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FACSIMILE

F.A.O. : Stephane Ridderheim
FAX NO. : 0046 6012 9117
FROM : Andy Draper
DATE : 14 November, 2000
No. Of Pages : 2 (Including cover page)

Dear Stephane,

Attached is a copy for your reference of the facsimile sent to Staffam Ekström in Sweden, regarding the suggested increase in Europa XS gross weight.

Kind regards

Andy Draper
Technical Manager

P.S. I spoke to Don Dykins regarding the effect of the extra weight on speed and he estimates 4-5Kts will be lost.

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FACSIMILE

F.A.O. : Staffam Ekström – EAA Chapter 22, Sweden
FAX NO. : 0046 8751 9816
FROM : Andy Draper
DATE : 14 November, 2000
No. Of Pages : 2 (Including cover page)

Dear Sirs,

Increase in Europa XS gross weight from 1370lb to 1450lb

The Europa XS aircraft has been designed to have a maximum gross weight of 1370lb and the wings/fuselage structure has been tested to 8.55g to qualify it to 3.8g. A factor of 1.5 has been used in consideration of the structure being made using composite materials in addition to the normal safety factor of 1.5.

Thus, $3.8g \times 1.5 \times 1.5 = 8.55g$.

A composite factor of 1.3 is considered acceptable resulting in a test factored ultimate being $3.8 \times 1.5 \times 1.3 = 7.41g$.

Hence $\frac{8.55}{7.41} = 1.15$

Therefore $1370lb \times 1.15 = 1575lb$.

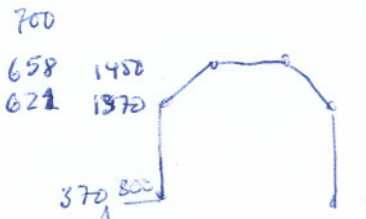
However, with consideration to the landing gear strength and aircraft performance it would be prudent to limit the maximum permitted gross weight in Sweden to 1450lb.

When operating at weights above 1370lb the centre of gravity limits should be revised from between 58.0" to 62.5" aft of datum (AOD) to between 59.0" to 61.5" (AOD) to reduce effects of inertia during ground handling.

Although we have not demonstrated this, the Europa XS aircraft at 1450lb, when fitted with the Rotax 914 engine and Warp Drive propeller set to provide a minimum static rpm of 5200 in ISA conditions, should enable take-off within 300m on a hard uncontaminated runway and climb at greater than 500ft/minute.

Kind regards

Andy Draper
Technical Manager





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FACSIMILE

F.A.O. : Stefan Ridderheim
 FAX NO. : 0046 601 29117
 FROM : Andy Draper
 DATE : 22 November, 2000
 No. Of Pages : 1 (Including cover page)

Dear Stefan,

The figures I've given you are estimates, which I believe to be realistic, conservative even. Don's figure of 4-5kts is based on the maximum cruise speed. I would expect the difference to reduce proportionally as aircraft speed was reduced.

Don's comment to me was that the biggest differences you'd notice, as a result of weight increase, would be climb rate and acceleration hence my estimated 50% increase in take-off run.

The following are my estimates (Don has gone away until mid December), on a 1450lb aircraft, for the remaining cases that you ask for:-

Stall speed (flaps down)	50kts
Stall speed (flaps up)	55kts
Fuel consumption (economy)	11lit/hr
Range (economy) std tank	600nm
Range (economy) aux tank	900nm

These figures are only estimates, but I believe are as accurate as I can make them. They also are dependent on propeller and standard of build.

I hope that these figures are OK with you.

Kind regards

Andy Draper
 Technical Manager



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