

FW Aircraft Untethered Auto Mode Pre-Exercise Checklist (Verbose, raw text)

GCS

- Computer at full charge
- Computer has mission planner
- Computer has functional USB Ports
- USB cable functional and packed

Plane

- Flight Battery(s) at full charge
- Check tail assembly for damage including bending, dings, warpage, and loose glued joints
- Check elevator and servo linkage for loose screws, loose glued joints, and cracking on the hinge
- Check tail booms for cracks, fraying at ends, or loose glued joints on crossbar
- Ensure that the tail booms are tightly secured to the tail.
- Check left and right wings for foam damage including bending, dings, warpage, delamination of glued parts, or loose boom attachment points.
- Check aileron and servo linkage for loose screws, loose glued joints, and cracking on the hinge
- Check the wing spar for cracking or fraying
- Check the fuselage for foam damage including bending, crash damage, splitting of seams, and improper fit of the hatch
- Check the motor and motor mount to assure both the glue and screws are holding the motor firmly.
- Plan flight and save mission file ahead of time if possible
- Perform a Pre-Flight Checklist to complete the Pre-exercise checklist

FW Aircraft Untethered Auto Mode Pre-flight Checklist

- Assemble airplane
- Verify Propeller is installed with propeller hub grooving facing aft
- Deploy pitot tube and install cover
- Verify 4 thumbscrews tight on wings
- Verify 4 thumbscrews tight on tail boom
- Flight Battery(s) at full charge
- Flight Battery Installed
- Verify the hatch is held closed sufficiently by the magnets
- CG is correct (slightly nose heavy when balanced on fingertips 3.25" from leading edge)
- Place plane on level ground
 - Power on
 - Connect using mission planner
 - Switch to stabilize mode
 - Verify control surfaces deflect in the correct direction to correct non-level attitudes
- Verify zero airspeed ± 3 m/s
 - Remove pitot tube cover
 - Verify GPS lock
- Verify zero altitude ± 3 m
- Verify HSI is level when plane is level
- Verify compass heading is correct
- Upload mission
- Readback mission and ensure it is the correct flight plan



FW Aircraft Checklists

KAIROS FW AIRCRAFT CHECKLISTS --- UNTETHERED AUTO MODE		
PRE-EXERCISE CHECKLIST		
GCS		
COMPUTER	Packed	
	Full Charge	
	Mission Planner Installed	
	USB Ports Functional	
USB CABLE	Packed	
	Functional	
FLIGHT PLAN	Completed	
	Saved on computer	
AIRPLANE		
FLIGHT BATTERY	Full charge	
STABILIZERS	Screws and glue secure	
	Foam undamaged	
	Elevator hinge not cracking	
TAIL BOOMS	Screws and glue secure	
	Carbon fiber undamaged	
WINGS	Glued joints secure	
	Aileron hinges not cracking	
SERVOS	Linkages and horns undamaged	
	Screws and glue secure	
WING SPAR	Carbon fiber undamaged	
FUSELAGE	Foam and seams undamaged	
	Hatch fits securely	
MOTOR	Motor and mount are rigidly affixed	
PROP	Facing correct direction	
	Torqued sufficiently	
PRE-FLIGHT CHECKLIST		
AIRPLANE	Fully assemble	
PROP	Facing correct direction	
	Torqued sufficiently	
PITOT TUBE	Deploy	
WING THUMBSCREWS	All 4 tightened	
TAIL BOOM THUMBSCREWS	All 4 tightened	
FLIGHT BATTERY	Verify full charge	
	Install	
HATCH	Install	
	Verify good closure	
CG	3.25" from leading edge	
AIRPLANE	Place on level ground	
	Power on	
MISSION PLANNER	Connect to plane	
	Switch to stabilize mode	
CONTROL SURFACES	Verify throws by holding plane at level and unlevel attitudes	
PITOT TUBE	MP shows zero airspeed $\pm 3\text{m/s}$	
	Remove Cover	
GPS	MP shows 3D fix or 3D dgps	
HSI	MP shows attitude correctly	
COMPASS	Heading correct	
MISSION PLANNER	Upload mission	
	Verify mission intent and programming	