Annex E(M) - Final inspection checklist - monowheel

A/C Reg..... Owner.....Kit S/N.....Date.....

(U.K. Only) L.A.A No.....Inspector.....Insp. No .....

Note: *This check list only covers specific items for inspection of the Europa aircraft. General inspection must be carried out in addition to these items. Items covered in the inspection stages during construction are not included in this list.*

The inspector should check and initial each separate item of these inspection sheets. Duplicate check items require a second signature. For aircraft registered with the L.A.A. a copy must be sent to the Engineering Department of the L.A.A.

Flying Controls

Check there is no binding when the control column is moved fore and aft when at full aileron travel.

Wings

Check wing incidence on port and starboard wings.

Check for straight wings/ailerons/flaps (sight along leading and trailing edges).

Ailerons

Check aileron mass balance horns do not contact the wing skin at full travel.

Check for slop in the aileron system, particularly at interconnect system - adjust shim if required

Duplicate check of aileron travel - nominal 23.5° up, 20° down.

Max aileron movement limits	Actual aileron movements	
	Port	Stbd
Up - 22.5° min - 25.5° max		
Down - 19° min - 22° max		

Check adequate engagement of rod-ends on threaded ends of the aileron link-rods (no less than 1.5 x diameter of threaded portion must engage with the thread of the rod-end - preferably 2 x). If inadequate engagement, remake link rod as described in the Builders Manual.

Tailplanes and anti-servo/trim tabs

Duplicate check of range of tailplane travel. Neutral is when tailplane root is in line with fuselage fairing, and noting that a positive angle means trailing edge up..

Also check the anti-servo tab movement - see table:-

Tailplane movement (A)		Tab movement (B)		Tab/tailplane ratio (B-A)÷A Min 1.2 max 1.5	
Limits	Actual	Port	Stbd	Port	Stbd
T.E. up 12° to 13°					
T.E. dn 4° to 5°					
Total movement	(A)	(B)	(B)		

Duplicate check of the range of trim movement of the tab, with the tailplane set again at neutral.

Trim tab range - minimum	Trim tab range - actual	
	Port	Stbd
T.E. up 6°		
T.E. down 6°		

Check that the pitch trim push-rod TS05 does not contact either slot in the fuselage sides at either extreme of trim travel over the full tailplane movement range.

Check that trim bellcrank does not contact TS05 push-rod when fully forward (tab full down) and tailplane is trailing edge up. This can be checked by cycling the trim motor through its range whilst holding the stick fully back, and listening for any labouring.

Check that TS05 does not contact the bulkhead it passes through.

Check tailplane for correct mass balance .

Check that inboard corners of anti-servo tabs have been removed to clear the rudder .

Rudder and tailwheel

Check that the rudder movement is limited by the stops and not by its leading edge.

Duplicate check of rudder travel.

Max rudder movement limits	Actual rudder movement	
	Port	Stbd
30° min 32° max		

Cockpit

Check presence of forward and rear lift pin fuselage side stiffeners.

Check presence of reinforcing tubes in rudder pedal shafts.

Check that all placards are in place. Ref.: Owners Manual

Check that trim tab servo can be easily and quickly electrically isolated by the pilot (e.g. in a trim runaway).

Check trim indicator is central with the tab at neutral position.

Check orientation of trim position indicator and trim switch - to trim the **nose up** (tab moves down), press **bottom** part of rocker switch and indicator moves **up.**

Check that the door latches have sufficient lubrication to snap to closed position.

Check that the door shoot-bolts engage in their holes on the parallel portion, not just the taper.

Check that door latch guards are fitted.

Check presence of fuel filter spring.

Check security of fuel pipes at fuel tank outlets.

Check that it is absolutely clear which end of the fuel cock knob is the “pointer” end, i.e. small pointer is sawn off and handle used as pointer.

Check that fuel cock placarding is clear, i.e. OFF/MAIN/RESERVE.

Check presence of fuel sight gauge restrictor.

Check installation and effectiveness of rudder pulley safety pads.

Check that rudder cables have not stretched, allowing pedals to come too close to firewall at extreme travel.

Rear Fuselage

Check that both pitch push rod and mass balance arm are correctly attached to tailplane torque-tube operating horn.

Check pitch push-rod containment hole to push-rod clearance is maximum 4 mm (0.16").

Check that baggage bay rear bulkhead has been glass taped all round its rear face onto the fuselage.

Landing gear bay

Check that clearance sighting between top of mainwheel tyre and bottom of fuselage lies between 0 and 2cm.

Check that both the LG08 landing gear retraction arms are in contact with their stops.

Check that the tyre pressure is correct.

Check for presence of access panels under fuel tank outlets. (Mandatory in the U.K.)

Check that there is a washer on the clevis pin each side of the LG08 lower fork.

Flaps, landing gear and outriggers

Support aircraft off the ground to operate the flaps / gear

Check undercarriage and flap operation, tension in retract assist bungee and operation of safety latch.

Check flap push-rod does not come in contact with the wing spar or the pitch torque-tube CS10 during its travel in both directions.

Check presence of windows in root of flaps to check pin engagement.

Check that, with the flaps up, the cross-tube is not pushing the flaps outboard. A slight inboard movement of the flap should be possible with the flaps at approximately 5° down.

Check that the flap is fully up when the gear/flap lever is in its gate.

Duplicate check of the total angular movement of both flaps.

Max flap movement limits	Actual flap movements	
	Port	Stbd
Down - 25° min - 27° max		

Check clearance of gear from rudder cables.

Check that the bolt through the slot in OR5 is 5mm (3/16”) to 7mm (1/4”) from the end of the slot when the outriggers are down.

Aircraft back on ground - cowlings removed.

Propeller and spinner

Check propeller pitch on each blade (Rotax 912 - 17°, Rotax 912S - 19°, Rotax 914 - 20°, at tip - Warp Drive ground adjustable propeller).

Check for correct wire locking.

Check tracking of blades is within ±3mm (1/8").

Check spinner runs true.

Wings and tailplanes derigged.

Wings

Check that 3 bolts secure each W21 outrigger mounting plate.

Check that the exposed length of outrigger legs between fittings is 312 - 315 mm (12¼” - 12 3/8”)

Fuselage

Check that the bolts securing the CS15 aileron quick-connect bellcrank in the fuselage do not protrude too far through the nut (1 ½ threads minimum), to ensure there is no contact with the W16 bellcrank in the wing when being rigged/derigged. Look for signs of contact on the W16 bellcrank.

Tailplanes

Check that there is sufficient lubrication of all moving parts.

Check security of the bronze bushes bonded in to the fuselage sides

Check security of TP5, TP6 and TP13 bushes in the tailplanes.

Builder Modifications

Check if any builder modifications are fitted. The following are examples, all of which would come under the category of modifications needing L.A.A. design acceptance in the U.K.:-

Auto-pilot
Electric fuel gauge
Addition of fuel flow computer
Alternative epoxy resin or glass
Alternative paint systems
Alternative propeller
Alternative engine
Tail pip pin hole covers
Extra access panels
Alternative fuel tank material
Alternative wing tip shape
Navigation lights
Strobes
DV panel
Extra door safety catch
EGT gauge
Flap root fairings