	STANDARD FORM SF 6 Modification Description Issue 1	Mod No (Office use only).	11321
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TITLE :	Shock Mounting of Instrument Panel
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AIRCRAFT TYPE : (eg : Pitts S2A)	Europa Classic & XS	
Mod Type : (<i>Delete as required</i>)	New Build	Retro-fit

1. Introduction

1.1 The standard Europa moulded instrument panel is normally fitted to the firewall with AN525 10 R14 screws and MS21047-3 anchor nuts. This is a rigid fixing design which does not provide protection for delicate instruments and avionics either from engine/propeller vibration, the shock loading from manoeuvring on rough ground or a heavy landing.

1.2 The modification provides a vibration free mounting for the instrument panel. The standard screw and anchor nut fittings are discarded and replaced by a total of 7 no. 'cotton real' type rubber mountings, 6 no. being fixed to aluminium reinforcing plates on the back of the instrument panel and 1 no. fixed underneath the panel. The modification has the additional benefit of providing space for a noise and vibration insulating material and also facilities easy removal of the panel for maintenance purposes

2. Parts List

List any new manufactured or procured parts:

Qty	Part No.	Description	Source
7		20 mm diameter fuel pump mounts	Automotive Parts
6		50 mm stainless steel washers	Cut from waste from Europa s/s fireproof bulkhead
70	TAPD 46 BS	Pop rivets	Europa Aircraft
2		16 AWG 50 mm wide aluminium plate	Hardware store
2		16 AWG 40 mm aluminium plate	Hardware store
14		10 mm lock nuts for rubber mounts	Automotive parts

List of related drawings / photos

Drawing No.	Title / Description	Issue
	General layout	
Tropical 2	General layout	

3. Action

3.1 Make up from the aluminium sheet two flat plates shaped to fit the ends of the instrument panel which face the phenolic firewall. Make up two angle plates to join the top and bottom of the moulding, evenly spaced from the ends.

3.2 Drill the plates for riveting to the panel and glue with 5 minute epoxy after scuff sanding the joint faces.

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3.3 Drill the aluminium plates for one rubber mount each and the aluminium angle for two rubber mounts each, one located at the top and one at the lower end. Drill the flat section on the underside of the panel for the seventh rubber mount and locally reinforce the inside of the panel and the top of the centre section of the cockpit module with scrap 16 AWG aluminium plate.

3.4 Bolt the rubber mounts to the aluminium reinforcing plates using 10 mm locknuts and "Loctite" thread locker.

3.5 Paint the exposed end of the rubber mount threads with a dark paint and whilst still wet carefully offer up the panel to the cabin side of the phenolic firewall so that the paint marks the position of the sevenb holes to be drilled, 6 in the firewall and 1 in the cockpit module.

3.6 Drill the firewall with a 5 mm drill opening up with a course file to 15 mm to provide sufficient space for a 10 mm socket that will be needed to tighten the locknuts on the engine side of the firewall.

3.7 Cut 6 stainless steel washers 50 mm in diameter from the waste left over from the Europa supplied stainless steel undercarriage firewall. Glue the washers to the panel side of the firewall with Araldite 420 and rivet each washer with 8 no. TAPD 46 BS pop rivets, heads to the engine side of the firewall.

3.8 Drill the centre of the stainless steel washers to accept the rubber mount threads. Finally fix the panel in position with 10 mm locknuts.

3.9 The Europa Hi Top fuselage modification enables the instrument panel to be fixed high, medium or low on the firewall, depending upon the builder's preference. The rubber mount underneath the panel which is fixed to the flat centre section of the cockpit module will need to be spaced from the cockpit module as appropriate.

4. Flight Test and Special Inspections

4.1 As a consequence of fitting the shock mountings the instrument panel is moved about 15 mm aft of the standard position, which is of no consequence in the Trigear. In the monowheel aircraft it is essential to check that there is sufficient space to enable the undercarriage lever to be safely operated and securely latched. The space between the panel and the firewall enables a proprietary brand of aircraft sound proofing material to be installed which further reduces vibration and noise.

4.2 The modification was incorporated from new in the first homebuilt Europa to fly (G-OPJK). It was thoroughly flight tested under maximum G manoeuvres by the Europa test pilot. In 777 hours the shock mounting required no maintenance

List of related analysis or test reports

Report No.	Title / Description	Issue
	None	

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5. Weight and Balance Effects

5.1 This modification was designed to be installed during the construction of the aircraft. The increase in weight over the standard aircraft will be recorded during the weight and balance calculations prior to the grant of a permit to test. If installed after completion Amend weight and balance records by calculation to reflect the following changes:-

Weight Change	Moment arm	Moment Change
<i>0.5lb</i>	<i>34.0in</i>	<i>17.0</i>

6 Certification

Your PFA inspector should make the appropriate logbook entry for this modification

6. Applicant's Declaration

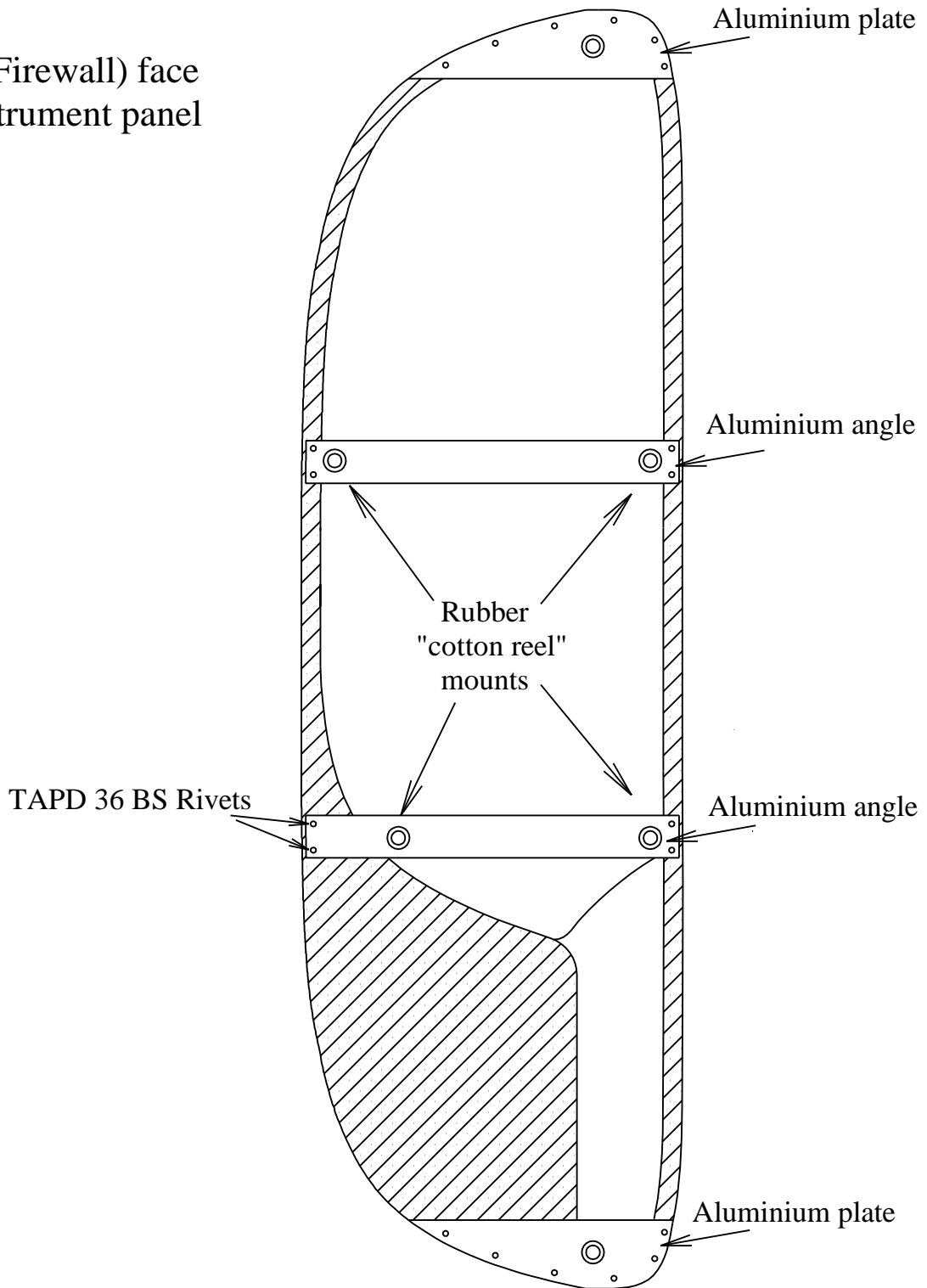
I Declare that the foregoing information is correct and I agree to abide by any conditions pertaining to this modification. I agree that this modification and all ideas contained within are the property of PFA (Ulair) Ltd and can be used in any way for the benefit of the PFA and it's members.

Signed _____ Applicant Date _____

Mod No. 11321

REV	Drawn By	Date	Description

Rear (Firewall) face
of Instrument panel

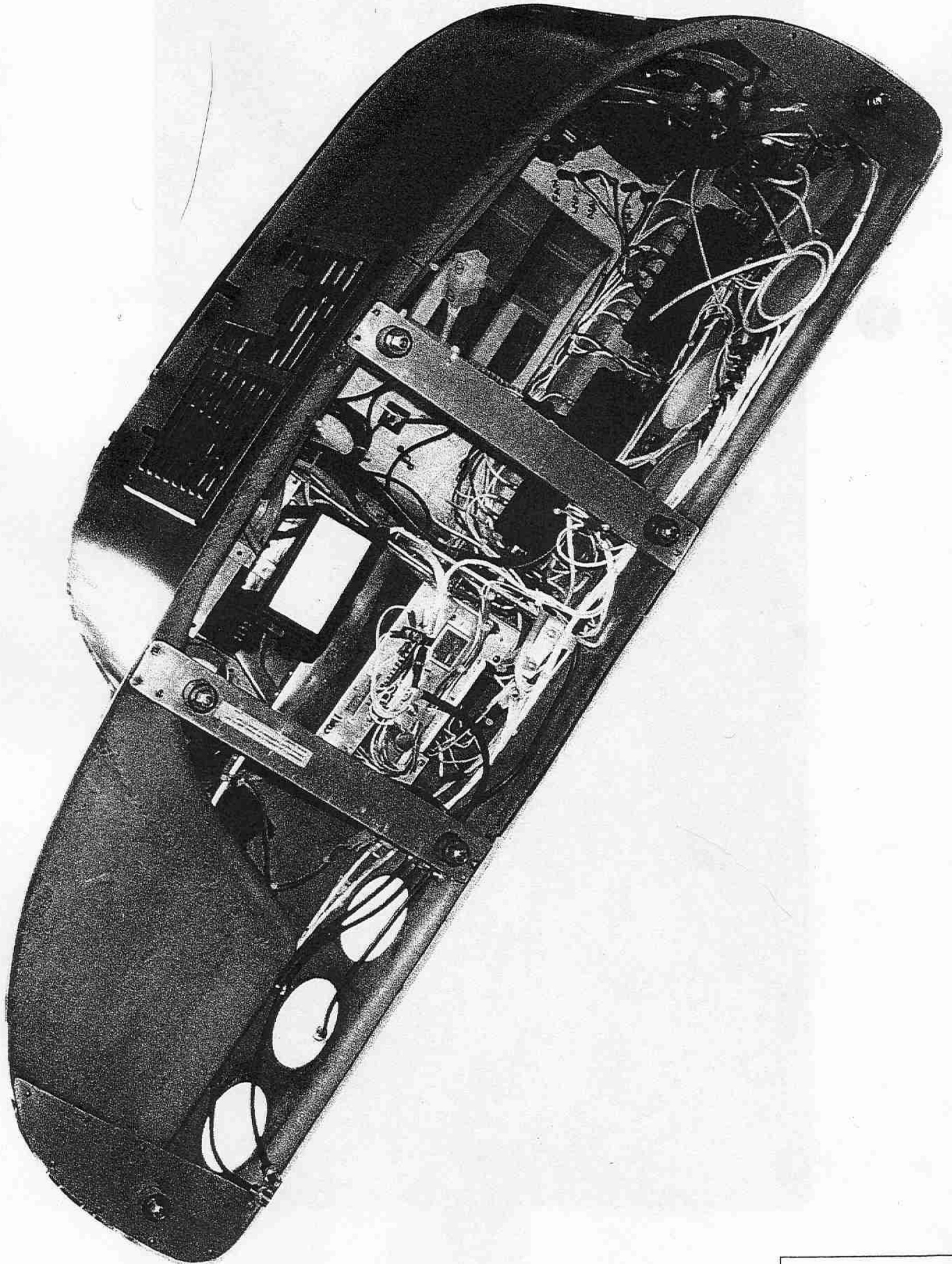
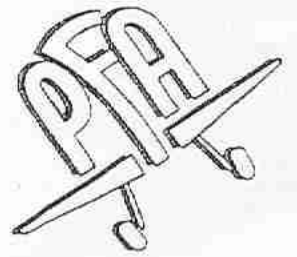


<p><i>pfa</i> MODIFICATION APPLICATION</p>				
Drawn By I. F. Rickard	Title Europa XS & Mono			
Date 08/12/2007	Shock mounting of instrument panel			
Checked by	PFA A/C Type Europa XS	Serial No 247-14193	Drawing No Europa XS (1000)	Rev 1
Date	Scale 1:5	A/C Regn G-IANI	Drawing Sheet 1 of 1	

From the original drawn by P. Kember

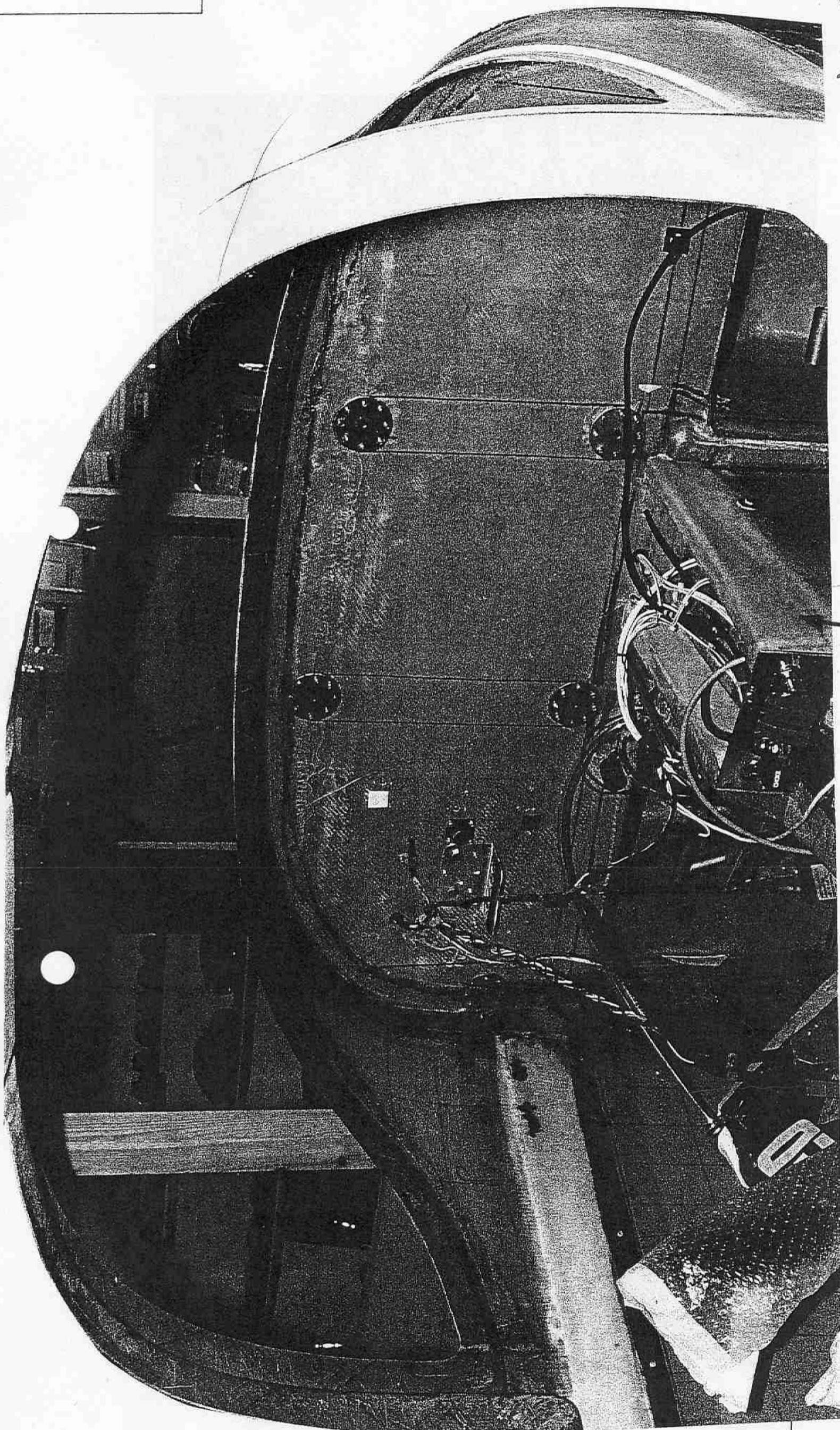
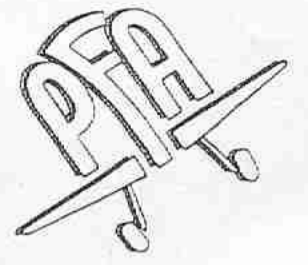
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THIS FIXED MOUNT ONLY POSSIBLE
WITH HIGH MOUNTED PANEL IN
Hi-TOP.