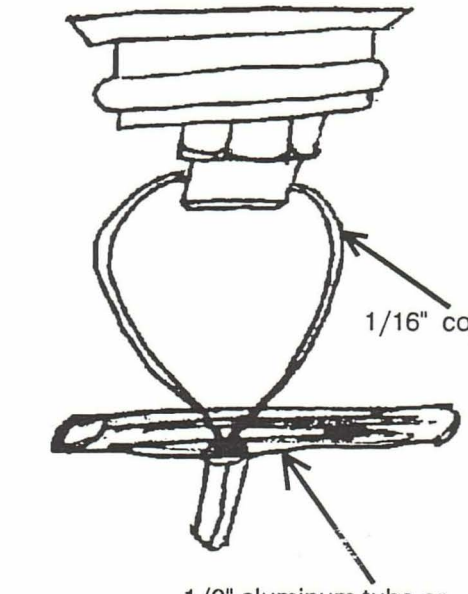
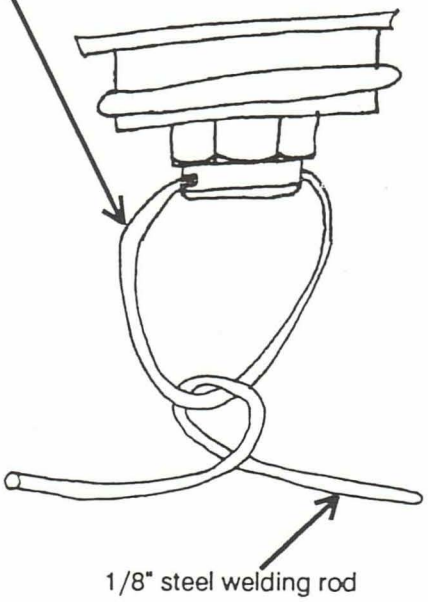
Alternate Fuel Cap Security Methods

I have always been impressed with the way you people think up various solutions to problems. The fuel cap security issue has seen you outdo yourselves, however. The following sketches depict some of the ideas sent to me. Try one on your bird. They all should work.





Alternate Fuel Caps

Charlie Beard (GA) - When I built my Long-EZ I used some heavy duty 3" opening gas caps from Spruce. They are mil spec and have 3 or 4 "dogs" that extend from the cap when the lift tab is turned to the right. The lift tab can't lock down into its recess unless it is fully turned. It also has ball chain attachment for security; although I don't know how strong they really are.

I really like these caps. The "real" George Scott gave me the suggestion.

For Sale

Kalus Savier 62" prop for O-235 Long-EZ - $450, spinner/backing plate, B&C alternator bracket, Brock air filter & air box valve, big tire wheel pants, SAE #1 3"-4" prop extension & crush plate, Lycoming starter, and King KR 85 ADF w/everything - $500.

Contact:
Stan Susman
714 - 642 - 7678

Finding Oil Leaks

Today I finished up my annual excursion at chasing oil leaks. I tried a new trick, relayed to me by Vance Atkinson, and it showed a leak I've been chasing for 900 hours and haven't been able to locate. I probably can't fix it without splitting the crankcase (NO, NO, NEVER, NEVER !!) but at least I know where it is.

The trick is to wash down the engine and get it good and dry. Then throw corn starch all over the engine. Boy is that a messy thing! That stuff goes everywhere. Then run it up and look for leaks (wet spots in the white residue). Naturally you won't find any so cowl it up and go fly for about 15 minutes. Don't be surprised if your airplane smells like gravy and looks like it is a crop duster as the white powder flies out the back of the cowl. After landing pull the cowl and presto there are the leaks! It really works!

Testing for Water in Your Fuel?

It seems that more and more people are using mo-gas in their airplanes and are able to get it on cross country trips with increased regularity. One of the problems with this purchase is you are never quite sure if there is any water in the fuel. So many water absorbing oxygenates have been added to today's fuels that it is difficult to see if there is any water in the sump's sample.

I recently came across this tip in the U S Aviator magazine and thought it would be worth passing on.

Carry broken up bits of Alka-Seltzer with you on the pre flight inspection and drop them in the fuel sample. If they fizz you have water in the sample. If not, then the fuel is water free.

Obviously you shouldn't pour the sample back in the tank. It'll make your engine have indigestion. Then you'll need Pepto-Bismol.

Fuel Cap Gasket Replacement

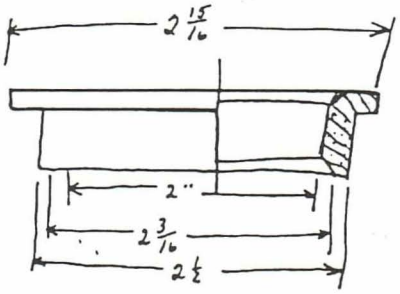
Jim Willer (CO) - Our fuel caps do move and have for sometime. I never thought of them lifting off. I have now installed the fuel cap retainers per the diagram you sent. I had a small hole drilled through the lift tab threads at a machine shop. I ran a small key ring type of device through the hole and attached a small cable to it and the sheet metal triangle. It works fine.

In the mean time, I decided to get new rubber gaskets, as the old ones had worn and didn't expand properly for a good tight fit. I fixed them, temporarily, by putting a plastic shim washer under the top of the fuel cap. This was made out of plastic from an old oil bottle.

The washer increased the clamping action enough to get the caps to fit securely in the filler hole. This trick might be kept in mind if you have a loose fuel cap problem on a trip and can't find a new gasket.

My fuel caps were purchased originally from Aircraft Spruce so I thought I could get replacement parts from them. After little cooperation and **MUCH** time and communication I finally found a source of these gaskets. They are part # 5854 and cost only $2.69 each. They are available from:

Aviation Products
114 Bryant
Ojai, CA 93023
805-646-6042 ask for Dick



Fall flying is FUN!!

Making Your Own Hose Mandrels

Recently I decided to install my fuel flow computer and found I needed to make up some new hoses. Remembering the trouble I had making up the original set, I decided to do it right and buy a mandrel to aid the installation of ends of the Aeroquip 303 hose assembly.

After paying $16.41 from Wicks, as opposed to $26.60 from Spruce, for a #4 mandrel I found they are easily made yourself. The mandrel is nothing but a steel AN 816 nipple fitting with a solid rod extending through the center to hold the hose in alignment during fitting assembly.

Take the appropriate size steel nipple and insert a piece of steel rod or old bolt through the center. The fitting's inside diameter is about .015" - .020" smaller than a nominal bolt size. A #4 fitting has an inside diameter of about .232" while a 1/4" bolt is about .250" in diameter so you must turn the bolt down on a lathe or file it down while rotating it in an electric drill. Chamfer the end of the bolt and braze or weld the fitting and rod together. The #6 mandrel I made cost $2.65 and took less than an hour to make.

Frozen Controls

Arnie Ash (IA) - Recently I returned home solo, from a flight to drop off my daughter at college. As I approached the airport I was hit by one big down draft of turbulence. After that I found I had no right aileron travel.

My first thought was I had broken another one of those aileron bellcranks until I realized that I also had no down elevator. Things got interesting at that point as I considered declaring an emergency. I was able to make a safe landing at my home airport as I could get pitch down by lowering the power and use the rudder for right turns.

As soon as I got to the hangar I discovered what had happened. I had forgotten to fasten the seat belt in the back seat before takeoff. The hard turbulence caused the right lap belt to drop between the right side wall and the right side of the aft stick which blocked the control stick movement.

I know some of you have heard this story before; as I have too, but in spite of prior knowledge this still happened. I feel we need to revisit safety issues to keep them in the front of our minds. A required preflight item should be:

Fasten the rear seat belts so they can't get into the controls.

If the rear belt had dropped farther into the side console I might have had no control movement and the flight would have ended in tragedy.

OOPS! Not Everything That Flies is a DC 3 or a Piper Cub!

In the July issue, on page 9, I made the error of describing a large twin as being a DC-3. I guess that's like calling the Starship a Vari-Eze. They both have pusher propeller configuration and the little wing is in the front but that is where the comparison ends

The pictured airplane is a Curtis Commando C-46. It is much larger than a DC-3 and with a 54,000 lb gross weight it is almost twice as heavy. A couple clues to look for are the size and shape of the engine cowls, the more pointed prop profile, and the upward hinged cargo door.