

	Standard Modification Issue 1	Mod No. SM10713
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		Compiled : I Rickard
		Approved : F Donaldson

TITLE : Wing Conduit Installation

APPLICABILITY : **Europa XS**
Mod Type : **New build prior to closing the wing**

1. Introduction

This mod installs a single plastic conduit in each pre-moulded wing of the Europa XS. These may be used to carry the pitot, static, stall warning tubes and electrical wiring as required. This setup also allows replacement of pitot/static tubes and wiring, following any degradation in them. In the original design this was impossible.

Each conduit is installed as two lengths in each wing with a short break between them. The break is at the aileron bellcrank inspection hole where they can be accessed easily. The choice of lightweight plastic conduit, from the wide range available commercially, is left to the builder. The conduit must not exceed 18mm diameter, or a 10mm x 16mm oval.

2. Parts List

Qty	Part No.	Description	Source
2	Conduit	1.5M long	DIY Store
2	Conduit	2.1M long	DIY Store
	Ampeg 21	Epoxy laminating resin	Builder's stock
	92125	Bidirectional (BID) glasscloth	Builder's stock
	92145	Unidirectional (UNI) glasscloth	Builder's stock
	Araldite 420	Epoxy adhesive	Builder's stock

List of related Drawings / Photo's

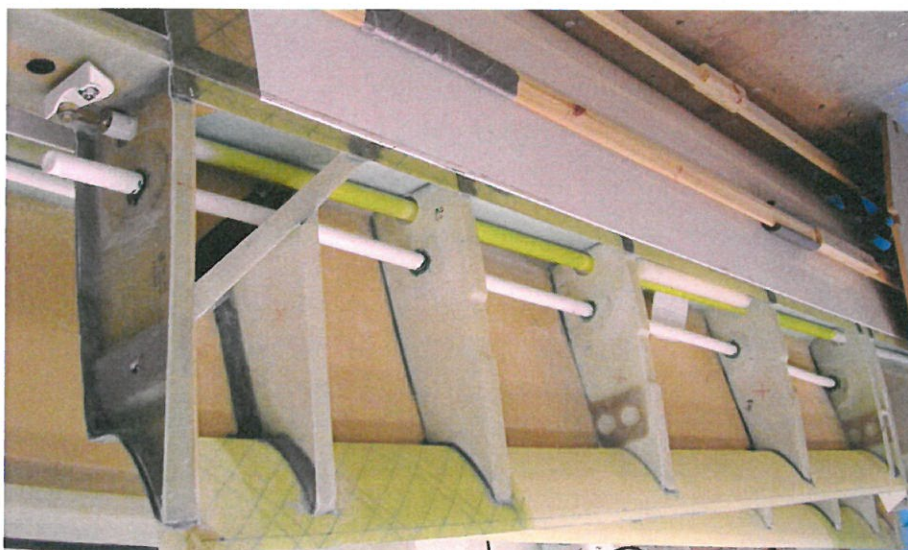
Drawing No.	Title / Description	Issue
None	All illustrations are included in this document	-

3. Action

3.1 Installation Overview. Installation must be carried out prior to closing the wing. The reinforcement at each hole takes the form of a "donut ring" of two plies of 92125 BID glass cloth around the hole on each rib, [one side only].

3.2 Inboard Conduit.

The inboard conduit runs, in a straight line, from the root rib to the outboard side of the double rib. At the root rib the conduit is located at the centre (vertically) and 5" from the spar. At the double rib the conduit is located on the lower skin and 5" from the spar. (See Inboard conduit picture). Mark the positions of the holes required and ensure that the conduit passes through the diagonal rib just forward of its junction with the chord-wise rib that is bonded to it.



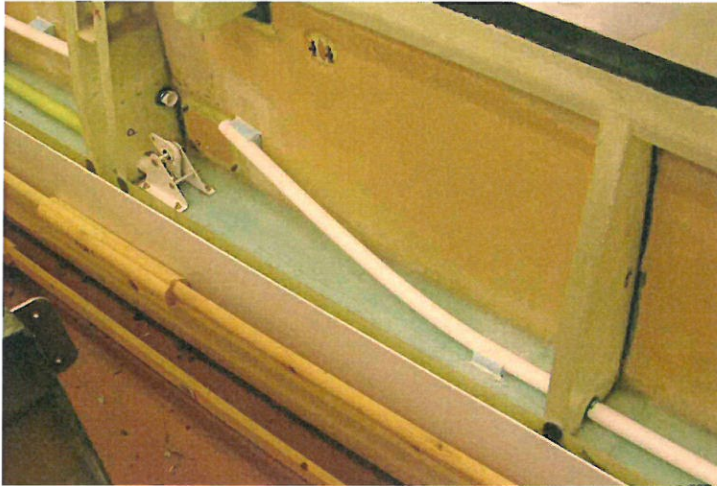
Inboard conduit

Cut the required holes and thoroughly scuff sand the ribs around each hole on the chosen side for the reinforcement layups. Make the diameter of the reinforcement plies 2" bigger than the hole. Orienting the plies at 45° to the horizontal, as per the rib's layup, apply two plies of BID on the scuff sanded side of the rib, overlapping onto the lower skin as necessary.

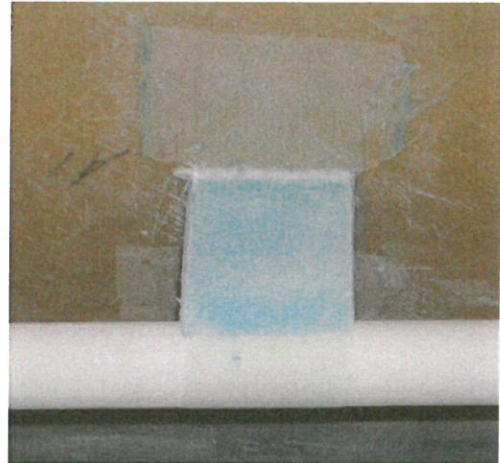
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3.3 Outboard Conduit

The outboard conduit runs along the horizontal centre line of the spar from the tip of the spar through the outboard rib. From the rib it is curved aft to a convenient position adjacent to the aileron bell crank inspection panel. (See Outboard conduit picture). The hole required in the outboard rib must be reinforced with two plies of BID on one side of the rib as before, overlapping onto the spar as necessary.



Outboard conduit



Strap

3.4 Straps


Create support straps mid-way between the ribs consisting of a shaped block of styrofoam covered with a single ply of 92145 UNI with fibres running at 90° to the conduit and lapping onto the structure about 25mm (1"). (See Strap picture).

4. Weight and Balance

- 4.1 The weight will be included when the aircraft is completed and weighed. Total weight is less than 1lb.

5. Flight Test and Special Instructions

- 5.1 An LAA inspector must check the installation complies with this modification **prior to closing the wings** then complete an LAA/Mod 1 form which should be submitted when making the application for a Permit to Fly.
- 5.2 On completion of the build ensure that the modification number is recorded on the "Declaration of Design" page when applying for the Permit to Fly.

Approved:	F Donaldson B.Tech C.Eng FRAeS Chief Engineer	Signed:	
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