Zelf Vliegen	Checklist
	Aero AT-3

This checklist is in accordance with the Aero AT-3 R100 Aircraft Flight Manual section 3 and 4, revision 14, November 2012

Aero AT-3
PH-EVB
Checklist

ATTENTION!
DO NOT
STOW THIS CHECKLIST
IN DIRECT SUNLIGHT

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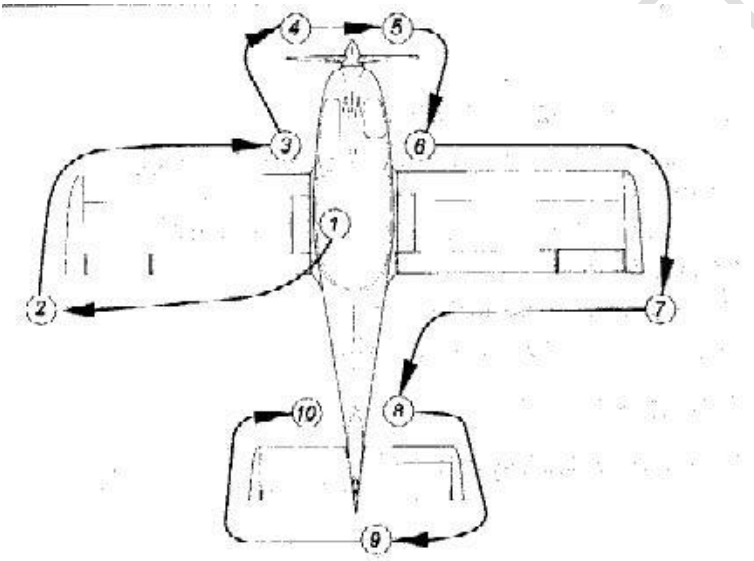
Preflight Inspection Aero AT-3 PH-EVB

It is the duty of the pilot to perform a pre-flight inspection prior to the flight or after a break in flights, when he has left the cabin. The inspection is to be made, starting with the cabin and walking clockwise around the aeroplane.



1.CABIN	
Canopy – Opening, closing and operation of locks	CHECK
Inside cabin – All foreign items	REMOVE
Collapsible tow bar from flying controls – if installed	REMOVE
Condition of the seats	CHECK
Luggage collapsible tow bar – if will carry	SECURE
Seat belts	CHECK
Flight controls – Free movement, lack of significant play and extensive friction	CHECK
Balancing tab (trim) - Full travel - Take-off setting	CHECK ESTABLISH
Wing flap – Extension	CHECK
Wing flap setting to 40˚	ESTABLISH
Carburettor heating – to be set OFF	CHECK
Fuel valve – to be set OFF	CHECK
Fuel pump – to be switched OFF	CHECK
Ignition – to be set OFF	CHECK
Fuel level – to be checked with the gauge	CHECK
Battery and generator – to be switched OFF	CHECK
All electrical equipment – to be switched OFF	CHECK
Circuit breakers	CHECK IN
Parking Brake (if installed)	ON

2.PORT WING	
Structure – Condition and cleanliness	CHECK
Wing flap – Condition of structure and play in control system and hinges	CHECK
Ailerons – Condition of structure and play in control system and hinges	CHECK
Pitot tube – Fixing and cleanliness	CHECK
Inspection flap – to be closed and locked	CHECK

3.PORT LANDING GEAR	
Tire – Check the tyre pressure (visually)	CHECK
Brake system	CHECK

4.FUSELAGE FRONT PART	
Canopy – Visually check cleanliness	CHECK
Fuel tank – Fuel quantity and locking the filler-cap	CHECK
Engine cowling – Locking and leaks	CHECK
Propeller and spinner – Condition and cleanliness	CHECK
Exhaust pipes – Condition	CHECK
Antenna of transponder – Condition and fixing	CHECK
Fuselage bottom surface – Condition and cleanliness	CHECK
Air intake covers – installed	CHECK

NOTE:
It is recommended that Air Intake Covers are installed when operating the aircraft in ambient temperature below 12 °C

5.NOSE LANDING GEAR	
Tire – Check the tyre pressure (visually)	CHECK
Shock absorber – Condition	CHECK
Towing bar – to be removed from the aeroplane	CHECK

6.STARBOARD LANDING GEAR AND FRONT PART OF FUSELAGE	
Tyre – Check the tire pressure (visually)	CHECK
Brake system	CHECK
Oil level and presence of the dipstick (turn the propeller several times first by hand)	CHECK

CAUTION:
When turning the propeller by hand, special care is to be observed and the following is to be checked:
-the ignition is switched off
-the parking valve is on, or
- the chocks are put under wheels
The possibility of spontaneous ignition always exists

7.STARBOARD WING	
Structure – Condition and cleanliness	CHECK
Ailerons – Condition of structure and play in control system and hinges	CHECK
Wing flap – Condition of structure and play in control system and hinges	CHECK
Inspection flap – to be closed and locked	CHECK

8.FUSELAGE REAR PART, STARBOARD	
Structure – Condition and cleanliness	CHECK
Antennae – Condition and cleanliness	CHECK

9.EMPENNAGE	
Fin – Condition and cleanliness	CHECK
Rudder – Hinges and their play	CHECK
Slab tail – Hinges and their play	CHECK
Trim & balancing tab – Hinges and their play	CHECK

10.FUSELAGE REAR PART, PORT	
Structure – Condition and cleanliness	CHECK
Inspection flap – to be locked	CHECK

Normal checklist Aero AT-3 PH-EVB

BEFORE STARTING ENGINE	
Canopy	SHUT AND LOCK
Luggage – stow and secure	CHECK
Seat belts	FASTEN
Reading of the fuel quantity indicator	CHECK
Ignition to be switched off	CHECK
Battery, generator and alternator – to be switched off	CHECK
All electrical equipment – to be switched off	CHECK
Trim and balancing tab – to be set to "TAKEOFF"	CHECK
Flight controls – full and free movement	CHECK
Wing flaps	RETRACT
ELT	ARMED

CAUTION:
Engine started is prohibited with the parking brake on

ENGINE START	
Fuel valve – to set	OPEN (push forward)
Choke (if cool engine)	ON (lock fully out)
Battery , generator and alternator	ON
"GENERATOR / ALTERNATOR FAILURE" light - illumination	CHECK
Fuel Pump	ON
Throttle lever	IDLE (or open by 10%)
Anti collision Light	ON
Propeller area	CLEAR
Parking Brake	OFF
Brakes	APPLY
Ignition switch	START

NOTE
After completing the engine start, check whether the oil pressure starts to rise within 10 sec. (above 2 bar)

AFTER ENGINE START	
Time	NOTE
Engine Speed 2500 RPM	MAINTAIN
GEN/ALT FAILURE light – go out	CHECK
STARTER ENGAGED light – go out	CHECK
Choke	OFF
Oil heater	ON (as required)
Oil pressure – green arc	CHECK
Fuel pump	OFF
Electrical equipment	ON (except landing -, wing tip strobe, position light)
Flight Instruments	CHECK
Engine instruments	CHECK
Engine speed of 2000-2500 RPM – until oil temperature of 50°C is achieved	MAINTAIN
Avionics Master Switch	ON
Aspen PFD	ON
PCAS	ON
Position light	ON (as required)
Taxi light	ON (as required)
Altimeter	SET, 2 x
Radio	SET ON AND CHECK
Transponder	SET, STBY (standby)
Circuitbreakers	CHECK ALL IN

TAXI	
Brakes	RELEASE
Operation of the brakes	CHECK
Gyros & Compass	CHECK in turn L/R
Aspen PFD	CHECK in turn L/R
Control Stick	According to wind

CAUTION:
To avoid engine overheating and pollution with dust operation of the engine on ground at ratings higher than the required for taxiing is to be limited to a minimum

ENGINE TEST RUN	
Brakes	APPLY
Control stick	PULL
Indications of engine instruments – to be within the green sector of the scale	CHECK
Engine speed 4000 RPM	SET
Ignition switch	CHECK R/L (drop max 300)
Ignition switch	BOTH
Carburettor heating	CHECK (10 sec)
Engine instruments	CHECK
Warning lights	CHECK
Throttle	IDLE (~1600 RPM)
Throttle	2000 RPM

NOTE:
Maximum engine speed on ground is 5050 RPM
RPM drop when one ignition unit only operating is 300 RPM.
Maximum difference of engine speed between position "L" and position "R" must not exceed 120 RPM

BEFORE TAKE-OFF	
Fastening of the seat belts	CHECK
Fuel valve - Open	CHECK
Canopy (window)	LOCKED (2x)
Trim and balancing tab – to be set for take-off	CHECK
Wing flaps – to be set for take-off (or grass: 15 degrees)	CHECK
Ignition switch – to be set BOTH	CHECK
Carburettor heating	OFF

BEFORE TAKE-OFF CHECKLIST TO BE CONTINUED NEXT PAGE!!!
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BEFORE TAKE-OFF (CONTINUATION)	
Oil pressure – to be in green sector	CHECK
Oil temperature – to be in green sector	CHECK (min 50°C)
Cylinder heat temperature	CHECK
EGT temperature	CHECK
Fuel pressure – to be in green sector	CHECK
Amp. / Volt meter	CHECK
Altimeter – to be set properly	CHECK
Landing light	ON
Wingtip strobe light	ON
Fuel pump	ON
Transponder	ALT
Windsock	CHECK

ONLY FOR RFI AND FI "GOPRO" SWITCH ON

TAKE-OFF	
Brakes	RELEASE
Throttle – full open	SET
Maximum engine speed	CHECK (max. 5050 RPM)
Take-off direction –maintain using rudder pedals	EXECUTE
Airspeed after lift-off to be maintained at	60 kts
Landing gear – rotating wheels	BRAKE
When height 50 feet reached - Increase to speed to	65 kts
Wing flaps	RETRACT

AFTER TAKE-OFF	
Engine instruments	CHECK
Fuel pump (On top of climb or above 1000 ft)	OFF
Flaps	RETRACT
Landing light	OFF

CLIMB	
Throttle – to be opened	5000 RPM
Airspeed – for climb, to be maintained	65 kts
Engine operational parameters – to be	MONITORED

CRUISE	
Throttle – as required	SET
Trim and balancing tab – as for cruise	SET
Engine operational parameters – to be	MONITORED
Oil heater	ON (check temperature) as required

DESCENT	
Throttle – as required	SET
Fuel pump	ON
Coolant an oil temperature – to be	MONITORED

BEFORE LANDING	
Warning Lights	CHECK
Engine instruments	CHECK
Fuel pump	ON
Carburettor heating – as required	SET
Flaps	SET
Airspeed	SEE TABLE “OPERATING SPEEDS”
Landing light	ON

LANDING	
Engine RPM below 50 feet to be	DIMINISHED
Touch down with the main wheels first	
Throttle	IDLE
Braking	AS REQUIRED

BALKED LANDING (GO-AROUND)	
Carburettor heating	OFF
Throttle – gradually	FULL OPEN
Airspeed – to be	INCREASED
Wing flaps – gradually	RETRACT
Airpseed – to be maintained:	65 kts
Proceed to climb	EXECUTE

AFTER LANDING	
Flaps	RETRACT
Carburettor heating	OFF (recheck)
Wingtip strobe light	OFF
Landing light	OFF
Positon light	OFF
Turn Coordinator	OFF
Aspen PFD	OFF
Fuel Pump	OFF
Transponder	Set STBY (standby)
PCAS	OFF

ENGINE SHUTDOWN	
Radio	OFF
Taxi light	OFF
Transponder	OFF
Electrical Equipment	OFF
Avionics Master	OFF
Throttle – to be set to	IDLE
Ignition Switch	OFF
Keys	REMOVE
Battery ,generator and alternator	OFF
Anti collision light	SWITCHED ON at all times
Time	NOTE

OPERATING SPEEDS	
Take-off	42 KIAS to 50 feet 60 KIAS above 50 feet
Take-off degrees 0	50 KIAS
Beste Angle (Vx) degrees 0	60 KIAS
Beste Rate (Vy) degrees 0	65 KIAS
Best Angle (Vx) degrees 15	55 KIAS
Best Rate (Vy) degrees 15	60 KIAS
Max Turbulent	85 KIAS
Glide	65 KIAS
Cruise	90 KIAS 4600 RPM
Downwind flaps 15 degrees	80 KIAS 4200 RPM
Base flaps 15 degrees	70 KIAS 3200 RPM
Final 15 degrees	65 KIAS 3200 RPM
Final 40 degrees	60 KIAS
Crosswind max	11,7 kts

Emergency checklist Aero AT-3 PH-EVB

ENGINE FAILURES

ENGINE FAILURE AFTER TAKE-OFF (EFATO)	
Maintain airspeed	65 kts
Fuel pump	OFF
Fuel valve	SHUT
Throttle	IDLE
Ignition Switch	OFF
Battery, generator and alternator	OFF
Landing: ahead avoiding obstacles	

ENGINE FAILURE IN FLIGHT	
FUEL PRESSURE DROP ENGINE POWER DROP	
Fuel pump	ON
Carburettor heating	Switch ON
Fuel valve opening	To be CHECKED
Fuel quantity on board	To be CHECKED
EXCESSIVE ENGINE VIBRATION	
Carburettor heating	Switch ON
Fuel pump	Switch ON
EXCEEDING THE CYLINDER HEAD TEMPERATURE	
Temp of the exhaust gases for comparison	To be CHECKED
Over-speeding the engine	
Exceeding the max oil temperature	
The oil Temperature drops below the permissible minimum	

CAUTION:
In all of the above cases reduce the power to the minimum possible fly to the nearest airfield and be prepared for precautionary landing

ENGINE RESTARTING IN FLIGHT	
Maintain airspeed	65 kts
Fuel quantity in tank	To be CHECKED
Fuel valve	OPEN
Fuel pump	Switch ON
Throttle to be set	IDLE (or 10% opening)
Choke (when the engine is cool)	ON
If the prop windmill – ignition	ON
If the prop stopped – engine starter	ON
If the engine starts	
Throttle, according to the required power	SET
Operational parameters of the engine	CHECKED
Emergency fuel pump	OFF
If the engine does not start	
Perform EMERGENCY LANDING	

NOTE:
The engine can be re-started in the entire range of operational airspeeds and altitudes. The loss of altitude and airspeed during engine re-starting in flight is not great. No other special procedures are required for engine re-starting in flight.

SMOKE AND FIRE

ENGINE FIRE ON GROUND	
Fuel Valve	SHUT
Throttle	FULL OPEN
Ignition Switch	OFF
Electrical Equipment	OFF
Battery, generator and alternator	OFF
Fire extinguisher	To be USED

FIRE IN FLIGHT	
Maintain airspeed	65 kts
Fuel Valve	PULL SHUT
Throttle	FULL OPEN
Ignition Switch	OFF
Battery, generator and alternator	OFF
Cabin canopy vents	SHUT
A side slip – opposite fire to blow it out	TO BE PERFORMED
When the engine stops	PERFORM EMERGENCY LANDING

CAUTION: **After an engine fire do not try to re-start the engine**

FIRE IN THE ELECTRICAL SYSTEM	
Maintain airspeed	65 kts
Electrical equipment	OFF
Fire extinguisher (if fire in cabin)	To be USED
Cabin canopy vents	KEEP OPEN
If the fire persists, decide upon a place for landing	

GLIDING FLIGHT	
Recommended aeroplane configuration	Flaps retracted
Airspeed	65 kts
Throttle	IDLE
Gliding ratio (no power)	8

EMERGENCY LANDING

PRECAUTIONARY LANDING	
Landing place	IDENTIFY
Wing flaps to 40 degrees	EXTEND
Maintain approach airspeed	54 kts
Safety belts	FASTEN FIRMLY
Electrical equipment	OFF
Locks of the canopy	UNLOCK
BEFORE TOUCH DOWN	
Fuel valve	PULL SHUT
Battery, generator and alternator	OFF
Ignition switch	OFF
Levelling out directly before touch-down. After touching down keep control stick fully pulled.	

LANDING AFTER ENGINE FAILURE	
Wing flaps to 40 degrees	EXTEND
Maintain approach airspeed	54 kts
Safety belts	FASTEN FIRMLY
Locks of the canopy	UNLOCK
Electrical equipment	OFF
Fuel valve	PULL SHUT
Battery, generator and alternator	OFF
Ignition switch	OFF
Throttle	IDLE

RECOVERING FROM UNINTENTIONAL SPIN	
Throttle	IDLE
Rudder opposite to aeroplane rotation	APPLY
Control stick	NEUTRAL
Ailerons	NEUTRAL
Wing flaps	RETRACT
WHEN THE AEROPLANE STOPS TO ROTATE	
Rudder	NEUTRAL
Control stick – gentle proceed to level flight	
Throttle for level flight	To be set

WARNING
Intentional spinning is prohibited

OTHER EMERGENCY PROCEDURES

ICING	
The aeroplane is not equipped with a de-icing system. Therefore the area where icing conditions exist is to be left as soon as possible.	
Carburettor heating	ON
Heating of the cabin	ON
To a limited degree some ice may be removed by hand, through the window of the cabin.	

ABANDONING THE AEROPLANE WITH USE OF PARACHUTE	
Maintain airspeed	65 kts
Fuel valve	PULL SHUT
Ignition switch	OFF
Battery and generator	OFF
Headset cables	DISCONNECT
Safety belts	UNFASTEN
Canopy (Pull both jettisoning levers and push out the canopy both hands)	TO BE JETTISIONED
The aeroplane	TO BE ABANDONED
The parachute at a safe distance	DEPLOY

FAILURE OF THE ELECTRIC SYSTEM	
Check the condition of the system (voltammeter generator signalling light)	
Check the circuit breakers and fuses.	Switch ON again, as required
In case of generator failure act as follows	
Generator	OFF
Power receivers not required to continue the flight	OFF

FAILURE OF THE STATIC AND PITOT PRESSURE SYSTEMS

The failure of the flight and navigation instruments might be caused by leakage or constriction of the pipes of the static or pitot pressure systems.
In case of failure of the static pitot pressure system, the landing approach is to be performed with flight parameters monitored by the tachometer and other correctly working flight and navigational instruments only. On ground, water sediment is to be removed from the systems, and the sensors of static and pitot pressure checked to be clean and not constricted. Have the systems checked for leakage.

FAILURE OF BALANCING TAB CONTROL SYSTEM OF SLAB TAIL

In case of failure of the balancing tab control system of the slab tail in flight, if the aeroplane becomes “tail heavy” (the nose rises), the airspeed is to be reduced to read about IAS 60 kts to reduce the force on the control stick.

ZELFVLIEGEN