



# International Cessna 120/140 Association

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**Speed Record set by  
Charles Bendixen in his Cessna 140A**

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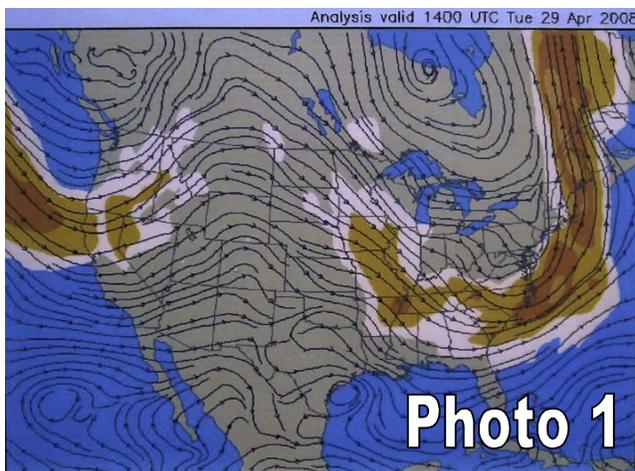
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## Speed Record in a Cessna 140A

By Charles Bendixen, Flagstaff, AZ

During the past year there was an article in Flying Magazine by a pilot who set a "Point to Point" speed record from the Boston Area to the West Coast in a Stearman. I thought this was a neat idea and it started me thinking that I could set a speed record with my Cessna 140A (Patroller Version) which came from the factory with Cessna 170A wing tanks. Because the speed is recorded on "Point to Point", and not time in the air, any fuel stops decrease your average speed considerably. If I chose my points near the maximum range of my 140A, I would have an advantage over many faster planes in my weight category that would need to re-fuel. Thus began my plans to set an official speed record in N5350C.

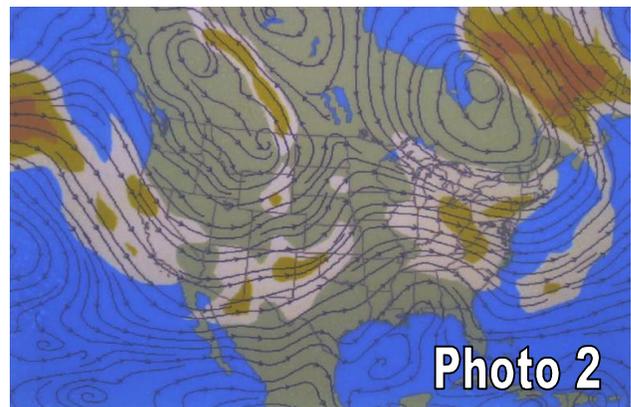


"Official Air Speed Records" are documented by the National Aeronautics Association and setting the record requires that you get a membership in the NAA and an FAI (Federal Aeronautic Internationale) Sporting License. You can contact NAA online at [www.naa.aero](http://www.naa.aero). This site will give you all needed information on how to set an official record. I learned that my Cessna 140A would fit in the C-1.b class, piston powered aircraft 500-1000 Kg gross weight. (1102 – 2205 lbs). Through the NAA and FAI websites I was able to locate all records set by aircraft in my weight category. I found a number of records set by planes with up to 180 hp that I could beat with a minimal tailwind but chose to just set my own record rather than take the record away from someone else.

Setting an "official" record is neither cheap nor quick. There is a minimal charge for an NAA membership and sport pilot license, but there is a substantial fee for a sanction for your intended flight which gives you the exclusive right to try for the record over a specific course for a period of 90 days. Then there is another

substantial fee for actually claiming the record and having it recorded. You must also submit documentation regarding your pilot certificates, aircraft data including official weight and balance, and also make arrangements for the tower operators at both ends to complete a "certification of takeoff and landing". Once the weight of paperwork brings you up to the gross weight of the aircraft, you are ready to go!

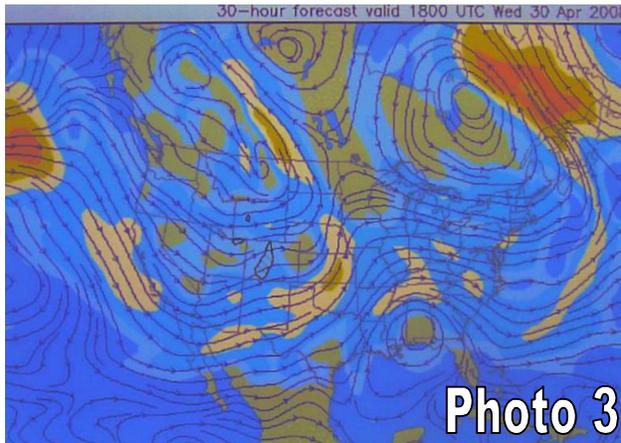
Because N5350C has an O-200 engine with a cruise prop, neither the fuel flows nor TAS figures in my POH were applicable in computing my range. I made a number of 4 hour flights at about 9500 feet with various power settings to establish my actual fuel flow and true airspeed at these settings. From these flights I calculated that at 9500 feet for cruise, with no tail wind, I had a range of 690 nm and 45 minutes reserve. The distance from my home airport in Flagstaff to OKC of 691 nm helped determine my selected route.



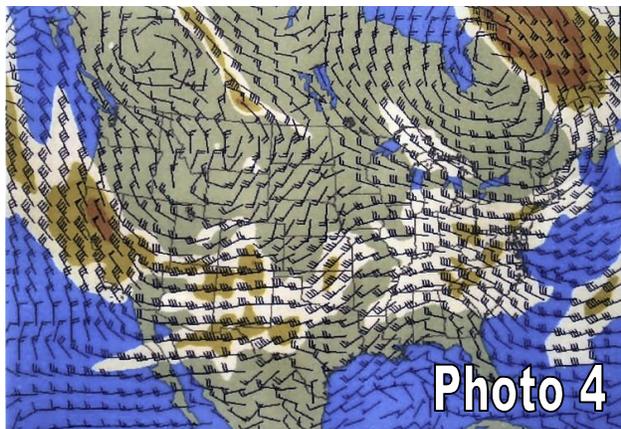
My next project was a study of weather patterns to predict in advance when I wanted to go. You must notify NAA in advance when you wish to fly and can't just wake up in the morning and decide "it looks good". On April 28<sup>th</sup> a series of lows to the north looked good. Winds aloft forecasts for the 29<sup>th</sup> looked somewhat favorable in direction but not in velocity. (See Photo 1) Forecast the 30<sup>th</sup> it looked better at 12,000 ft, but not at 9,000 ft. (See photos 2 & 3) so I called NAA and told them I planned to go on May 30. See is the Winds Aloft forecast that I got the morning that I left – Photo 4.

At 13:27Z the morning of April 30, 2008 I departed Flagstaff and climbed to 11,500 feet which took me 45 nm to Winslow, AZ before reaching that altitude. I had two things in my favor for the climb. First, I

started at 7000 feet and the extra 10 hp of the O-200 engine boosted my climb rate somewhat. The time to climb was then rewarded by a cruising groundspeed of over 130 knots after leveling off. On reaching cruising altitude, I switched to the left tank which I then ran for the next 4 hours. When I eventually refueled, I had only burned 17.5 gallons from that tank, or about 4.4 gph. At 11,500 feet with a temperature of 49F, indicating 92 mph (1950



AS indicator) I calculated a TAS of 113 mph. Over the flight my groundspeed varied considerably. Until about 30 miles west of ABQ I had been making 130-137 kt ground speed with smooth air. Suddenly the air became turbulent and my groundspeed dropped to around 115 kts until about 25 miles east of ABQ when the tailwind picked up again and I averaged 142 kts from ACH VOR to the TCC VOR. The highest groundspeed that I read



on my GPS was 155 kts but I was only about to document 151 with a photo of the GPS. After TCC VOR the tailwind component steadily dropped off as the winds shifted from westerly to southerly. My last 100 nm averaged only 113 kts. Anyway, my elapsed time for the flight was 5:34:20 for 691 nm and an average speed of 143 mph. Not bad for a

Cessna 140A! Even after flying another 1:15 to Snyder, OK at 75% power before re-fueling, I had only burned a total of 35 gallons with 6 gallons useable remaining. The secret is knowing the capabilities of your aircraft and doing extensive pre-flight weather planning.



### Speed Calculator

**Location**  
 Start Point Flagstaff Pulliam  
 Start Point Identifier FLG  
 Start City Flagstaff, AZ

Finish Point Will Rogers World  
 Finish Point Identifier OKC  
 Finish City Oklahoma City, OK

**Distance**  
 Kilometers (from FAI calculator) **1279.334674**  
 Statute Miles 794.94  
 Nautical Miles 690.79

**Time**  
 Start Date (UTC) **30-Apr-2008**  
 Start Time (UTC) **13:26:56** ✓  
 Finish Date (UTC) **30-Apr-2008**  
 Finish Time (UTC) **19:01:19** ✓

Elapsed Time **5:34:23**

**Speed**  
 Kilometers per hour **229.5571**  
 Miles per hour **142.64**  
 Knots **123.95**



A bit more about Charles Bendixen:

I am a 69 year old retired physician. I first soloed in 1956 but it wasn't until 1962 that I took my private check ride in a Cessna 120. I have a commercial license with multi-engine and instrument ratings and I am a CFII. I have flown the Atlantic Ocean twice by myself and have flown my own plane north of the arctic circle twice. I am active in the Civil Air Patrol and was just named the Arizona Wing CAP pilot of the year for the past year. I grew up and spent most of my life in Iowa but have been in Flagstaff since retiring 8 years ago.



I have owned N5350C for about 3 ½ years.



Tim Mix sent this update on his reunion with Bud Helmricks, the previous owner of Tim's airplane, and author of the Book 'The Arctic Tern' about Tim's airplane (Cover of June/July 2008 120/140 Newsletter):

"Well Bud, Martha and Jeff made it around 2 pm. What a joy! I need to correct the statement of Buds age, he is 91. Anyway He was very pleased that she had found her way to me and remarked that she hadn't aged in the



60 years. He did get a little misty from the memories that came back and he remembers the adventures he had with her. anyway here is a picture of him and I , and one of him signing my book for me.

Tim Mix"

## Getting the Right Charge

### Tech Talk *By Victor Grahn*

A Basic electrical charging system primer and troubleshooting guide.

Many, many times, both on the website and with phone calls from members, I see and get questions similar or identical to, "my generator isn't working, what do I do?"

Well, quite honestly, it's simple, you have to get the electrons woken up and back to work, & here's how we're going to do it.

First a few basics. Every aircraft has a battery, a master switch, a master contactor (solenoid), an ammeter (or possibly a volt meter), a voltage regulator, and, either an alternator or a generator. So let's start with the basics. Oh, yes you have wire, but I've covered that in a previous article, so we are assuming your wiring is ok.

**Battery first.** A simple device. It is a storage tank that holds a limited supply of 12 volt electrical energy. Either you will have a 35 or a 25 amp hour battery. Technically the only difference is, a 35 amp hour battery, is slightly larger, weighs a little more and can supply more amps for the same amount of time, or the same amount of amps for a longer amount of time. If your master switch turns on, your nav lights work and your radio works with the engine turned on, your battery is not your problem.

If your nav lights turn on but dim right away, either your battery is weak, (needs charging) is faulty, your battery connections are corroded, or perhaps, and this is a long shot, your master contactor, behind the battery case is internally corroded, or has high resistance. So check these items out.

Remember, when troubleshooting electrical problems, always go after the simple, basic, cheap stuff first. NO need to replace that \$300 alternator until you make sure the other parts of the system are working properly. That being said, lets move on to some more expensive stuff.

So far we've taken some energy (voltage/ amperage) out of the tank (the battery) and used it to light up the lights. We've determined that much of your system is working properly. Now we'll do a short visit with the "indication side" of your system.

You can have one or both of the following items; an

ammeter, or a volt meter.

An ammeter reads amps, either positive or negative. If the engine isn't running and you turn on the master then some lights, your ammeter should read negative (less than zero), not a lot, but some. If you turn on your landing light it should read a lot of negative, say 20 or more on the negative side, who knows you might even be able to "bury" your needle.

If the engine is running, then the ammeter should be reading on the positive side, depending on how tired your battery is, then you might see a higher number, or depending on how long you've been flying then the needle will work itself closer to zero, but still be on the positive side, this would indicate your battery has been charged.

One thing you don't want to see is a massive amount of positive charge, or needle swing. That probably indicates something is "charging" too much. By this I would say "round numbers" a steady reading of over 15 amps. But we will cover this later in the "Alternator, Generator" section of this article.

NOTE: our aircraft, Cessna 120-140's, have a positive, negative ammeter, with zero in the middle. If you own or fly a Piper aircraft for instance, they use a "Load Meter, Ammeter". This meter starts at zero and the more load your charging system picks up, as you add lights, radios, pitot heat etc, the farther up the scale from zero the needle moves. This is not and does not fall into our little article here. This is also an ammeter, but wired and used differently.

A voltmeter. I feel this is a more useful tool, or "indicator" if you will, than the good ol' ammeter. Simply put this tells you exactly what is going on. If you turn on the master with the engine turned off, the volt meter will read battery voltage, somewhere around 12 volts. This is normal. As you turn on electrical load, lights etc, this reading will drop down somewhat, say, 11.5 or something. A properly working charging system will read 13.7 volts or very close to that. What that means is that, even with lights, pitot heat, radio and your strobe working, there is still sufficient energy to keep charging your battery, or putting energy back into your "electrical storage tank". At times this number will be a little higher than the optimal 13.7 volts, say 14.3 volts when the aircraft is cold and first started up and needs to replenish the battery after starting the engine.

Or, conversely, if your battery needs lots of charg-

ing, all your electrical load is on, and you're "overtaxing" your charging system a wee bit, then you might see something closer to 13 volts. But, as long as you are maintaining, more than 12 volts, the beginning battery voltage, all is still well. You still have a proper "flow" of electrical energy, that is, it's coming out of the 'charging system' and flowing into your requirements, charging the battery, lighting the lights, powering your radio.

Ok, we've covered turning on the power, lighting up the lights, and reading our power system, but now we need to re-charge our battery and keep all the lights on while we're flying, so what about the "Charging system?"

In aircraft today, either you have a generator, or an alternator on your airplane, you can't have both. (I won't cover the fancy stuff. "B" generators, "AB" Generators, Starter Generators, etc, we don't have those)

I'll cover the generator first. What we have is a very simple, basic electrical charging system going back to the 1920's and probably a little older. If you can troubleshoot your generator system you can also troubleshoot my dear old Dad's 1940's tractors and 1950's cars and trucks, because really, whether it's 6 or 12 volts these systems act the same.

First off, a generator is "self exciting". It generates its' own electrical power, and depending on how big it is, and how fast you spin it depends on how much electrical power it can produce.

A stock C-140 1947 version had a 12AMP generator, which means it could carry 12amps worth of electrical load, lights, radios etc at the same time and still hold 12 volts and keep the battery charged. Since then mechanics/owners, including myself, have put on larger 20, 25 and 30 amp generator systems, but you have to have a matching voltage regulator to do this.(and some log book entries & approval with 337 form) For the purposes of this article we'll simply say we have a 12amp generator, because really you trouble shoot them all the same.

Generator. Ok, if it isn't working, a few basic simple steps can help you determine if it's the generator, or the voltage regulator causing your problems. First realize the generator puts out its own power. So, start by disconnecting both leads (but label them first!!!!) Off the generator, both the "A" and the "F". (for Armature and Field)

Place your voltmeter securely on the engine, at-

tached in some way (you do own one of these and know how to use it???????) If not, stop here and start this over inside the parentheses or find someone who does because you can't proceed without one, or only with extra difficulty) so you can read it either from inside the cockpit, or off to the side of the engine away from the swinging propeller.

NOTE; Again, this is not for novices or someone who doesn't know how to work around a running airplane engine. I hope I don't have to tell anyone that standing around a swinging propeller is dangerous to your health, this is not an area to 'guess at what to do'.!!!!!!!!!!!! And how to do it.

What you do, with the engine turned off is securely attach your voltmeter's ground wire to aircraft ground. And attach the positive lead to the "A" terminal. Start the engine, and at about 1800 rpms (or less) you should see what we call "residual voltage", or about .8 to 1.5 volts. Turn your engine off.

IF that shows up on your meter, your generator is probably good, but there is one other check to do to make absolutely certain. With the set up above still installed, take a jumper wire, with an alligator clip at both ends and clip from the "F" terminal on the generator, to a good airframe ground. Now, once again start the engine. What we are doing is what we call "FULL FIELDING" the generator. Basically asking it to give all it's got. Now, as the engine speeds up in RPM, you will see the voltage climb directly proportional to rpm. By 1800 rpm you might see around 20 volts or so, you should certainly see 12 volts. This means your generator is good and look for your problem elsewhere. Don't be concerned because your generator is going over 12 volts, there is no load and no control on it, thus it is doing everything it's capable of, which is typically more than you ever ask of it. Turn your engine off.

So, we've determined your generator isn't the problem, by the way if your generator doesn't do what I've listed above then it is the problem. Remove it and send it in for repair.

We only have two more places to go. Remember you still have the "A & F" disconnected from the generator right? So, disconnect the "A and F" wires from the regulator (label them first).

Take your voltmeter, (you have one now, right?) and turn on your master. (we've turned the engine off by the way, right?) Measure voltage at the "B" or "BATT" on the regulator post. You should have battery voltage right there. IF not, you have a master switch or wiring problem from the battery.

Assuming you do have battery voltage at the BATT terminal, change your leads and volt meter measuring set up to read resistance on the volt/ohm meter. Turn the master off.

Take the two wires you disconnected from the "A and F" and connect one lead to each end of the "F" wires. One at the generator end and one at the voltage regulator end. As you turn on and off your master switch, which has a separate double switch inside, you should see a direct short indication or 1 (or less) ohms with the master switch on, and an "OPEN", or infinite resistance with the master switch off. This works? Fine, then press on, if it doesn't then either your master switch is faulty, or your field wire is bad. By the way, drop one end of the Field wire from your meters leads and attach that lead to ground, with the free end of the field wire hanging free, in open air. Turn your meter on the highest resistance, say 20,000 ohms. You do NOT want to see any resistance in this situation, in other words you do want to see an "Open". IF you see a short to ground in your field wire, even temporary, it will take your voltage regulator out of the circuit and cause your generator to want to FULL FIELD (described above). This is very bad for your radios especially.

Ok, drop your leads off of the "F" wires and attach them to both ends of the "A" wire, from the voltage regulator end and the generator end. This wire should have good continuity, or 1 ohm, or basically a short. Anything else, high resistance, or open means the power from the generator isn't going anywhere. IF this check doesn't work then replace the wire.

All these checks good? Then your voltage regulator is bad. Just that simple, Got questions? Call and ask. It's really straight forward. Your voltage regulator serves two functions. It closes the "charge" circuit when the output of the generator becomes greater than the battery voltage. And... It regulates the voltage by opening and closing (very rapidly) a set of contacts between your field circuit and ground) It can maintain this level of 12 volts, in this case up to 12 amps.

OH, but you have an alternator, right? Well, then we have to change a few things, but these are simple to check as well. Only takes a few minutes and this time you don't even have to run the engine.

Take that voltmeter that you now have and connect the negative lead to ground. Turn your master on, but don't start the engine. You should be able to measure battery voltage at the big terminal on the alternator, usually labeled, "Battery, or A". You

should also be able to measure a slightly lower voltage (by several tenths) at the "F" or Field post, which is the smaller wire. IF you can measure voltage at both of these posts then your alternator is bad. OH, yes one other check, not always accurate, but does work most times. With the above configuration, battery on, and voltage at both alternator terminals, take a steel screwdriver end, it should attach itself to the center of the back of the alternator, where the bearing cap is, as if that cap was a magnet. This magnetism, will drop off when the power is removed. Usually, no magnetism, = bad alternator.

IF you don't have power at the "A or BATTERY" terminal of the alternator, then look back at your wiring to the source, that's your problem.

Or if you don't have voltage at the "F" on the alternator post, then see if you have it at the "B" or "BATT" terminal on the voltage regulator. If you have it at the Batt terminal of the voltage regulator, then your regulator is faulty, but make sure you have a good solid 12volts, or whatever battery voltage is right at the regulator BATT post. Some of the fancy new regulators are very sensitive and require all the voltage make it to the regulator, even a small drop through the circuit breaker, or some old wiring will cause the voltage regulator to cut out.

And there you have it, most all, probably about 98% of the charging system problems can be solved by these few simple easy steps. See electricity isn't that hard after all? Right?

Ok, for the 2 percenters, here's a few thoughts.

For the over active chargers; a shorted battery cell will make your charging system always charge about 5-10 amps more than it ever did before. Borrow your buddies battery and replace yours with it. Start up your airplane. Problems goes away? Then it's your battery.

For the same symptom, both generators, and alternator systems. IF you have high resistance and/or corrosion in the field circuit or a loose connector you'll see the same thing, an over active charging system. Basically the system thinks the voltage is lower than it really is so it's always trying to compensate.

For the temporary problems that come and go. Look at your wiring, something is most likely chafing through, or about to. Old field wires are "shielded" meaning then have a ground mesh around the wire. Somewhere the core wire is going through the insulation and touching this ground mesh.

Generator systems that sometimes charge, and

sometimes, don't or sometimes charge too much. Your points in the regulator are getting bad, or corroded, or the coils are getting weak. Try another regulator.

Lastly. The regulator in the generator system and the regulator in the alternator system are two very different monsters.

The generator regulator works by very quickly grounding then un-grounding the field. This is ok.

The regulator for the alternator energizes the field by utilizing the battery voltage to "excite" the alternator, because unlike the generator, the alternator is not "Self exciting". Never, NEVER, under any circumstance ground the field circuit on the alternator sys-

tem, that one little short, or a "lost my mind moment" on your part will turn your expensive voltage regulator into a hangar ornament, and conversation piece.

"Fellas, you won't believe what this little fella cost me".

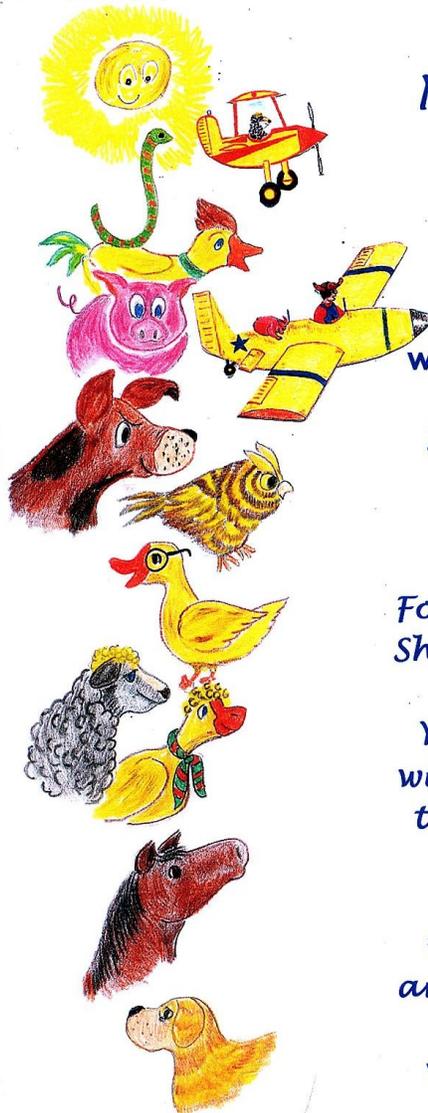
Flashing the field. A rather mis-understood problem. Also a mis-understood term. Really it should be polarizing the field. Unless your generator has sat on the bench un-used for years while you restored your airplane for 10 years, this is probably not your problem. Generators seldom, "overnight" lose their polarity.

If you do have to do this, one simple removal of the "A" post wire on the generator, then lightly touch it with a wire connected to a battery voltage source will get it's electrons flowing in the right direction. That's all, one spark and you're done. Go back to "residual voltage check above" and if that comes back you're

all set.

Really, honestly that's about it. Our electrical systems are about as simple and straight forward as they come. No two foot wiring diagrams (two feet of paper) with IC boards and a zillion wires, circuit boards, relays, momentary switches, nope, none of that fancy stuff. Just straight ahead old fashioned charging.

Got questions, probably better ask first, better to know what you're doing ahead of time than "smoke" something.



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## The Annual Inquisition

*By Brian Cooker*

Americans are the only people in the world who take things apart to find out why they are not broken. And so it goes in general aviation with the dreaded annual inspection. You know, that time of year when we surrender our pride and joy to some knuckle dragging Neanderthal to poke, prod and break. We have all heard the horror stories of problems uncovered, sometimes real and sometimes imagined, where perfectly good airplanes are rendered to junk status overnight while simultaneously reducing family fortunes to sub-poverty levels. A little research and a rational evaluation of these stories will often separate the myth from the facts but abuses and downright fraud unfortunately do occur. I have no intention of rehashing the details of these stories but if I can raise the awareness level just a bit, perhaps some future problems may be avoided. So what should we expect from an annual inspection anyway?

Just for the record, let's take a look at what the FAA says the annual is designed to be. Assuming the airplane is not being used for hire, FAR 91.409 clearly states in part (I know that sounds like an oxymoron when it comes to Fed-speak, but bear with me): "No person may operate an aircraft unless, within the preceding 12 calendar months it has had – (1) An annual inspection in accordance with part 43 of this chapter and has been approved for return to service by a person authorized by 43.7 of this chapter..."

So the annual inspection is just that, an inspection. Strictly speaking an inspection is a "looking" process. It says nothing about repairs, replacements, rebuilds or whatever. Hold that thought; I'll get back to it soon. It also states it must be done every 12 calendar months. All things considered, this is really a pretty lenient requirement as far as regulations go but notice there is no flight time maximum or minimum given so if you fly 10 hours or

1000 hours the end result is the same: Someone has to inspect the airplane. Part 43.7 tells us the inspector must be approved by the "administrator" and then directs the unwary reader to part 65 for clarification (?). By a laborious process of elimination, part 65.95 tells us the holder of an "Inspection Authorization" or "IA" may perform an annual inspection. This is an additional rating for A&P mechanics, which takes time and experience to acquire so no ordinary schmo can do the inspection. Back to part 43 for some performance rules for inspections. Part 43.15 says each person performing the inspection shall "determine whether the aircraft or portion(s) thereof under inspection, meets all applicable airworthiness requirements." Don't waste your time looking for a definition of airworthiness in the FARs because I don't think it's in there. The only place I have found it is on the Airworthiness Certificate itself and it states "this airworthiness certificate is effective as long as the maintenance, preventive maintenance, and alterations are performed in accordance with Parts 21, 43, and 91 of the Federal Aviation Regulations, as appropriate etc." Although this sounds like a wide-open statement, there are guidelines and standards for the mechanical serviceability of just about everything. However, even with accepted standards in hand, there is still a lot of judgment required. This is where the IA's experience comes into play. There are also some administrative aspects of airworthiness that the airplane could care less about. As far as I know, airplanes can't read but the Feds and most pilots can. These administrative items include registrations, placards, weight and balance forms, etc. Part 43.15 also states the inspection must be done in accordance with a checklist. If the manufacturer has not concocted one, then as a minimum the areas listed in part 43, appendix D must be checked. I have seen the checklist the 120/140 club has produced and it is an excellent document. It goes into much more detail than appendix D and it's a good reference. Make sure your IA gets a copy. You can always do more but you can never do less.

Okay, if you're still with me, we've determined when, who and generally how the inspection should be done. However, inspections can and often do, go to extremes. The textbook inspection calls for the IA to inspect the aircraft, make the appropriate log book entry and provide a list of discrepancies, if any, via a separate letter to the owner. You pay the man, get the list of problems fixed (in most cases any A&P can do the fixing) and you are good to go for another twelve months of aviating bliss. I have seen this scenario happen on several occasions and believe me, they were real inspections and not just paperwork drills. However, these utopic events didn't happen by chance and they require some prior preparation. But it can be done and is a goal worthy of pursuit.

Let's focus for a bit on what is *usually* done during an annual and the genesis of our nightmares. In addition to the items listed in appendix D or on the checklist, the annual is often a good time to check the ELT and, on every other annual, the transponder. Both of these items have their own calendar inspection cycle but again, for convenience, they are often checked while the airplane is on the annual operating table. At this point things can get out of control. Since many owners put off all but obvious maintenance problems until annual time, it is not too unusual for tires and brake pads, for instance, to be changed at this time. How about a new radio? Tired of the old foggy wind screen or the ragged upholstery? Time to go for it now! You can add as much as you like or can afford but I think you can see where I'm going with this so the next time

you hear about the \$10K annual, check to see if some elective surgery was done. Since this is a self-inflicted addition to the bill, there shouldn't be too much griping about the cost. The biggest problem on some annuals is fixing everything the IA finds at the time of inspection. This is fine if the shop rates are reasonable and you have no inclination or ability to repair the discrepancies yourself but standby for anything that follows! I mentioned that there are standards for most things but there is still much room for judgment (and debate) for what is and is not airworthy. This is really a good topic for some input from the experienced IA's in the crowd and it is beyond the scope of this article. Having said that, here are a few things that may turn up:

1) Airworthiness Directives (AD) and Service Bulletins (SB). If an AD applies to your airplane, you have no option but to comply with the requirements of the AD. You may have some lee-way as to where it's done but generally it's done on the spot if possible. Service Bulletins are another story. For part 91 flyers, they are not required. They may be a good idea to do as they are often a forecast of some future AD, but it is your option.

2) Inflated labor charges. Watch out for standard hourly rates for job card type maintenance. What I'm talking about, for instance, is the labor rate to accomplish a single task that is repeated for a variety of sub tasks. Cowling remove and replace:



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1.0hr which is “repeated” three times, once each for an oil change, compression check and cleaning out the engine compartment in addition to the time to complete the task for which the cowl was removed. Is it fraud or sloppy accounting? It's difficult to say, but watch out for apparently unreasonable charges.

3) Unnecessary parts replacement. You should be notified beforehand if a part or component requires replacement. Based on what? For instance, Parker Hannifin has recently released a Service Letter on vacuum pumps which states that all their vacuum pumps are beyond their mandatory replacement time and must be removed from service. Since this was in an SB or SL, it doesn't necessarily apply to all operators. Don't be afraid to ask for a reference.

4) Genuine problems like cracked exhaust systems, bad cylinders and such may be unavoidable. Stuff happens. However, you can shop around for the best deal on parts and repairs.

So what is an owner to do? How can he cut costs or at least control the checkbook hemorrhaging? There are many ways to help yourself so here is a short list of “Annual Do's and Don'ts”

**Do** Keep up on preventive maintenance. I think this is the number one contributor to annual cost overruns. Part 43, appendix A (c) lists the items an owner may legally work on with the caveat that no complex assembly operations are involved. Take care of the little time (and money) gobbling problems like treating surface corrosion and replacing rusty panel screws. Catch problems as early as possible before they become major issues. If in doubt, call in an A&P for assistance. Stock pile filters, oil and other

expendables. Take time during the year to actually inspect your airplane for a purpose other than flying. I hate to say this but most pre-flights are worthless as far as finding maintenance problems. When I walk out to my airplane, I intend to fly not down the airplane. Aside from loose screws, massive leaks or a haystack some bird has dumped in the intake, I'm not going to see much. Worn control hinges tend to feel normal over time, why not have a fellow pilot compare yours to what he is used to? I'll bet there will be a difference and one of you may have a problem! I use my regular oil change as an occasion to spend some quality time with my airplane. How often do you remove the rear bulkhead cover to check the back end of the aircraft? Buying parts and fixing things during the year may not sound like you're saving much money in the long run but it may prevent stress fractures in the checkbook at annual time.

**Do** Ask around for the names of reputable IA's who are knowledgeable about your type aircraft. Type clubs like this one are an excellent resource. Good mechanics or shops are always busy so plan ahead. Bad ones are infamous. Get to know an A&P who will work with you and who has a good relationship with an IA. If you find an A&P who is also an IA, that's even better. Don't necessarily discount the guy working out of the back of his truck. His rates may be more reasonable because his overhead costs are low and his rates don't necessarily have any relationship to his ability. I tell all first time aircraft owners to: 1) find a good CFI and 2) find a good A&P as soon as you get home. Start building a good working relationship as soon as you can.

**Do** Protect yourself. Make an agreement before the inspection with your IA on what you want done and how discrepancies will be handled. Once your IA adds your airplane to his family album, the chance for misunderstanding will decrease somewhat but it's important to start off on the right foot. Re-

member, it is his signature but it is your airplane. Both parties have a vested interest in a successful inspection but if you can't come to terms before you start, maybe that's a sign to move on.

**Do** Try to get actively involved in the annual process. I am a great fan of the owner assisted annual. Ask if your IA will let you work with him. This will relieve him of the tedious task of pulling panels and allow him to concentrate on the inspection. It also helps you become more aware of the inner workings of your airplane. Who knows, you may even get a price break for your efforts!

**Do** Make sure your paperwork and administrative items are in order. Get your log books and any other supporting documents in order. Can you read the compass card? Is the equipment list and weight and balance sheet current? Are all your placards in place? Do your seat belts have the little TSO tags on them? The absence of any one of these last items is a downer so save yourself some time and grief and make sure you have them before you start. They are also easy targets if you have the privilege of being awarded a ramp check.

**Don't** Wait until the end of the month to

Mac Forbes asked Brian to pen this article and he tells us a bit about Brian Cooker:

"Brian is a retired LT Colonel from the US Marines, flew fighters and served as a highly respected "maintenance officer". Additionally, he has restored his own Chief...twice(!) over the years and owns/maintains and flies the heck out of his Cardinal RG while helping several of us at Gold Hill maintain airworthiness of our "old" planes. After retiring from Service, he has earned his A&P the "old fashioned" way -- commuting to school daily while doing lots of pure old hard work. With his experience/expertise on his Chief and a growing knowledge/appreciation for the 140 (3 @ our Airpark here), his solid "maintenance" background, his A&P and just a real passion for "common sense airworthiness" and just treating people right I believe he can pen an article that will be both interesting and valuable. "



start the annual, especially if this is your first annual with a new shop. If you run into a problem dealing with the shop, you can still legally fly your airplane to another airport. Once your annual expires you'll need a ferry permit which requires an A&P to sign off as airworthy. This can be done but depending on the issue you could be stuck.

**Don't** Cut corners on hardware and supplies. Use aircraft hardware and high quality cleaners and lubricants. Auto Zone is bad ju-ju. For instance, some cleaners and solvents are not safe for aluminum or Plexiglas. Automotive stuff is generally not legal, typically doesn't last (made in China) and won't save a dime in the long run.

Even if you do everything you can, there is no way to guarantee that you won't be hit with a big bill at the conclusion of an annual. After all, we are talking about geriatric aircraft care but a little education and early intervention may pay huge dividends. Owning an aircraft is like a marriage in that it takes time and commitment to make it work. Neglect either and it will cost you big bucks!

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## What a Trip! - Part 3

By David Hoffman

Well, we finally launched out of Benton Harbor at about 1:00 PM and headed south around the lake shore for another very enjoyable "cruise" all the way around to just south of Waukegan, IL. Then we hung a left and headed for Popular Grove, IL airport (C77) where KEN and LORRAINE MORRIS, and DON and MAUREEN ALESI reside, and where we could get some good mogas at a good price! I was all set up to land on the paved strip, but at the last moment decided to enjoy a grass field landing by simply jogging left. Nice! After a pit stop and a fill up with mogas, we were off and headed back to Waterloo, IA airport and a two nights' stay with my dear cousin NORMA and husband KEN CAQUELIN. (At the next run-up, the left magneto fired smoothly, probably due to the unleaded mogas from Popular Grove!) On our outgoing trip (already published) NORMA organized a family gathering at Stinky's Restaurant in Applington, IA. I introduced PEGGY as my new wife this trip, to my dad's younger, half-cousins. We all had a great time together in a very casual restaurant with good food.

After a nice two-nights' stay and thanking KEN and NORMA, and also the folks at Livingston Aviation we were off to challenge

the not too friendly headwinds. Our route took us directly over Applington, IA's main street and Stinky's Restaurant! Kind of nice. Yankton, SD, our next stop greeted us with lots of gusty wind. While gassing up we almost had to tie the plane down! After a check of the weather and looking outside from the terminal we concluded that we should humbly tie 'er down and spend the night in Yankton, SD.. Low ceilings and rain was coming in from the west and we were glad to be on the ground now.

GARY and KATIE CARLSON, owners of Carlson Aviation, the FBO occupied the City's terminal building, and had done a great job of revitalizing the airport. They directed us to a great stay at the Best Western "Kelly Inn", in Yankton. The motel sent a van to pick us up and we were delighted when we checked in; great price, nice luxurious room, heated indoor swimming pool, and really nice buffet breakfast included for around \$50.00! The weather was still holding off at dinnertime, so we walked into town and came across a nice (family run) Chinese restaurant, The King Dragon. Peggy was right at home, and the food was great! A nice swim in the heated pool (all to ourselves) finished off a great day. The next morning we enjoyed a super buffet breakfast as part of the deal.

Gusty wind and lots of clouds told us to spend another day in Yankton, and why not? We went

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## George Clifton's License Plate of the Month



Do You have or know of a cute aviation related license plate?  
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back to The King Dragon for lunch buffet at 2:00, but were too late. However, the wife and co-owner provided us a nice meal from "stock" and even loaded up a take home box for enough for dinner. Wow! We decided to take a foot stroll downtown and then down to the south of town and the Missouri River. We took some photo's standing on the retaining wall in the park looking south at Nebraska on the other side of the river. The rain was still holding off for us until we got home and then it let go. PTL!

The next morning after breakfast the sky was clear and we were off to the airport in the motel van with freshly washed clothes and full stomachs. Winds were strong out of the west but we launched and headed toward Chadron, NE airport (CDR) Coming into Chadron we experienced some moderate to almost severe clear air turbulence. Wow! Had to throttle down to almost an idle, but it worked out well since we had to lose altitude anyway, but couldn't "cruise dive" to the airport as usual. More weather was anticipated by the flight service briefing so we decided to concede to it and stay the night in the Grand Westerner Motel again. The well managed nice little airport with excellent runways offered us a nearly new Chevy Impala to take into town for the night. Since it was still early afternoon, we walked from the motel to a nice (yes, Chinese family) restaurant. It was only a half block to the west and we brought back two carry out meals to the motel's picnic gazebo for a delightful early afternoon dinner with the afternoon sun filtering in accompanied with a light breeze.

The next morning we returned to the Chadron airport and a beautiful, clear morning sky. The head winds were unrelenting and we had to make an unscheduled fuel stop in Douglas, WY (DGW) just 45 N.M. East of Casper, WY, on the North Platte River, and about 10 N.M. south of course. One runway was under restoration work, so we had to land on the other one, which didn't favor the wind, necessitating a wing low approach and landing again! Now, after a nice snack lunch PEGGY put together, and tanks

topped, we were off to Lander, WY (LND) situated on the eastern slopes of the Rockies, in the Wind River Range; which is appropriately named for sure! The visibility out west can be beyond belief sometimes, and this day it was no exception, even with the wind stirring things up. The clear air allowed us to see Lander from at least forty miles. When we got within about 15 miles of Lander I was able to pick up the ASOS, and the voice said winds were 21 at 24, gusting to 39 knots. I thought to myself: "great!" since the wind would be coming right down runway 21! We came in slightly from the south on a left base and when we turned to final our ground speed dropped considerably but the gusts weren't bad. We actually made a nice short, wheel landing even with plenty of power on approach.

GARY LOOSE is the airport manager of Hunt Field and owns and runs Wind River Aviation. He remembered me from my 2004 trip and fueled up the plane. Hunt Field was built on top of a truncated or scarfed-off hilltop and is higher than the town down in the valley to the north. While we were eating one of PEGGY'S good snack lunches I talked with a local flight instructor. I should have been listening to his helpful, but not intentional (believe me) hints about flying out of there when the winds whipped up from the west and came rolling down over those mountains onto the east side of the mountains. He said that he usually didn't fly anytime after 10:00 a.m., as I remember (now). Well, since I had been through here before in 2004 and had no problem, I was confident we could do it again.

We took off after 1:00 p.m. and got off O.K. for a field elevation of 5,586' and a density altitude of 8,200'. BUT after passing the end of the runway to the west at approximately 200 ft. above the runway, we suddenly got into a severe sink area and began to descend down toward the foot of the mountain to the west of town which was below the level of the runway. We were indicating about 70 mph at this point and so a very short (reverent) prayer was needed at this point: "DEAR JESUS", which PEGGY heard, and was in agreement with. At the last moment, before a

certain impact with terrain, I slightly pulled back on the yoke and rolled to the right, and toward the town, which was even lower in elevation. To our overwhelming relief we didn't hit but were only about 50 feet above the terrain and hanging on 60 mph indicated which seemed to be the best lift over drag speed at this altitude. PTL! We then were able to hang on 60 mph while passing over the town at approximately 100 feet agl, but heading east toward lower terrain!!! Wow! My heart is racing even now as I type this line! I've awakened many times in the night reliving this experience! At this point I should have either headed east and climbed to approx. 10,000 ft. and then turned around and gone over the pass just south of town or gone even farther south to clear the first mountain ridge before heading west. The other move would have been to climb back up to the runway 21 elevation and landed for the day! No, I elected to head to the S.W. toward the South Pass (like in 2004) which began a very breath-taking roller coaster ride in what must have been a "rotor", but with no clouds to indicate such. Next began an effort to ride the lift on small jagged ridges but once clearing those we were in sink again, looking for the next upwind ridge to follow. Red canyon was to our left and east and very menacing, and we definitely could

not be sucked into that death trap. We finally arrived at a short, dry grassy hill with embedded boulders just peeking above the surface occasionally. I suddenly realized that we were descending slightly and drifting to the right, but making zero forward speed!!! We were sinking down to approx. 20-ft. agl and I yawed the plane to the left to correct the right drift, and the next moment we were firmly placed on terre firma. Thank goodness for those Steve Whitman style landing gear! When the plane got to the ground, the headwind diminished which allowed the plane to crawl forward (down hill) about 25 ft. before it came to a stop without the need for brakes as I simultaneously chopped the throttle! We had just made a wheel landing in a hover, with full power, at best lift over drag (approx. 59 mph); and with no damage! PTI! PEGGY asked me: "Were we planning to land here?" Ha! I said: "No, not really". The altimeter indicated 7,400-ft msl. Wow! We had almost made it to South Pass where highway 28 cuts through at 7,500-ft. msl. I'm glad we didn't make it because the wind was really howling through there (the locals told me later) and high-tension lines followed it on the south side.



**The annual business meeting will be held on Friday, September 26, 2008 during the 2008 Convention in Dayton, Ohio.**

**If you cannot attend, proxies are located in the back of the membership book, and should be sent to the Member at large prior to September 25, 2008.**

Did you enjoy your 2008 Calendar? Would you like to see your airplane in next years calendar? Please start early by sending me your best pictures so I can get a head start on the 2009 calendar! Email or send them to the Editor!

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We invite everyone to explore the website as a wealth of information can be found at your fingertips

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Is THE *official website* of the International Cessna 120/140 Association. [www.cessna120-140.org](http://www.cessna120-140.org) offers club information, Officer and State Rep contacts, membership information, a guestbook, merchandise and club calendar. The discussion Form is a favorite place to communicate with members. The photo album is available to show off your "baby". You can update your contact and aircraft information in the Members Only section as well as join or renew your membership and purchase club merchandise from our online store. There are links to member sites, printable membership applications and merchandise order forms and much more. Stop by and sign in!



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## Convention Update #2

Greetings to all! I hope this update finds everyone enjoying the summer and the more frequent opportunities to fly our terrific airplanes. Thank goodness they get better gas mileage than some cars and most SUVs! Just think about it. We travel somewhere around 100 miles in an hour burning between 4.5 and 5.5 gallons per hour. That comes out to about 20 mpg! For \$25 - \$30 you can travel 100 miles round trip to your favorite airport hamburger joint, buy lunch for \$10-15 and you still haven't hit the \$100 hamburger threshold! That means you can go again and again!

Okay, we have all been impacted to some extent by the run-up in fuel prices so what can we do about it? For starters, we work harder to find ways to afford our hobby, passion, toy, whatever you want to call it. With that in mind, convention planning has been ongoing with an emphasis on holding down costs.

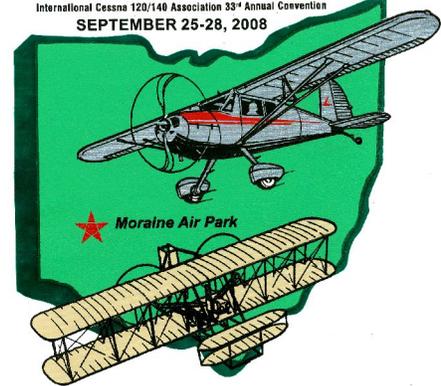
Thursday, September 25<sup>th</sup> will start out with a tour of a few sites on the Aviation Trail in Dayton. Just google "Aviation Trail" and you will be able to learn about this terrific part of aviation history. This is **FREE!** After a box lunch (\$10 or less per person) at Huffman Prairie we'll go to the US Air Force Museum for 2-3 hours to get a head start on the museum. For those that have never been there or if it's been a long time you will find that trying to do the museum in one day is nearly impossible unless you are a speed reader and speed walker. Trust me! The extra couple of hours will be worth it and it is **FREE!** The museum closes at 5 pm so we'll plan on heading back to the hotel and enjoy a group pizza party (around \$10 per person) followed by the traditional hospitality suite to round out the night.

Friday, September 26<sup>th</sup> is our full day at the US Air Force Museum. Once again, **FREE!** The only things you will pay for at the museum will be IMAX movies, gift shop purchases (excellent gift shop!) and lunch at the museum cafeteria on your own and at your leisure during the day. At 4 - 4:15 pm we'll hop in the vans/vehicles and head back to the hotel then back to Moraine Airpark for the association business meeting followed by our Friday night airpark dinner - here's a hint - plan to bring you favorite Hawaiian shirt! Hospitality suite at the hotel to follow (price to be determined).

Saturday, September 27<sup>th</sup> is our traditional airport day. Maintenance Forum, Flying Activities, Aircraft Judging etc and lunch graciously hosted by the local EAA chapter will take place (Lunch around \$10 per person). Did I mention that all of these activities are **FREE!** After a full day at the airpark we'll return to the Holiday Inn South and enjoy the Association Annual Banquet, awards, and door prizes (price to be determined). By the way, the tally so far on door prize value is nearing the \$4000.00 mark and rising also, 35 reservations were made by the June 1 deadline for the free room drawing.

Sunday, September 28<sup>th</sup> is our final day and we all hope the wx cooperates for everyone and for all directions of flight and driving.

DAYTON, OHIO 2008  
**The WRIGHT place to be!**  
International Cessna 120/140 Association 33<sup>rd</sup> Annual Convention  
SEPTEMBER 25-28, 2008



As you can see, in the interest of controlling some costs and to keep the convention focused more on the Wright Brothers connection, we did not include an organized fly out as previously planned. However, places like Sporty's Pilot Shop at Clermont County Airport is less than 40 nm away on the east side of the Cincinnati (watch out for the Class B airspace) and The Waco Museum, Troy, Ohio on the north side of the Dayton Class C may be of interest to some of you if you are looking for a fly out on your own. These are only a couple of the interesting sites near the Dayton area.

As plans, meal costs, etc., continue to develop I'll post information on line as soon as possible. You know the Mastercard commercials? Here's my 2008 International Cessna 120/140 Convention commercial:

*Fuel for one hour of operation for a Cessna 120/140 - **Price:** \$25 to \$30*

*Cessna 120/140 - **Price:** \$18,000 and up*

*Attending the 2008 Convention, renewing friendships, making new friends, comparing notes on airplanes, learning more about our airplanes, viewing some of the best examples of flying 120s and 140s anywhere, and enjoying the best and most dedicated group of airplane enthusiasts you will ever meet – **PRICELESS!***

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#### Tentative Schedule of Events

Wednesday Sept 24 - Early Arrivals

Thursday Sept 25 - Aviation Trail and start on Air Force Museum  
Dinner at Moraine Air Park

Friday Sept 26 - United States Air Force Museum, Dayton, OH  
Membership Business Meeting  
Dinner at Moraine Air Park

Saturday Sept 27 - First Timers Breakfast  
Maintenance Forum  
Lunch at Moraine Air Park  
Aircraft Judging  
Flying Contests  
Banquet at Holiday Inn

Room rate: \$75.00 + tax per night - rate is available from 9/23/08 through 9/28/08

**Room rate is guaranteed through 08/24/2008. Reservations made later than 08/24/2008 may be subject to rate increase so please make your reservations well in advance if possible.**

Rooms currently blocked for our use: 35 King size/65 Double (hopefully we have to increase that number!)

AS ALWAYS:  
MENTION THAT YOU ARE ATTENDING THE  
2008 CESSNA 120/140  
ASSOCIATION CONVENTION  
FOR THE CONVENTION RATE!

Hotel is located is approximately 3.5 miles from the Moraine Airpark. Less than a 5 minute drive. Van transportation will be arranged for those flying into Moraine Airpark.

Camping and RV's are allowed on the Airpark.

**A page from Cessquire, the Cessna employee newsletter.  
This page was printed in February, 1947.**

**FLORIDAN AND HIS 140 HOP TO CUBA  
AND OVER MEXICAN MOUNTAIN PEAKS**



Charles F. Lovan, Jacksonville, Florida, and his Cessna 140 flew through the air with the greatest of ease at a total cost of \$179.56 to take in the beauties of the ocean, Cuba and Mexico.

**TRIP EVIDENCES  
PERSONAL PLANE  
IS HERE TO STAY**

For those who might entertain doubt that the personal airplane is here to stay, evidence to the contrary is provided by the saga of Charles F. Lovan, Jacksonville, Florida, contractor, and his Cessna 140, who wrote Chapter 1 of their "Royal Road to Romance" in a four-day 3,423 mile pleasure trip which took them over many miles of ocean and up to 14,000 feet to clear a mountain range.

The total cost, exclusive of hotel and meal bills for Mr. Lovan, was \$179.56, \$41.77 of which was paid to Cuban and Mexican port of entry authorities and \$34.10 to the Cuban army. Gasoline, oil and maps for the trip added up to \$57.16. Averaging the expenses the cost was .05¼ cents per mile.

Although he had soloed only six months before, Mr. Lovan took off of the Jacksonville airport at 6:15 a.m., December 26, and after a gas stop at Key West started out for Havana. Somewhat to his surprise he contacted Key West by means of his plane's radio upon landing in Cuba. That same day he was also at Merida, Mexico. Second day: Coatzacoalcos and Mexico City. Third day: Brownsville, Baton Rouge. Fourth day: Hattiesburg, Mississippi; Panama City, Florida. Fifth day: 9:30 a.m., the home port. Except for weather which kept him at Panama City, Lovan and the 140 would have been in Jacksonville easily the late afternoon of the fourth day.

His flying time allowed for sight-seeing trips on land, but Lovan is as enthusiastic about the views from the air.

He describes the beauty of the different shades of green and blue in the ocean, the picturesque small islands and reefs, the snow-covered extinct volcanoes in Mexico, one of which rose to a height of 18,696 above a halo of clouds. Within 34 miles of Mexico City he steered the 140 to 14,000 feet to clear a range of mountains.

This is the story of a citizen's pleasure trip, but Lovan uses his plane on business jaunts all over his state and nearby southern points. A flight to Chicago to attend the national convention of the Associated General Contractors was likewise accomplished.

This 1947 Richard Halliburton, who from his picture looks like Roland Young, the movie star, purchased his magic carpet Cessna from the Aircraft Sales and Service, Inc., Birmingham, Alabama.

— A. R. C. —

A penny a day is the Red Cross way.

**THE GUY IN THE GLASS**

When you get what you want in your struggle for self,  
And the world makes you king for a day—  
Then go to the mirror and look at yourself,  
And see what that guy has to say.

For it isn't your father or mother or wife  
Whose judgment upon you must pass,  
The fellow whose verdict counts most in your life  
Is the guy staring back from the glass.

You may be like Jack Horner, and chisel a plum,  
And think you're a wonderful guy,  
But the guy in the glass says you're only a bum  
If you don't look him straight in the eye.

You can fool the whole world down the pathway of  
years,  
And get pats on the back as you pass—  
But your final reward will come in heartache and  
tears  
If you've cheated the guy in the glass.

Submitted by *Floyd Lundy*  
38-718

— A. R. C. —

Home nursing is taught by the Red  
Cross.

**C-E-S-S-Q-U-I-R-E**

JANE EVANS .....Editor  
VERN MANNING .....Photographer



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Wichita, Kansas

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# International Cessna 120/140 Association

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## COMING EVENTS

**<<< ALWAYS BRING YOUR TIEDOWNS >>>**

33rd Annual Convention—International Cessna 120/140 Association

### Dayton, Ohio—2008

Moraine Airpark—I73  
 September 25-28, 2008 - Dayton, Ohio  
 Details to follow - Plan Ahead!

**FOURTH SUNDAY OF EVERY MONTH**  
 Riverside Flabob "International" Airport (RIR)  
 Breakfast at the Silver Wings Café.

### Come Join Us?

If you're ever out on a Sunday morning, listen for our Breakfast Club on 122.75 at 8 am (Chicago Area). We go all over the place! See ya later. **Gary Latronica.**