	STANDARD FORM SF 11 Standard Mod Nomination Issue 1	Date :05/11/2005
		No. of sheets attached 4

This standard form is used to nominate a modification or manufacturer's option to be included in the list of PFA approved Standard Mods which appears on the PFA website (<http://www.pfa.org.uk>).

1. AIRCRAFT

Aircraft Type(s)	Manufacturer's name and address
Europa Classic & XS	Europa Aircraft (2004) Ltd, Kirby Mills Industrial Estate, Kirbymoore, North Yorkshire, YO62 6NR

2. NOMINEE

Name	Ian Rickard	Member No.	031450
Address	37, Willowmead Close Woking Surrey GU21 3DN		

3. MODIFICATIONS

Modification Description / Name	Reference No. (see Note)	Issue
Door Locks	10297 (with additional documentation)	

Note : The Reference number will be the manufacturer's option number or the PFA mod number as appropriate.

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			Issue :1 Date 11/2005

This standard form is used to describe a modification in appropriate detail to constitute part of the aircraft build standard record, all pages must be included in any submission.

TITLE :	Europa Door locks
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AIRCRAFT TYPE : (eg : Pitts S2A)	Europa Classic and XS	
Mod Type : (<i>Delete as required</i>)	New Build	Retro-fit

1. Introduction

1.1 This modification describes the fitting of door locks. These are required by most builders to give some security to the contents of the aircraft. Suitable locks are available from Europa (2004). (NOTE if ordered with the locking fuel cap they can be supplied with the same key.) The locks are supplied without fitting instruction.

1.1 If the locks are fitted, using the lock blade as supplied, acting against a simple pin (or notch) in the pushrod (DL08) the lock can be easily forced. With the blade installed at right angles to the pushrod any force applied will tend to either rotate the lock barrel in the door or the tumblers within the lock (causing irreparable damage). The instructions below provide a design that greatly increases the effectiveness of the lock.

2. Parts List

List any new manufactured or procured parts:

Qty	Part No.	Description	Source
2	Door Lock	Barrel lock	Europa (2004)
2	3 mm roll pin	Roll pin	
	Aluminium sheet	1.5mm or 2.0mm	
4	Small bolts & nuts	3mm countersink	Hardware store
6	4mm bolts	4mm pan head	Hardware store
6	KM1000-040	Anchor nuts 4mm	LAS
12	TAPK36-BS	Rivets for above	Europa (2004)

Alternate Imperial bolts and anchor nuts

6	MS35206-227	6-32 machine screws	LAS
6	MS21047-L06	Anchor nuts 6/32UNC	LAS

List of related drawings / photos

Drawing No.	Title / Description	Issue
Instructions	Below	Oct 2005
Drawing	Mod drawing	Oct 2005

3. Action

3.1 Locate and cut the access hole on the inside of both doors. See the attached drawing. The size is not critical but should be between 40 and 45mm. The location given is reasonably accurate but you may have sanded the edges of your doors while fitting. The position is not critical.

3.2 Cut two rectangles from the aluminium sheet, that will pass through the access hole. Shape these to the profile of the door; scuff sand and bond in place, with Araldite 420, centred over the lock position.

3.3 Make up the lock blade assemblies as detailed in the drawing. This assembly is held together with 3mm countersink head bolts. These are installed with the heads on opposite sides to give clearance to the nut holding the lock barrel and the captive nuts used to hold the access hole cover. See picture below. Check they are correctly "handed" for each door.

3.4 If you have the round 10mm push rods it will be necessary to remove the push rod and file flats on the rod. The resulting parallel-sided section should be 7.5mm thick. If the lock cover plates have already been fitted it may be necessary drill a 25mm hole, centred on the handle shaft to allow the roll pin holding the push rod to be removed.


3.4 With the door bolts extended decide on the location of the roll pin, offer up the completed lock plate assembly and fix the position of the centre point of the lock barrels.

3.5 Drill and file the holes for the lock barrels. There is a flat on the lock barrel that must be orientated to the correct position. Install the lock barrels.

3.6 Temporarily install the lock plate assembly and check the position of the roll pin. Drill the hole for the role pin and install. Check the lock plate assembly fits closely to the rod and roll pin. Bend the lock blade and/or add or remove spacers to achieve the best fit. Check that the key can be removed at both extremes (locked and unlocked).

3.7 Make two cover plates for the access holes. Install the cover plates with the captive nuts riveted to the door structure. See picture below. Install the covers.



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4. Flight Test and Special Inspections

1) None required

List of related analysis or test reports

Report No.	Title / Description	Issue
	None	

5.

6. Weight and Balance Effects

7.

Amend weight and balance records by calculation to reflect the following changes :

Weight Change	Moment arm	Moment Change
+ 0.10 lb	+80.50 in	+ 8.05 in/lbs

6. Applicant's Declaration

I Declare that the foregoing information is correct and I agree to abide by any conditions pertaining to this modification. I agree that this modification and all ideas contained within are the property of PFA (Ulair) Ltd and can be used in any way for the benefit of the PFA and it's members.

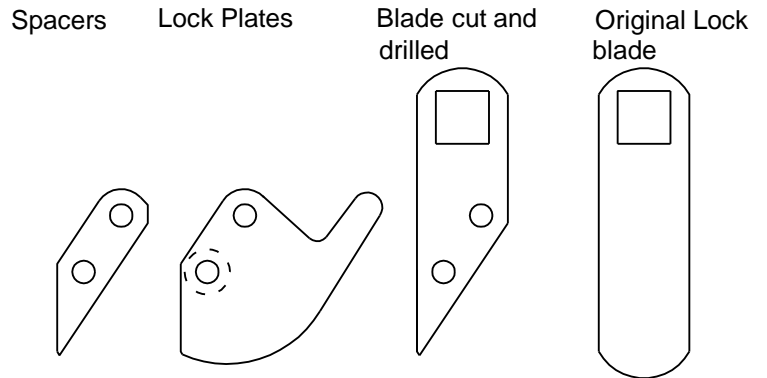
Signed  Applicant Date 05/11.2005

Mod No. 10297

REV	Drawn By	Date	Description

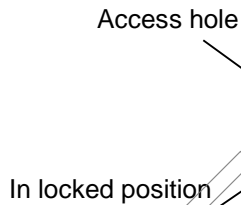
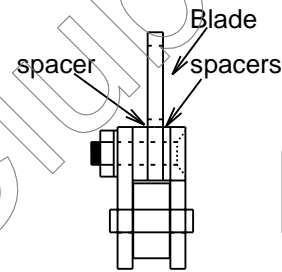
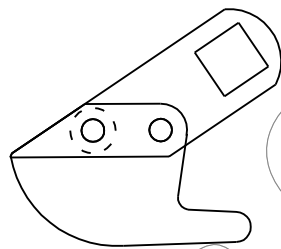
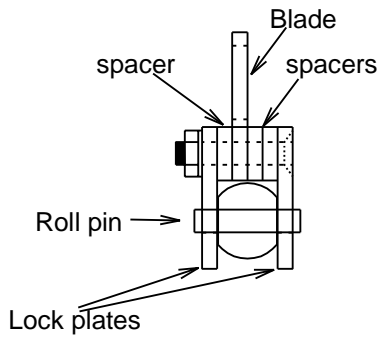
3mm countersink bolts
 (The countersunk head is needed to clear the capitive nuts on the outside and the main lock mounting nut on the inside)

The spacers should be of such thickness and so arranged to position the lock plates symetically about the bar when the tang is bolted to the lock



Early Aircraft have the 10mm round bars.
 File a flat on the sides to leave 7.5 mm of material.

Late aircraft have flat barstock (3/8 x 3/16)
 instead of the 10mm rod. Use spacers to suite



Unlocked with key removed

Area of bar reduced to 7.5mm across flats

3mm roll pin or bolt

60mm

102 mm

PFA MODIFICATION APPLICATION				
Drawn By I. F. Rickard	Title Europa XS Trigear Door Locks			
Date 28/10/2005	PFA A/C Type Europa XS	Serial No 247-13714	Drawing No Europa XS (505)	Rev 1
Checked by	Scale 1:1	A/C Regn G-IANI	Drawing Sheet 1 of 1	