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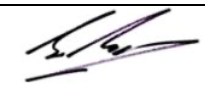
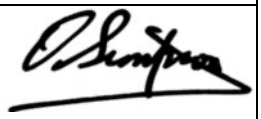
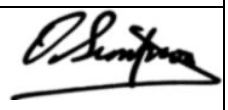
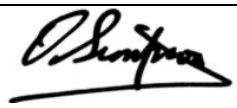
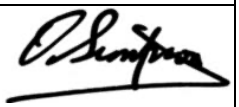
EV-97 EUROSTAR (MAUW 450kg Kit)
EV-97 TEAMEUROSTAR UK (MAUW 450kg RTF)
EV-97A EUROSTAR (MAUW 480kg Kit)

MAINTENANCE MANUAL

MM/EV97/01

Issue	Details of Change	Date	Authorised
1	Initial issue	25/6/03	
2	Amended in accordance with CAA requests: Document ref. no GEN/EUR/02 added. Inspection table para. 1.3.3 now has maintenance period box. Para. 6.1, empty weight now includes unusable fuel. Para. 8.2 lateral and fore-aft stick movement measurement removed; “Message for Pilot” removed. Para. 8.4 fuel pressure record now included. Paras 2.9 & 2.10 added.	2/7/03	
3	Circuit diagram to include optional hour meter and warning lamp – P20 Maintenance of optional cabin heat system added	16/8/04	
4	Coolant Temperature changes, Page 25	6/6/11	
5	Inclusion to check for worn rivet heads under wing fillets, Page 9 Check for any fatigue cracks in the fuselage structure where the main undercarriage legs are attached. Page 7.	25/3/14	
6	Inclusion of 2000 hour inspection schedule and 4000-hour wing replacement / wing lower spar cap replacement.	9/2/17	
7	Inclusion of 3000-hour wing replacement / wing lower spar cap replacement. Inclusion of engine frame checks and wheel axle checks Pages 31 and 34.	15/2/18	
8	Adopted by Airmasters Goldfren Brake maintenance added to 3.2 Was entitled GEN/EUR/002 2.3.3 references corrected. Reformatted	29/10/23	
9	Appendix 3, Elevator trim tab limits amended. Appendix 1, Fig. 8 amended.	9/7/24	
10	Appendix 3, Elevator trim tab up limit was 3.5°± 0.5°	29/11/24	
11	Appendix 3, Elevator trim tab limit was: up 4° ±1°; down 15° ±5°	12/5/25	
12	5.2 – Compliance with SB/EUR/023; pitch stops’ checks and lubrication added. 2.3.3 Maintenance Schedule - 7.2.6, (every 100 hrs), added.	13/9/25	

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1. INTRODUCTION

This Maintenance Manual gives recommended procedures for ensuring the continued airworthiness of the aircraft. **However, the 2000-hour inspection and 4000-hour maintenance are MANDATORY. See maintenance check list and Appendix 1**. Maintenance requirements will depend on aircraft usage and may need amending accordingly. The operator should always be alert for developing problems and attentive to ensuring their timely rectification.

2. INSPECTIONS

2.1 Pre-flight inspection

A pre-flight inspection is performed prior to the beginning of each flight. A pre-flight inspection should be repeated prior to each flight even during the same day.

The pre-flight inspection is a visual check of the aircraft for deformations, surface damage, fuel and oil system leaks, prop damage, released locks, covers and cowlings etc. Any damage or failure should be repaired immediately if the airworthiness is affected.

It is important to perform a pre-flight inspection carefully to prevent problems from arising. Refer to the Pilot's Operating Handbook for more details.

2.2 Post-flight inspection

A post-flight inspection is performed at the end of each flight day; the post-flight inspection events are the same as the pre-flight ones. If possible, failures, damages and malfunctions should be recorded and repaired immediately. It is recommended to clean and/or wash the aircraft and check that the fuel and oil consumptions are in the normal range.

Lastly record all hours flown and other data in the appropriate log book.

2.3 Periodic inspections

2.3.1 Periodic inspection intervals

The periods for overall checks and contingent maintenance will depend on the conditions of operation and the overall condition of the aircraft. The manufacturer recommends maintenance checks and periodic inspections at the following intervals.

1)	after the first	25	± 2	flight hours
2)	after every	50	± 3	flight hours
3)	after every	100	± 5	flight hours or annual inspection
4)	after 2000 flight hours repeat after every additional 1000 flight hours			
5)	after 4000 flight hours			

Refer to the Rotax 912 Maintenance Manual for engine maintenance.

Refer to the propeller manual for propeller maintenance.

2.3.2 Periodic maintenance and inspection work sheets

The following Periodic maintenance and inspection Work Sheets are intended for copying and serve as the Maintenance Records. It is also recommended to include small repairs, damages and their remedies or replacement. Some parts of the aircraft (engine, propeller etc.) may have special time limits - refer to the appropriate manuals.

All maintenance and repair work must be recorded in the appropriate log books by reference to the above Maintenance Records.

2.3.3 Periodic Maintenance and Inspections

Model	S/N	Hrs. Flown	Date of Inspection
	Reg.	No. of take-offs	Inspection period

	Task Description	Inspection					Carried out by	Inspected by
		After the first **25 hrs**	Every **50 hrs**	Every **100 hrs** or annually	At **2000** hrs and every **1000** hrs thereafter	At **3000** hrs for 480kg and **4000** hrs for 450kg A/C		
1	Prior to the inspection clean and wash the aircraft if needed.	**X**	**X**	**X**	**X**	**X**		
2	**Engine**	See engine manufacturer's instructions.						
3	**Engine Compartment**	**X**						
3.1	**Fibreglass Engine Cowlings**							
3.1.1	Check condition of cowlings and Camlock fasteners; repair any damage			**X**	**X**	**X**		
3.1.2	Remove engine cowlings.	**X**	**X**	**X**	**X**	**X**		
3.1.3	Visually check inside fireproof primer paint - repaint if needed- White colour T 50, Norm V1000 N 56582.		**X**	**X**	**X**	**X**		
3.2	**Engine Mount**							
3.2.1	Visually check condition, attachment, security of attachment bolts: engine to mount (torque 40Nm), mount to firewall. Carefully check engine mount for cracks, abrasion and other damage.	**X**	**X**	**X**	**X**	**X**		
3.2.2	Visually check condition of rubber silentblocks - replace those cracked or excessively deformed			**X**	**X**	**X**		
3.3	**Induction System**							
3.3.1	Visually check condition, attachment and security of air filters on each carburettor inlet. - clean and oil filter as necessary.	**X**	**X**	**X**	**X**	**X**		
3.3.2	Visually check condition of carb. rubber adaptors.	**X**	**X**	**X**	**X**	**X**		
3.3.3	Check carburettor - condition, control cables attachment, lubricate cables at inlets to the Bowdens' conduits.	**X**	**X**	**X**	**X**	**X**		
3.3.4	Check coolant carb heat system for security and leaks.	**X**	**X**	**X**	**X**	**X**		

3.4	**Battery**							
3.4.1	Visually check attachment and security.		X	X	X	X		
3.4.2	Check charging – charge if needed.			X	X	X		
3.4.3	Visually check condition and attachment of battery leads – replace those damaged	X	X	X	X	X		
3.5	**Wiring**							
3.5.1	Visually check condition and integrity of wires, connections, security of wires.	X	X	X	X	X		
3.6	**Fuel System**							
3.6.1	Visually check condition, integrity, attachment and security of hoses - replace those damaged	X	X	X	X	X		
3.6.2	Visually check fuel filter condition - replace dirty filter.	X	X	X	X	X		
3.6.3	Visually check system for leaks	X	X	X	X	X		
3.7	**Cooling System**	X	X	X	X	X		
3.7.1	Visually check radiator for condition, secure attachment air-flow blockages and leaks.	X	X	X	X	X		
3.7.2	Visually check condition, attachment of hoses; check system for leaks.	X	X	X	X	X		
3.7.3	Tighten hose clips if needed	X	X	X	X	X		
3.7.4	Check coolant quantity in the expansion tank - add or change coolant acc. to the engine manual if needed.	X	X	X	X	X		
3.7.5	Visually check condition and attachment of overflow bottle on the firewall.	X	X	X	X	X		
3.7.6	Check condition of hose from expansion tank to overflow bottle. Overflow bottle should be approx. 1/3 full when engine is cold.	X	X	X	X	X		
3.8	**Lubrication System**							
3.8.1	Visually check condition and attachment of oil tank.	X	X	X	X	X		
3.8.2	Check oil cooler for condition, attachment and leaks.	X	X	X	X	X		
3.8.3	Visually check hoses for condition, leaks, attachment and security - replace damaged hoses. Tighten hose clips if necessary.	X	X	X	X	X		
3.8.4	Check oil quantity - add or change oil according to the engine manual if needed.	X	X	X	X	X		
3.9	**Exhaust System**							
3.9.1	Visually check exhaust pipes for condition, cracks, deformations or damage – repair or replace if necessary.	X	X	X	X	X		
3.9.2	Visually check condition and attachment of the muffler (silencer) - repair or replace if necessary.	X	X	X	X	X		
3.9.3	Check joint security	X	X	X	X	X		
3.10	**Reinstall Lower Engine Cowling**							
3.10.1	Reinstall upper engine cowling when the inspection is completed and engine test run performed.	X	X	X	X	X		
3.11	**Lubricate per lubrication chart.**	X	X	X	X	X		

4	**PROPELLER**							
4.1	**Blades**	**X**	**X**	**X**	**X**	**X**		
4.1.1	Inspect blades for abrasions, cracks, paint damage, condition of blades leading edges and tips - repair according to the propeller manual.	**X**	**X**	**X**	**X**	**X**		
4.2	**Spinner**							
4.2.1	Remove spinner and visually check condition for abrasions, cracks, paint damage; repair any damage.	**X**	**X**	**X**	**X**	**X**		
4.3	**Propeller, General**	See manufacturer's instructions						
4.3.1	Check prop attachment bolts' torque and security.	**X**		**X**	**X**	**X**		
4.3.2	Check tracking.			**X**	**X**	**X**		
4.3.3	Refit spinner.	**X**		**X**	**X**	**X**		
5	**NOSE WHEEL LANDING GEAR**							
5.1	**Nose Wheel Leg**							
5.1.1	Check condition and attachment of the nose wheel leg (lift aircraft nose). See Appendix.1, 1.0.7	**X**	**X**	**X**	**X**	**X**		
5.2	**Rubber bungees and rubber rebound stop**							
5.2.1	Visually check rubber bungees and rebound stop for deformation, cracks, excessive wear – replace if needed.		**X**	**X**	**X**	**X**		
5.3	**Tyres**							
5.3.1	Check tyres for condition, cuts, uneven or excessive wear and creep – replace if needed.	**X**	**X**	**X**	**X**	**X**		
5.3.2	Check tyre pressure – inflate if required.	**X**	**X**	**X**	**X**	**X**		
5.4	**Wheel**							
5.4.1	Visually check for cracks, permanent deformation – if damaged, replace.		**X**	**X**	**X**	**X**		
5.4.2	Check valve condition near the hole in the rim		**X**	**X**	**X**	**X**		
5.4.3	Check condition of bearings, wheel free rotation, play.		**X**	**X**	**X**	**X**		
5.5	**Noseleg Bearings**							
5.5.1	Check security and condition of bottom bearing and attachment bolts (Appendix 1, 1.0.7)	**X**	**X**	**X**	**X**	**X**		
5.6	**Nose Wheel Steering System**							
5.6.1	Check control rods for condition and rod ends for condition and security		**X**	**X**	**X**	**X**		
5.6.2	Check condition of nose wheel steering rod covers – repair if necessary.			**X**	**X**	**X**		
5.7	**Lubricate per lubrication chart**	**X**	**X**	**X**	**X**	**X**		
6	**MAIN LANDING GEAR**							
6.1	**Fibreglass Legs**							
6.1.1	Visually check condition of fiberglass legs – repaint damaged areas, contact aircraft manufacturer if cracks are found.	**X**	**X**	**X**	**X**	**X**		

6.1.2	Inspect leg attachment (no play) – Lift the landing gear, (see POH sect. 8.4.3), and move each leg back & forth and up & down; check wheel play on the axle – tighten attachment bolts if necessary (see Section 17). Check for fatigue cracks in the fuselage structure where the main undercarriage legs are attached.			X	X	X		
6.1.3	Check security of axle to leg attachment bolts.		X	X	X	X		
6.1.4	Main landing gear attachments under seat pans (Appendix 1, 1.0.6)				X	X		
6.1.5	Check main landing gear for cracks and splits (Appendix 1, 1.1.4)				X	X		
6.1.6	Check cloth cover where the undercarriage leg enters the fuselage. Reattach if loose.		X	X	X	X		
6.2	**Tyres**							
6.2.1	Check tyres for condition, cuts, uneven or excessive wear and creep- replace if needed.	X	X	X	X	X		
6.3	**Wheels**							
6.3.1	Visually check for cracks, permanent deformations – replace wheel in case of cracks.		X	X	X	X		
6.3.2	Check valve condition near the hole in the disc		X	X	X	X		
6.3.3	Check condition of bearings, wheel free rotation, play.			X	X	X		
6.4	**Brakes**							
6.4.1	Check attachment of brake system plastic hoses to the main leg.		X	X	X	X		
6.4.2	Visually check brake pads for condition and uneven wear- replace pads if needed.		X	X	X	X		
6.4.3	Check wear and security of brake discs.		X	X	X	X		
6.4.4	Check brake system for leaks. Add brake fluid and bleed the system if a brake pedal is not firm.	X	X	X	X	X		
6.4.5	Check brake fluid level – top up to 25mm above the bottom of the reservoir as necessary.		X	X	X	X		
7.	**WING**							
7.1	*** Wing checks not required if wings are replaced.**							
7.1.1	Visually check for loose rivets, deformation, cracks and damage – contact the aircraft manufacturer if in doubt.	X	X	X	X	X		
7.1.2	Check play of wing attachments – move wing tip up & down, back & forth. Contact the aircraft manufacturer if play exceeds tolerances (see Appendix 1, 2.0.0)			X	X	X		
7.1.3	Check condition and attachment of fiberglass wing tips.			X	X	X		
7.1.4	Check Vortex Generators (VG's) where fitted, for dirt build up, damage and adhesion. (29 per wing).	X	X	X	X	X		
7.1.5	*Replace complete wing or replace wing lower spar caps					X		

7.2	**Aileron**							
7.2.1	Visually check condition.	**X**	**X**	**X**	**X**	**X**		
7.2.2	Check free movement	**X**	**X**	**X**	**X**	**X**		
7.2.3	Check aileron hinge	**X**	**X**	**X**	**X**	**X**		
7.2.4	Check play		**X**	**X**	**X**	**X**		
7.2.5	Check security of control rod ends.	**X**	**X**	**X**	**X**	**X**		
7.2.6	Check compliance with SB/EUR/023, latest issue.			**X**				
7.2.7	Lubricate per lubrication chart.	**X**	**X**	**X**	**X**	**X**		
7.2.8	Remove inspection covers from the lower wing surface to check security and to lubricate control system joints. Refit covers.			**X**	**X**	**X**		
7.3	**Flaps**							
7.3.1	Fully extend the flaps and visually check condition	**X**	**X**	**X**	**X**	**X**		
7.3.2	Check flap hinges	**X**	**X**	**X**	**X**	**X**		
7.3.3	Check play		**X**	**X**	**X**	**X**		
7.3.4	Check condition of flap control pin and wear of the groove at the flap root.			**X**	**X**	**X**		
7.3.5	Lubricate per lubrication chart.	**X**	**X**	**X**	**X**	**X**		
7.4	**Pito-static System**							
7.4.1	Check pitotstatic head attachment to wing.			**X**	**X**	**X**		
7.4.2	Check pitot-static system for leaks.			**X**	**X**	**X**		
7.5	**Wing Attachments**							
7.5.1	Remove wing root fairings	**X**	**X**	**X**	**X**	**X**		
7.5.2	Visually check condition and security of wing attachments.	**X**	**X**	**X**	**X**	**X**		
7.5.3	Check tolerances of wing to fuselage attachment points (Appendix 1 section 2.0.1)				**X**	**X**		
7.5.4	Access to check wing spar caps, reference (Appendix 1 Sect. 2.0.2)				**X**	**X**		
7.5.5	Wing attachment points between ribs 1 and 2 for reference (Appendix 1 section 2.0.3)				**X**	**X**		
7.5.6	Check critical area of spar attachment (Appendix 1 section 2.0.4 a, b & c)				**X**	**X**		
7.6	**Lubricate per lubrication chart**	**X**	**X**	**X**	**X**	**X**		
8	**FUSELAGE**							
8.1	**Fuselage surface**							
8.1.1	Visually check for loose rivets, deformation, cracks and damage. Contact the aircraft manufacturer if in doubt.	**X**	**X**	**X**	**X**	**X**		
8.1.2	Visually check external rivets near the landing gear attachment.			**X**	**X**	**X**		
8.1.3	Remove underside wing fillets. Inspect for worn rivet heads. Check condition of Velcro wear strip.			**X**	**X**	**X**		
8.1.4	Check condition and attachment of equipment, eg. radio and transponder antennas.	**X**	**X**	**X**	**X**	**X**		
8.1.5	Check tail skid for condition and attachment security.	**X**	**X**	**X**	**X**	**X**		
8.1.6	Visually check condition and security of fiberglass wing fillets.	**X**	**X**	**X**	**X**	**X**		
8.1.7	Fuselage central section attachment points (Appendix 1 section 1.0.1)				**X**	**X**		
8.1.8	Fuselage central section with seat pans removed showing the wing attachment points. Check upper and lower spar wing attachment hinge for security of the bolts and cracking or deformation (Appendix 1 section 1.0.2 and 1.1.3)				**X**			

8.1.9	Fuselage central section with seat pans removed showing the wing attachment points. Check upper and lower spar wing attachment hinges for security of the bolts and cracking or deformation (Appendix 1 section 1.0.3)				X			

8.2	**REPLACE FUSELAGE CENTRAL SECTION (CENTROPLAN)**					X		
8.2.1	Check wing attachment points and outer flap torque tube bush are within tolerances (Appendix 1 section 1.0.4)				X	X		
8.2.2	Check stabilizer attachment points within tolerances (App. 1 section 1.0.5)				X	X		
8.2.3	Check left upper engine frame attachment on fire wall (App.1 section 1.0.8)				X	X		
8.2.4	Check left bottom engine hinge frame attachment on the fire wall (Appendix 1 section 1.0.9)				X	X		
8.2.5	Check Attachment of the left upper engine hinge on the fire wall (Appendix1 section 1.1.0)				X	X		
8.2.6	Check Area of the fuselage reinforcement (Appendix1 section 1.1.1)				X	X		
8.2.7	Check Bottom part of the fuselage under the left bottom engine hinge (Appendix 1 section 1.1.2)				X	X		
8.3	**Cockpit Canopy**							
8.3.1	Visually check canopy for cracks, scratches and damage. Contact manufacturer if in doubt.	X	X	X	X	X		
8.3.2	Check canopy lock for condition and operation	X	X	X	X	X		
8.3.3	Check canopy safety catch if fitted for condition and operation.		X	X	X	X		
8.3.4	Check vents for condition and operation		X	X	X	X		
8.3.5	Check gas struts operation – replace if faulty		X	X	X	X		
8.3.6	Check canopy rubber seals		X	X	X	X		
9	**HORIZONTAL TAIL UNIT**			X	X	X		
9.1	Visually check for: loose rivets, deformation, cracks, scratches and damage – contact the aircraft manufacturer if in doubt.	X	X	X	X	X		
9.2	Visually check condition and attachment of fiberglass tips.			X	X	X		
9.3	Check elevator for free movement.	X	X	X	X	X		
9.4	Check elevator hinge.	X	X	X	X	X		
9.5	Check play in stabilizer attachments – move the stabilizer back & forth and up and down - contact the aircraft manufacturer if play exceeds tolerances. (Appendix 1, Section 3.0.0).		X	X	X	X		
9.6	Check security of control rod joint	X	X	X	X	X		
9.7	Check elevator control circuit for play.		X	X	X	X		

9.8	Stabilizer attachment points (View 1 Appendix 1 section 3.0.1)				X	X		
9.9	Stabilizer attachment points (View 2 appendix.1 section 3.0.2)				X	X		
9.10	Stabilizer spar (Appendix 1 section 3.0.3)				X	X		
9.11	Visually check trim tab condition		X	X	X	X		
9.12	Check hinge		X	X	X	X		
9.13	Check condition of control cable.			X	X	X		
9.14	Check tension of trim tab control cables and check securing the adjusting screws. Adjust tension if necessary.			X	X	X		
9.15	Lubricate per lubrication chart	X	X	X	X	X		
10	**VERTICAL TAIL UNIT**							
10.1	Visually check for loose rivets, deformation, cracks, scratches and damage – contact the aircraft manufacturer if in doubt.	X	X	X	X	X		
10.2	Visually check condition and attachment of fiberglass tips			X	X	X		
10.3	Check rudder for free movement.	X	X	X	X	X		
10.4	Check rudder hinge pins for wear and security	X	X	X	X	X		
10.5	Check rudder end float (Appendix 1, 3.0.4			X	X	X		
10.6	Check rudder lower bearing (Appendix 1, section 3.0.4)				X	X		
10.7	Check fin spar with rudder attachment points (Appendix 1 Sect. 3.0.5)				X	X		
10.8	Check security of rudder cable attachments	X	X	X	X	X		
10.9	Lubricate per lubrication chart	X	X	X	X	X		
11	**COCKPIT**							
11.1	**Instrument panel**							
11.1.1	Visually check condition and attachment of the instrument panel.		X	X	X	X		
11.1.2	Check condition and attachment of individual instruments.		X	X	X	X		
11.1.3	Check function of instruments.	X	X	X	X	X		
11.1.4	Check throttle and choke controls for free movement. Check throttle friction nut.	X	X	X	X	X		
11.1.5	Inspect completeness and readability of placards.		X	X	X	X		
11.1.6	Check parachute release, safety lock secure, placard legible.	X	X	X	X	X		
11.2	**Seats**							
11.2.1	Visually check seat upholstery, remove seat and back cushions.			X	X	X		
11.2.2	Visually check seats and backrests‘ condition			X	X	X		
11.2.3	Check for loose rivets or any other damage on the seats.			X	X	X		
11.2.4	Visually check main landing gear leg attachments inside the fuselage.			X	X	X		
11.3	**Safety Harness**							
11.3.1	Visually check condition, attachment, security and operation of buckles.			X	X	X		
11.4	**Hand Controls**							
11.4.1	Check control stick for free movement.	X	X	X	X	X		
11.4.2	Check all joints and bearings for wear and security.	X	X	X	X	X		

11.4.3	Check control column stops for condition			X	X	X		
11.4.4	Check pitot static hoses for water at lowest point of water collection loop (behind port cockpit side upholstery panel). Drain any water by disconnecting one end of drain loop. Reconnect after draining.		X	X	X	X		
11.4.5	Lubricate per lubrication chart.	X	X	X	X	X		
11.5	**Rudder Control**							
11.5.1	Check for free movement.		X	X	X	X		
11.5.2	Check cable tension.			X	X	X		
11.5.3	Check cable stops for condition and security.			X	X	X		
11.5.4	Check condition and security of cables and end fittings.	X	X	X	X	X		
11.5.5	Check operation and security of adjustable rudder mechanism, 4 pedals.	X	X	X	X	X		
11.5.6	Lubricate per lubrication chart.	X	X	X	X	X		
11.6	**Flap and Trim Controls**							
11.6.1	Remove cover.	X	X	X	X	X		
11.6.2	Check free movement of levers.	X	X	X	X	X		
11.6.3	Check operation of flap control lever lock (push button).		X	X	X	X		
11.6.4	Lubricate per lubrication chart.	X	X	X	X	X		
11.6.5	Replace cover.	X	X	X	X	X		
11.6.6	Check trim lever friction force. Force to move lever should be min 1.0 kg at lever end. Adjust friction if necessary.			X	X	X		

3. Further Notes on Maintenance & Repair

3.1 Rotax 912 UL engine

See Maintenance Manual for Rotax Engine Type 912 Series (part. No. 899 372)

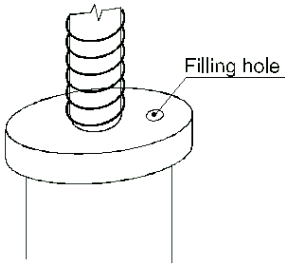
3.2 Brake Fluid

Only brake fluid of J 1703 classification should be used for hydraulic brake system (type for medium or heavy duty).

3.2.1 Brake fluid refilling

Brake fluid refilling is necessary when a low brake system efficiency occurs due to a fluid leak.

(a) Original Fit



A brake fluid filling hole is drilled in the brake master cylinder attached to a brake pedal (see fig.). It is recommended to use a hypodermic needle to refill the brake cylinder. Step repeatedly on the pedal during refilling. Bleed the system after refilling.

(b) GoldFren System

The fluid reservoir is located on the forward face of the firewall, as shown on the right. Top up the fluid to the top mark as necessary.

3.2.2 Brake fluid emptying

Brake fluid thickens during aircraft operation and absorbs water. This condition causes brake system failures. It is not possible to determine when this may occur. The best way to prevent trouble is to change the brake fluid every year.

3.3 Fuelling

Precaution
The following precautions should be maintained during fuelling to prevent fire.

WARNING

- No smoking or exposed flames during fuelling!
- Fire extinguisher should be within reach!
- Under no circumstances add fuel with the engine running!
- Connect the aircraft to ground electrically prior to fuelling.
- No person in the cockpit during fueling!

A fuel tank filler is located on the right-hand side of the fuselage, close to the rear cockpit canopy.

CAUTION

It is highly recommended to pour gasoline through a filter if it was not tested for water content. After fuelling, allow 20 min. for water to settle out on the bottom. Drain off some fuel and look for water.
Avoid getting gasoline on the rear cockpit canopy which will ruin the Perspex!!!

3.3.1 Fuel emptying

Precaution
Use the same precautions as during fuelling.

Draining procedure

1. Connect the aircraft electrically to ground, normally via the engine exhaust.
2. Open the main fuel valve
3. Fully extend the flaps
4. Put an empty fuel can under the drainage hose (on the bottom of fuselage close to the right-hand flap root)
5. Open the drain valve (under the right-wing fillet, close to the right-hand flap root)
6. Close the drain valve when desired quantity of fuel is reached
7. Close the main fuel valve
8. Retract the flaps.

NOTE

Remove the fuel tank filler cap to speed up draining.

3.4 Lubrication

3.4.1 Engine – See engine operator's manual

3.4.2 Airframe

Where oil is specified, use the same oil as specified for the engine. Where grease is specified use one of the following or equivalent.

Castrol -	Castrolease LM
Mobil –	Mobilgrease MP
Shell -	Retinax A
Litol-24	

3.4.3 Lubrication Chart

Unit	Lubricating point	After the first 25 hrs.	Every 50 hrs.	Every 100 hrs or annually	Lubricant
Engine	□ oil change acc. to Engine Manual				
	□ carburettor control cable at inlet into the bowden (in engine compartment)	x	x	x	oil
	□ choke control cable at inlet into the termination (in engine compartment)	x	x	x	oil
Nose wheel landing gear	□ landing gear leg in the area of bushing	x	x	x	oil
	□ bearings in pull rod terminals of landing gear control	x	x	x	oil
Main landing gear	□ pins of brake pads' holders		x	x	grease
Ailerons	□ hinges		x	x	oil
	□ control hinge pin			x	grease
	□ bell cranks, inside the wing			x	grease
	□ hinge joint of rods under the wing fillet			x	grease
Flaps	□ hinges	x	x	x	oil
	□ all movable joints under the quadrant cover between the seats			x	grease
	□ All movable joints under the baggage compartment bottom cover			x	grease
	□ Flaps control pins (at a flap root)		x	x	grease
Elevator	□ Elevator hinge		x	x	oil
	□ Swivel bearing in the elevator control rod termination			x	grease
Rudder	□ rudder pivots			x	grease
	□ rudder control cables at attachment to the rudder			x	grease
Trim tab	□ trim tab hinge	x	x	x	oil
	□ control cables at inlets in to the terminations			x	grease
Stick control	□ All movable joints in the cockpit			x	grease
Rudder control and brake pedals	□ All movable joints in the cockpit			x	grease
	□ Brake system control cables at inlets in the Bowdens (at brake pedals if right seat brake pedals are fitted)			x	grease

3.4.4 Access Holes for Lubricating & Inspection

The following are the inspection and access holes:

- Access covers on the wings lower surface - access to the aileron control rods and levers and to the pitot/static installation in the left half of the wing
- Access cover on the fuselage lower surface under the baggage compartment close to the fuel tank - access to the fuel tank installation
- Access cover on the fuselage lower surface in the middle of the rear section - access to the elevator control rods and a lever
- Wing fillets which cover space between the fuselage and wing - access to the wing-fuselage suspensions (wing folding mechanism if fitted)
- Cover sheet of control stick system in the cockpit
- Cover over flap & trim control levers in cockpit
- Baggage compartment floor – access to elevator and flap control linkage.

3.5 Rudder Cable Tension

Directional control system description

The rudder control system is dual. The rudder is controlled by cables attached at the rudder pedals and guided alongside the fuselage sides to the rudder. The rudder control cable is equipped with adjustable stops located in the cockpit. The rudder pedals are attached to the cockpit floor. There are toe brake pedals on the pilot's rudder pedals to operate the main wheel brakes (co-pilot toe brake pedals optional). The cables are connected to the hinges in the lower part of the rudder leading edge. The rudder control is connected to the nose wheel landing gear to control the nose wheel by adjustable rods. The rudder control cables are pre-stressed by means of the nose wheel control rods to a tension of 25 ± 5 kg (55 ± 11 lbs). This cable tension must be checked and maintained during aircraft operation by means of the adjustable nose wheel control rods.

Special equipment is required to measure the rudder cable tension. This job is best left to your dealer or the aircraft manufacturer. After tension adjustment, the rudder movement should be checked and adjusted if necessary. Movement should be 30° in each direction.

3.6 Trim Tab Control Cable Tension

Check tension of trim tab control cables according to the following procedure:

With the trim tab control lever set to the neutral position, block the elevator to prevent movement. Apply a load of 20 N using a weight or spring balance to the trim tab trailing edge. The trim tab deflection must not exceed 5 mm from its original position. If the trim tab deflection exceeds this value, then it is necessary to adjust trim tab cable preload using its adjusting screws.

3.7 Tyre Replacement

1. Support the aircraft to lift the wheel with a punctured tyre.

Main wheel: It is recommended to support the aircraft near the main gear leg entry into the fuselage. A jacking point with two tapped holes is provided on each side of the aircraft.

Nose wheel: a) Push the rear of the fuselage down and support the aircraft under the nose wheel leg-fuselage attachment or:
b) Load the fuselage rear near the fin to lift the nose wheel above the ground.

2. Deflate tyre
3. Remove cotter pin securing castle nut from the axle
4. Remove the castle nut and washer from the axle
5. Cut the safety wire securing the bolts which join together the rim halves
6. Remove the 6 bolts connecting the rims together
7. Remove outer rim from the axle
8. Remove tyre
9. Replace the tyre and/or tube
10. Insert new tube into a tyre and pump up slightly (put French chalk on the tube and/or in the tyre)
11. Put the valve insert of the tyre with tube into the hole on the rim
12. Put the rim with tube and tyre onto the axle and adjust the wheel hub
13. Insert the 6 connecting screws and slightly tighten
14. Adjust the tyre and tube positions to avoid puncturing the tube
15. Tighten the screws
16. Put the washer on the axle
17. Screw the castle nut on the axle
18. Insert a new cotter pin and lock the castle nut
19. Secure the screw heads with safety wire – pull the safety wire through the holes in two screw heads and twist together.

3.7.1 Tyre pressure (for tyre size 14 x 4 or 400 x 6)

Main and nose wheel pressure ..... *26.5 + 3 psi* = 180 + 20 kPa

Tyre pressures are noted on placards located on the aircraft.

3.8 Small Repairs

Repair of minor damage, such as paint scratches on the composite or small dents in the aircraft's skin, can be accomplished using normal repair techniques. No special materials or techniques are required for such repairs.

Where the skin is ruptured, or badly buckled, in any location, or where airframe structural members are damaged or deformed, return the aircraft to Airmasters for assessment and repair.

3.9 Care and Cleaning Recommendations

The external surfaces of the aircraft should be kept clean by regular washing with warm water and a mild detergent such as washing up liquid. Rinse off all cleaning solution and dry off with an absorbent cloth or chamois leather.

Locally soiled or oily surfaces may be cleaned with a solution of washing powder. Never use abrasive polishes, such as T-Cut or other cream cleaners; the aircraft's skins have anodized surfaces which can be damaged by such materials.

Use domestic upholstery cleaning agents for removal of dirt on the internal upholstery.

When washing the aircraft, avoid the use of a hose pipe as water can be forced into the engine compartment and fuel system.

4. Levelling

Levelling is used to check the airframe alignment compared with values recorded for the new aircraft. The aircraft must be on a flat level floor. First set the aircraft in a horizontal position. The levelling points are the rivets on the aircraft which are marked with red paint. The location of the points is shown in the Levelling Record. Use the levelling points 1(3) and 2(4) to set the aircraft in a horizontal position in the longitudinal direction, and levelling points 5 and 7 in lateral direction. Boards, under the main or nose wheel, may be used to level the aircraft. Alternatively, the aircraft can be levelled by varying the tyre pressures.

Measured values should be compared with those in the Levelling Record (see Appendices). Height differences between corresponding levelling points must be calculated. A check must then be carried out to prove that any differences do not exceed the tolerances permitted in the Levelling Record. If any difference exceeds the permitted tolerance, the aircraft assembly, plays in hinges and eventual permanent deformations, should be inspected. The aircraft manufacturer should be contacted in serious cases.

5. Measurement of Control Surface Deflection

5.1 Required deflections

The deflections of the control surfaces are specified in the Control Surfaces Deflection Record (see Appendices of this Manual). In case of difficulty, consult with manufacturer for correct procedure.

5.2 Control Stick - Aileron Rose Joint (Rod end)

Perform checks and measurements in accordance with SB/EUR/023 (latest issue). Ensure that:

- there is free play in the rod end at each fore-aft limit of the stick;
- if necessary, pitch stops are adjusted so that the travel limits of the rod end are not reached, but the elevator deflections remain within specified limits. (UP 25°±1°, DOWN 20°±1°);
- that the spherical centre is lubricated in accordance with 7.2.7 of 2.3.3 (Schedule) and 3.4.3 (Lubrication Chart).

6. Permissible Tolerances

The following table indicates the permissible tolerances for critical parts of the aircraft. These values should not be exceeded in operation. It is expected that an operator will take appropriate steps if excessive plays are found on/in any parts not listed below.

System	Procedure to establish play	Procedure to remedy play	Max. production play	Max. service play
Ailerons control system	Block ailerons up to the wing and move the control stick to the left and right	Check condition of bearings and replace if needed	*0.08 in* 2 mm	*0.2 in* 5 mm
Elevator control system	Block elevator up to the stabilizer, pull and push the control	Check condition of bearings and replace if needed	*0.08 in* 2 mm	*0.2 in* 5 mm
Flaps control system	Set the flaps in all positions by degrees and then, holding the flap trailing edge near the flap root, move the trailing edge up/downward to determine the play.	Check the part with oval hole for the control pin in the flap root rib and replace the worn-out pin or the part with oval hole.	*0.08 in* 2 mm	*0.2 in* 5 mm
Trim tab control system	Block the tab to the elevator, move the trim tab control lever to determine play in control system	Check cable tension	*0.08 in* 2 mm	*0.2 in* 5 mm
Wing-Fuselage attachment	Move the wing tip and note play in wing suspensions	Check wing suspensions, replace pins	0	*0.08 in* 2 mm
Tail attachment	Move the horizontal stabilizer tip forward-rearward	Replace bearings in suspension points and bearings in control system	0	*0.08 in* 2 mm
Rudder hinges	Lift the rudder	Change swivel bearing or insert a washer under the lower hinge pin	*0.04 in* 1 mm	*0.08 in* 2 mm
Nose wheel	Push the rear part of the fuselage down (use a weight) to lift the nose wheel, then move the wheel forward-rearward	Remove the wheel, remove the rim and tire and replace the bearings	*0.04 in* 1 mm	*0.12 in* 3 mm
Main landing gear	Lift the wing tip (hold the wing under the main spar) to lift a main leg, then move the wheel forward-rearward and note play in bearings or leg attachment	Check the leg attachment, wheels attachment, replace the bearings, if necessary	*0.04 in* 1 mm	*0.12 in* 3 mm

7. Weighing the Aircraft and C.G. Calculation

WARNING

Never exceed the maximum take-off weight and c of g. range for any configuration of crew, fuel and baggage as shown in the flight manual.

The new aircraft is supplied with an empty aircraft Weight and Balance record (see appendix) which can be used to calculate the loaded aircraft weight and cg position using the data provided in section 7.2 (also included in the POH). Any significant changes or repairs to the aircraft will require a reweighing. The new empty weight and c.g. position should be recorded in the Pilot Operating Handbook, Section 6., Weight and Balance Record / Permitted Payload Range. Then a new permitted crew weight for fueling and baggage must be computed and recorded. The cockpit placard "Load Limits" should also be up-dated. The team Eurostar cannot be loaded outside its c of g. limits provided that the all up weight of 450 kg and the baggage allowance of 15 kg are not exceeded.

7.1 Empty weight determination

The empty weight of an aircraft includes all operating equipment that has a fixed location and is actually installed in the aircraft. It includes the weight of the painted aircraft, battery, standard and optional equipment, engine coolant, hydraulic fluid, brake fluid, maximum oil and unusable fuel. The aircraft is weighed without crew, usable fuel and baggage.

The following weighing procedure is recommended:

1. Remove excess dirt, grease and moisture from the aircraft before weighing;
2. Empty the aircraft of all equipment which is not fixed such as headsets and maps;
3. Either drain the tanks of all useable fuel, or measure the tank's contents;
4. Raise the flaps and close the canopy;
5. Weigh the aircraft inside a closed building to prevent errors due to wind;
6. Position and tare (zero) the scales;
7. Place the aircraft on the scales (use boards to run on to the scales or lift the aircraft - see aircraft jacking)
8. Place the aircraft in a level flight position (use suitable rests under the wheels)
9. Weigh the aircraft and record the values in Weight and Balance Record (make a copy of standard Record included in section 9 Appendices). If necessary make the adjustment for fuel remaining in the tank, (from weight and tank location);
10. Compute the weight and C.G. position according to the formula in the Weight and Balance Record, below
11. Compute and record permitted crew weight for fueling and baggage - see Pilot's Operating Handbook paragraph 6.2.

Up-date the placard "Load Limits" (make a new one) and attach it in the cockpit.

7.2 Operating c.g. range calculation

On the basis of knowledge of arms, weights of items, aircraft empty weight and the C.G. position it is possible to calculate weight and C.G. position according to the formula given below:

Item	**Arm to the Datum (Leading edge) $C.G._i$**		**Weight W_I**	**Moment M_i**
	[in]	**[mm]**	***[lbs]*** or **[kg]**	***[lbs.in]*** or **[kg.mm]**
Empty aircraft				
Crew	*19.69*	500		
Fuel (0.72 kg/ltr.)	*36.22*	920		
Baggage	*50.00*	1270		
			Total Weight $TW=\Sigma W_I$ ***[lbs]*** or **[kg]**	**Total Moment $TM=\Sigma M_i$** ***[lbs.in]*** **or [kg.mm]**

C.G. position from Datum (Leading edge):

$$C.G. = \frac{Total\ Moment}{Total\ Weight} = \frac{\qquad}{\text{..... .....}} = \text{..... .....[in] or [mm]}$$

C.G. position in % MAC

(MAC ...Mean Aerodynamic Chord = *49.2 in* i.e.1250 mm):

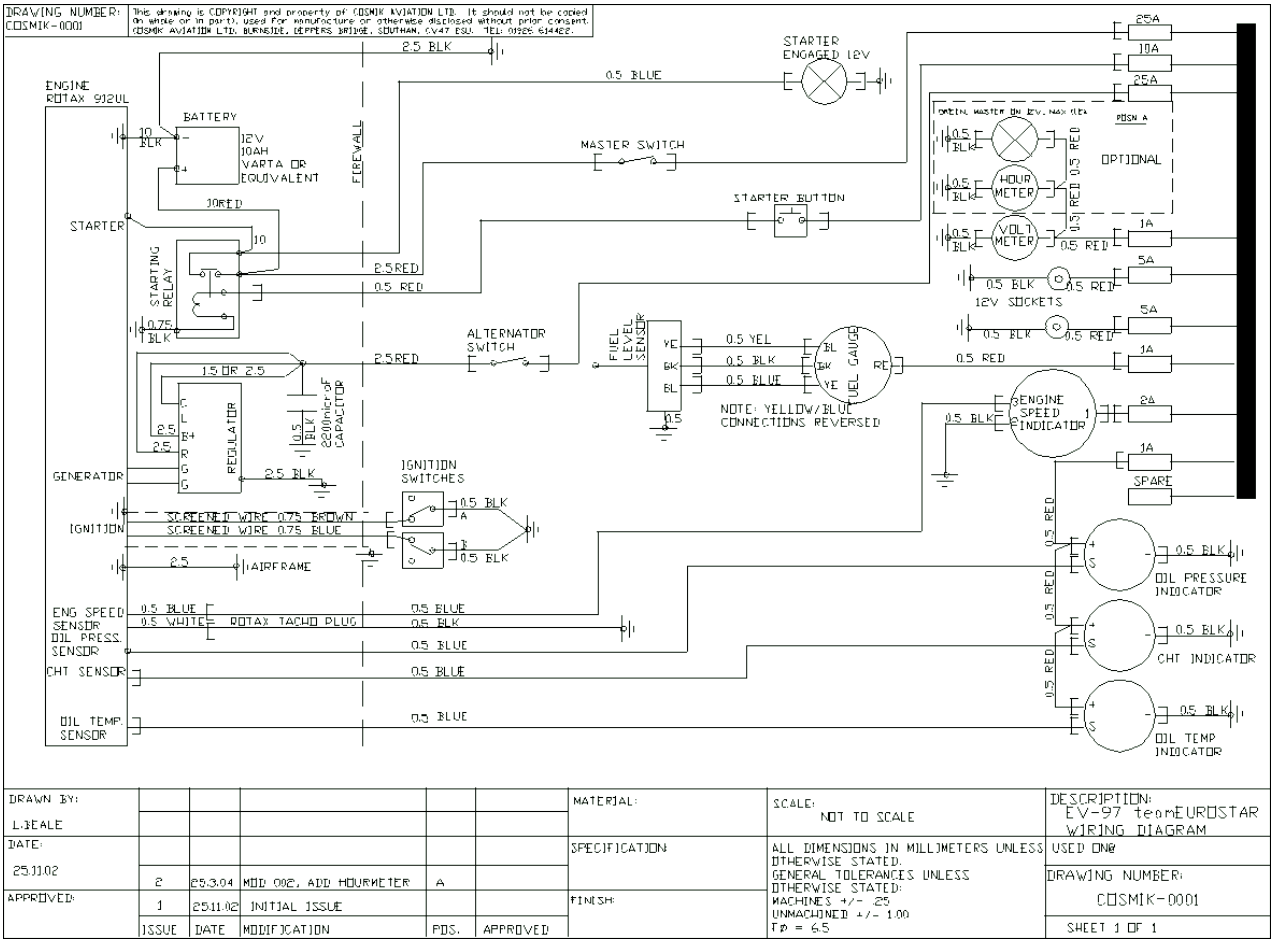
$$\overline{C.G.} = \frac{C.G.}{MAC\text{.....}} \cdot 100 = \frac{\qquad}{} \cdot 100 = \quad [\%\ MAC]$$

C.G. range limits:

Empty weight C.G. range (standard equipment) 18±2 % MAC or 200 – 250 mm AOD

Loaded aircraft C.G. range 28±8 % MAC or 250 – 425 mm AOD

8. Circuit Diagram



Appendices

1. **2000-hour inspection**
2. **Levelling Record**
3. **Control Surface Deflection Record**
4. **Weight and Balance Record**
5. **Flight Test record**

Appendix 1 2000-hour inspection

At 2000 flight hours, the inspection of all areas specified in the schedule must be carried out and repeated every additional 1000 hours.

Special Tools Required

- Inspection mirror
- Inspection torch
- Magnifying glass
- Rivet gun
- Drill with 3.2mm and 4mm drill bits
- 3mm punch
- Hot air gun
- Vernier calliper

Materials Required

- Emfimastic PU50
- LM grease
- Rivets [10 of 3.2x11.1mm, 4 of 4x12.7mm and 100 of 3.2x7.9mm]
- Split pins [3 of 1.6x12mm, 2 of 2x20mm and 1 of 1x12mm]

Inspection Required

- Remove engine cowlings and wing fillets (top and bottom) and store in a safe place.
- Remove both wings and support them on trestles (Ia and Ib).
- Remove both seat pans (IIa and IIb).
- Remove the horizontal stabilizer (IIIa and IIIb).
- Remove the rudder (IVa and IVb).
- Perform the inspection in accordance with the schedule below.

Ia. REMOVAL OF WINGS

Ensure that the flap is in the zero position (fully retracted). Remove the top and bottom wing fairings. Disconnect the aileron pushrods (figure 2), pitot and static lines (figure 1a). Remove the safety pins and washers, and with the wings suitably supported drift out the main attachment and remove the rear nut and bolt (figure 3). Pull the wing off the fuselage horizontally to dis-engage the main pins and making sure not to damage the flap actuator pins(figure 1b) in the process.

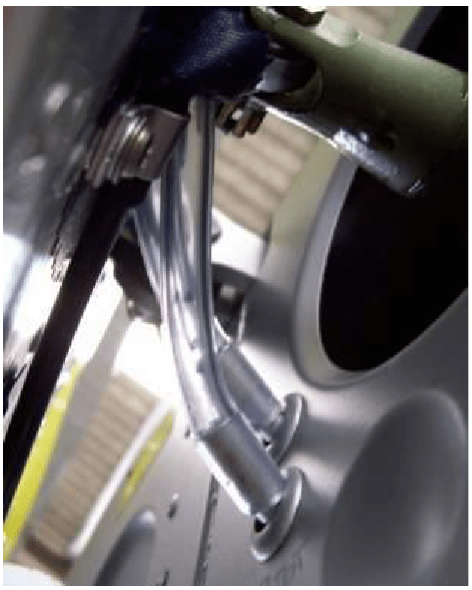


Figure 1a

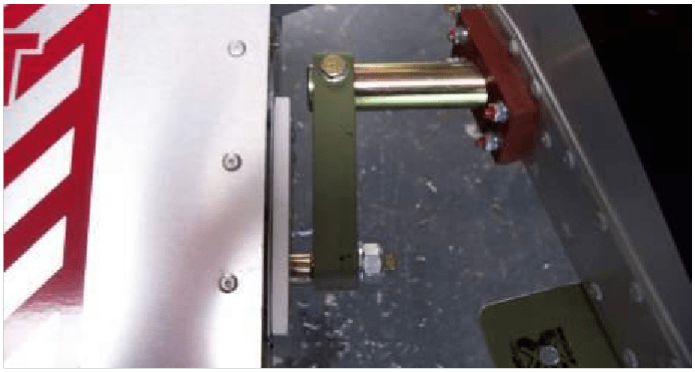


Figure 1b

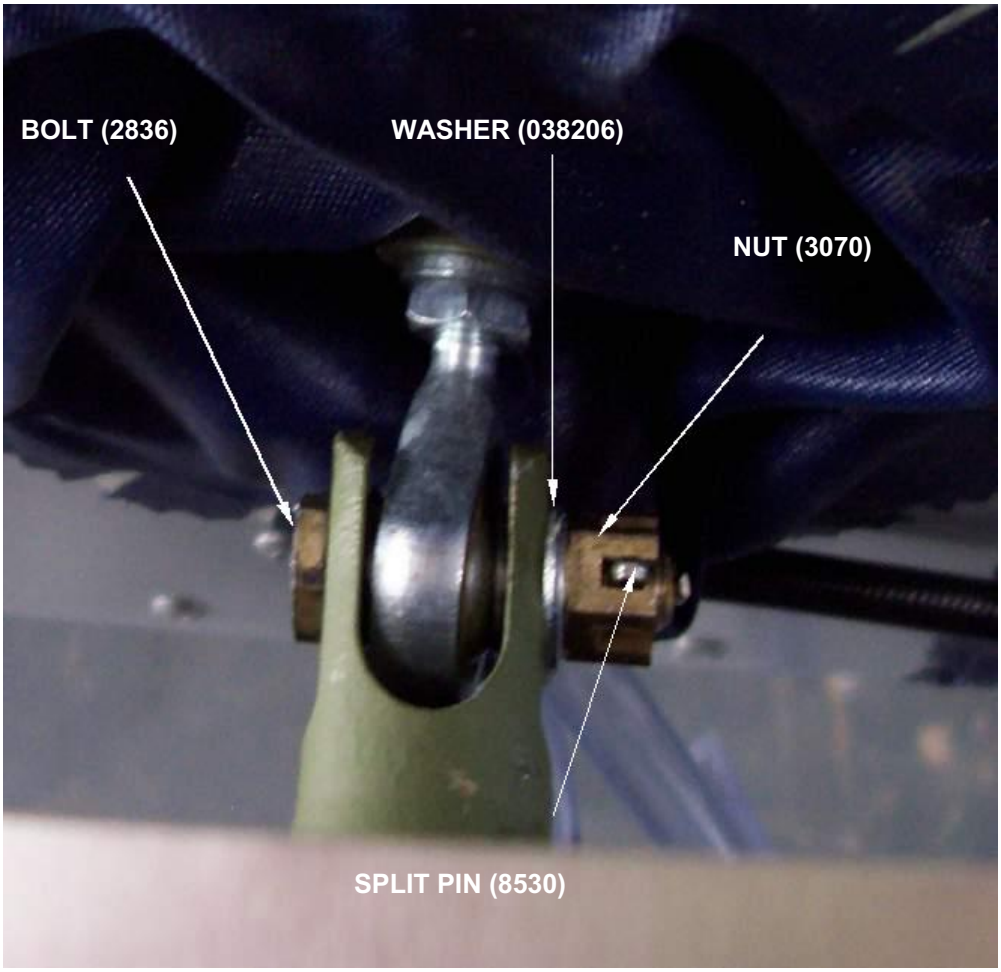
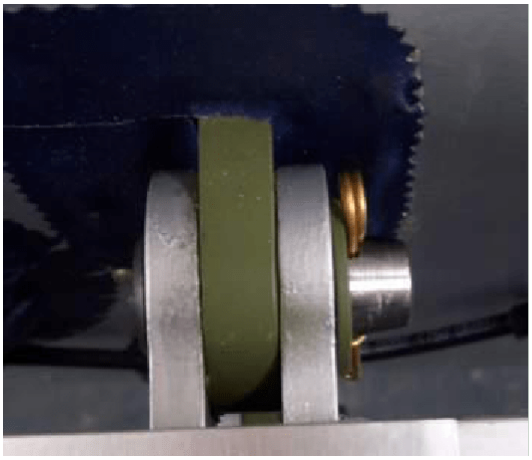
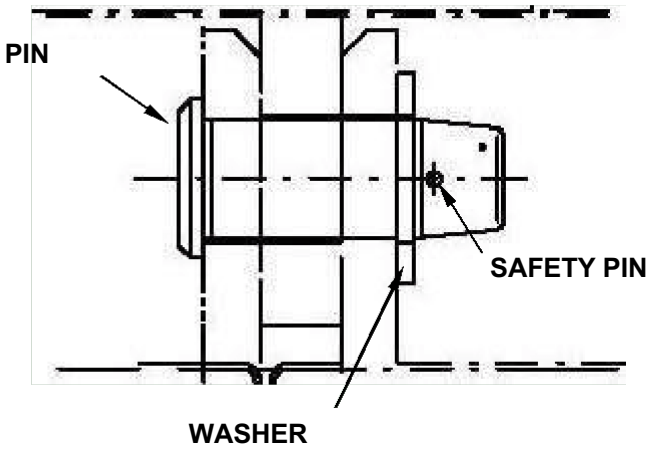


Figure 2

Ib. REPLACEMENT OF WINGS

Apply lubrication to the fuselage and wing attachment lugs to ease assembly. Align the wings with the spar attachments and fit pins top and bottom, fit bolt in the rear spar attachments. Put a washer on each main pin and secure with safety pin. Secure the rear spar attachment bolt using washer, nut and safety pin. Attach the push rod and fit a new split pin (1.6x12mm), reconnect the pitot and static lines. Replace the top and bottom fairings.





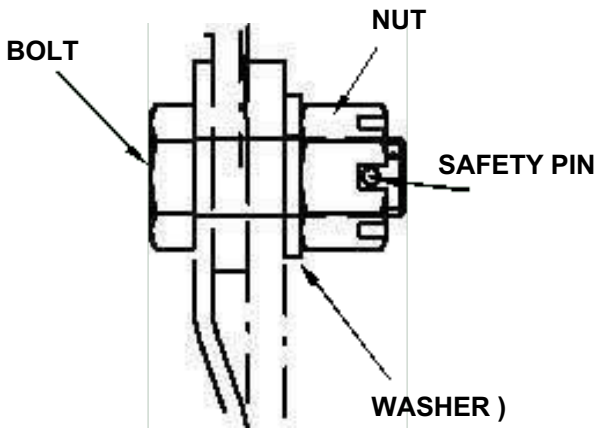


Figure 3

IIa. REMOVAL OF SEAT PANS AND STICK BACK STOPS

A. Loosen the seat belt retaining nuts and remove the flap cover by removing the eight M4 screws, foam grip and the trim knob (Figure 8), then pull the flap cover off over the flap lever.

B. Drill out all the rivets holding the seat pan in place (note: different size rivets are used). Figures 4, 5,6 and 7.

C. Using a heat gun, soften the Emfimastic attaching the seat pan to the side of the fuselage and gently separate the two with a thin knife or spatula blade and remove the seat pan.

WARNING

Removal of the seat pans must be done by an engineer experienced in the removal of aircraft rivets. If rivets are not removed correctly, damage to structural components may occur resulting in considerable expense to repair the damaged components

IIb. REPLACEMENT OF SEAT PANS AND STICK BACK STOPS

A. Fit the seat pan and replace the rivets. Emfimastic should be applied only to the joint with the fuselage side (figure 4a) and between the doubler panel and the seat pan. Most rivets are 3.2 X 7.9mm. The exceptions are: six rivets (three each side) which fit through the spar cap and secure the control stick mounting brackets which are 3.2 X 11.1mm; another four (two each side) of the 3.2 X 11.1mm which fit at the inboard end of the row of rivets along the base of the pan and at the front inner end. Rivet the stick backstops in place using rivet 4 X 12.7mm Figure 5 and 6. See below for rivet part numbers

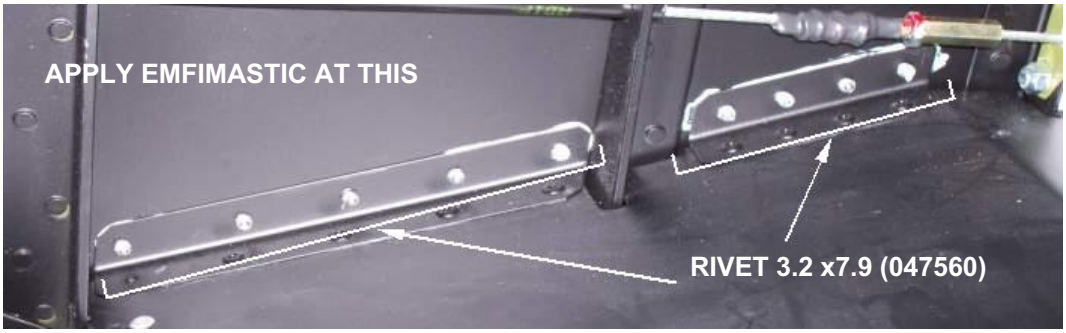


Figure 4a

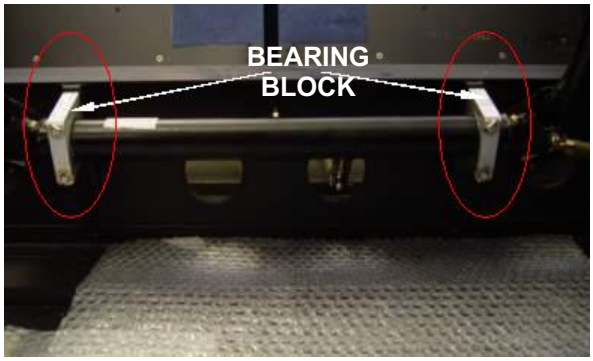


Figure 4b

Avex 3.2x7.9mm rivet part number 047560

Avex 3.2x11.1mm rivet part nimber 047565

Avex 4x12.7mm rivet part nimber 047570

Checks prior to seat pan replacement:

- Trim mechanism is secure and operational
- Flap mechanism is secure and operational
- Fuel hose is secure and undamaged (recommend fuel hose replacement)
- Rivet holes are not elongated or otherwise deformed or damaged
- Rivet holes for 3.2mm rivets are not greater than 3.5mm diameter
- River holes for 4.0mm rivets are not greater than 4.3mm diamter
- There is no other damage caused when removing rivets

Checks after seat pan replacement:

- The correct size and type of rivets used (and all rivets replaced)
- Rivets set satisfactorily
- Emfimastic used in correct locations
- The 3.2x11.1 rivets into the control cross tube bearing block attachment are properly inserted after replacement (Figure 4b)
- Ensure that rivets have picked up all the structure that they are intended to (particularly where rivets are holding together more than 2 metal sheets)

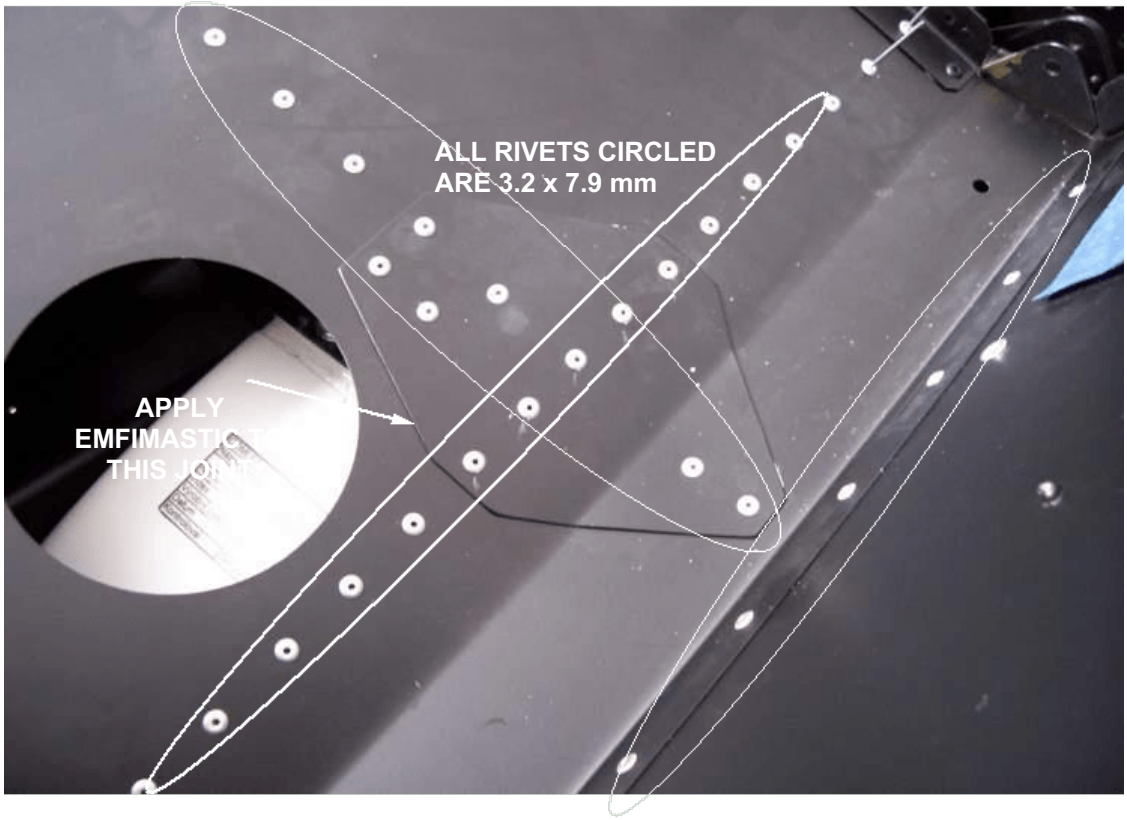


Figure 5

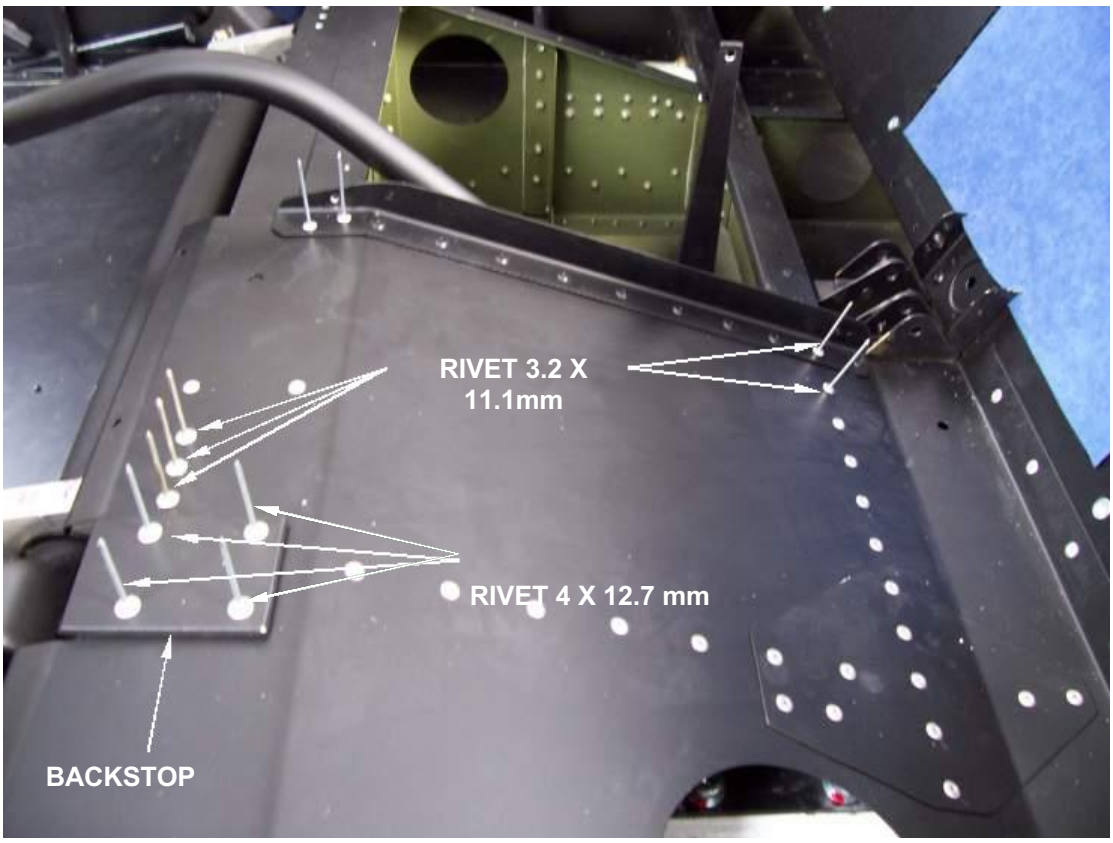


Figure 6

B. Rivet the front piece of the flap lever cover in place using two 3.2 X 7.9mm rivets.

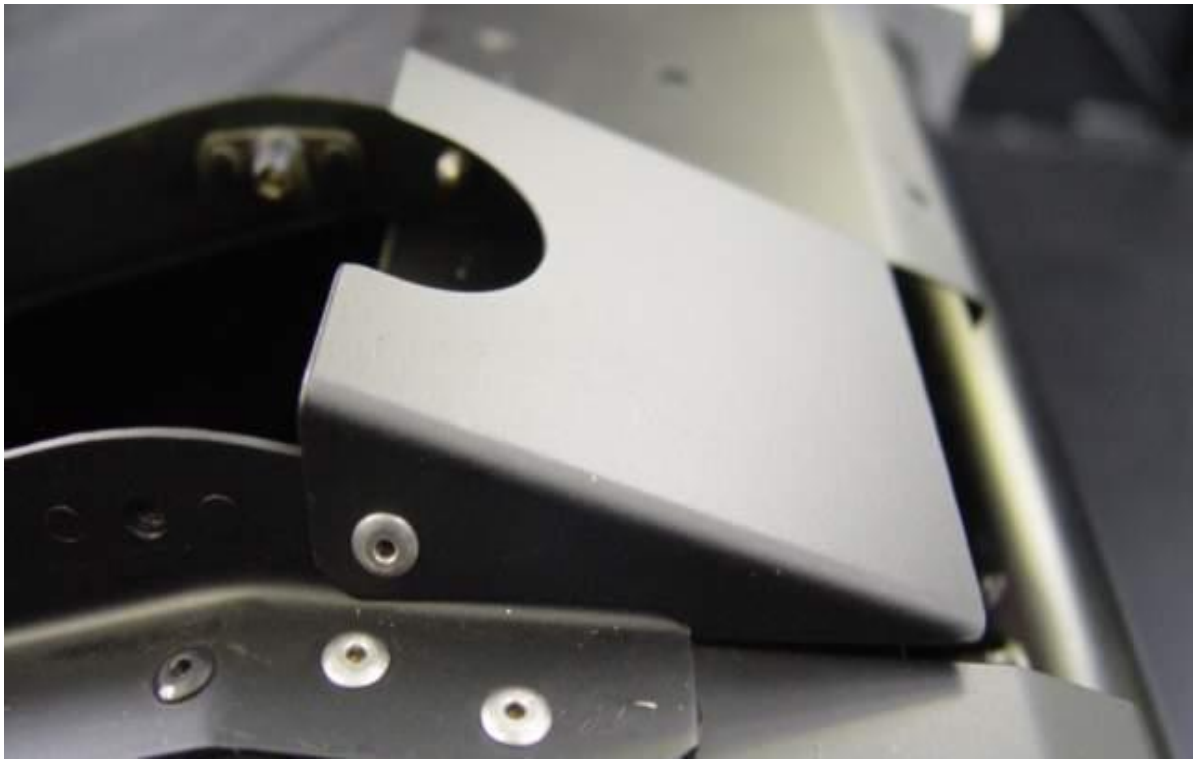


Fig 7.

C. Fit flap cover using screws M4 X 12. Fit trim lever knob and slide foam grip onto flap lever.

Fig 8.

IIIa. REMOVE THE HORIZONTAL STABILIZER

Remove the elevator push rod split pin, nut and bolt. Remove the split pins and M8 castle nuts attaching the stabilizer to the empennage (figure 9) and gently pull the stabilizer off the front locator pins.

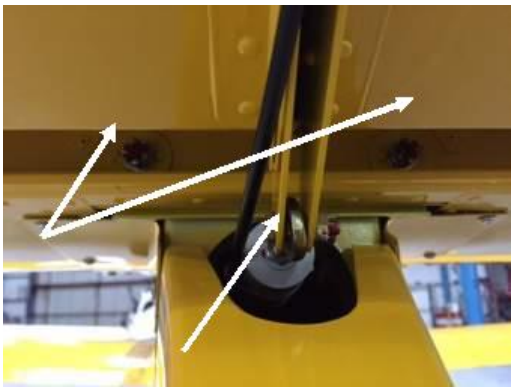


Figure 9

IIIb. REPLACE THE HORIZONTAL STABILIZER

Replace the stabilizer making sure that the two front pins are correctly located Replace the M8 castle nuts and fit new split pins (2x20mm). Reattach the elevator push rod and fit a new split pin (1.6x12mm).

IVa. REMOVAL OF THE RUDDER

Release the locking tab washers and remove the M6 bolts securing the rudder cables. Do not allow the rudder cable ends to fall into the fuselage. Remove the split pin and M5 nut (Figure 10), then gently lift the rudder until it disengages from the upper attachment pin.

Figure 10

IV. REPLACEMENT OF THE RUDDER

Grease both upper and lower rudder pivots and install rudder. Secure with M5 washer and nut M5. Fit a new split pin (1x12mm). Reinstall the rudder cables and fit new tab washers. Ensure the bolt is locked by the tab washers as shown in figure 10.

1.0.0 FUSELAGE CHECKS

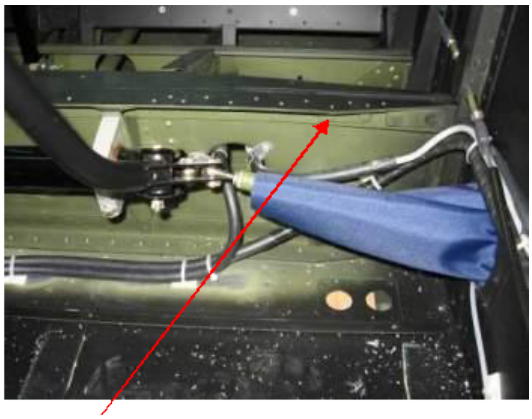
1.0.1

Fuselage central section wing attachment points (view for reference only)

1.0.2

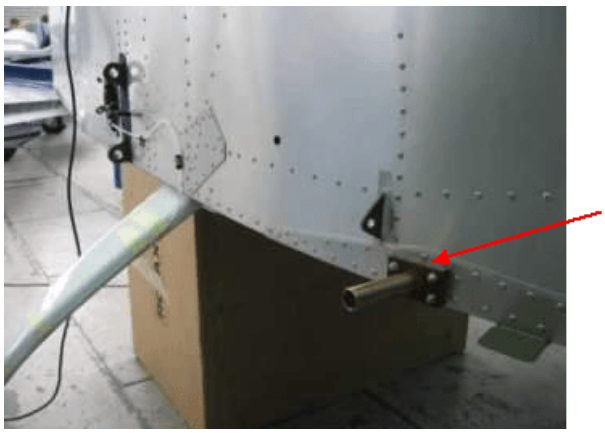
Fuselage central section lower attachment in situ after removing seat pans. (view for reference only).

1.0.3



Fuselage central section upper attachment in situ after removing seat pans. (view for reference only).

1.0.4

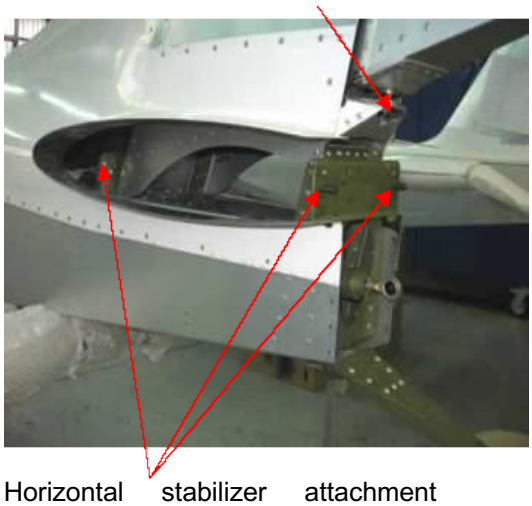


Max. radial play
must not
be more than 0.2mm

Wing attachment pins and outer flap torque tube bush
Maximum diameters of upper front attachment point ø15+0.03 mm
Maximum diameters of lower front attachment point ø15+0.03 mm
Maximum diameter of rear attachment point ø 8+0.04 mm

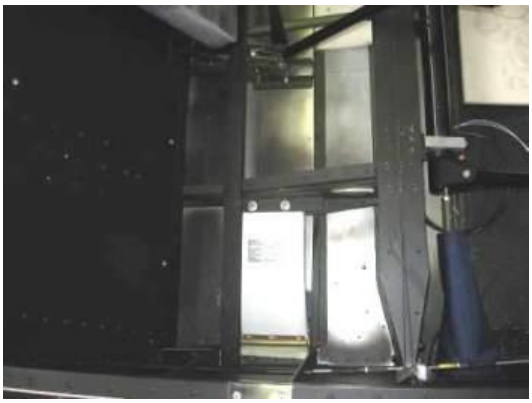
1.0.5

Rudder root hinge



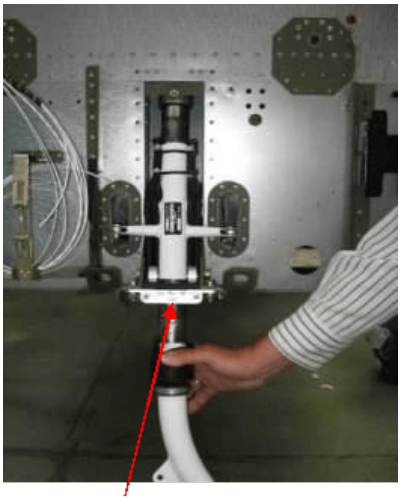
Horizontal stabilizer attachment points Check the attachment points for loose or missing rivets.
Pin diameters: min ø6-0.04 mm (front) ø8-0.05 mm (rear).

1.0.6



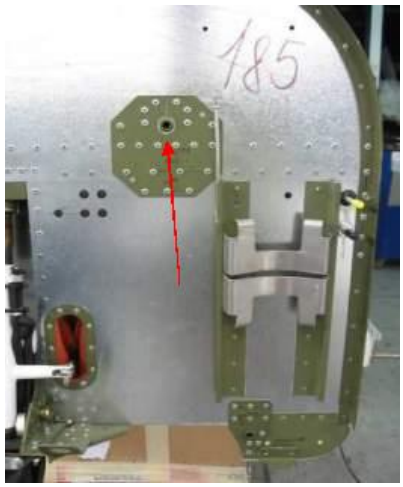
Main landing gear attachment under seats. Check for cracking or loose rivets at the leg attachment points.

1.0.7



Nose landing gear attachment.
Check for wear in the lower bush.

1.0.8

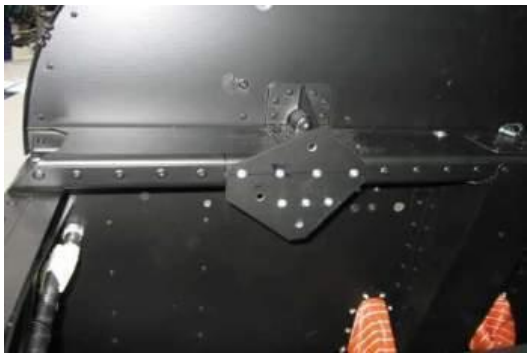


Left upper engine attachment on the fire wall.
Check for any loose rivets (front view).

1.0.9

Left bottom engine attachment.
Check for any loose rivets
(front view).

1.1.0



Security of the left upper engine attachment on the rear of the firewall.
Check for any loose rivets.
(view from inside of the fuselage).

1.1.1

Mid- fuselage reinforcement.
Check for loose or missing rivets.

1.1.2

Bottom part of the fuselage
under the left bottom engine frame attachment.
Check for loose rivets.

1.1.3

Wing central section rivets. Check for loose or missing rivets where the central spar attaches to the floor.

1.1.4

Check main landing gear for cracks across the leg where it enters the fuselage and along the leading and trailing edges of the leg.

Check the attachment of the wheel axle for security and that the locating pins are not worn.

2.0.0 WING CHECKS

2.0.1

Check the attachment points.
Maximum diameters:
Upper front attachment point ø15+0.03mm.
Lower front attachment point ø15+0.03mm.
Rear attachment point ø 8+0.04mm.
Check that the holes are not oval and that there is no evidence of cracking.

2.0.2

Access to check the spar end caps is through the No. 1 rib fore and aft lightening holes.

2.0.3

Wing attachment bolts between ribs 1 and 2.

2.0.4a

The critical area of the spar cap at the end of the wing attachment hinge must be checked for cracks emanating from the bolt holes, particularly the 5th bolt.

2.0.4b

View of wing attachment bolts between ribs 1 and 2 (through the front lightening hole).

2.0.4c

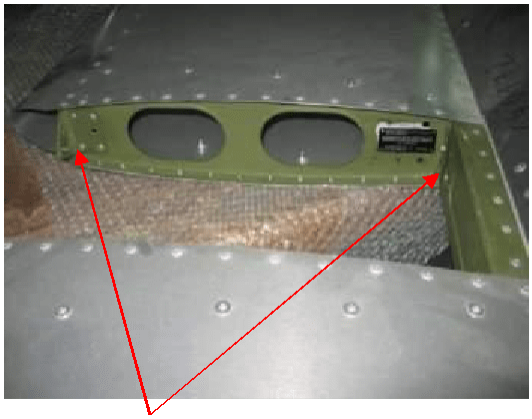
View of wing attachment bolts between ribs 1 and 2 (through the rear lightening hole).

3.0.0 EPENNAGE CHECKS

3.0.1

Stabilizer attachment points.

3.0.2



Stabilizer attachment points. Check for distortion, oval or enlarged holes and loose rivets. Attachment point diameters: ø8+0.04mm(rear); ø6+0.03mm (front).

3.0.3

Stabilizer spar
Check for distortion and loose rivets

3.0.4

Rudder lower bearing and rudder cable attachment. Check the rudder for end float (max. 0.25 mm) in the attachment bearing and any loose rivets around the attachment point. Check that the rudder cable attachments are secure

3.0.5

Check the vertical fin spar for distortion and the upper rose joint for security.

Engine Mount

Check the engine mount for cracks and ensure the attachment to the firewall is secure and wire locked

Notification & Recording

FOR AIRCRAFT ON THE BMAA REGISTER:

The inspection and subsequent reassembly of primary controls and primary structure are affected in this maintenance manual. A second inspection by a competent person is required for these items.

The mandatory 2000+ hour inspection (including seat pan removal and replacement) is required to be overseen by the BMAA Technical Office. Contact the Technical Office in advance of starting the work.

Notify Airmasters of any findings such as structural deformation, cracks and loose or sheared rivets.

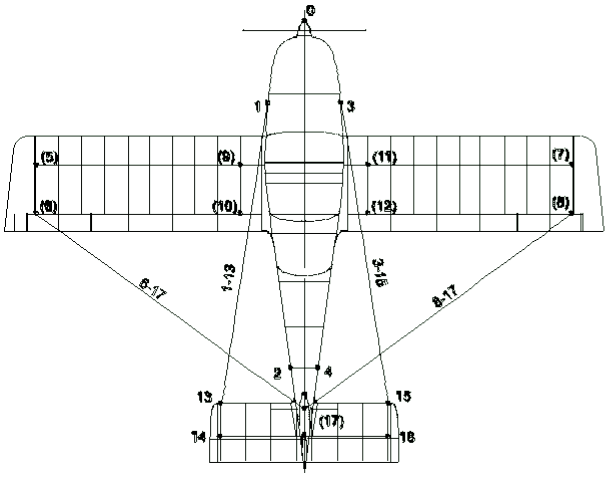
Record compliance with the inspection schedule in the aircraft log book.

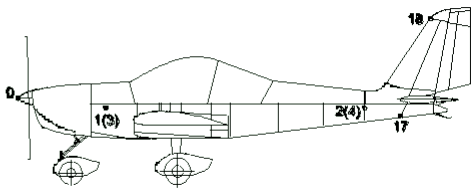
FOR AIRCRAFT ON THE LAA REGISTER:

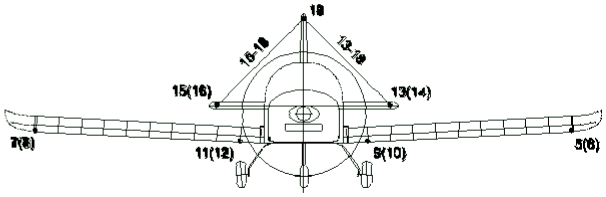
The inspection and subsequent reassembly of all the inspected parts must be completed to the satisfaction of a suitably qualified LAA Inspector. Worksheets and log book entries must be raised and signed by the inspector confirming compliance with this bulletin. Notify Airmasters and LAA Engineering of any findings such as structural deformation, cracks and loose or sheared rivets.

Appendix 2 Levelling Record

Model: EV-97	**Registration:**	**S/N:**







Vertical measurement

Point	Measure
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	

Straight measurement

Points	Measure
1-13	
3-15	
6-17	
8-17	
13-18	
15-18	

Differences left / right side

Specified values			Actual
Points	Difference	Tolerance	Difference
1-3	0	*±0.08 in*	
2-4		±2 mm	
1-2	0	*±0.08 in*	
3-4		±2 mm	
5-6	0	*±0.2 in*	
7-8		±5 mm	
9-10	0	*±0.1 in*	
11-12		±3 mm	
5-9	136 mm *5.35 in*	*±0.4 in* ±10 mm	
7-11			
6-10			
8-12			
13-15	0	*±0.4 in*	
14-16		±10 mm	
1-13	0	*±0.8 in*	
3-15		±20 mm	
6-17	0	*±0.8 in*	
8-17		±20 mm	
13-18	0	*±0.4 in*	
15-18		±10 mm	

Levelling carried out by: Date:

Appendix 3 Control Surface Deflection Record

Model: EV-97	**Registration :**	**S/N:**

		Specified deflection	Actual deflection
Longitudinal Control	HTU upward deflection	25°±1°	
	HTU downward deflection	20°±1°	
Lateral Control	Left aileron upward deflection	20°±1°	
	Left aileron downward deflection	15°±1°	
	Right aileron upward deflection	20°±1°	
	Right aileron downward deflection	15°±1°	
Rudder Control	Rudder left deflection	30°±2°	
	Rudder right deflection	30°±2°	
Wing Flaps	Left flap deflection in "TAKEOFF" position	15°±2°	
	Left flap deflection in "LANDING" 1st position	30°±3°	
	Left flap deflection in "LANDING" 2nd position	50°±3°	
	Right flap deflection in "TAKEOFF" position	15°±2°	
	Right flap deflection in "LANDING" 1st position	30°±3°	
	Right flap deflection in "LANDING" 2nd position	50°±3°	
	Max. difference between left and right flap deflections	2°	
Elevator trim tab	Max. upward trim tab deflection (elevator neutral)	+5.0°, ± 3.0°	
	Max. downward trim tab deflection (elevator neutral)	-15°, -8° +5°	
	Neutral trim tab position (elevator neutral, trim tab control lever in neutral position)	0°	

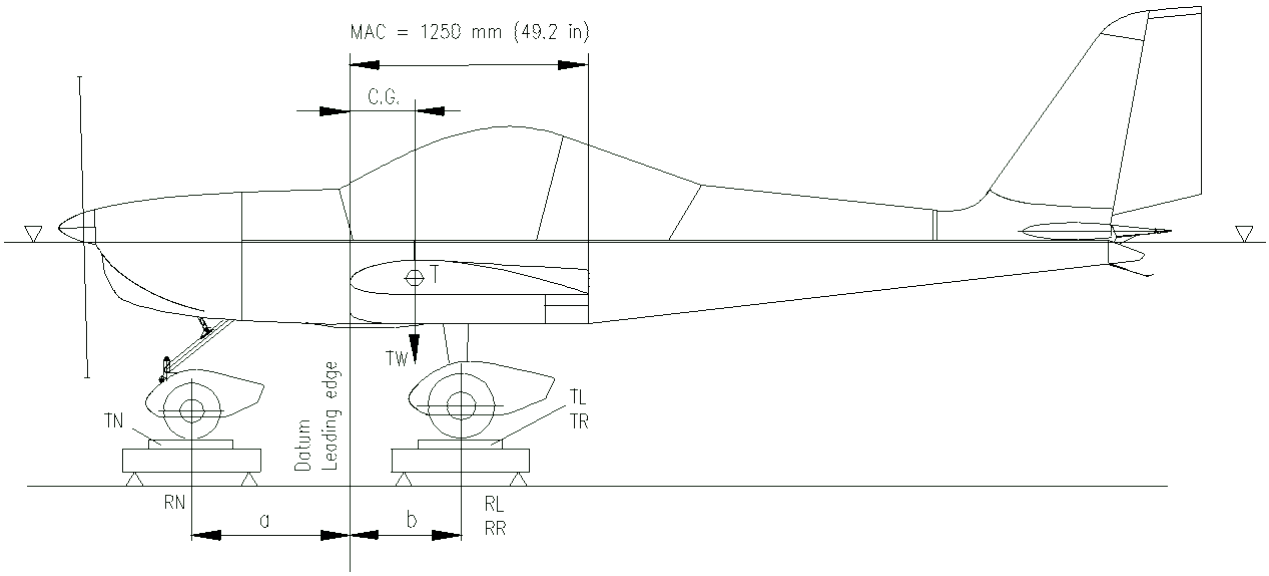
Control surfaces' deflections compliant YES/NO

Measurements carried out by

Date

Appendix 4 Weight & Balance Record

Model :	EV-97	**Registration :**		**S/N :**	
Configuration :					



Weighing Point	Scale Reading R_i [lbs] or [kg]	Tare T_i [lbs] or [kg]	Net Weight $NW_i = R_i - T_i$ [lbs] or [kg]
Nose wheel	R_N =	T_N =	NW_N =
Left wheel	R_L =	T_L =	NW_L =
Right wheel	R_R =	T_R =	NW_R =
Total Weight [lbs] or [kg] $TW=NW_N+NW_L+NW_R$=..... + . +……			**TW =** permitted empty weight (standard equipment): *max 591 lbs* max. 268 kg
C.G. position from Datum (Leading edge) [in] or [mm] $C.G. = \frac{(NW_L + NW_R) \times b - NW_N \times a}{TW}$ = (..... +.....)x..... −.....×.....			**C.G.=**
$C.G. = \frac{C.G.\ \text{[in] or [mm]}}{MAC\ [\ in\ ]\ or\ [\ mm\ ]} \times 100$ = ... ×100	**C.G. position [% MAC]**		$\overline{C.G.}$ [% MAC] = permitted C.G. range of empty aircraft (standard equipment):: 18±2% MAC

Weighing carried out by: Date:

Appendix 5 Flight Test Record

Model	Ser. No.	Registration
Engine	Ser. No.	Take-off weight
Prop.	Ser. No.	

TEST FLIGHT TAKE OFF WEIGHT = 450KG +0, -10 KG

Regime		Parameter		Limit	Result
Meteorological conditions		QNH			
		Temperature °C			
		Wind direction/speed			
Pre-flight Engine Checks	Full Throttle	Engine max. rpm static		>4,900 rpm	
		Oil temperature		>50°C	
		Oil pressure		1.5 – 5 bar	
	Ignition check	At 4000 rpm	max. drop 300 rpm		
			max. difference 120 rpm		
	Idle		1400 - 1800 rpm		
Take off & climb through 1000ft. IAS 72 mph		Engine speed	max. 5500 rpm		
		Oil pressure	1.5 – 5 bar		
		Oil temp.	max. 140°C		
		CT	max 302°F, 150°C (120°C*)		
		Time to climb 1000ft	<1min:30sec		
		Fuel pressure		0.15 – 0.4 bar	
Stall speed at idle (IAS)		Landing configuration (flaps down)		<40.6mph	
		Cruise configuration (flaps up)		<46 mph	
Steep turns		Max. 60°			
Never exceed speed		V_{NE} = 146mph			
		Engine speed		<5800 rpm	
Cruising speed at 2000 ft		At engine speed 4200			
		At engine speed 4600			
		At engine speed 5000			
		Oil temperature		50 – 120 °C	
		CHT		60 – 100 °C	
Max. horizontal speed at 2000 ft.		At engine speed <5,800 rpm		min. 115mph	
		Oil temp.		50 – 140 °C	
		CHT		50 - 150°C	
Date		Pilot's Signature			
Location		Pilot's Name			

*If 50/50 ethylene glycol/water coolant is used, Service Bulletin SB/EUR/006 Issue 1 must be complied with.