



# **EUROPA**

## **MODIFICATION NUMBER 47**

### **EXTENDED BAGGAGE BAY MODIFICATION**



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**Note:** The information in this manual refers to aircraft built to Europa manufacturing manuals. Any modifications may alter the applicability to your aircraft.

### List of Revisions

Issue	Revision	Pages affected	Date
1	-	-	-
2	-	-	-
3	-	-	January 1999
4	Europa Mod 79 referenced. New document format applied.	All	June 2015
5			
6			
7			



## Introduction

This modification enables the baggage bay of pre -XS Europa fuselages to be extended to the same dimensions as in the XS fuselage. It must be emphasized that although the volume is considerably increased, the maximum load of 80 lb (36 Kg) must not be exceeded.

## Action

Before fitting the new baggage bay moulding to the cockpit module, the latter should already be installed in the fuselage with the top moulding bonded on.

The upper portion of the cockpit module's rear bulkhead should be cut off in line with the top of the tunnel. Complete all work relating to the flap control tube while you still have good access.

## Preparation

The moulding for the baggage bay rear bulkhead and floor incorporates joggles for two access doors to compartments under the floor, and for the rear fuselage access panel.

Cut out the inner part of the two joggles in the baggage bay floor, leaving a flange 20 mm (3/4") wide. The access covers are made from two pieces of 3 mm plywood 280 x 203 mm (11" x 8"). The corners should be radiused to suit the joggles in the floor.

Fit the covers to the cut outs and drill through each corner with a 4.8 mm drill, and countersink the holes in the plywood. Using the MS24693-C272 bolts to centre them with their holes, fit MS21047-3 anchor nuts with TAPK33BS rivets, having countersunk the glass fibre flanges for the rivets first. The covers are fitted with MS24693-C272 countersunk screws with NAS1169C10 countersunk (Tinnerman) washers.

The 'D' shaped access panel which fits into the rear bulkhead is fitted with seven bolts: four along the base flange and three around the upper flange.

Mark out the hole centres on the panel so that they are approximately 13 mm (1/2") from the edges and spaced equidistantly. See Figure 1.

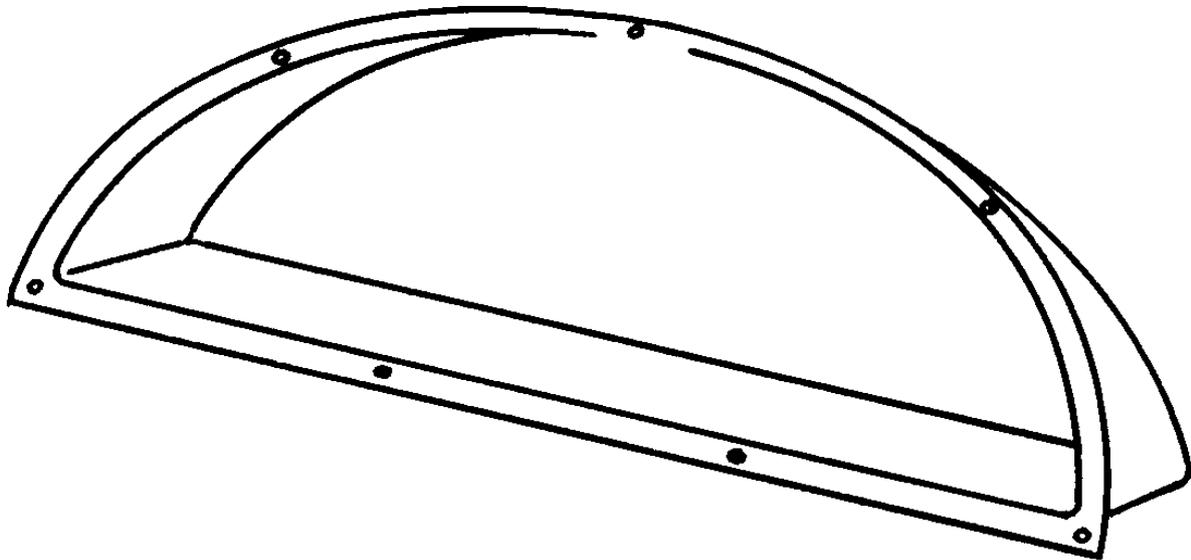


Figure 1: Fastener holes in rear access panel

Position the panel in the aperture in the rear bulkhead and secure it with tape. Drill through both the panel and the rear bulkhead with a 4.8 mm drill at each of the seven hole centres. Remove the panel and install MS21047-3 anchor nuts on the rear side of the bulkhead using TAPK33BS rivets. Don't omit to countersink the glass fibre flanges for the rivets with a drill.

Countersink the forward face of the holes in the panel with a drill to accept Tinnerman washers. The panel is now ready for installation using MS24693-C272 screws and NAS1169C10 Tinnerman washers.

## Installation

The front flange of the bulkhead fits over the rear of the cockpit module. The first job is to cut away the centre of the bulkhead front flange so that it matches the tunnel of the cockpit module.

To support the weight of baggage and to stiffen the floor four plywood support ribs are fitted underneath the floor. The positions are shown in Figure 2.

The ribs are to be fitted to the rear of the panel to ensure clearance for the operation of the flap drive cross tube.

Trial fit the bulkhead in place and measure the height of the ribs. Cut out the ribs approximately 3 mm (1/8") less in height than the measured figure and 200 mm (8") long, then lay-up one ply of 'bid' at  $\pm 45^\circ$  onto each side. Scuff sand the areas of the underfloor / baggage bay floor where the ribs



will fit. Attach the ribs to the bulkhead with a Redux/flox mixture. After cure the joint should be reinforced with 2 plies of bid at  $\pm 45^\circ$  lapping onto the ribs and bulkhead by 25 mm (1").

Scuff sand all the areas where the bulkhead will fit onto the fuselage and onto the rear of the cockpit module section of the baggage bay.

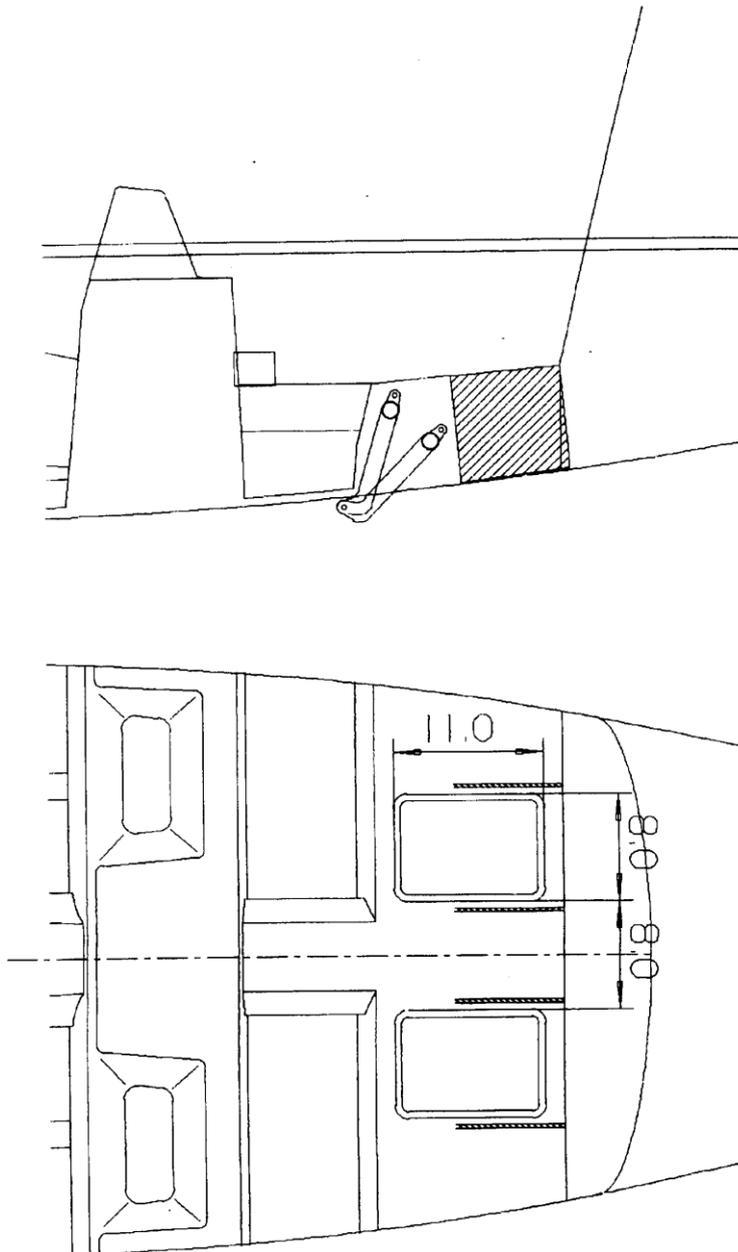


Figure 2: Baggage bay support ribs



Drill and cleco the bulkhead front flange onto the rear face of the cockpit module. Remove the clecos and bond the bulkhead onto the cockpit module with Redux/flox; fit the clecos or use rivets to hold the items securely whilst the adhesive cures.

Finally lay-up 2 plies of 'bid' onto the bottom of the floor support ribs, lapping them onto the fuselage floor and ribs by 25 mm (1"). Also lay-up 2 plies of 'bid' onto the join between the top fuselage and the top of the rear baggage bay bulkhead, lapping them onto each by 25 mm (1"). Layup both sides of the bulkhead to the top moulding

## Fuel filler cap

The new fuel filler cap fits into a recess which must now be prepared in the upper fuselage. Locate the fuel filler recess mould on the outside of the fuselage, fitting against the door frame recess. Drill through the centre of the recess of the mould and through the fuselage skin with a ¼" drill. Remove the mould and open up the hole in the fuselage to 110 mm (4 5/16") diameter.

Now reposition the mould, having first coated the inside with a proprietary release agent or furniture wax, and lay-up 3 plies of 'bid' on the inside, lapping on to the fuselage by a minimum of 25 mm (1"). Peel ply and allow to cure. The mould can then be discarded.

Finally cut a hole 75 mm (3") diameter in the newly made recess.

## Fuel filler tube

**PLEASE NOTE THAT IF INSTALLING MOD 79 "ALTERNATIVE FUEL FILLER SYSTEM" THE INSTRUCTIONS BELOW SHOULD BE REPLACED BY THOSE CONTAINED IN MOD 79.**

The fuel filler tube is roto-moulded polyurethane similar to the fuel tank.

Cut the large diameter boss down to 6 mm (1/4") long then, using a 63 mm (2.5") hole saw, open the bore diameter. You may need to increase the bore diameter further by filing until it fits over the threaded part of the filler cap receptacle easily.

Next cut the end of the boss at the opposite end to open it up. Clean all the cutting debris out before you continue, to ensure none enters the fuel system. Slide the longer leg of the rubber hose elbow onto the lower boss and then offer up the fuel filler tube assembly to the filler receptacle and the fuel tank filler boss. You may need to trim the hose to get the filler tube moulding to align with the door aperture.



After installing the filler moulding, it will be fastened to the fuselage side with 75 mm (3") wide glass fibre straps; one just below the inlet bowl and the other at the bottom just above the rubber hose. Scuff sand the fuselage side where the straps will attach.

Immediately before installing the filler tube, coat the threaded portion of the filler cap receptacle with "sealant" such as Araldite 420 or any other fuel resistant material. Now slide the filler tube over the receptacle, and smear a fillet of sealant around the joint.

Make up a 2 ply 'bid' lay-up on plastic sheeting 300 mm x 200 mm, (12" x 8") then cut it to make two strap 300 x 75 mm (12" x 3"). Apply the straps around the filler tube, lapping onto the fuselage side then, ensuring the tube will not move, allow to cure.

Finally, either remove the old filler cap and receptacle and repair the fuselage with a 3 ply 'bid' layup or fit a locking filler cap at least to prevent inadvertent use.