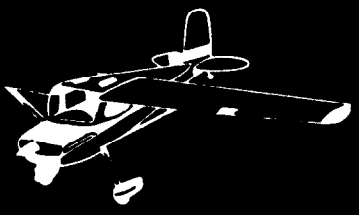
Cessna 120/140 Association



BOX 92
RICHARDSON TEXAS 75080

NEWSLETTER

MARCH 1979 ISSUE 18

* * * IDES OF MARCH * * *

Better check those tie-downs! The winds will be whipping up soon if they haven't already started, and all of us who tie down outside should take a good look at the condition of the parking spot.

We talked some time back about what sort of tie-down to use - chains, ropes, canvas or nylon straps. They are all good providing their condition is like new. A warning about manila (hemp) ropes; they shrink enough when wet to cause structural damage! Nylon ropes wiggle loose unless properly tied. Canvas straps need watching because they rot rapidly. Chains are great unless they are set so that they snap. The tension put in the line must be right, not just tied up tight and forgotten. Some folks choose to pull the tie-down tight so the plane can't rock -- almost impossible with chains, and not good with manila rope if it rains. Others allow enough sag so that the plane can rock freely without jerking.

You might want to think about the location of the tie-down ring on the strut. Of course the correct location for the ring is at the wing connection bolt of the front leg of the lift strut. If yours is rigged like mine with the ring strapped to the upper part of the front strut, make sure the strap hasn't loosened and slipped down. It should be located as far out as possible.

While you are at it, check with your airport owner about the insurance he carries on the tie-down locations he provides. Does he provide rope, chain, canvas, or nothing? What happens if his tie-down breaks and your bird is damaged, or worse, yours breaks and damages your neighbor? You may have liability insurance but will it pay off if the airport tie-down you rent breaks? Not a bad idea to know where you stand, or tie-down!

* * * FOR SALE * * *

Hunt Dowse, Oxbow Road, Lincoln, MA 01773 says he enjoys the newsletter and that there are several 120/140/s up there. Two are members and Hunt says he'll do some recruiting for more!

Hunt has the following items for sale: Narco VTR-2 w/power supply and mike, Cessna 120 yokes - original equipment, Mc Cauley Prop 1A90/69/48 Ser. #13472, Carb heat cable - orig., Cabin heat cable - orig., original equipment airspeed indicator, wheel extenders, small Venturi, overhead swivel light.

John Hupe, 605 Poplar Street, Wamego, Kansas 66547 wants to know if some one has information about shoulder harnesses for his 120. He says he gets a bit paranoid about safety and would install them if he knew how to get it done. Inertial reel type would be preferable.

Also, he would like to install an alternator on his C-85-12. We know that Frank Rittersbacker and Earl Zimmerle have alternators on their birds. Their addresses are in the membership list and we are sure Frank and Earl would pass the info along.

* * * WESTERN TRIP * * *

John Hupe

In December, 1977, my brother-in-law decided to visit his parents in Southern California. This was all I needed, a semi-plausible reason to fly my 120, N2123V to the west coast. We would leave from Wamego, 100 miles west of Kansas City. Jim wanted to spend a week in Los Angeles so we decided that Jim would go out on a commercial flight and I would leave four days later to bring him back. We planned to camp with the plane so sleeping bags, tent, etc., were packed in the baggage compartment. The route would follow highways so we wouldn't have far to walk if we developed problems. The plane had only 75 hours on a very extensive major and was sporting a "new" Mark 12A, VOA 4, and an AT50-A transponder.

Jim left on Monday and I headed out on Friday, the 13th. It was very cold and I had to climb over a narrow band of snow showers but after that it was a good flying day. I made fuel stops at Dodge City, Las Vegas, Trust or Consequences, New Mexico and finally landed at Deming, New Mexico just after dark. I got the tent set up and spent a chilly night trying to get some sleep.

The plan for day two was to make my way to Orange County Memorial AP south of Los Angeles and meet Jim there. As I flew by Tucson I could see the Air Force mothball fleet at Davis Monthan AFB. I had expected some bumpy flying around all those mountains but was pleasantly surprised by a completely smooth passage. I fueld at Avra Valley AP in Arizona and again at Imperial, California. The FSS at Imperial painted a bleak picture of IFR conditions in the L.A. basin and things weren't likely to improve soon, so I headed north along the Salton Sea and made another stop at Thermal, California. I was thinking of pitching tent for the night but it was still fairly early and the Thermal AP didn't really look like a very exciting place to spend a couple of days. I checked with the folks at the FSS and found that Palm Springs, less than 30 minutes north, was still VFR. This wasn't the most difficult choice I ever had to make. I was back in the air in record time. About halfway I started getting some very light rain showers, but I reconfirmed VFR with Palm Springs and made my way in.

This was the day that Hubert Humphrey died. President Carter sent Air Force One to Palm Springs to pick up Jerry Ford so I found myself taxiing in what seemed high class company for this flat land, sod strip pilot. You have to park south of the terminal building and call the FBO, Combs Gates, to send a van to get you. They are north of the terminal and walking isn't allowed on the ramp. It isn't really my idea of convenient but they were very courteous and not overly expensive. Since I was 60 miles from my objective and the weather promised to stay bad, Jim's parents drove over and picked me up.

Jim and I spent two days sightseeing in L.A. and then left on the afternoon of the 17th. We were going to fly up Death Valley, over the Grand Canyon, then south over Phoenix and back along the route I followed out.

One hour was all I put on the flight plan for the 80 miles to Barstow Daggett. This was the closest FSS to Death Valley and I could check to see if there were any special precautions or procedures required in the area. A layer of clouds sitting on top of a mountain range blocked the straight line I had planned so we were forced to turn west up a wide valley and go around the range in the vicinity of George AFB. There was a strong west wind funneling through the valley and cutting our ground speed way down. We were in no real difficulty but the detour and low groundspeed were going to add over an hour to our flight time. The high terrain on each side of us was blocking our radio signal and I couldn't raise anyone on the available ground freq's. As our flight plan ETA arrived I came up on 121.5 and an airliner relayed my message to Daggett.

At Daggett there was a 25 to 30 mph wind so Jim helf the brake while I tied down at the fuel pumps. Death Valley National Monument starts about 100 miles north of Daggett and I had visions of a mighty rough ride. Flight Service agreed with predictions of moderate turbulence. We made sure everything was tied down and pressed up our highway toward Death Valley. Couldn't believe it when we entered the Valley and found the flying to be hands off smooth. Not the slightest burble distracted from the view. We were flying less than a thousand feet about the lowest terrain in the Western Hemisphere. At one point, the elevation goes from 282' below seal level to over 11,000' in less than 15 miles. There had been unusually heavy rains in the Valley recently. The normal annual rainfall is 1.7" but in the two weeks prior to our entry, they had received 7". The road we were following was only a dirt trail and it had been cut and eroded by flash floods. There was lots of water and mud and not much spot for a landing. The road hadn't been traveled since the rains but if we had to stop, it still represented our link to civilization.

We had been following the west side of the Valley and as our road started angling towards the east side, I saw a car sitting in the mud with its four way flashers going. We hadn't seen a soul in over 60 miles and they seemed to be in trouble so we circled back and made a very low pass off to one side of the car. There were two adults and two children waving their arms over their heads as we went by. I wanted to be certain that they needed assistance before notifying the authorities so we wrote a note on a grocery bag and asked them if they would flash their headlights to signal us to send the park Rangers. After dropping the note, they answered with a vigorous round on the headlight switch. We wagged our wings and went another 60 miles north to the Furnace Creek AP where we called the Rangers. They sent a Ranger out to the airport and I showed him the place on the chart where we had seen the car. The people in the car were Australian tourists and were brought out later that night.

Furnace Creek has a very nice camping area, museum and is a pleasant spot to visit.

The next day we went to Boulder City for fuel and a look at Hoover Dam and Reservoir before heading for the Grand Canyon. We stayed within gliding distance of the rim while eyeing the wonders of the "Big Ditch". The prospect of landing at the bottom of the Canyon was not very inviting! A quick stop at Grand Canyon AP, elevation 6,606', and then south over Phoenix and back to Deming, New Mexico for the night.

Cold weather, low ceilings, a pitot tube blocked by ice from moisture accumulated flying in the rain was our lot for the next day. We had planned to get home on this day but prudence and impassable weather dictated an overnight stay at Liberal, Kansas. It was cold and snowing when we landed so we put the plane in a heated hangar and ourselves in a motel. The weather wasn't good the next morning but it improved by noon and we logged the final four hours of the trip when we touched down in Wamego.

We had flown 43.6 hours in four days and two half days. The plane averaged 105 mph at 2300 rpm. It burned 4.73 gph and we got 15 hours per quart of oil. All in all, a most satisfying trip.

* * * WEST COAST CLUB * * *

We received a fine letter from the "West Coat Cessna 120/140 Club". The Club has over 300 members, most from California but many from all over the U.S. Perhaps you read about them in the December '78 Plane & Pilot, a great article telling of their activities. The West Coast Club is very active, many fly-ins, with quite a few members camping out. Since the Plane & Pilot write up, they have been flooded with inquiries from all over the U.S. and Canada. We were mentioned in the article, and their News Letter editor, Carol Simpson says many asked about us. I'm sure we have gained some new members via Carol's efforts. Carol sends us their newsletters and we have sent ours (rather sporadically, I must shame-facedly admit).

At Oshkosh last year, Carol and Doug Williams, president, met Tom Norton and Frank Hancock and other Association members. They had a joint West Coast/Association Fly by. Tom and Frank told them of our Fly-In meeting at Rough River this June. We wish herewith to extend to all West Coasters an invitation to join us in Kentucky. We need to be careful that more folks from California, than from Kentucky don't show up! Also, we will be including in the news-letter their schedule of events so that any Association members passing through or otherwise interested locals might attend.

For your information and should one choose to be a member of both organizations, their address is:

WEST COAST CESSNA 120/140 CLUB
P. O. Box 891
Menlo Park, California 94025
Dues $6.50

The calendar for the West Coast Club is as follows:

March 3	FREE AIRCRAFT REFINISHING CLINIC at Sacramento Sky Ranch, Aviation Products Division, 6622 Freeport Boulevard. Reservations.
March 4	120/140 Fly-in lunch, South County (Morgan Hill). Arrive 11:30 a.m. for shuttle bus to Flying Lady restaurant. Rain date - March 18.
April 1	120/140 Fly-in lunch, Columbia Airport. Rain date - April 15.
April 28-29	West Coast Cessna 120/140 Fly-In at Enterprise Sky Park (Redding). Call Larry & Nita Cole for information (916) 246-0737

* * * STC * * *

Some time ago, we were asked about STC for heavier engines for 120/140's. Clarence Way who joined us in January has been good enough to send the following STC.

This STC is held by Mc Kenzie Flying Service, Inc., 90600 Greenhill Road, Eugene, Oregon 97402. It is dated August, 1978. They state, "Following is the information requested on Cessna 120, 140, 140A conversions to Lycoming)-235-CI (115 h.p.?), 0-290-D (124 h.p.?) and 0-290-D2 (125 h.p.)? engines. 100 hp in 1947 125 135

PERFORMANCE: Take off run decreased 25%
Rate of climb increased 200 fpm
Cruising speed increased 10 mph
Very noticable increase in altitude performance
Fuel consumption 6 to 6.5 gph

Aircraft performance with the 0-290-D2 engines increased over that listed above in all respects.

These aircraft are still licensed under standard category. The aircraft is returned to service on form 337 under S.T.C. SA4-95, (0-235-C1 c-120 and c-140), SA4-376 (0-235-C1, C-140A), SA4-581 (0-290-D, C-120, C-140, and C-140A0, Sa4-640 (0-290-D2, C-120, C-140, and C-140A). There is no increase in the gross weight. There are no structural changes aft of the firewall. These conversions are listed in the aircraft specifications and can be accomplished by an A & P mechanic. Stainless steel exhaust stacks are required on the 140A model.

KIT PRICE:

0-235 - C1	$630.00
0-290-D and 0-290-D2	700.00
Stainless Steel Stacks	100.00

Information concerning installation of Lycoming O-290D in Cessna 120

Reason for doing it: My 85 hp Continental had been using a lot of oil and I had it torn down to see what the problem was thinking I might have to hone out the cylinders and install new rings. We discovered that all moving parts had been worn beyond tolerances although the log book showed only 210 hours since major overhaul. The people I had bought the plane from had a used Lycoming O-290D which they said they would give me if I wanted it since the engine in the plane was no good and I told them I would take it. I took the engine to Hutcherson Air Service in Plainview and let Jarvis Nowell examine it. Jarvis has been rebuilding planes for 40 years and is as good as there is in the business. I ordered the STC from H.M. Ruberg and when it came in they started to work. After tearing down the Lycoming we discovered the case was broken and some of the pistons were worn so we built up a "hybrid engine". Jarvis used a 135 case which allowed the use of hydraulic lifters, rotaters, and coolers. He installed larger valves from a 260 engine which will stand the use of 100 octane fuel. All moving parts were polished, balanced and carefully fitted to the most exacting tolerances. A carburetor from a 140 engine was selected to make full use of the large valves. All electrical wiring in the plane was replaced. They swapped propellers, generator, starter, mags, and a few other usable parts with me. All new parts were installed including pistons, rings, bearings, pushrods, cables, lines, oil radiator, rocker arms, fittings, hoses, etc. The cylinders were very meticulously honed out in a special way that Jarvis uses which puts a cross-cut pattern on the walls and allows the rings to seat in about 10 hours.

Costs:*		
	Purchase of STC from H. M. Ruberg	$580.00
	Labor- Major overhaul of 290D	625.00
	Labor- Installation of 290D in 120	600.00
	Parts	1,755.00
Total		3,560.00

The total cost of the installation came to about what a zero time 290D is selling for nowdays so I feel like I got a fair deal. Anyone who is considering an installation of this type would be well advised to be very particular about who does the work. Hutcherson Air Service of Plainview is one of the few places I know of that I would let attempt an installation of this type because it is very difficult and requires mechanics that are very knowledgable in this type of work. Many parts had to be fabricated from scratch and the total time involved was about four weeks.

The performance of the airplane has been improved considerably. At our altitude of 3,272 ' on an average day it takes off in less than 1,000' and climbs at better than 1,200fpm. It will indicate 140 mph in level flight at 2,800 rpm which is red line for both airframe and engine. I only have about 15 hours on the engine and as it loosens up performance will improve a little bit. Gas consumption ranges from 9 to 12 gph. The installation added about 200 lbs of weight and decreased the useful load to about 360 lbs. I have flown it with up to 200 lbs over gross with no noticeable changes anywhere in the speed range from stall to maximum. There is enough power to overcome the extra weight with ease. I have to be cautious at high power settings not to get the nose down without reducing power or it will exceed the red line quickly. I am also careful to not put any high g loadings on the airframe as it is 30 years old and although we checked it out thoroughly I just don't care to take any chances. I am very proud of the plane and anyone who has ever flown an 85hp 120 will get a big thrill riding in it and seeing what the performance is. It is a big thrill to take-off and hold it down just over the runway with full power to accelerate to 140mph and then pull it up into a 2,000 fpm climbing turn. I guess I have always been a hot-rodder at heart.

(- JOHN SKAGGS)

* H.M. RUBERG
1300 N. 28TH ST
SPRINGFIELD, OREGON 97477

The following parts are included in the kit:

1. 1-0 Engine mount
2. 2-0 Reinforcing plate for nose cowl
3. 3-0 Mixture control bracket
4. 4-0 Inside Airscoop 1947
   Deviation for 1946
5. 5-0 Left exhaust stack
   6-0 Rigt exhaust stack
6. 7-0 Muff (Left half for left stack)
   8-0 Muff (Right half for left stack)
   9-0 Muff (Left half for right stack)
   10-0 Muff (Right half for right stack)
7. 11-0 Cowl lip 1947
8. Oil cooler mount and scoop.

Parts list
Set of installation instructions
Sketch of Firewall
Flight manual

* * * HELP * * *

George N. Brooks, 383 Rock Meadow Drive, Stone Mountain, Georgia 30088 has a problem and he hopes someone can help him. He says, "I have recently completed a rebuild of a 1946 Cessna 140, S/N 8046. Unfortunately, when about half way through...someone pointed out that my plane had the original narrow doorposts. After reviewing the applicable AD47-6-11 calling for inspection for cracks, I was, needless to say, a little discouraged. I contacted Cessna Corp. for replacement doorposts but they only had a couple of right posts and no left. My plane is now flying. No cracks were found. However, I am anxious to locate some replacement posts to install before I paint the plane. Is there any way to strengthen the narrow posts? Do you know where I could locate some posts?"

Can any of you re-builders give George a hand? This is a tough one!

Many of the AD's on our birds can be complied with by inspection only. Do you check them on every annual or at the required inspection intervals? The door post inspection you can do at oil change times. The rear spar carry-through is another that is easy to do, unless you have your A & P drill the inspection holes. If you find anything suspicious, show it to your A & P. Check the gear box rivets with a flashlight and mirror. How about the horizontal stabilizer? Does it oil can, are there any stress wrinkles or indents in the leading edge near the fuselage? And the front post attachment on the vertical stabilizer -- are the bolts the proper size and the nuts properly torqued? Do you take a peek at the tailwheel bracket and the rear bulkhead? A shimmying maul tail wheel can really tear up the rear end. While you are under there, take a look at the rudder bottom rib for kinks or cracks in the rib flanges just aft of the rudder horn fitting. Again, if you see any damage, show it to

your A & P. None of the AD's requiring periodic inspection can be complied with without strict conformance with the procedure outlined in the AD notes. This means your A & P or AI.

AD 46-44-1 Rudder Stop Bolts: AD 768-4 applies only to 120 and 140 aircraft, S/N 8001 to 9619 inclusive. Compliance required prior to January 1, 1947.

Remove the auxiliary rudder stops (two bolts) to eliminate the possibility of the flange of the bellcrank on the rudder bars catching on the bolt heads and locking the system. These bolts are at the center of the cockpit just forward of the rudder pedals. Removal of the fairing which forms a tunnel along the floor from the seat to the pedals is necessary for access to the bolts. Cessna Service Letter No. 2-140 covers this.

AD 46-44-2 (Was mandatory note 2 of AD 768-4) Applies only to 120 and 140 S/N 8001 to 9619 inclusive. Compliance required prior to January 1, 1947.

Reinforce attachment of the safety belt brackets to the skin of the fuselage by the addition of threee AN 456AD5 rivets at the safety belt end of each bracket. Make certain that the rivets pass through both bracket and fuselage skin to insure a good connection. (Cessna Service Letter No. 10-120 and 140 covers this same subject).

AD 46-44-3 (Was manatory note 3 of AD-768-4) Applies only to 120 and 140 S/M 8001 to 9619 inclusive. Compliance required prior to January 1, 1947.

Rework attachment of windshield upper edge by the installation of a retaining channel deeper than the original and extending the entire width of the fuselage. The channel consists of two pieces; one an 0.040 inch 24ST alclad strip, 17/8 inches x 42 inches, outside of the windshield and with the rear edge inserted between the fuselage top skin and the front flange of the spar "U" channel; the other an 0.032 inch 24ST alclad strip, 1 13/16 inches x 44 inches, inside of the windshield and overlapping the above mentioned spar flange. These strips are secured to the top skin and spar flange by a single row of 44 AN456AD4 rivets. A piece of felt 2 3/4 x 44 inches x 1/16 inch thick, SAE F-55 or equivalent, should be folded over the edge of the windshield and cemented thereto to provide a seal and a tight fit in the channel. This modification is necessary to insure that the windshield will not pull out at the top and alter the airflow, thereby seriously affecting the operational characteristics of the airplane. (Cessna Service Letter No. 14-120 and 140 covers this same subject).

AD 46-44-4 (Was mandatory Note 4 of AD-768-4). Applies to 120 and 140 aircraft S/N up to and including 9721. Replacement required prior to December 1, 1946.

All U.S. Rubber Co. P-212 and P-212L Series flexible ducts installed in the carburetor hot air system should be replaced by U.S. Rubber Co. P-208-S duct or P-208 duct coated with neoprene by Cessna or its distributors. (Cessna Service Letter No. 16-120 and 140 covers this same subject.

AD 46-44-5 (Was mandatory note 5 of AD-768-4). Applies only to 120 and 140 aircraft S/N 8001 to 8517 inclusive). Compliance required prior to January 1, 1947.

Replace each of the four internal wrenching bolts which attach the engine to the engine mount with an AN 6 bolt and a special offset washer. AN 6-47 bolts should be used at the upper fittings and AN 6-35 bolts at the lower fittings. The special washer is made of 4130 steel 7/8 inch in diameter and 1/4 inch thick with a through hole 0.377 inch in diameter and the O.D. machined to a 0.600 inch diameter a depth of 1/8 inch. The 0.600 inch diameter offset fits into the aft end of the attachment fitting and the head of the replacement bolt bears directly on the special washer. Also, an AN 960-616 washer should be added between the nut and the AN970-6 washer at the front face of the rubber bushing. This change is made to prevent the bolts from pulling through the 1 1/2 inch diameter x 0.049 inch plate welded to the front of each fitting. (Cessna Service Letter No. 18 covers this same subject).

AD 47-6-10 (Was mandatory note 6 of AD-768-4). Applies to 120 and 140 S/N up to and including 9669. Compliance required prior to April 1, 1947.

Install carry-through bar between the ends of the aileron control chain that is installed at the top of the control "T" to make a continuous loop at this chain installation so that both control wheels operate positively in the same direction. This is necessary to prevent possible locking of aileron system at full throw. (Cessna service letter no. 17 dated September 19, 1946 covers this same subject).

AD 47-6-11 (Was service Note 1 of AD 768-4). Applies only to 120 and 140 Aircraft S/N 8001 to 8799 inclusive. Compliance required at next period inspection and upon each 100 hours of operation thereafter until revised door posts are installed.

Inspect the forward doorposts for cracks, particularly the flange section leading from the post to the instrument panel at the base of the windshield and the post itself below the rivet cluster at the top. All inside fairing attached to the post between the top and the floor should be removed to permit a thorough inspection. Cracks in the above-mentioned flange not over 3/4 inch in length may be repaired by stop-drilling. If there are longer cracks in the flange or any cracks in the doorpost structure itself, the doorpost should be replaced with the later type post, Cessna P/N 0411867-2 and 0411867-3, in accordance with installation instructions supplied by Cessna. (Cessna Service letter no 20 dated October 8, 1946 covers this same subject).

More AD's next issue.

* * * COMING EVENTS * * *

Don't forget the big annual fly-in and meeting at Rough River State Park, Rough River, Kentucky. On the St. Louis Sectional, Rough River is on the 353 radial out of Bowling Green VOR 47 miles. Frank Hancock has corrected me again. There is 100 octane fuel available, No 80. I was right in saying there are no tie downs, so bring your own. Tom Norton is working

on the door prizes and awards. This should be a great get-to-gether!

The date again - - - - -JUNE *8* *9* *10* SEE YA THERE!!

Bud Sutton, 2924 Mockingbird Lane, Midwest City, Oklahoma 73110 (504) 732-5919 says the special "RED CARPET" will be rolled out for all 120/140 Association members at the GREATER OKLAHOMA CITY ANTIQUE AIRPLANE ASSOCIATION FLY-IN at Paul's Valley, Oklahoma. The event will come off on June 15, 16, 17, 1979. Plenty of motels with pools and a great time for all.

For any West Coast Cessna 120/140 members who can make it to the Rough River Fly-In and can spare the time, Paul's Valley would make a good second week out stop over.

By the way, not that it looks like there might be some weather other than lousey, let's try to get some Fly-In plans started. If you wish to have notice in the News Letter just get the info in before the last week of the month.

* * * KEEP YOUR NOSE DOWN * * *