MAIR - CRAFTERS

AVIATION SERVICES

A&P, IA, DAR

#2 HILLCREST DRIVE ------ KELLER, TX ------ 76248 ------ (817) 491-4840

Inspection Check List for Amateur-Built Aircraft

Builder: _____ Model _____ S/N _____

Regulatory Prerequisites & Placards

_____ FAA form 8130-12 Eligibility Statement notarized.

_____ Dataplate has Builder's name, model, serial number.

_____ Dataplate is fireproof (steel) installed external location per FAR 45. 11(a).

_____ N-numbers installed, block letters, 3" proper location per FAR 45.25, or

12 inch, if a/c has cruise speed over 180 Knots CAS.

_____ "Experimental" displayed, 2" mm size, FAR 45.23(b).

_____ Passenger warning placard (not required for single place).

"This aircraft does not meet US. safety....."

_____ Registration certificate available in aircraft. (NOT pink slip!)

_____ Builder makes following statement in logbook:

> 1 certify that I have built this aircraft for my own education and recreation, and I have inspected it fully. I am the manufacturer, and I consider it eligible for issuance of an Experimental Airworthiness Certificate for the purpose of operating amateur-built aircraft under provisions of FAR 21.191(g)."

_____ A/C Weight and balance complete and within designer's limits.

FAR 91.9 Placards

_____**Markings for:**

_____Throttle- open-closed

_____Carb Heat- pull on

_____Flaps- Up- Down, Degrees/Inches Take Off Setting Marked

_____ Trim Tab- Nose Up, Nose Down, Take Offsetting

_____Trim Tab- rudder left, rudder right, neutral

_____ Mixture- Push rich

_____Fuel On-Off levers

_____Fuel quantity and type marked on or near each cap

Cockpit Interior

_____Seat Belts function, and angle is slightly rearward

_____Shoulder harness function, and angle is -5 to + 30 degrees

_____Seat Belt Anchor Points firm, no interference

_____Shoulder Harness Anchor Points firm, no interference

_____Seats and seat tracks o.k., stops on aft of rails

Instruments and required equipment (FAR 91.205 and others)

_____ELT meeting TSO-C91A properly installed, with remote switch and battery date current and recorded in aircraft records. Not req'd in single place

_____Fuel gauge each tank, has been calibrated and calibration in records showing unusable fuel

_____VFR Day requirements: * Note: All instruments should be marked with green/red line ranges

_____Altimeter

_____Airspeed indicator

_____Tachometer

_____Oil Pressure

_____Oil Temperature

_____Compass

_____For retract gear aircraft, indicator of up/down gear

_____VFR Night Requirements- Day VEIl plus:

_____Position Lights

_____Anti-collision strobes/rotating beacon which meets FAA standards

_____Spare Fuses

_____Electrical energy sufficient for duration of aircraft range, plus reserve

_____IFR Requirements Day & Night VFR, plus:

_____Working two-way radio

_____Clock

_____Gyroscopic rate of turn indicator

_____Vacuum gauge

(Turn & Bank or Turn Coord.)

_____Slip / Skid indicator

_____Heated Pitot

_____Sensitive altimeter

_____Artificial horizon

_____Generator/Alternator

_____Directional gyro

_____Alternative Static Source

Systems

Wire type and size is appropriate for load being carried, and connections are solid. All installed systems perform as intended. See A/C 43.13 for data

Electrical

_____Battery & Electrical System, wiring adequate size and secure

_____Switches marked for operation, and wired properly

_____Circuit Breakers or fuses labeled for value and function

_____Ground on battery to airframe, or wired into place properly

_____Ammeter

_____Voltmeter

_____Landing Lights / Position Lights wired correctly

_____Cockpit lights/ Instrument lighting

_____Battery case and battery securely mounted

_____Battery vented overboard

Avionics

_____Antennas properly installed, and have proper support/doubler plates

_____Coax Cable secured, with slack enough to prevent disconnection

_____Radios/Avionics are mounted securely

_____Avionics gear is wired properly, and functions

_____Transponder "Mode C" check done, and in aircraft records

Fuel System

_____Caps fit, and are vented on all tanks

_____Fuel drains installed at lowest portion of tank

_____Fuel Vent System contains no kinks or obstructions which would block venting

_____Shutoff valve/ Selector switch ease of operation, and clearly marked for intended operation

_____Fuel Line routing, proper material, diameter for intended fuel supply

_____Fuel Strainer functional and safety wired

_____Fuel Lines protected from chafing.

_____Fuel line routing avoids areas of heat

Gear/Wheel/Brake Systems

_____Retractable Gear functions- Operations check

_____Emergency gear extension test

_____Clearance in wheel wells

_____Brake System line routing, reservoir, pumps

_____Brake & Wheel installation secure

_____Taxi test on gear toe in/ toe out o.k.

_____Tires are clear of pants or struts

_____Wheel Pants are secure

_____Tail Spring secure, well designed, and is clear of rudder

Control Surfaces

A. Designers Recommended limits:	This Plane Measures:
Aileron Up travel: _____Degrees/Inches	_____Degrees/Inches
Down travel: _____Degrees/Inches	_____Degrees/Inches
Elevator Up travel: ____Degrees/Inches	_____Degrees/Inches
Down travel: _____Degrees/Inches	_____Degrees/Inches
Rudder Left/Right _____Degrees/Inches_____	_____Left_____ Right

General Condition- Fuselage, Wing, Tail Assembly

_____Skin condition, wrinkles, rivets, or tape

_____Vertical Fin, movement and condition

_____Elevator assembly, movement and condition

_____Trim Tabs function, no binding

_____Control Travel "Stops"

_____Control Cables Safety Wired Correctly

_____Counterweights secure

_____Doors close securely and open properly, if open in flight, markings

_____Windows secure, and markings for distance if open in flight

_____Canopy secure

_____Canopy emergency release marked red and copper safety wired

_____Canopy locks/door locks work

Flight Controls

_____Proper tension of cables

_____Safety wiring of cable turn buckles

_____Clearance on controls/no hitting panel or floorboards

_____Freedom of movement

_____**PROPER DIRECTION**

_____Is everything properly safety wired?

Engine Compartment

_____Engine Compression in Log 1=_____ 3=_____
2=_____ 4=_____

_____Throttle cables anchored and functional, spring open

_____Clearances in engine compartment

_____Carb Heat Control- Functional

_____Mixture Control- Functional, spring full-rich

_____Fuel Hose routing to avoid heat & bends (Fire sleeve preferred)

_____Fuel strainer safety wired

_____Fuel Hose diameter sufficient for engine

_____Fuel and Oil Hoses proper material

_____Oil System Hose & Cooler installation

_____Prop Governor. Functional, proper lines

_____Firewall steel, no openings

_____Engine Mount secure, no cracks

_____Alternator, belts, accessories properly installed

_____Heater hoses proper material

_____Heater design minimizes CO poisoning chances

_____Baffles appear correct

_____All electrical and ignition wires appear correct

_____Cowling fasteners hold securely

Propeller

_____Propeller nicks

_____Safety Wired Bolts of sufficient size

_____Bolts torqued properly

_____Bolts clear engine, proper length

_____Prop clears ground in takeoff attitude by >7"

_____Prop Spinner o.k., clear of cowl, not uneven spin

_____Ready for Run-up.

_____Engine starts easily

_____Oil Pressure comes up quickly to proper level

_____Oil Temp comes off cold peg

_____Check all instrument operations/tach/oil/volts/ etc.

_____Carb Heat Functions, RPM Drop is _____

_____Mag Drop, Left is _____ Right is _____

_____Fuel Gauges show calibrated

_____Mixture/Throttle/Prop controls work

_____Fuel Shutoff works

_____No abnormal vibration

_____Propeller tracks within specs

Airworthiness Directive Compliance

_____Engine AD's which apply have been complied

_____Equipment AD's which apply have been complied