



Martin Bolduc's Canadian 185 Skyranger

Society for the Preservation And Restoration of Skyrangers

Edited by David Cohn, 1347 Malvern Ave., Pittsburgh, PA 15217-1142
Email: David.Cohn@acm.org

Summer is upon us!

It's been a long time since the last issue of SPARS – many of you have no doubt been wondering what happened to your errant editor. Nothing drastic – I've just been getting caught up with work at my new job in Pittsburgh.

Many thanks to Bob Tilden, who over the past couple of months has contributed a few great pearls of wisdom, which I'm including in this issue. Bob's a fairly new Skyranger owner, but has already become quite the authority on putting them back together and keeping them flying!

Haven't made good on my promise to meet up with all the east coast and midwest Skyranger owners, but the summer's still young. How 'bout if we try for a Skyranger rally at the AAA Ottumwa Fly-In this year at Labor Day? It's a little farther than Oshkosh for the east coast folks, but I'm not going to be able to make Oshkosh this year (business trip), and I wouldn't miss a Skyranger rally for the world. If you're interested, please write to me and let me know, so I can start a list. (I seem to be good at this "starting a list" thing...)

Next issue: finally putting together that Skyrangers directory so we know who's out there! Plus some stories from new Skyranger owners.

Commonwealth Brochure

You might remember that a few issues ago I announced that I'd found an original Rearwin Skyranger brochure at the Oshkosh Fly Market. I've gotten lucky again, and the folks at Aviation Heritage (info@aviation-heritage.com) located an original Commonwealth brochure, which they sent me for an entirely reasonable fee. I'm happy to make color copies at cost for anyone who wants one – let's call it \$3.00 for a copy. As soon as I get some more web space, I'll digitize 'em all and put everything up on an electronic archive.



Skyranger Fuel Dipstick – Bob Tilden

Twenty five years ago, three thousand feet over Long Island Sound, I made a pact with the devil. Simple compared to some, I agreed that I would never again in my whole life fool around with fuel if only I could get another 30 miles “home.” I crossed 15 miles of open water and another 15 miles of fully populated ground before taxiing up to the pumps and ouing 25.5 gallons of fuel into a Cessna 150. For those of you who have forgotten, that is 3 gallons more than usable, and 0.5 gallon less than total.

When I fly the Commonwealth, it is for fun, and fun ain’t wondering about fuel. I climb up on the wheel and stick the tanks almost every flight.

I made a dipstick to measure the fuel quantity with the plan in a 3-point attitude. One tank was disconnected at the time, so there was no transfer in between each 2-gallon fill. The stick is laid on the front edge of the fill hole and the end rests on the bottom, and that is as close as the calibration can be made. My stick is 11 inches long, and will not fit all the way into my left tank, but will easily fit into the right. 11.5 gallons is all that can fit into my left tank.

Be careful that you do not damage the fuel sender, which is located aft of the fill opening, at about mid-tank.

A paint stirring stick makes an economical starting point for the construction of this tool. A good finishing point is to put a ring or crosspiece on the top so that it does not accidentally fall into the tank. Should you be certain that you would never be so stupid as to drop the stick, let me advise you that it works best to fill the tank to about 7/8 full to retrieve it after the inevitable happens.

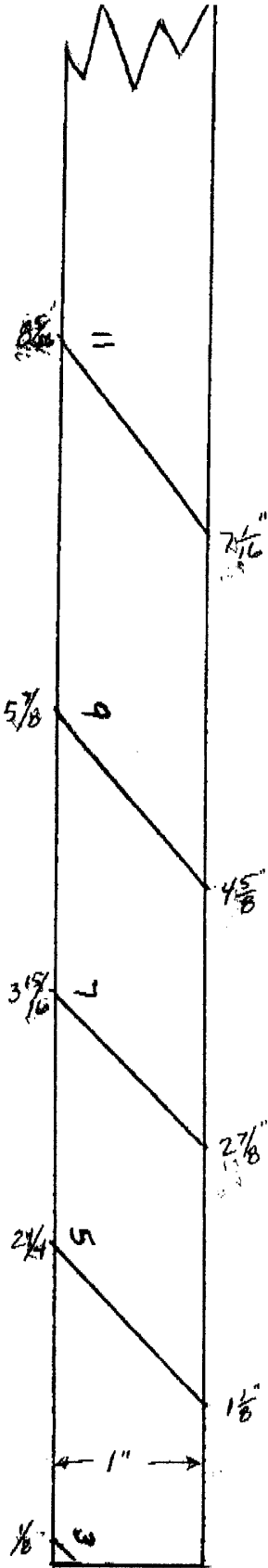
Happy motoring,
Bob Tilden

Landing Gear Alignment – Bob Tilden

Last year when I bought and returned 92971 to flying condition, I knew that the landing gear was out of alignment. Specifically, it had toe-in. I took care of some of it when I replaced the bushing that holds the bolt which connects the shock strut to the swing arm. I welded it forward of the axle centerline so that the axle, swinging down from the fuselage center, would be positioned farther aft... decreasing toe-in. I flew last year with a total toe in of 2.5 inches in 6 feet, and a lot of top-inward camber on the right wheel.

The plane flew OK enough, no real problem on grass, but inconsistent on pavement. The inconsistency got so trying, in fact, that the plane wasn’t fun anymore. I have talked to several people in the last year, seeking advice on how to realign the gear.

So first a thank-you to Al Barbuto, Ray Freelin, Louie Ridley (a former Rearwin Skyranger owner), and others. Should anyone else want to try this, call me for any clarifications, 607-535-2217.



The job is best done by three people, two torchers and a bender, all of whom have several hours to spend at it. There were only two of us, and it still worked OK. We were glad that we had two sets of torches though, because it allows the entire bend area to be brought up to temperature quicker, especially when heating the top and bottom for toe-out bends. We had a fire hose available.

We first took on the camber. The plane was winched into the air so that the right wheel was about 2 inches off the ground, using nylon slings wrapped around the engine mount at the firewall. The left wheel was weighted with 150 lbs of sandbags. We disconnected the bolt at the bottom of the shock strut and placed a block at a tangent to the bend that marks the transition from the streamlined tube into the axle tube on the swing arm. It was heated and duly bent, using a four foot length of one inch diameter bar inserted into the axle. A carpenter's square was used as a reference. *Note: all bends were done at the point where the streamline swing arm transitions onto the axle.*

We then reattached the shock strut to the swing arm and attached a three foot "pointer" to the wheel to mark the present aim of the wheel and to determine when the wheel alignment had been bent to the target amount. This pointer was a four foot length of electrical conduit that was sort of straight, and the pointy end cut at a 45 degree angle. The pointer tube was attached to the wheel using a bungee cord, and rested upon the axle extension used for wheel pants mounting (an option many might not have). A mark was chalked on the floor at the original location and the desired location, the joint heated, and the assembly bent to specification.

The sand bags were moved and the other side done in the same manner.

A post-operative check revealed that little had been done for the toe in. Apparently we had allowed the entire airplane to move, rather than the swing arm. Alternately, some of the correction might have disappeared as the bend cooled. Most of the heat was put on the "stretch" side of the bend to avoid making a crinkle.

Toe was measured by securing a piece of straight tube to each tire, so that it laid level and was approximately at the center of the tire. A plumb bob was dropped from each end, and the plumbed locations connected by chalk line. The wheel lines were measured against a chalked fuselage center line. To my knowledge, there are no designated points that establish the fuselage center line; I used the tailspring bolt and the center of the area where the swing arms mount in the middle of the fuselage to establish a centerline.

The second try brought a better idea. We placed a scissors jack under the axle directly under, and paralleling the mount bolt for the shock strut. A short length of 1/2 inch square hardwood between the jack and axle allowed us to place the support exactly under the bolt.

The jack was brought up until it firmly supported the axle and then the air was let out of the tire. This method saved time and improved accuracy because the airplane's attitude remained unchanged during the heating and bending.

We thought that the second try was successful, but a check showed that some amount of toe-in remained on the left side, greater than the toe out that had been achieved on the right side.

The left side was done a third time, this time with the 1/2 inch stick just a bit inboard of the bolt so that the camber would end up being more top- out than top- in. Once again the axle was heated and the bend made to the target line on the floor. This time was successful.

The final numbers show a toe out of 1/8 inch on the right side and 5/8 inch on the left side. both of these numbers relative to the aircraft centerline. I like the 3/4 inch total, but would have preferred a better split. Torch and lever is an imprecise methodology. The plane was flight tested, first by me and then by my able assistant, and neither of us noticed any quirky tendencies in a total of five landings and a mile or two of high speed taxi. I say it is cured.

Any Stromberg Carb Experts Out There?

[And yet another message from Bob, this one a request:]

I signed off my annual, flew the plane, enjoyed the newly aligned main gear, went to the weekly old farts' lunch at Waterloo, and took the wife for a sunset flight... Got the old girl(s) up to 7000 feet!

With that much flying done, it was sort of a knee- jerk reaction to bring it back into the shop. I probably would have done it even if I didn't have a reason.

Anyway, the engine was rough as hell on power- off approaches, and after taxiing a ways, gasoline would run out the bottom of the carb heat box after shutdown. It was flooding itself out, even though I was at full lean mixture.

I took the carb apart and noted that the 1/4-20 screw that secures the venturi was missing. That alone could explain a lot. The needle and seat are the delrin type, and the float has a 1/4 X 1/2 piece of brass soldered to it... I assume that is the additional weight needed for the delrin needle.

Needle and seat look good, but the fuel level is as high as the float pivot arm when the carb is level, and in three point attitude, the level is right at the parting line on the back side of the carb. Does anyone know what the level should be? I assume it is adjusted by putting different thickness gaskets under the seat assembly.

I just spoke with Al Barbuto. He did not know, and couldn't find anything in his carb manual. Other people have stated that the Strombergs are tricky, but I wonder if it isn't really just a communications problem. If anyone out there is sitting on the mother- lode of Stromberg secrets, I'm sure that there are more people than me that would love to hear about them.

Bob Tilden

Queries From the Net

Joe Bauer (joe@flyingjoe.com) is looking for a source of flying tail wires for a 185 Skyraider. Send him email, or give a call at 972-489-5056 if you know where he can get some. Please let me know too, so we can add that information to the archives.

Scott A. Thompson (info@aerovintage.com) writes: I'm looking for any photos of two Rearwins operated by the Civil Aeronautics Administration in the early 1940s. One was a Cloudster, msn

905, NC212, and the other was a Skyranger, msn 1568, NC196. I'm trying to find photos of these two airplanes in CAA markings for an article for the American Aviation Historical Society Journal entitled "Aircraft of the the FAA and its Predecessors". Thanks for any help.

Mark Schaden (mark@modex.com) writes: Was wondering if anybody had a copy of the Commonwealth logo?? If I can find a copy I can have it made into a decal to put on the tail of my Skyranger.

Leon Orton (LEONORTON@aol.com) writes: I have a 1940 Rearwin 175 (Skyranger) that has a Carwil compass in it. In the top face of the compass there is a removable part that has hole in it. Small pin like magnets can be positioned in different holes to adjust the compass to read accurately. I am missing one of these magnets. It is silver in color with a gold or brass colored tip on one end. Like I say it is about the diameter of a sewing pin maybe slightly larger. Does anyone know where I can get a replacement?

How Many Skyrangers is 'Too Many'?

Bob Riffle (btrif@gte.net) writes: Hello I have found a Skyranger in Montana a few years ago just setting in a back yard all covered up just wanting me to bring it home. Well it should be home around June sometime. N-67051 will be #3 and were on the trail of #4. Haven't had any time to work on the #1 and #2 (N90699 and N90680) but hope to this fall. -Bob Riffle.

New SPARS Members

Got a nice letter from Mark Schaden last month, who writes:

Hi, I own serial number 1860 (N73801) Skyranger 185. I am just finishing the restoration now. Wings will be covered within the next month...last thing to finish! I have no manuals to speak of...which is why I started searching the web for information and found this site. There are a few minor items that I am looking for to complete the project, like a sling for the seat, one jury strut and the clamps to hold the jury struts to the main struts. If you can give me any ideas on where I might find these items, I'd be very appreciative.

I am very excited to be an owner of the Commonwealth, at the time I bought the airplane I had no idea that it was such a rare bird. I just thought it was another taildragger that had a stick side-by-side, which is what I was looking for to begin with. Needless to say it has been very difficult to find information or even a service manual for it...makes putting this thing together very difficult! :-)

Glad to be apart of the rare crowd!

Mark Schaden (15829 Claridon-Troy Rd, Burton, Ohio 44021)
CFI, CFII, MEI, ATP, Lear type
<http://www.flightinfo.com>

Welcome aboard, Mark! I hope we can help out...

David Cohn
Rearwin/Commonwealth Skyranger
1347 Malvern Ave
Pittsburgh, PA 15217-1142