraft for cold weather operation.

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(Owner Notification System - No. 1)

CESSNA AIRCRAFT COMPANY

NOTICE

USE OF FUEL ADDITIVES FOR COLD WEATHER OPERATION

Strict adherence to recommended preflight draining instructions will eliminate any free water accumulations from the tank sumps. While small amounts of water may still remain in solution in the gasoline, it will normally be consumed and go unnoticed in the operation of the engine.

One exception to this can be encountered when operating under the combined effect of: 1) use of certain fuels, with 2) high humidity conditions on the ground 3) followed by flight at high altitude and low temperature. Under these unusual conditions small amounts of water in solution can precipitate from the fuel stream and freeze in sufficient quantities to induce partial icing of the engine fuel system.

While these conditions are quite rare and will not normally pose a problem to owners and operators, they do exist in certain areas of the world and consequently must be dealt with, when encountered.

Therefore, to alleviate the possibility of fuel icing occurring under these unusual conditions it is permissible to add isopropyl alcohol or ethylene glycol monomethyl ether (EGME) compound to the fuel supply.

The introduction of alcohol or EGME compound into the fuel provides two distinct effects: 1) it absorbs the dissolved water from the gasoline and 2) alcohol has a freezing temperature depressant effect.

Alcohol, if used, is to be blended with the fuel in a concentration of 1% by volume. Concentrations greater than 1% are not recommended since they can be detrimental to fuel tank materials.

The manner in which the alcohol is added to the fuel is significant because alcohol is most effective when it is completely dissolved in the fuel. To insure proper mixing the following is recommended:

1. For best results the alcohol should be added during the fueling operation by pouring the alcohol directly on the fuel stream issuing from the fueling nozzle.
2. An alternate method that may be used is to premix the complete alcohol dosage with some fuel in a separate clean container (approximately 2-3 gallon capacity) and then transfer this mixture to the tank prior to the fuel operation.

Any high quality isopropyl alcohol may be used, such as:

Anti-icing fluid (MIL-F-5566) or
Isopropyl alcohol (Federal Specification TT-I-735a).

Ethylene glycol monomethyl ether (EGME) compound in compliance with MIL-I-27686 or Phillips PFA-55MB, if used, must be carefully mixed with the fuel in concentrations not to exceed 0.15% by volume.

CAUTION

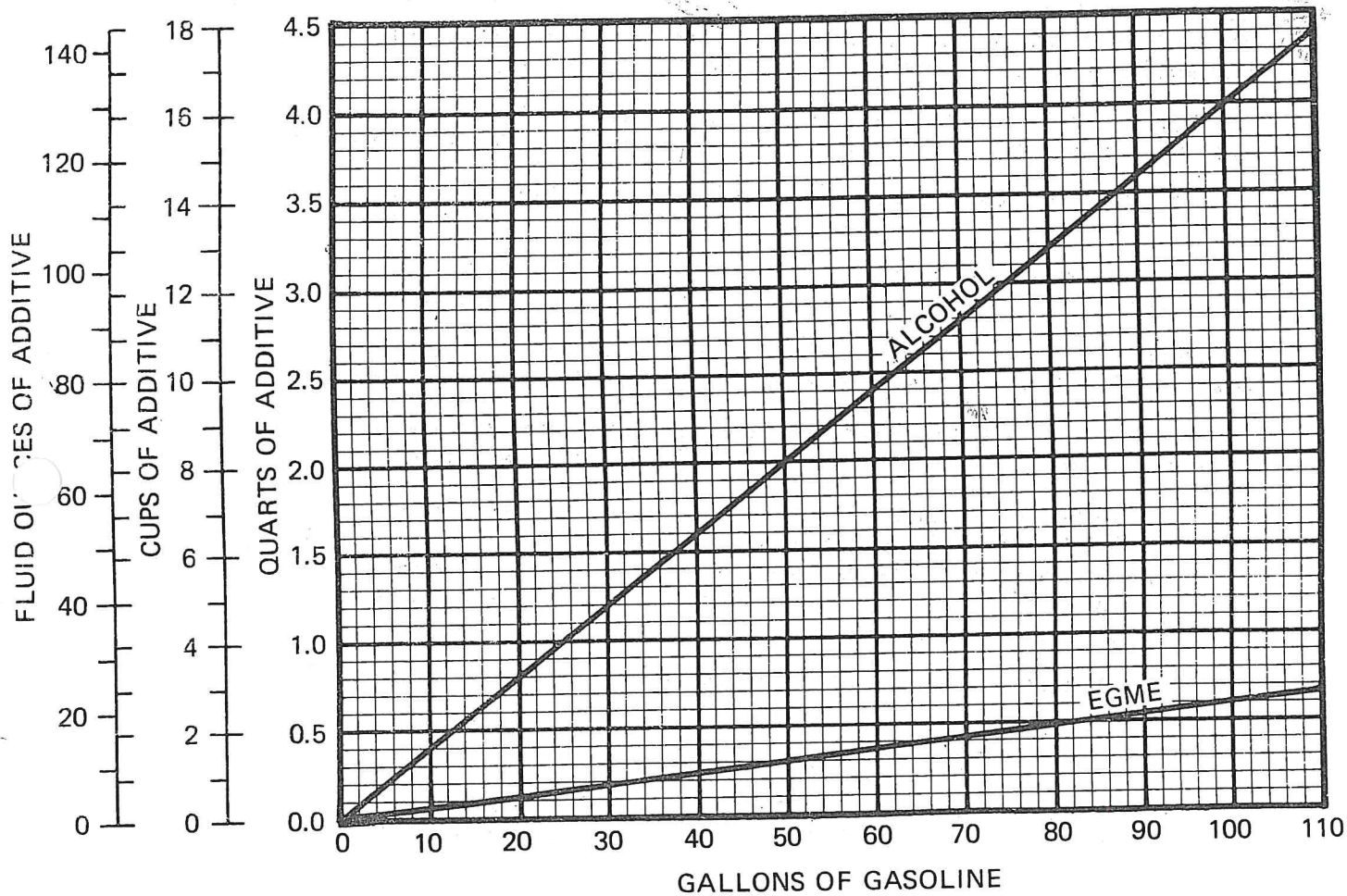
Mixing of the EGME compound with the fuel is extremely important because concentration in excess of that recommended (0.15 percent by volume maximum) will result in detrimental affects to the fuel tanks, such as deterioration of protective primer and sealants and damage to O-rings and seals in the fuel system and engine components. Use only blending equipment that is recommended by the manufacturer to obtain proper proportioning.

Do not allow the concentrated EGME compound to come in contact with the airplane finish or fuel cell as damage can result.

Prolonged storage of the airplane will result in a water buildup in the fuel which "leeches out" the additive. An indication of this is when an excessive amount of water accumulates in the fuel tank sumps. The concentration can be checked using a differential refractometer. It is imperative that the technical manual for the differential refractometer be followed explicitly when checking the additive concentration.

Figure 1 on the opposite side provides additive-fuel ratio mixing information for both alcohol and EGME.

FUEL ADDITIVE MIXING RATIO CHART





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CUSTOMER CARE OWNER ADVISORY

MARKETING DIVISION / CESSNA AIRCRAFT COMPANY / WICHITA, KANSAS 67201 / CABLE ADDRESS - CESSCO WICHITA

June 25, 1979

SE79-30A

Dear Cessna Owner:

The attached notice provides information on the use of fuel additives when operating under certain cold weather conditions and applies to your aircraft (serial shown on mailing label).

It is important that you review this information carefully and utilize it when operating in the unusual cold weather conditions described.

For further information concerning cold weather operation and use of fuel additives, contact your Cessna Dealer referencing Single Engine Service Information Letter SE79-30.

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CESSNA SINGLE ENGINE
CUSTOMER SERVICES