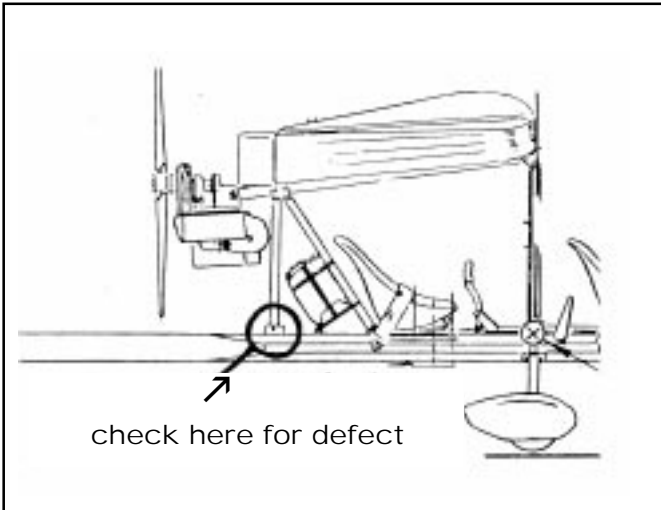


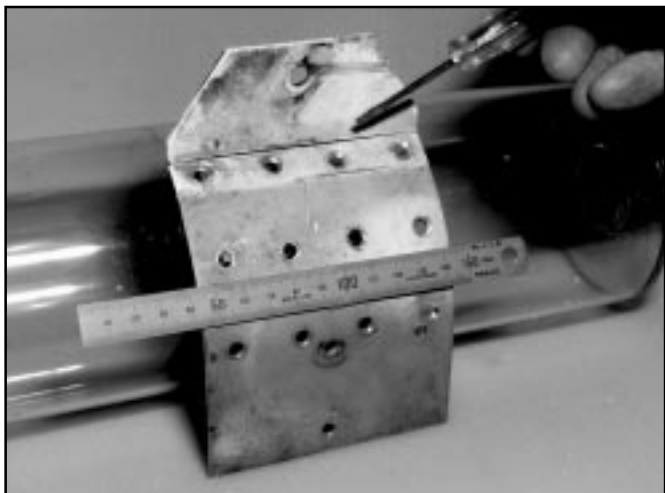
Drifter Engine Mount Strut Bracket Defect

Advice of a defect on the engine mount support arrangement of a Strut Braced Drifter has been received with anecdotal comment that two other aircraft have had the same fault. This article is produced to require operators of Drifter aircraft to ensure integrity of the brackets which attach the vertical engine support column to the fuselage tube.

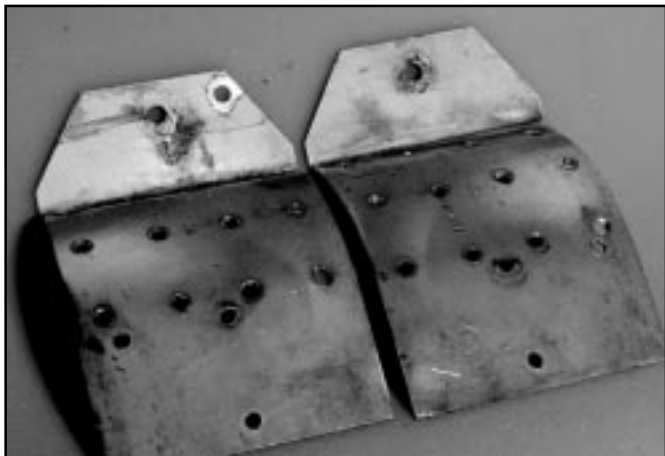
The item(s) in question are the two fittings which are located on the fuselage tube See figure below. (Note that they are partly covered by the floor pan).



The brackets themselves are of formed sheet. They are curved to fit around the fuselage boom where they are riveted in place, and they are bent to form vertical lugs which fit either side of the engine support strut which is secured to them by a through bolt. The problem exists in the bend which forms the lugs as shown in the middle photograph. Both brackets failed along their full length.



Note too that there had been other failures in each of the brackets as shown in Figures 6 and 7.



History

The aircraft in question was a strut braced Drifter of some 1312 recorded flying hours owned by a pastoral company so one would not expect that it would have had a city life. Richard Eacott, who advised the AUF of this defect, said he knew of two other failures of these brackets one of which had been previously reported to the AUF as being associated with engine vibration. At that time, Austflight had advised that it was not a known problem, but there now appears to be a history developing.

Looking at the photographs, one would wonder that the aero-plane would not be trying to tell the operator something was wrong, particularly when the main engine support tube was effectively broken. Also, the cracking in the fittings above the bends as shown in photographs together with the total failures along the bends draws attention to the adequacy of pre-flights and maintenance. That aside, the aim of this article is to alert members to the problem and to ensure airworthiness integrity in the area.

Note that all reports applied to Strut Braced Drifters only and the brackets that failed seemed to have little or no radius at all at the bend. Wayne Fisher of Spectrum Aviation in Lismore advises that he has Maxair drawings of the parts used at this location in Maxair Drifters and that these drawings specify a minimum inside radius at the bend of 1/8 inch. He also notes that the drawing requires that the grain of the material should run across the bend, not parallel to it.

It would appear that the failed brackets notified to date have occurred on the Austflight Strut Braced Drifters and that those brackets do not have the radius.

After exhaustive efforts, the AUF has been unable to contact Austflight on the matter. The AUF has been advised informally that the Company has been sold. Searches for both the previous proprietor and the new have been extensive and fruitless. CASA was contacted and has no record of change of Type Certificate holder and this raises alarm bells for the AUF. Readers and Skyfox/Gazelle owners may recall discussion in previous magazines of CASA's consideration regarding the grounding of all Skyfoxes and Gazelles because there is no type certificate holder for the aircraft. This same situation is looming with the Drifter and unless someone comes out of the woodwork and soon, the aircraft as a type will be in regulatory distress. If anyone reading this can help, please contact the Technical Manager because this engine strut fitting may create a need for replacement parts.

At this stage it might be worth a comment that all those who were eager to crank up the "Skyfox Support Group" should take note and that Drifter owners might start giving the matter some thought too. It is most important that the new "Drifter" proprietor be found and that a plan of what is in mind for the future of the aircraft be given to the AUF (it should really be CASA, but the AUF is prepared to help) as soon as possible.

Action Required

1. All Drifters should be inspected before next flight to ensure there are no cracks in these fittings. The area is readily inspectable, can easily be inspected on a pre-flight and should be incorporated at least into daily inspections.
2. The initial inspection is to be recorded in the Aircraft Log Book.
3. All findings should be reported to the AUF

TECHNICAL MANAGER'S REPORT

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clarify who can legally be taught to fly in an Amateur Built aircraft. Para 2 of the Operations Bulletin 1/01 (see also www.auf.asn.au/constructors) has been issued to clarify this.

Para 4.2 of CAO 95.55 states that "if a person has wholly built or assembled an aeroplane to which this section applies, or a group of persons has wholly built or assembled such an aeroplane, then that person, or each of those persons, may use the aeroplane for their personal flying training."

The AUF interpretation is that the "person/s" must have participated in the building project on a repetitive and contributory basis to an amount acceptable to the AUF. Building will be in accordance with Section 3.3.1 of the Technical Manual. "Persons Contributing" must be recorded in the Builder's Log. NB: The complexity of the project will determine the "acceptability".

Although not covered in the Ops Bulletin, those who purchase an aircraft built under CAO 95.55 paras 1.2 and 1.5 should also be mindful of para 4.2.

2 Seat Amateur Built Trikes & Powered 'chutes

Recently, there have been many queries from people wishing to Amateur Build 2 seat trikes and 2 seat Powered Parachutes. The rule covering the whole Amateur Built building system as it applies to the AUF is CAO 95.55 para 1.5. Until now, AUF advice has been that it was not possible to register amateur built 2 seat trikes and powered parachutes with the AUF under the current rules, but there may be light at the end of the tunnel following some "bush lawyering" on the part of the AUF.

The Law

Quoting from the opening sentence of Para 1.5 of CAO 95.55: "This section also applies to an aeroplane if the following conditions are satisfied" and it goes on with some sub paragraphs giving the conditions to be satisfied. One of these at sub para (b) states specifically that "...and sections 95.10 and 95.32 of the Civil Aviation Orders do not apply to the aeroplane..." This means that an Amateur Built Trike or Powered Parachute must not fit the rules laid down in CAO 95.32. (A backward contorted way of saying it, but this is the key. Normally one tries to fit something to the rules, not to prove that it doesn't!)

CAO 95.32 in para 1.1 (a) refers to a "...weight shift controlled aeroplane or Powered Parachute" requiring that these be commercially sourced under conditions acceptable to CASA (*my words RH-C...* if you want to see the real ones, go to subparas 95.32 sub paras 1.1 (b) through (f) yourself). The operative words here are "commercial" and "acceptable to CASA" which means that only commercially sourced machines acceptable to CASA are covered by 95.32.

However, this in itself is not the answer yet. There's a hitch. The term "Kits" comes into the equation with 95.32 para 1(b) stating that it applies to kits supplied from a commercial manufacturer which means that Amateur Built craft cannot be built from commercially manufactured kits. Thus far, this would mean that if the kit was bought from someone, it must come under 95.32 because the kit would have been produced commercially.

This is gloomy, but reading on, para (c)(i) says that the manufacturer of a CAO 95.32 kit must hold a certificate of approval to manufacture. The requirement to hold an approval to manufacture is the next key.

If the craft are not manufactured from kits produced by holders of manufacturing approvals (or the other way round: if they are produced from kits that are not produced by holders of manufacturing approvals), they don't come under CAO 95.32.

This is what you amateur builders want – you don't want to come under 95.32, you want to come under the amateur built order, 95.55.



Figure 7 (see previous page for details)

The News

If you are not with me this far in the gobbledegook, all the foregoing can be boiled down to the fact that trikes and powered parachutes can be amateur built (according to the major portion rule) if the kits are not manufactured by an organisation holding a certificate of approval to manufacture (ie with involvement by CASA or any other Regulatory Authority). Plans built machines are definitely in.

So Dave Robertson and that bloke in Tasmania, you are quite free to build your Huntwing plans, but you must comply with Section 3.3.1 of the Tech Manual and all that other stuff like the Major Portion Rule which is on the website at www.auf.asn.au/constructors. If you aren't on the web, call the AUF Office for a Builder's Pack. Remember too that the Tech Manager must be contacted at the start of any project. This is only to ensure that the project can be registered by the AUF.

As closure, this makes sense when you consider the cornerstone of the Amateur Built concept which is that the builder and the builder alone takes full responsibility. The bit about not being able to buy kits from organisations holding manufacturing approvals fits in place because approvals imply that the approved organisation and through the approval, the government carry is involved somewhere.

There must be absolutely no doubt that the amateur builder (and the purchaser of an amateur built) alone carries full responsibility. (However, it seems a bit silly to RH-C from the airworthiness standpoint because the product from an approved org should be safer.)

Website Postings

Technical Website postings for the month were:

Airworthiness (www.auf.asn.au/airworthiness)

GSC Propellers

- Maint Alert Hub Torqueing & Blade Root condition 9 May 2001
- Propeller Assembly Instructions 10 May 2001
- Internet Link to GSC Technical Information Page 10 May 2001

Rotax Engines

- Rotax 912,914, and both UL SB 912-029, SB 914-018: Mandatory Service Bulletin Checking of the crankcase for cracks 25 May 2001
- Rotax 912, 914 and Both UL Mandatory Service Bulletins SB 912-028,914-016 Rotax produced Engine Mount P/N 886 567 - Checking