air crēation

FLYLIGHT AIRSPORTS LIMITED

SKYRANGER

BMAA Inspector Seminar: Flylight Airsports Ltd

Sywell Aerodrome 01.03.2012

British Microlight Aircraft Association
The Bullring, Deddington, Banbury, Oxon, OX15 0TT
TEL 01869 338888 FAX 01869337116
www.bmaa.org

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SKYRANGER

BMAA Inspector Seminar: Flylight Airsports Ltd

AGENDA

09:30 – 10:00	**ARRIVAL (meet in the Flylight hangar – see map)**
10:00 – 10:15	Introduction
10:15 – 11:00	BMAA Homebuild Process Overview
11:00 – 13:30	SkyRanger Evolution and Nynja Introduction
	Inspecting Initial Skyranger and Nynja Builds
	Skyranger / Nynja Annual Inspections
13:30 – 14:00	**LUNCH**
14:00 – 15:45	Air Creation Range Overview and Bionix Introduction
	Air Creation Annual Inspections
15:45 – 16:00	CAA Q&A Session (if time allows)
16:00	**DEPART**

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BMAA Inspector Seminar: Flylight Airsports Ltd

- Health & Safety
- Certificates
- Presentation Material
- Feedback

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Agenda

- 10.00- 10.15 Welcome, Introduction, Toilets etc..
- 10.15 – 11.00 BMAA Home build system – RM, BS, AJ
- 11.00 – 13.30 Skyranger evolution and Nynja introduction. Inspecting initial Skyranger / Nynja Builds. Annual inspection points – PD
- 13.30 – 14.30 Lunch, and look at Aircraft
- 14.30 – 15.45 Air Creation Range overview and Bionix introduction. Air Creation inspection PD,
- 15.45 -16.00 CAA Q&A

Skyranger Evolution

Skyranger
‘Classic’

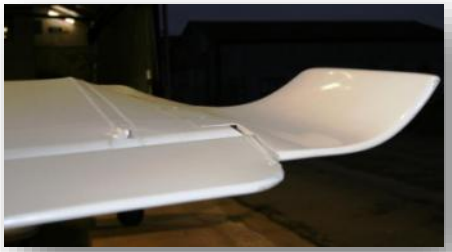
Skyranger Evolution

Swift

Skyranger Evolution

Nynja

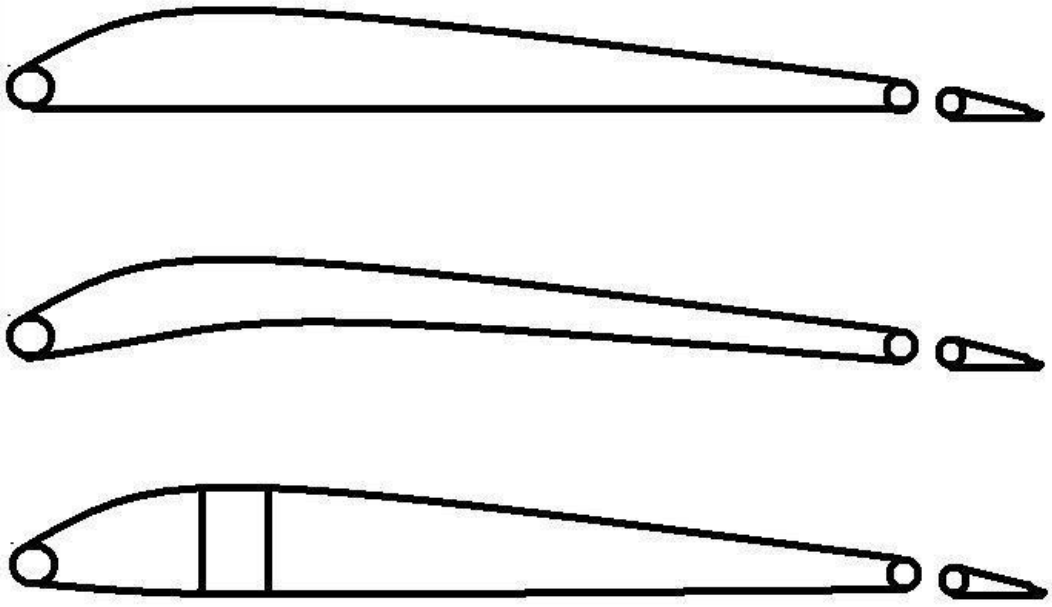
- Glass fibre fuselage covering
- Rear windows
- Extended doors
- Fin extension
- Longer nose
- Moulded seats
- Reworked interior



Rear fuselage geometry and bracing

Main gear drag bracing

Profile support blocks



Lots of detail changes

- Fuel system and external filler
- Trim system
- Throttles
- Exhaust and heater
- Wing tips
- Doors
- Weight?! – material spec, battery, exhaust, panel, draglinks = similar to Swift.

Inspecting Initial Skyranger / Nynja Builds

- Get a build manual copy and read it.

http://www.flylight.co.uk/skyranger/technical.htm

Inspecting Initial Skyranger / Nynja Builds

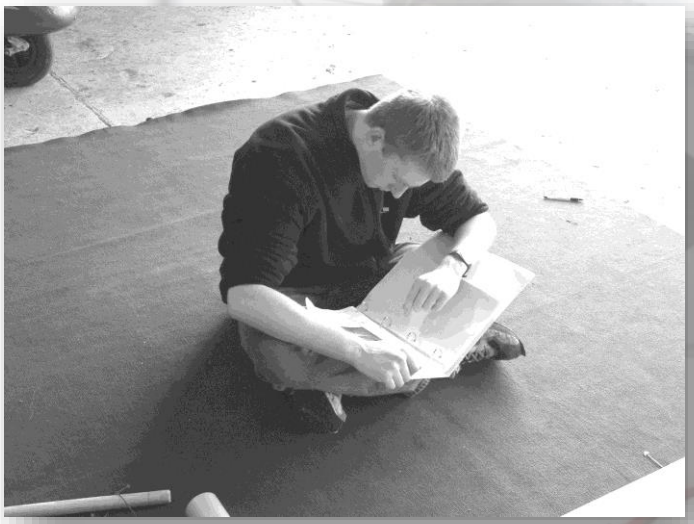
- Get a build manual copy and read it.

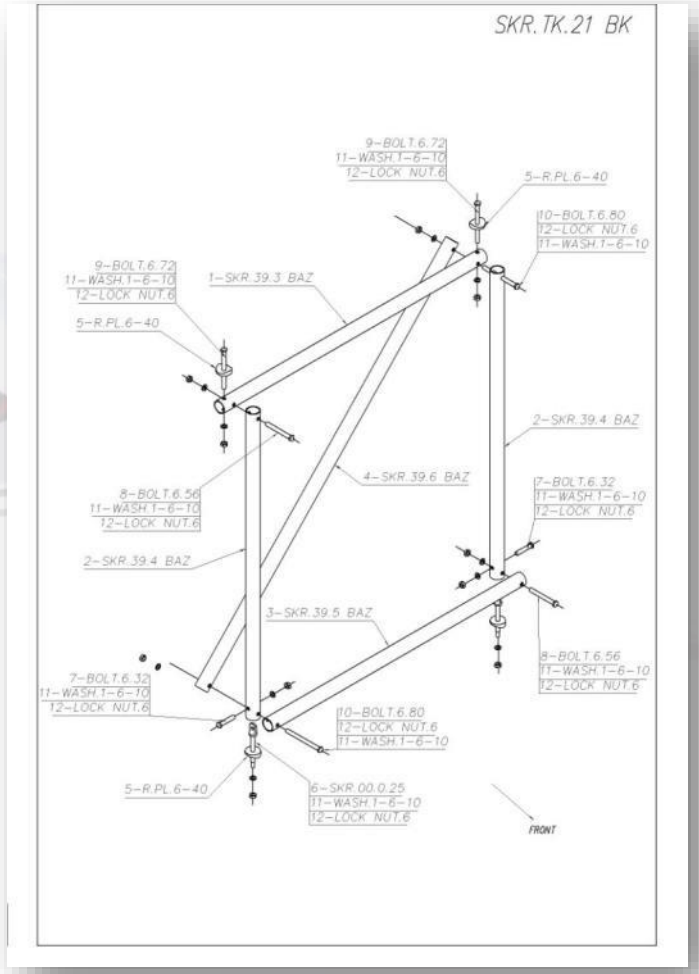
http://www.flylight.co.uk/skyranger/technical.htm

- Visit to build premises and first look at kit, and builder..

Specifics

- Kit presentation – check assemblies!



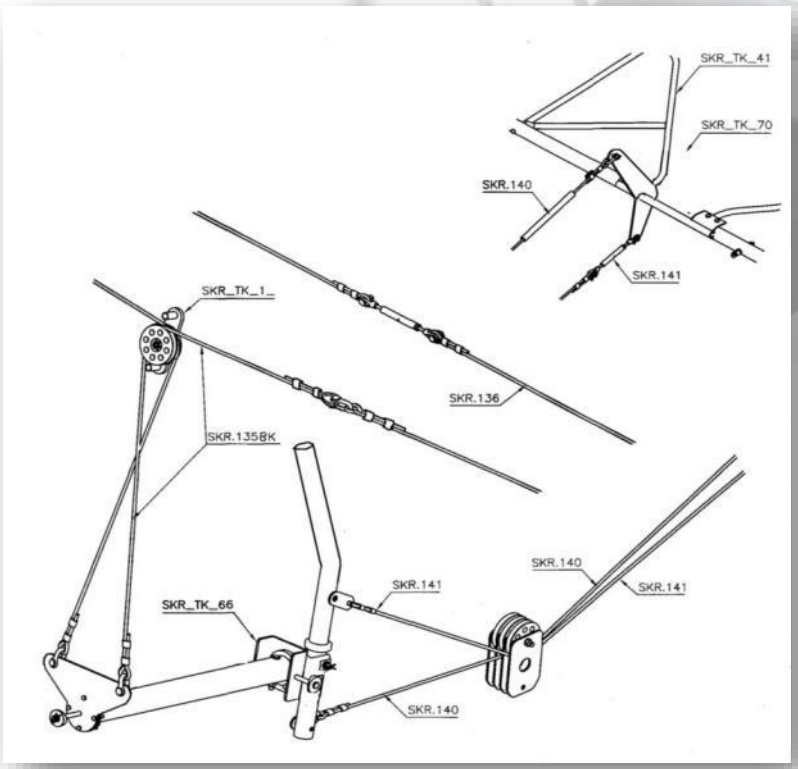


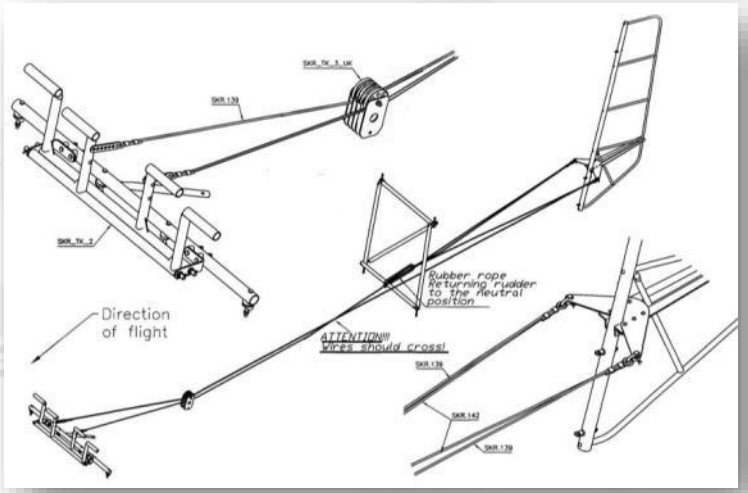
Specifics

- **Throttle set up** – set up so pilots hand lever back stop is the only cable stop. – don't use the stops on the carb.

Specifics

- Cable routings – follow manual carefully and check what the builder has done!



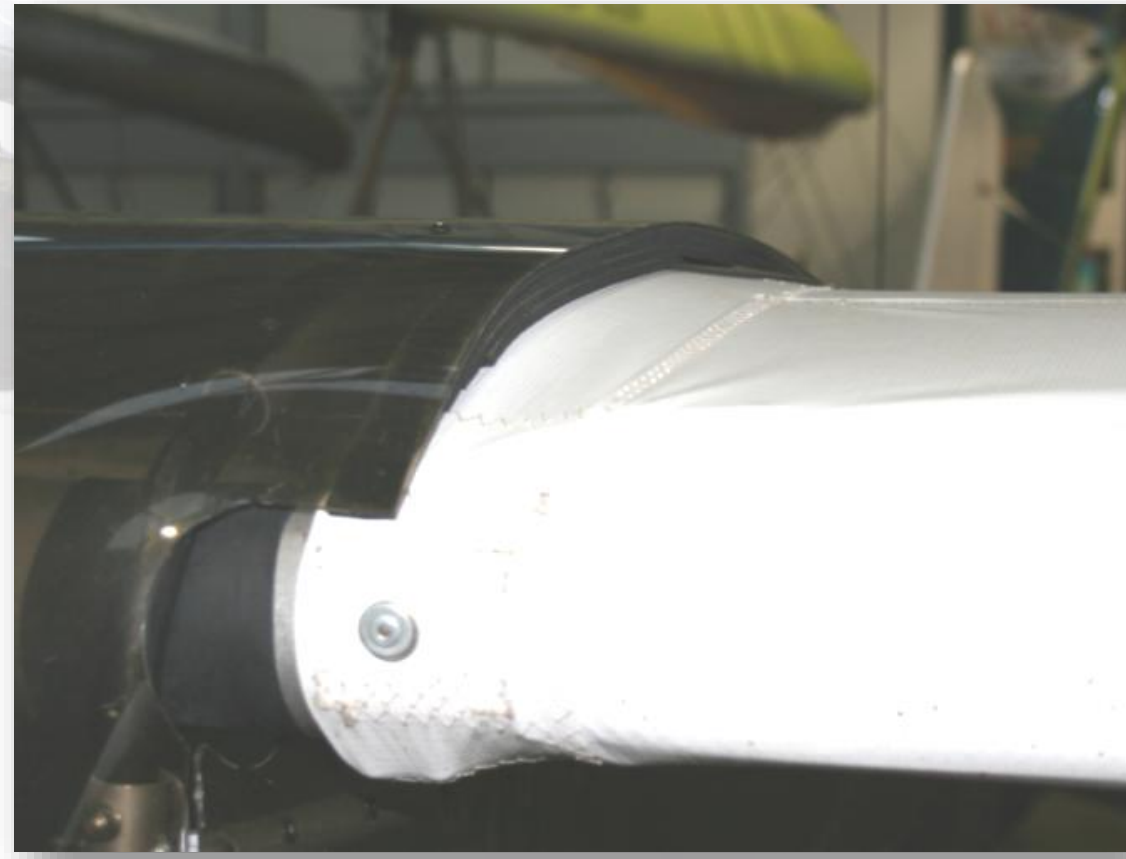


Specifics

- Control circuit friction – should be almost none!
- Check - noseleg greased, suspension not preloaded, all hinges in alignment and lubricated. Control pivots not overly tightened, No wrongly routed cables, cable tension not excessive..

Specifics

- Roof to wing seal – no big gaps, or stall characteristics suffer, should be filled with foam tape.



Specifics

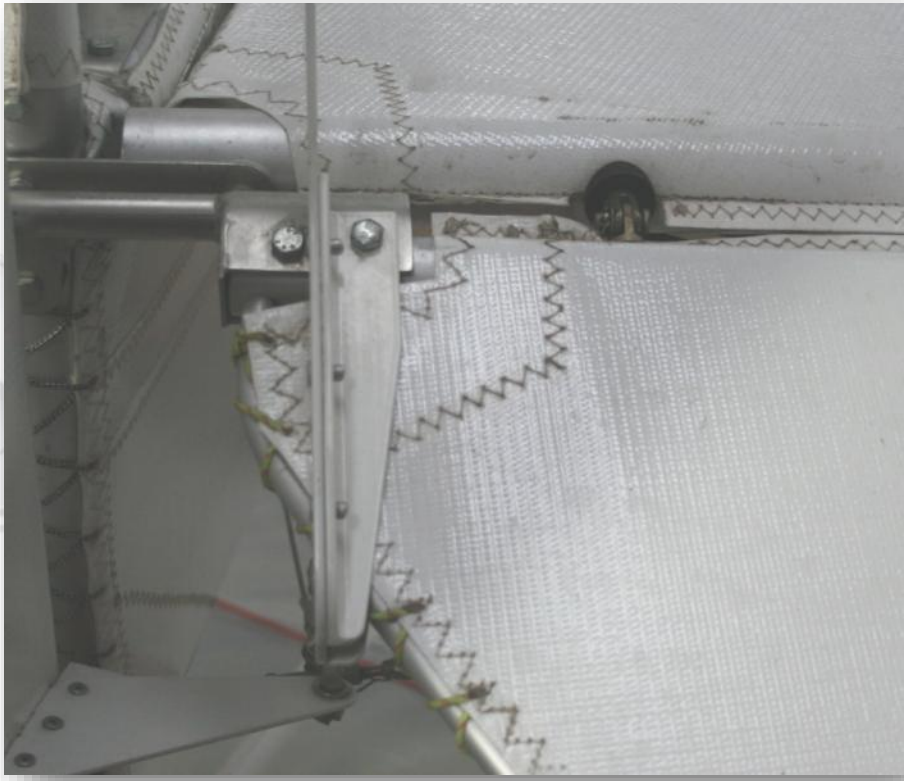
- Check wing frame is all the way in the sail – if not the frame can be out of square – check both bracing wires tight.

Specifics

Nosewheel position – axle behind leg. – not easy to spot once spat is on..

Specifics

Spot the difference?

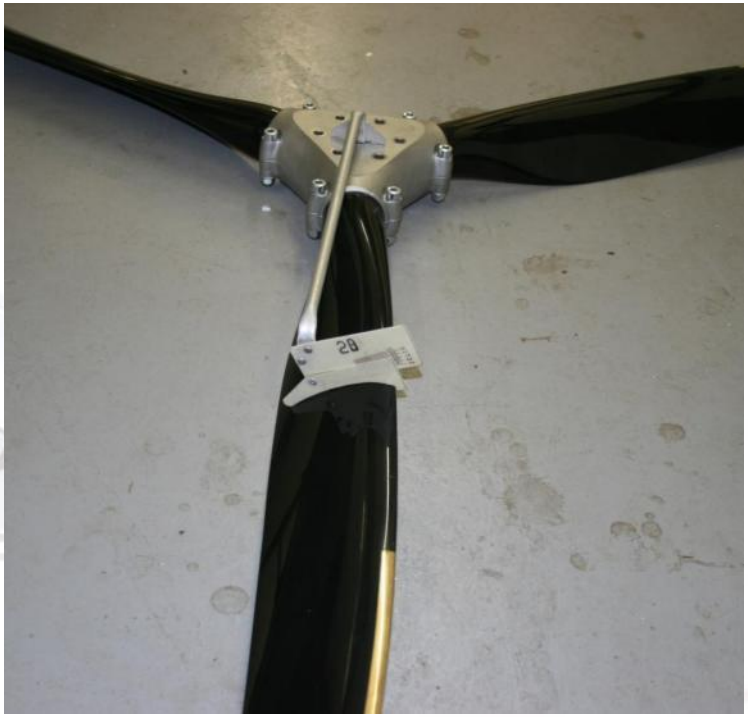


Specifics

- Prop set up







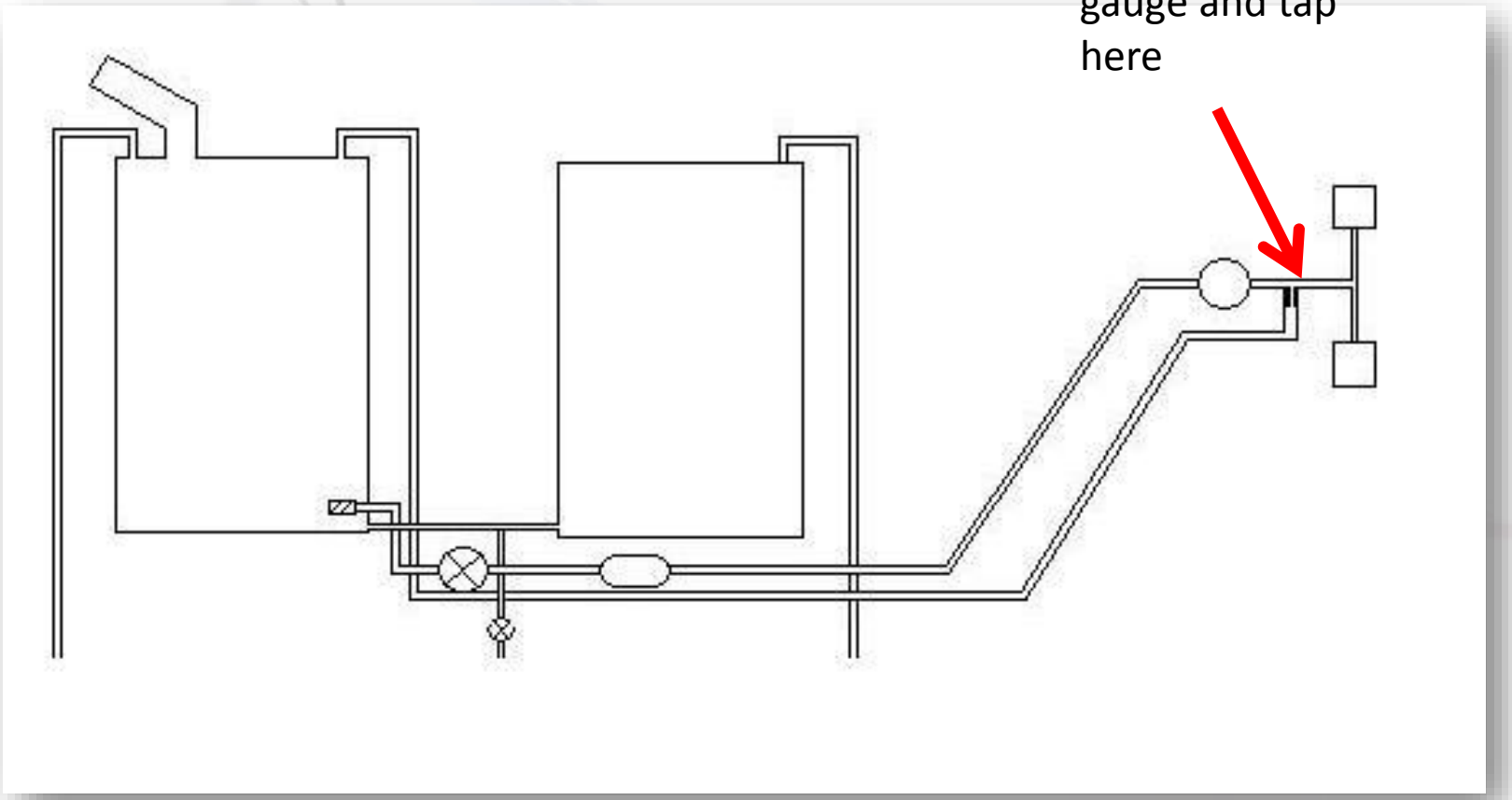
- Set by WOT RPM – 5000 (912 and Skr classic 912S), 4850 912S Swift / Nynja

Specifics

- **Final inspection** - there will be faults. Make sure they are addressed. Make a clear list and make two copies! Don’t sign off until all is rectified. Makes Test Pilot very nervous to find split pins not turned, and turnbuckles not wirelocked..!

Specifics

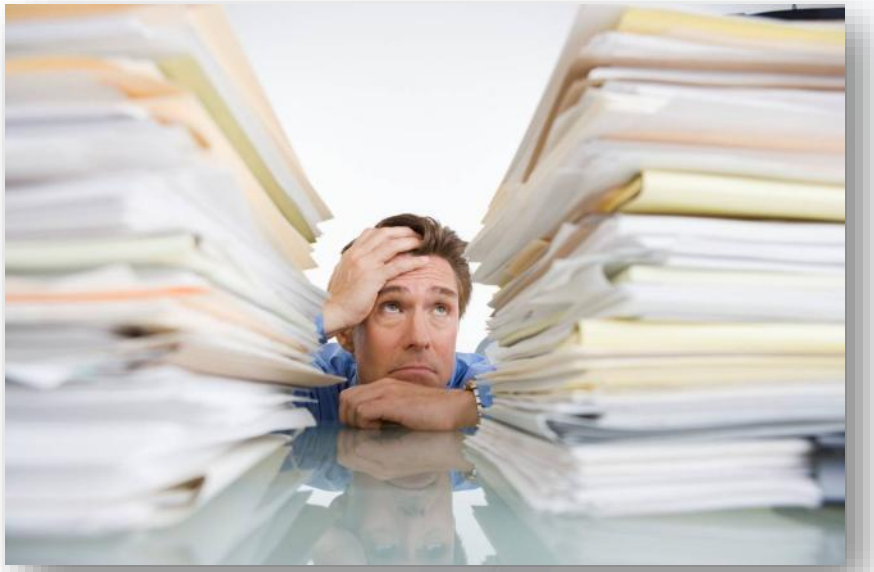
- Engine installation checklist
- Fuel flow check -



Specifics

- Weighing – weighing attitude and arms, CG limits in HADS
- What doesn't need to be included – doors?, Baggage bag?

Paperwork



- Sign stage inspections as you go
- Complete engine installation checklist
- Weight report
- Additional equipment – use SMM forms
- Mods – write them up preferably in advance, and send in for comment.

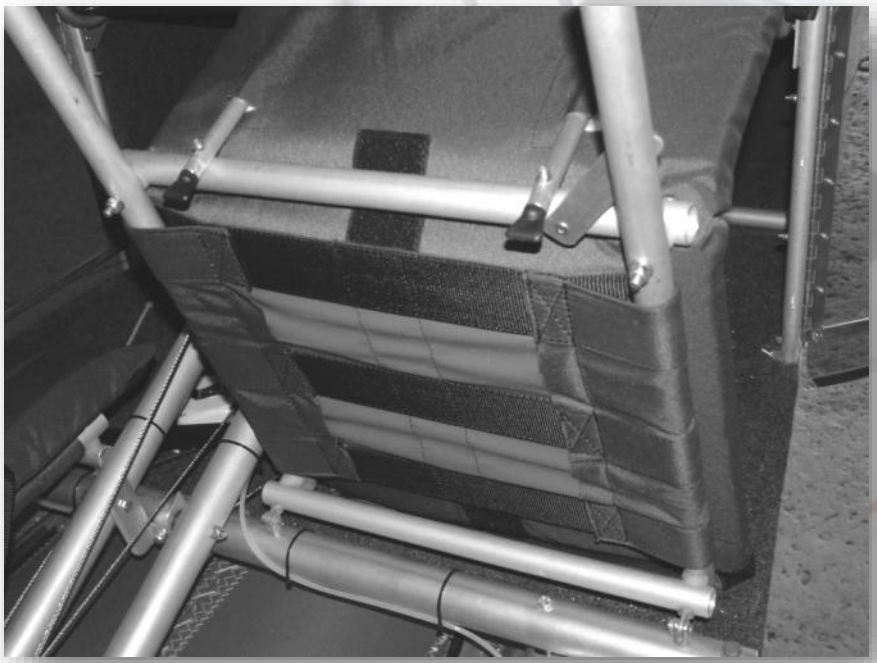
Test flight

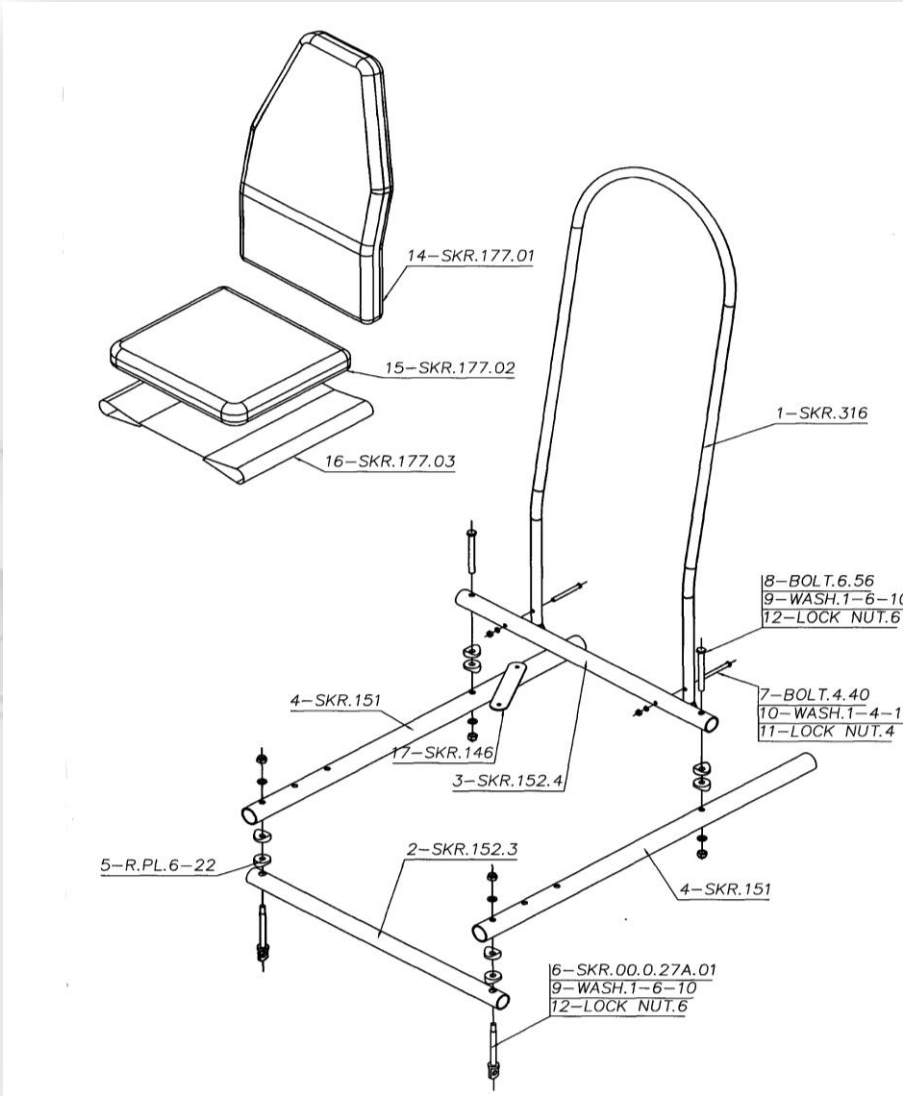
- **Inspector must sign Flight release on AW029**. Please make sure aircraft has all outstanding defects rectified, and owner hasn't introduced any more. It needs another inspection really
- **Its great if inspector can attend for the test flight day-** to help make any alterations and be a second signature.

Annual inspections

MPDs –

- Seat Bracing, (SKR/Swift)





Annual inspections

MPDs –

- CKT exhaust steady bracket (SKR/Swift)

- Fireproof paint in cowling

Annual inspections

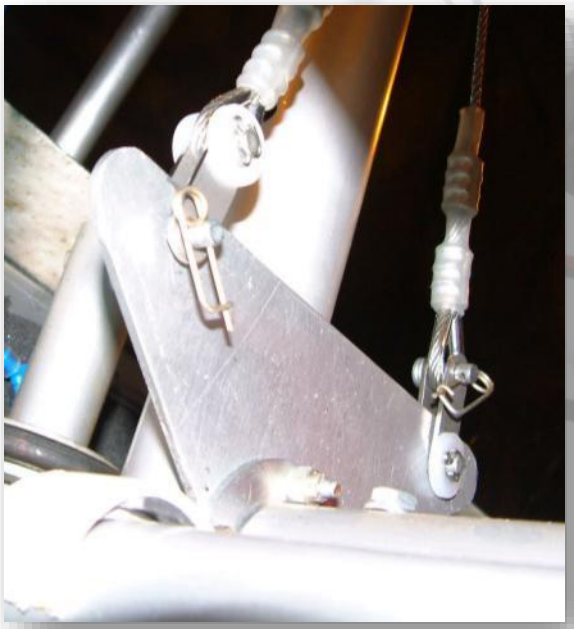
MPDs –

- Kievprop spacer bolt holes

Annual inspections

MPDs –

- Aileron cable connections – handed ends, -mandatory for wingfold, recommended for all.



Annual inspections

- **Use the MAAN** – defines the initial build state

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- -Except HADS optional Mods – but they need inspector signoff.

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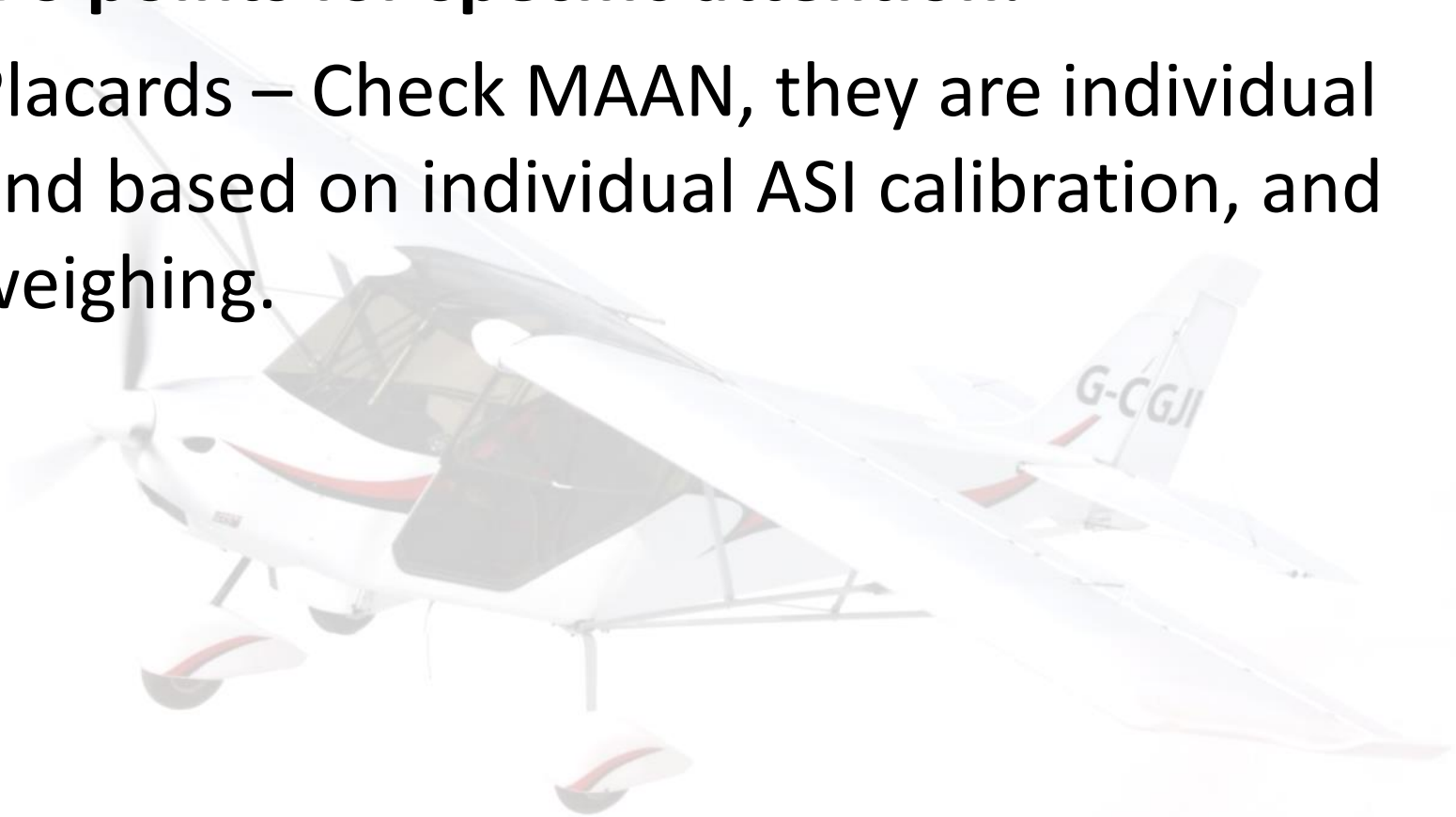
- -Except HADS optional Mods – but they need inspector signoff.

- Maintenance – schedule in POH – check latest issue

Annual inspections

HADS points for specific attention:

1. Placards – Check MAAN, they are individual and based on individual ASI calibration, and weighing.



Annual inspections

HADS points for specific attention:

1. Placards – Check MAAN, they are individual and based on individual ASI calibration, and weighing.
2. Failures to take into account the requirements of BMAA TIL 007 and 027 during the design and installation of the engine and instrument fittings.

Annual inspections

HADS points for specific attention:

1. Placards – Check MAAN, they are individual and based on individual ASI calibration, and weighing.
2. Failures to take into account the requirements of BMAA TIL 007 and 027 during the design and installation of the engine and instrument fittings.
3. If the 60 litre fuel tank is fitted, inspectors must confirm that the cross-member and diagonal bracing tubes are 22mm diameter, not 20mm.

Annual inspections

HADS points for specific attention:

4. Kievprop bolt – as MPD

Annual inspections

HADS points for specific attention:

4. Kievprop bolt – as MPD
5. Fracture of plastic saddle washers.

Annual inspections

HADS points for specific attention:

4. Kievprop bolt – as MPD

5. Fracture of plastic saddle washers.

Plastic saddle washers should not be present on both sides of rudder control hinges.

Annual inspections

HADS points for specific attention:

6. Incorrect fitment of the fuel tank balance pipe (incorporating the fuel drain) and dip tube. (does not apply to new system introduced with Nynja)

Inside of tank showing linking / drain fitting and delivery dip tube with strainer in position on end. Positioning can be clearly seen by looking directly in the top of the tank with cap removed

Dip tube end MUST be higher than this fitting.

Annual inspections

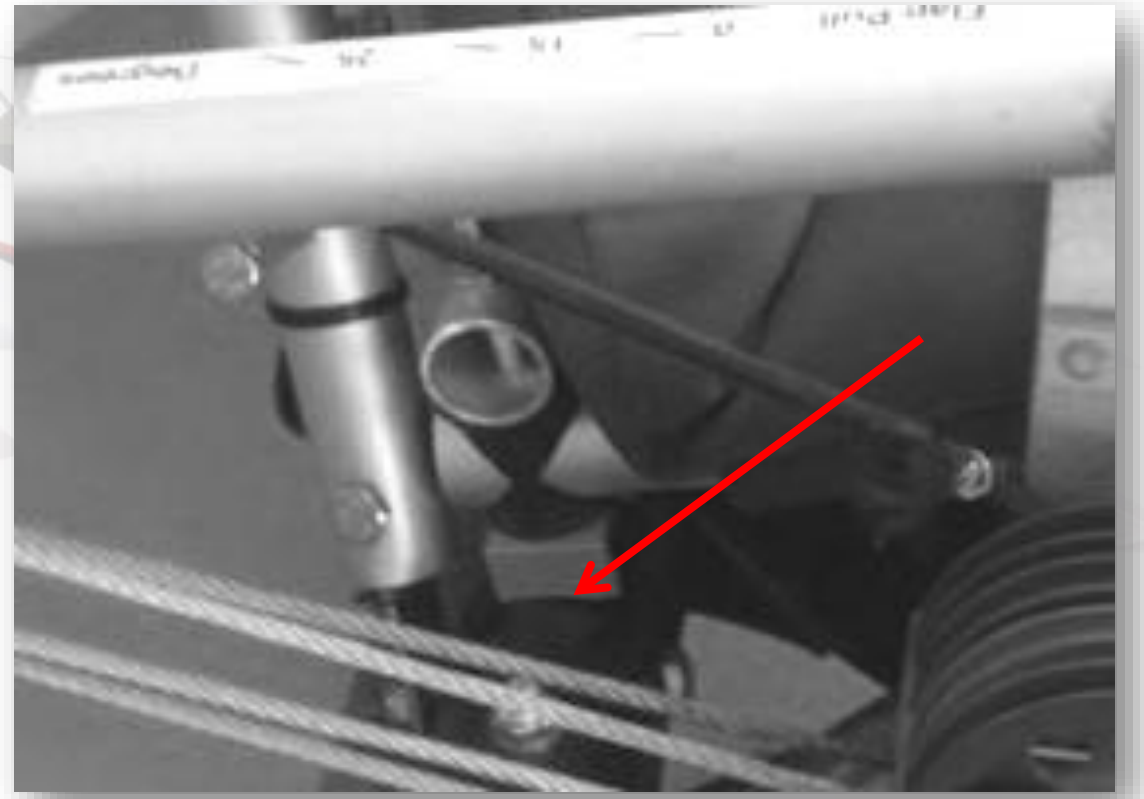
HADS points for specific attention:

7. Aileron horn stops. Short plastic sleeves are fitted over the central cabin tubes tu19 at the bottom of the control stick to act as aileron control stops. These have been known to slip down the tubes. Ensure that the plastic sleeves are secure and that the aileron horn contacts the sleeves at the limit of aileron movement.

Annual inspections

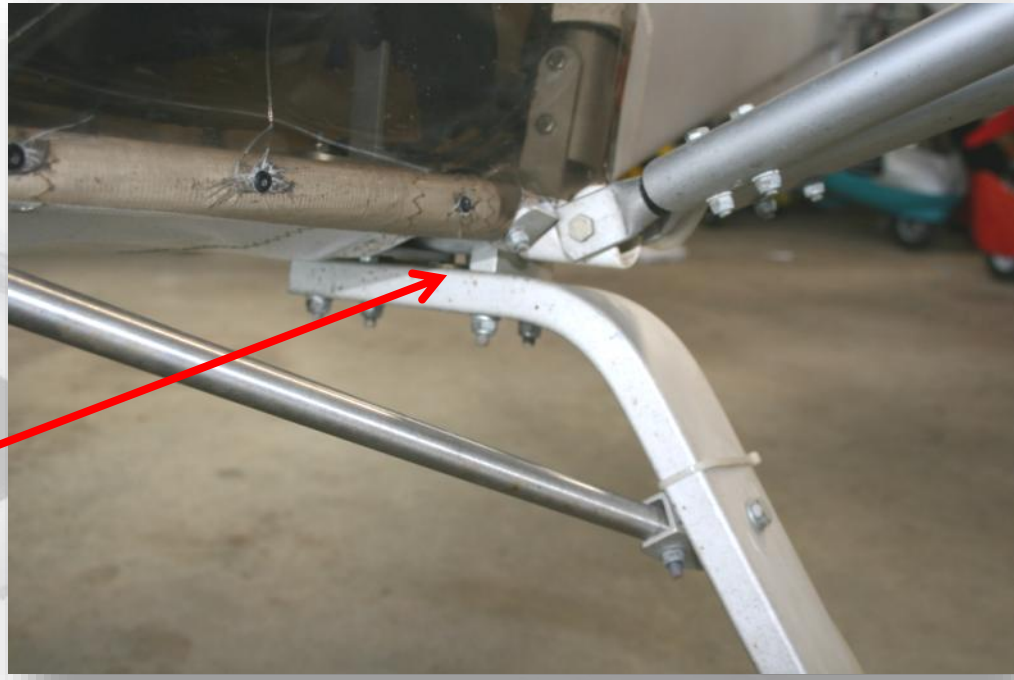
HADS points for specific attention:

8. Lowered pilot's seat (optional mod. 23). Ensure that axle tube tu9 is not abraded by inner seat support bracket (fatigue crack initiator).



Annual inspections

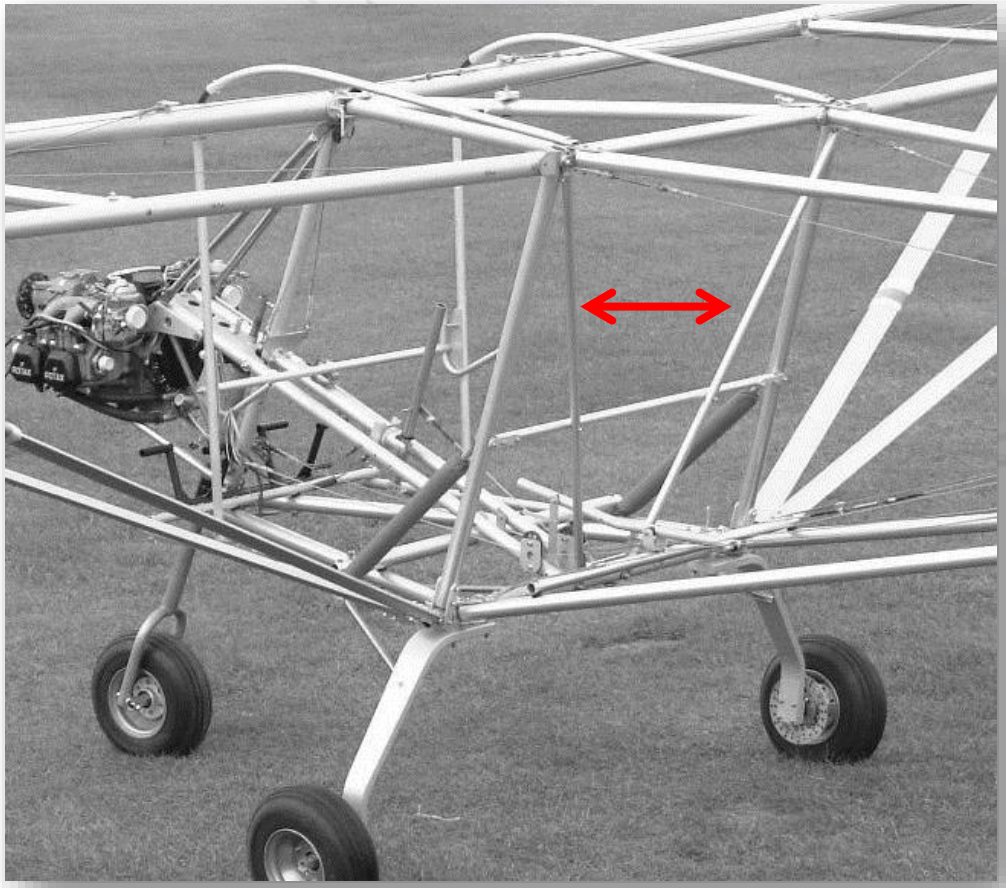
Corrosion:



Annual inspections

Heavy landing?:

- Check TU27 ends for movement



Annual inspections

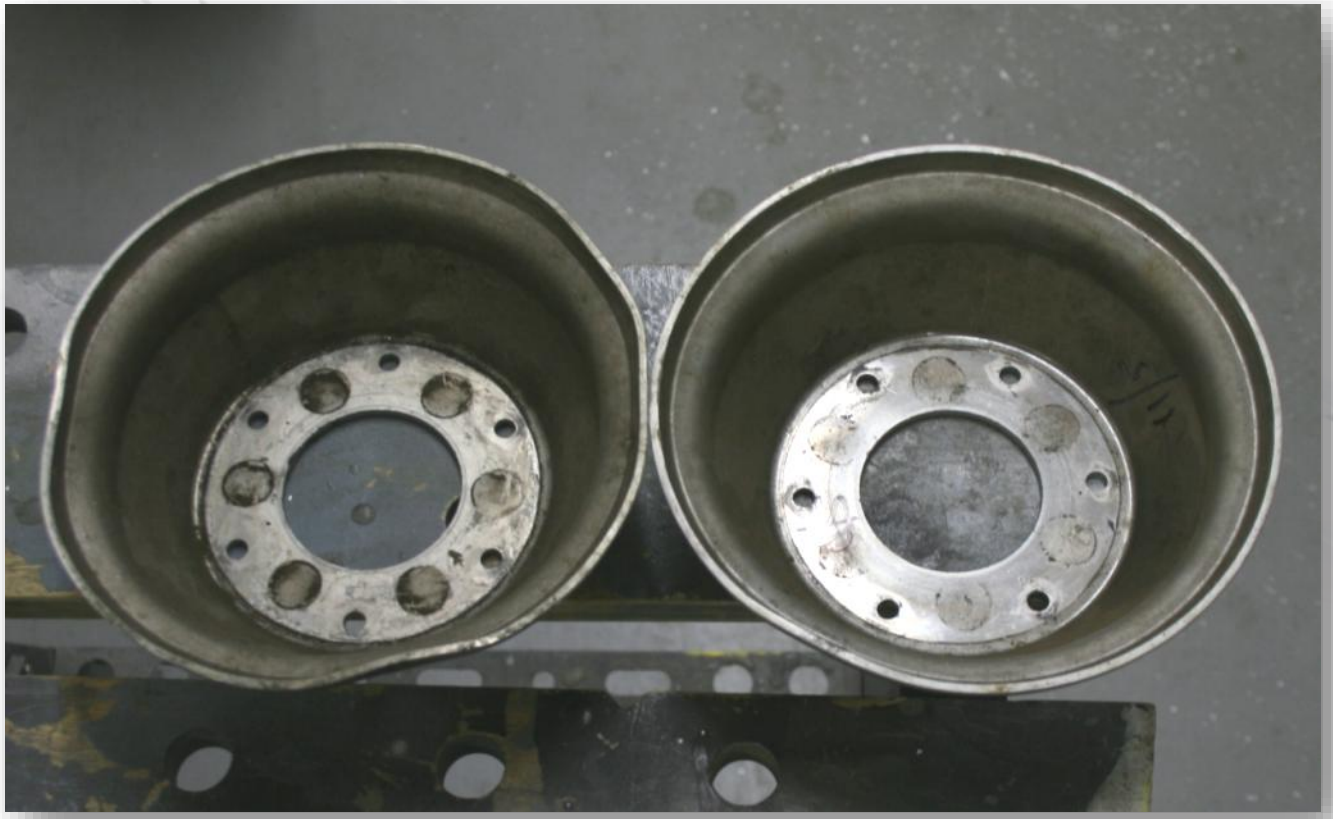
Heavy landing?:

- Check main gear spread

Annual inspections

Heavy landing?:

- Check wheel rims (also caused by under inflation)



Annual inspections

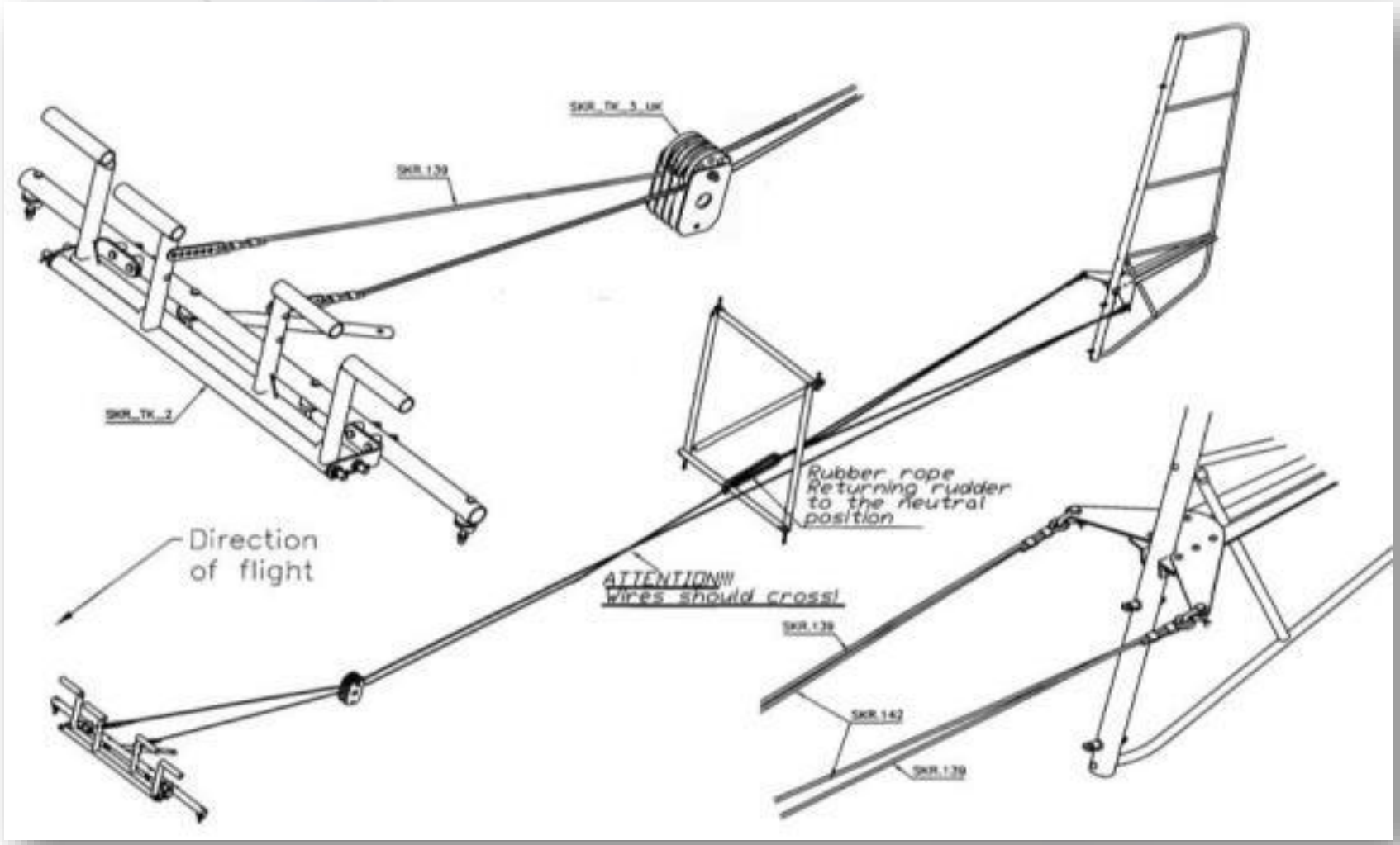
Heavy landing?:

- Check Noseleg – stiff to rotate is suspicious..

Annual inspections

Check centering bungee – Bungee loses elasticity with age.

Note off centre is used to set up trim.



Annual inspections

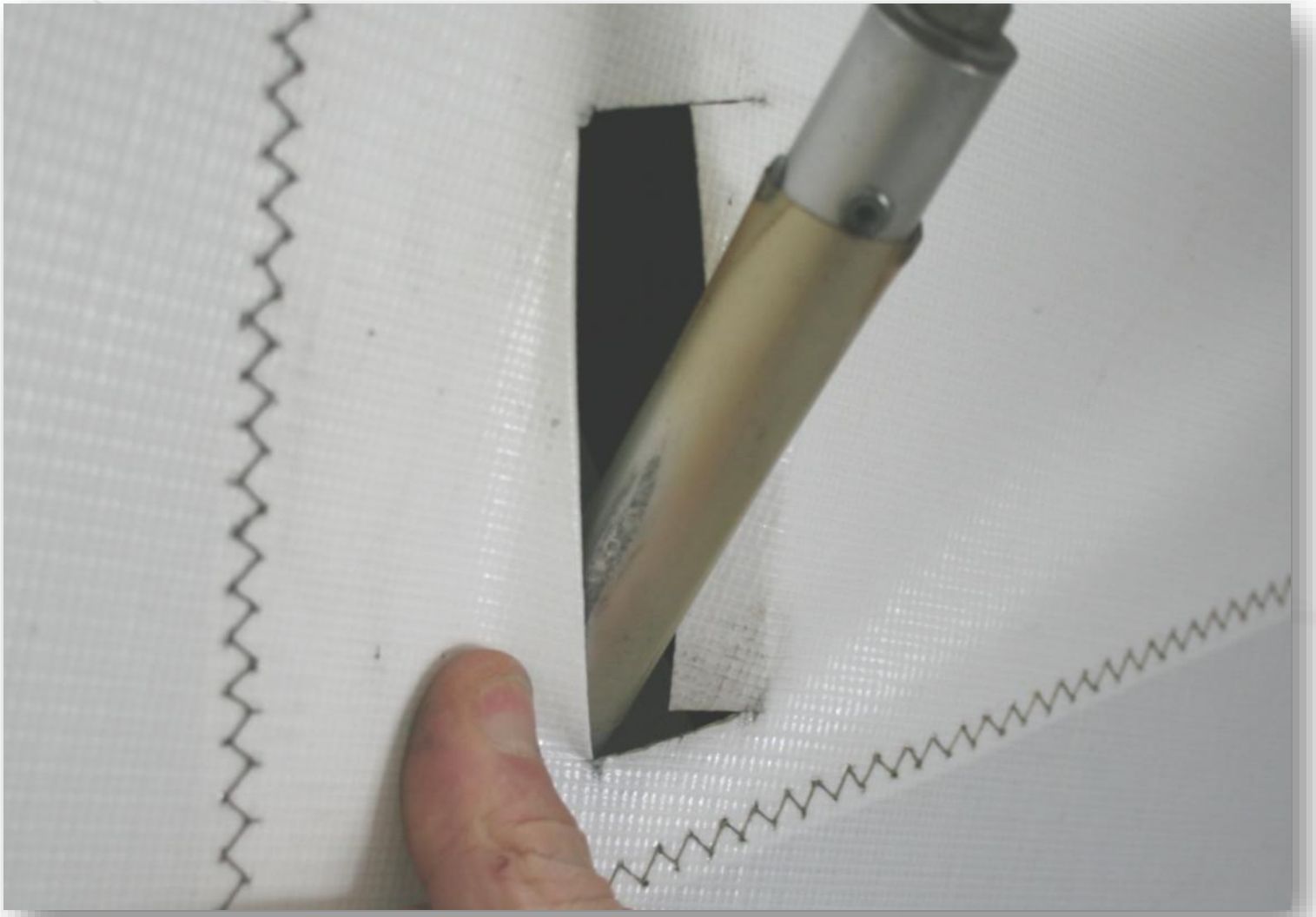
Check for worn engine mount rubbers: Grasp engine and rock diagonally both ways, observe for movement.

Annual inspections

Check Draglinks and shoes for movement / wear.

Annual inspections

Fabric can beat aluminium!



Annual inspections

Fabric testing:

Dacron – 1000g fabric, 1360 stitching

Xlam – 1360 fabric and stitching

Questions?

Air Creation

Range Overview

Fun 18

Air Creation

Range Overview

Kiss 400

Kiss 450

Air Creation

Range Overview

Twin – plus pod = Buggy

GTE – plus pod
= Clipper

Air Creation

Range Overview

iXess 15 with Clipper 912

Air Creation

Range Overview

Tanarg

Air Creation

Range Overview

Tanarg

Air Creation

Range Overview

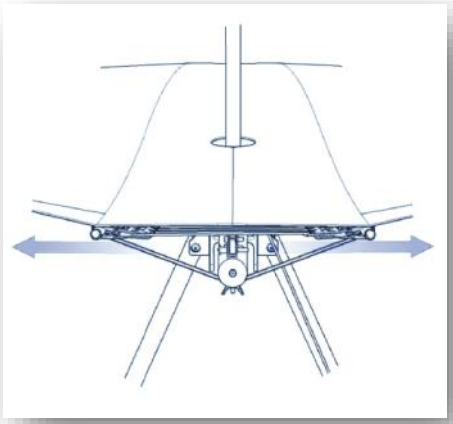
Tanarg iXess15 then iXess 13

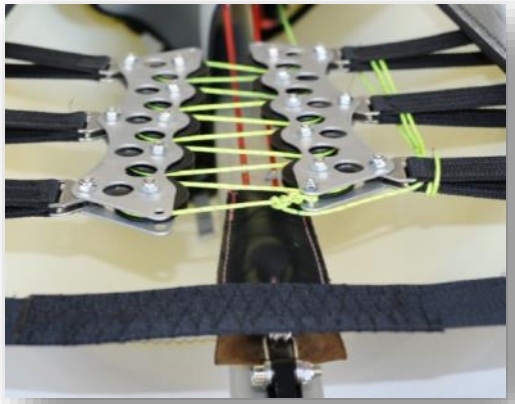
Then Tanarg

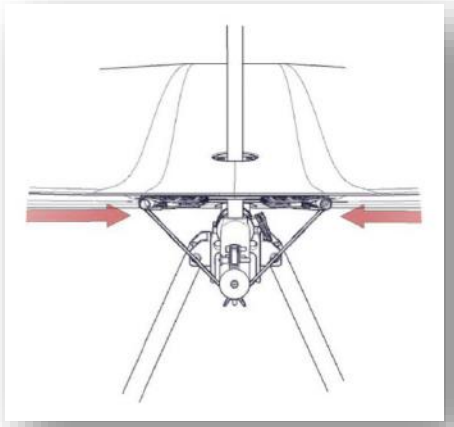
912ES Trike

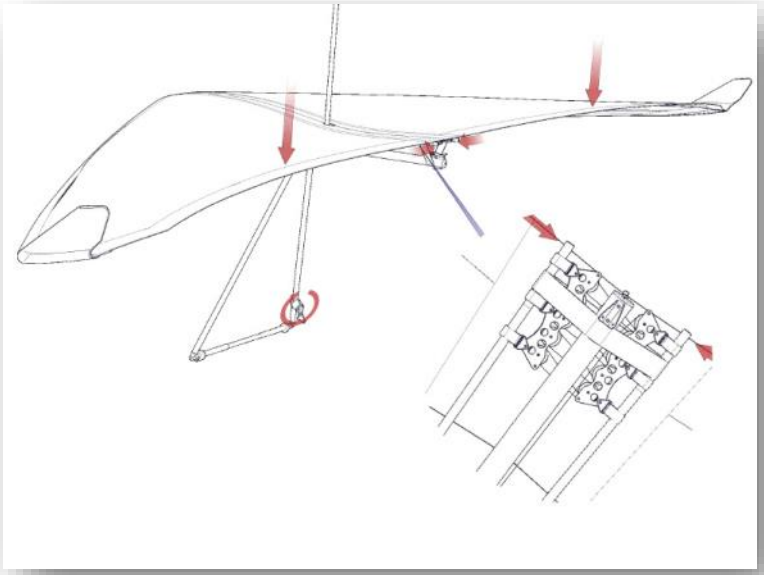
Air Creation

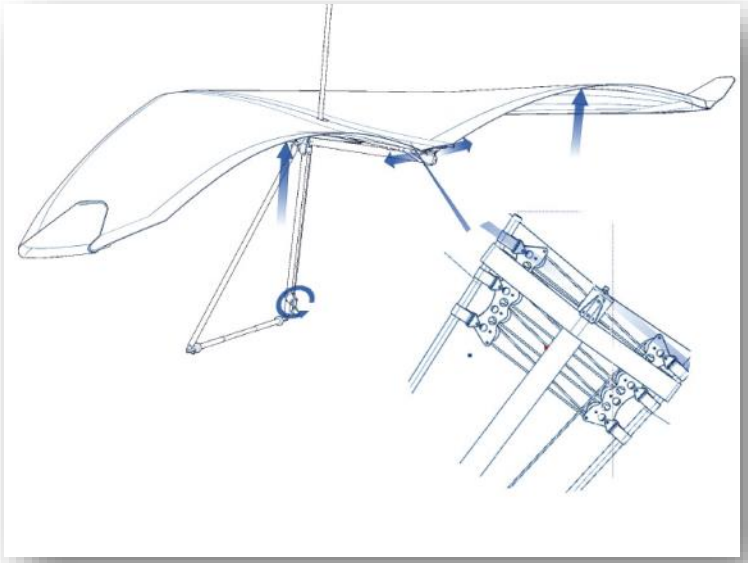
Range Overview - **BioniX**











Air Creation

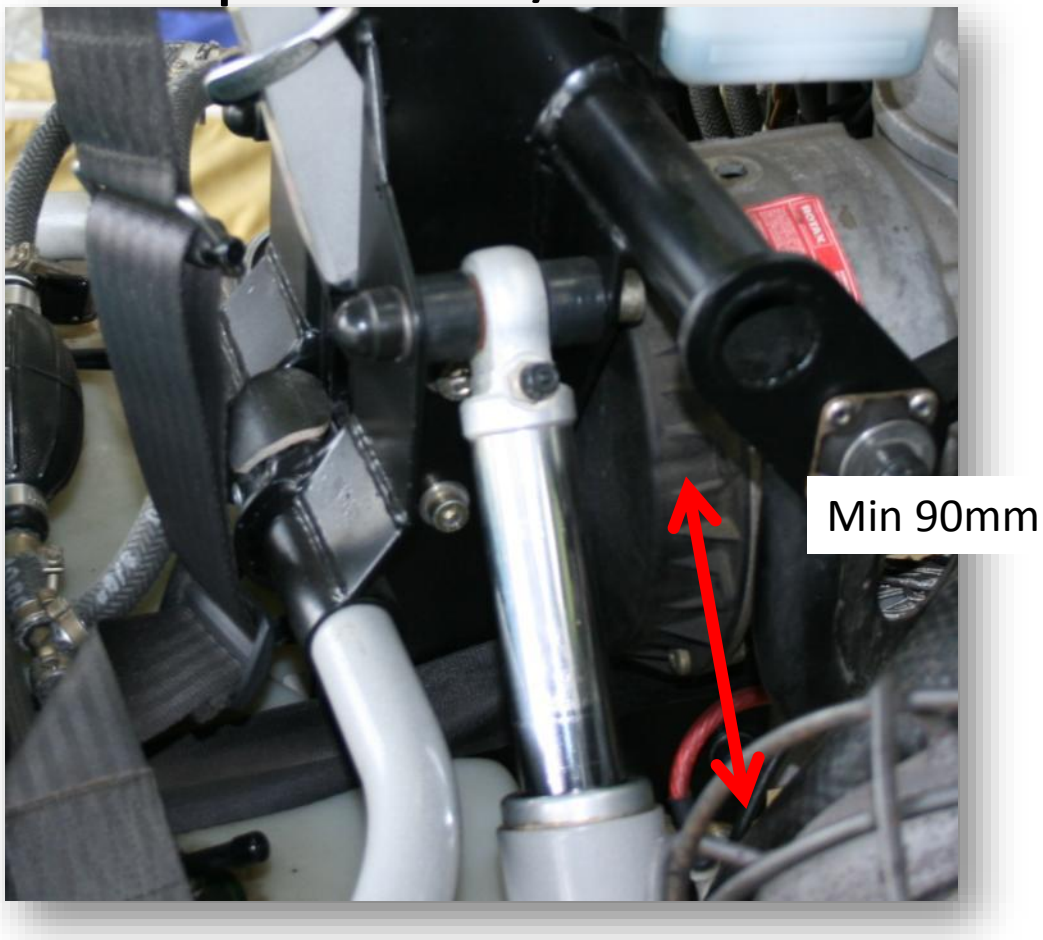
Range Overview - **BioniX**

Annual inspection

Engine mount frame cracking – Twin/Buggy/Clipper

Annual inspection

Suspension pressure / extension – all models



Annual inspection

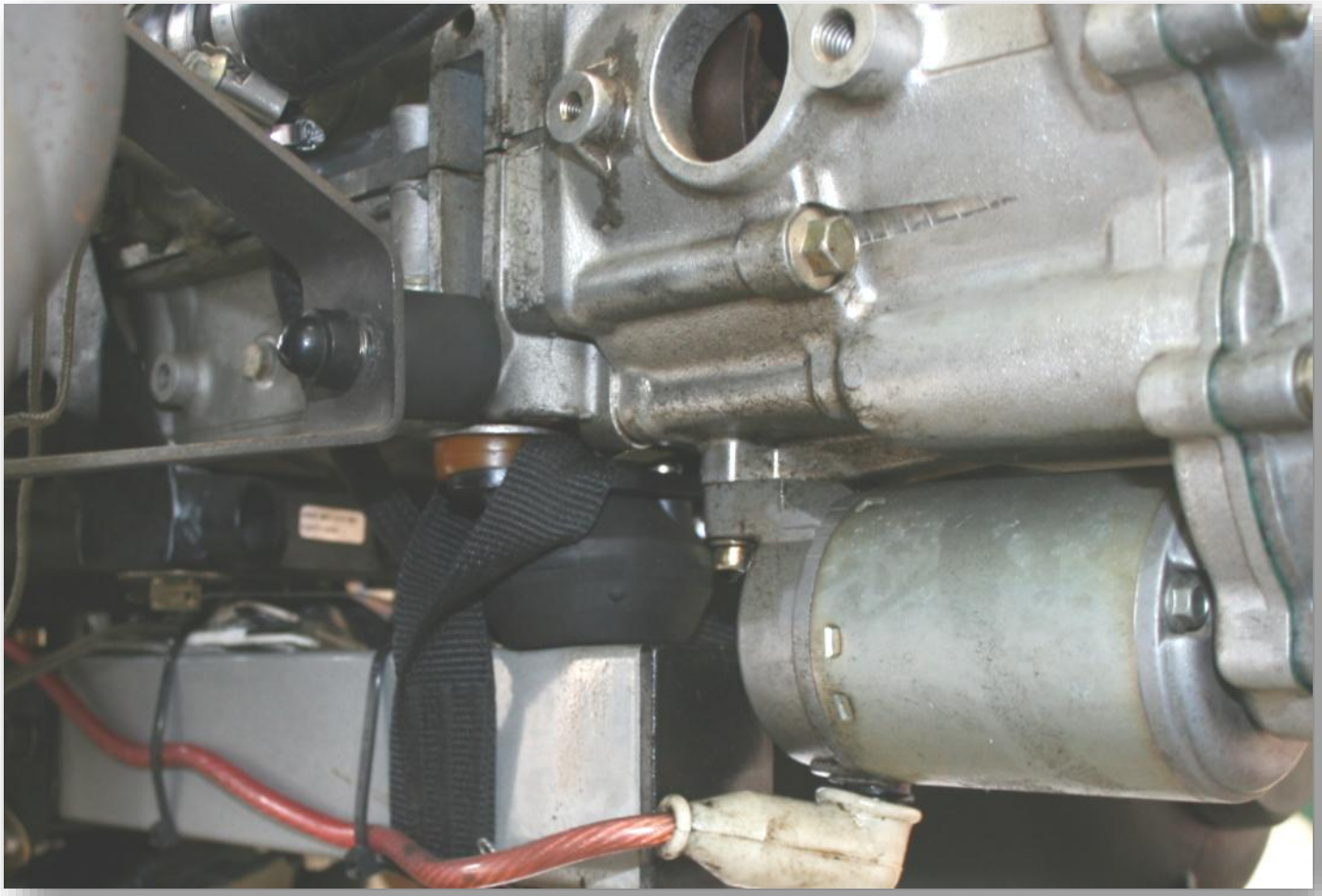
Steering head bearings, throttle stop wire – Twin/Buggy/Clipper

Annual inspection

Prop strike on Spat – Twin/Buggy/Clipper with finned spats

Annual inspection

Rear engine mount ‘bulb’ and strap – Twin/Buggy /Clipper 582. Check for perishing and strap being present!



Annual inspection

Yes - the engine is supposed to be offset like this!

Annual inspection

Check rear steering bar isnt bent - Twin/Buggy/Clipper

Annual inspection

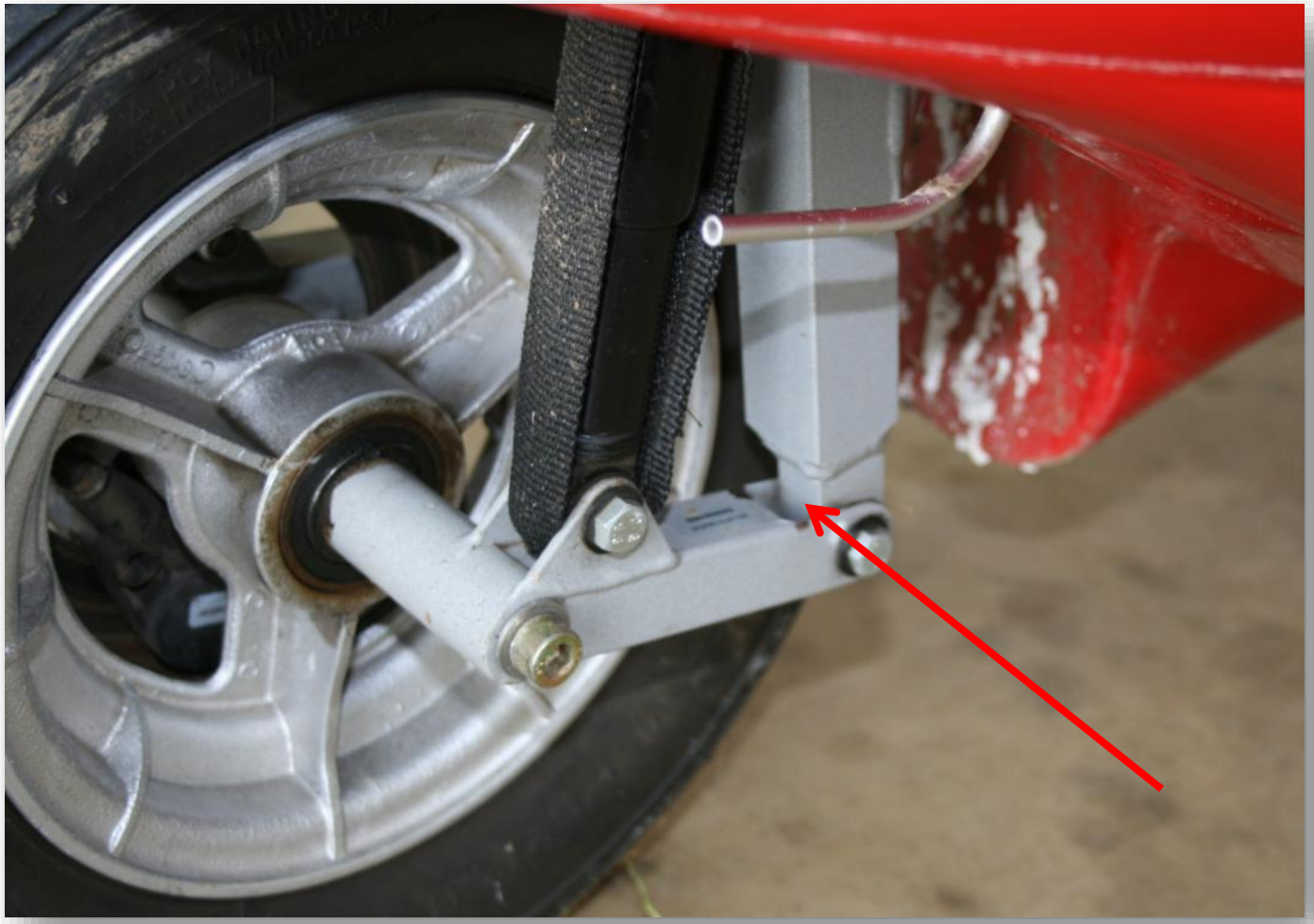
Drag links - GtBis (old Fun 18's), and Twin/Buggy/Clipper , check for play at both ends.

Annual inspection

Tanarg seat backs – glassfibre, and can be broken

Annual inspection

Tanarg – leading links on nosewheel – collision marks witness to a heavy landing



Annual inspection

Tanarg – Steering bar bending - witness to a heavy landing

Annual inspection

Kiss wings – neoprene strip ages with time

Annual inspection

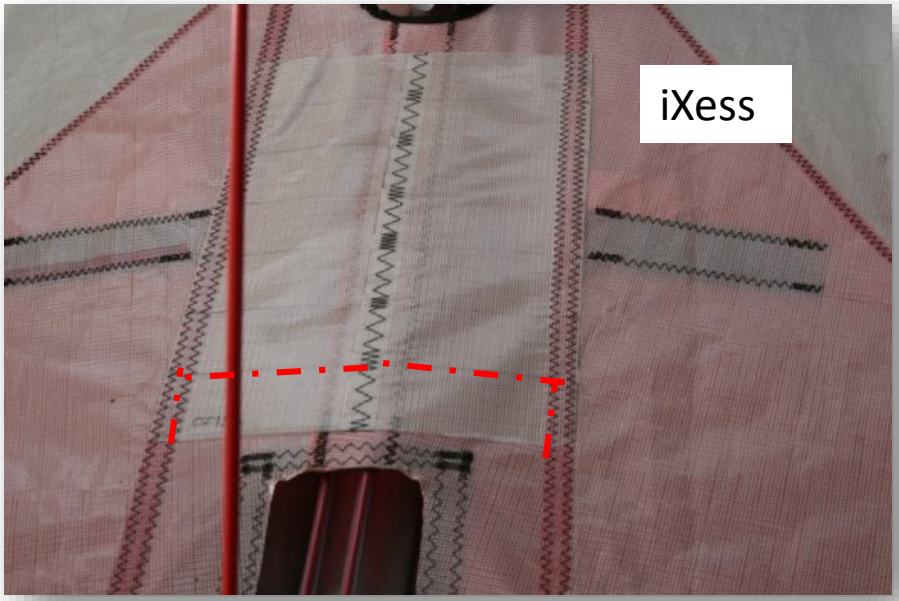
All wings – A frame knuckle corrosion

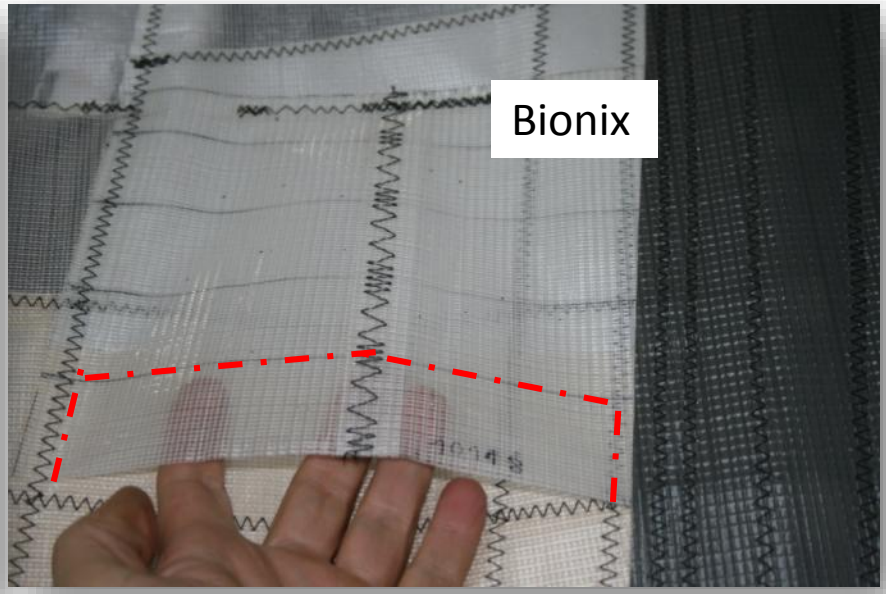
Annual inspection

Sail testing:

Kiss wings standard 1360 for fabric and stitching

iXess and Bionix – tensile test every three years on fabric sample





Annual inspection

Sail testing:

Kiss wings standard 1360 for fabric and stitching

iXess and Bionix – tensile test every three years on fabric sample

But stitching to 1360 every year and a ‘tactile test’


Questions?
07 MW