	SAAA CONTROLLED DOCUMENT	
	Reference / Name	**TECH 1.1-001 RV9A Landing Gear & Bolt Lengths.docm**
	Revision No	1
	Revision Date	14 - 03 - 2018
	Owner	MCM

Technical Bulletin

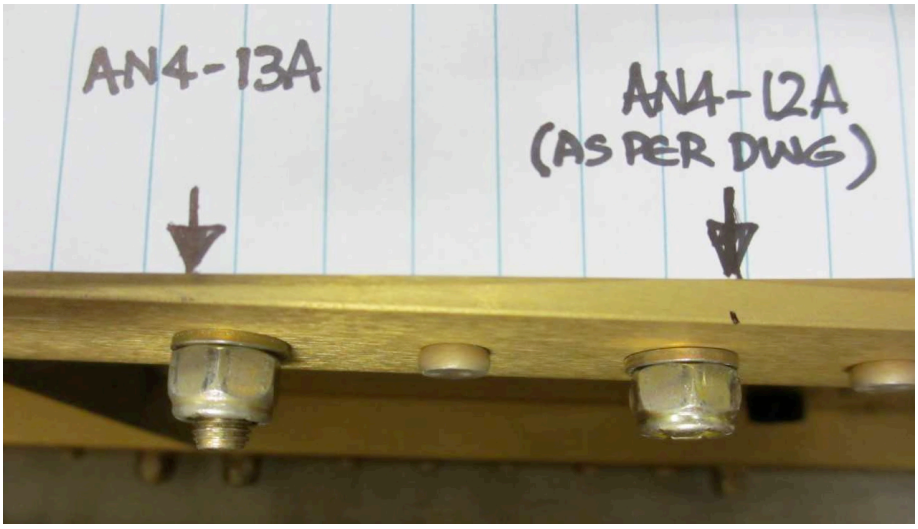
Topic: RV-9A Landing Gear Attachment Information & General Bolt Length Reminder

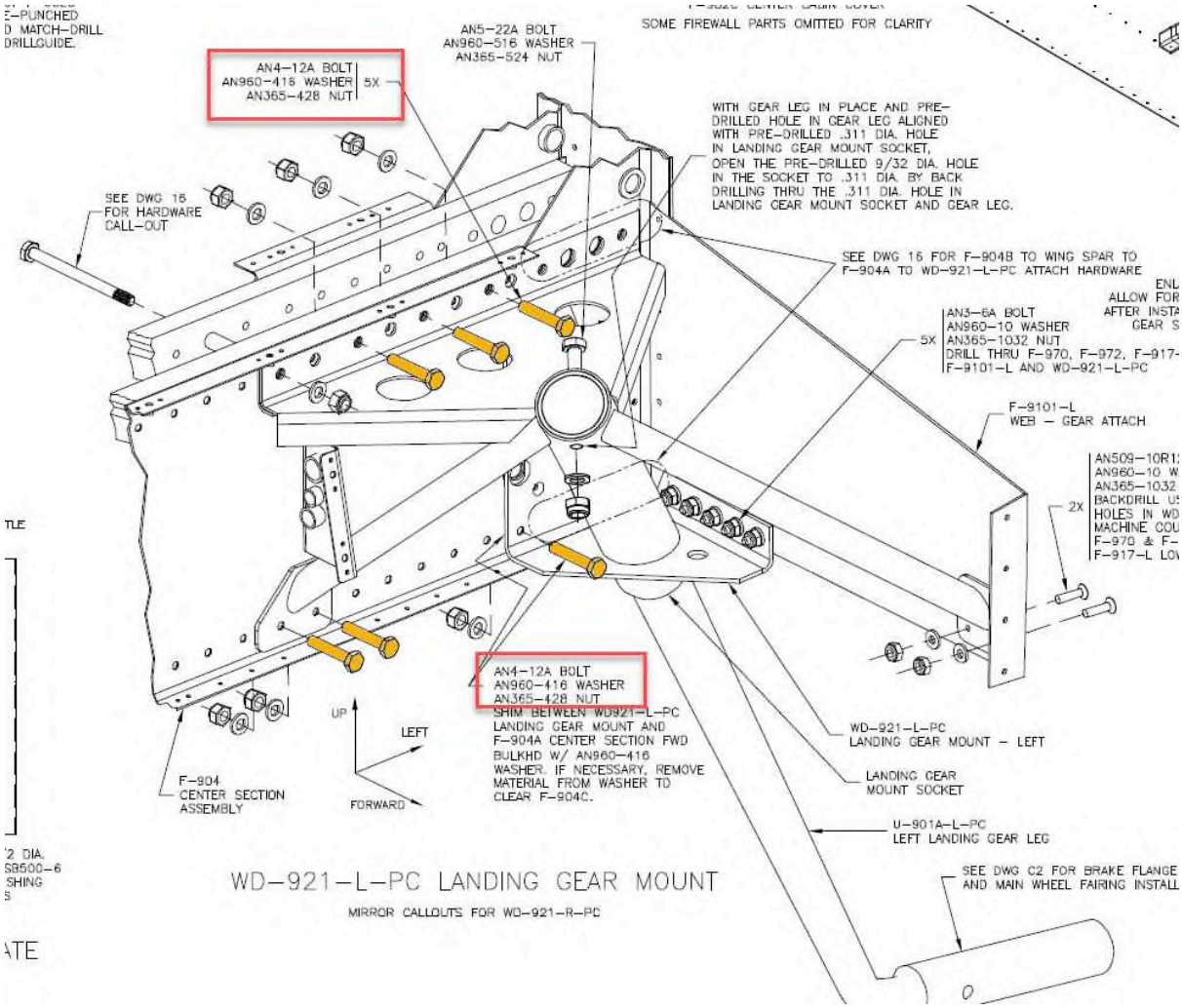
One of our SAAA Technical Counsellors has recently seen identified some examples of "too short" bolts in two RV-9A landing gear attachments. One builder then contacted VANS Aircraft Support and was given excellent advice, not only for the aircraft in question, but applicable to all aircraft in general.

1. RV9A BUILDER NOTE TO VANS AIRCRAFT

"Quote – unquote"

> *I have identified a possible problem with the specified length of several AN4 bolts that hold the main landing gear weldments to the main spar.*
>
> *The specific bolts are depicted in attached picture 01 DWG 34A Extract. You will note that the drawing calls for AN4-12A bolts. When installed and torqued these bolts do not protrude through their nyloc nut.*
>
> *Please refer attached picture 02 Bolt Photos that shows the designed AN4-12A bolt in place, plus another hole with a AN4-13A bolt for comparison. I also refer to AC43.13-1B, section 7-64(f) which states that "after the nut has been tightened, make sure the bolt or stud has at least one thread showing past the nut". It would seem to me that these bolts, six per side, all need to be AN4-13A.*
>
> *Can you please clarify?*





2. VANS AIRCRAFT SUPPORT RESPONSE

"Quote – unquote"

> *AC43.13-1B should be your guide in cases like this.*
>
> *I agree. If you can't see at least one thread, then you should go the next size bolt. This happens occasionally in the plans. A rivet might be too short or too long. A bolt might be too short or a bit too long. We specified what the engineers' calculations at the time showed.*
>
> *Perhaps the powder coating might be thicker than it was originally.*
>
> *Bottom line, you're doing the right thing. Go to the longer bolt.*
>
> *AC43.13-1B should be your guide in cases like this.*

3. MESSAGE

Reminder to all builders of all aircraft kits (or plans!):

Don't blindly just use the hardware supplied with the kit or specified on the plan. If it doesn't quite look right, investigate, examine, check, call for backup! Utilise the guidance of FAA AC 43.13-1B.

Questions & Guidance:

1. Is it in fact the correct length bolt as called out on the plans, or has a bogie somehow got into the bag? Get your bolt length gauge out and check it/them!

2. Even if it is the correct bolt specified, don't stop there. If it's too short or too long, and there are no other factors in play, just change it for the next size bolt. Builders should always have a box of spare assorted hardware bolts, nuts, washers on hand to mix and match to the perfect fit at each part. It's part of building well.

3. Do not accept a position of "that will probably be alright." We have no room for "probably" in what we do. We have OK, or not OK. There is no middle ground. If OK, good. If not OK, fix it. Then you will have that feeling of satisfaction and achievement in a job properly done.

4. Members, Technical Counsellors, LAMEs – if you see short or long bolts on aircraft, please advise the builder and discuss a better solution.