

RotorSport UK Ltd

MTseries GYROPLANE PRE FLIGHT CHECKLIST

This list is a guideline of items to be checked prior to the flight. No checklist is "All Inclusive", nor is it to be construed as a substitute for proper training or pilot experience.

Task	Aircraft area	Task & task type
A1	General	<p>Note; wherever possible checks should be carried out with a qualified person in the pilot seat in case of accidental starting, and to operate controls correctly.</p> <p>Op/C - Both ignition (magneto) switches in sound condition and switched OFF</p> <p>Remove frost, snow or ice, if present</p> <p>Check - that the gyroplane documents are available and in order.</p> <p>Ensure all loose equipment is correctly stowed and the gyroplane is free of extraneous items.</p> <p>If single seat operation, ensure rear belt fastened securely, and if rear seat cushions are attached by Velcro only, stow them securely.</p> <p>Check – weight & balance, and carry suitable secure ballast if required</p> <p>If the gyroplane has not been regularly used, ensure before resumption of flying that:</p> <p>(a) Either (i) the engine has been turned weekly or run fortnightly or (ii) the manufacturer's recommendations have been complied with</p> <p>(b) Previously reported defects have been addressed</p>
A2	Windscreens	Inspect - for damage and cleanliness (clean as required)
A3	Composite enclosure	<p>Remove pitot head cover if fitted, and verify orifice not obstructed</p> <p>Inspect – static ports not obstructed (one each side of enclosure)</p> <p>Inspect - radio aerials for damage and security</p> <p>Inspect - condition and security of fiberglass enclosure</p>
A4	Landing Gear	<p>Inspect - that extension appears normal</p> <p>Inspect - tyres for proper inflation (1,5 to 2,2bar), damage and creep</p> <p>Inspect - brake installation for external evidence of leaks and correct fluid level, and for damage and security</p> <p>Inspect – brake disc securing screws (4 each) are secure</p> <p>Inspect – that nose wheel pivots easily, both springs are correctly attached (if an MT-03), and control rods are fastened correctly</p> <p>Inspect – suspension bow for cracks and security of fastenings</p>
A5	Flying Controls	<p>Op/C - Rudder controls move rudder and nosewheel from lock to lock and operates in the correct sense.</p> <p>Inspect - Rudder pedals for security of hardware, for proper operation, and for absence of binding.</p> <p>Inspect - Rudder cables for security of hardware and nico clamps, cables for fouling, fraying and kinking, and for cable tension.</p> <p>Op/C – Both control sticks moves freely to roll and pitch stops simultaneously with the rotor head and in the correct sense.</p> <p>Inspect both stick fastening bolts/nuts for security.</p> <p>Inspect – Pneumatic control set to 'BRAKE' not 'FLIGHT'.</p> <p>Inspect – linkages between stick and rotor head for loose bearings, loose items, bent or damaged tubes or excess backlash (undo rear seat top fastening & fold forward for access).</p> <p>Op/C – vertical pre rotator slider moves freely without any jamming.</p>
A6	Powerplant/ Engine	<p>Service/lube - Oil reservoir level correct & cap secure, & coolant system full with correct fluid.</p> <p>Inspect – coolant (water and oil) hoses free from splits</p> <p>Inspect - All springs secure and wired where appropriate, esp exhaust</p> <p>Inspect - Exhaust system securely mounted, and free from splits or cracks, leaks etc.</p> <p>Inspect - Air filters clean and secure</p> <p>Inspect - Engine mountings in place and secure and rubbers free of cracks or any deterioration</p> <p>Inspect - Plugs and plug caps secure</p> <p>Op/C - engine controls for full and free movement in the correct sense</p> <p>Inspect – coolant and oil radiator for condition, security and leakage, Note: inspect all soldered joints for evidence of cracking.</p> <p>Inspect – all 'loose' cables around engine for correct attachment and connection</p>

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A7	Propeller	<p>Inspect - Propeller blades & hub clean and free of cracks, splits & damage Inspect – Prop tape secure and undamaged (if fitted) Inspect - Propeller blades securely mounted to hub, and hub to engine (all bolts/nuts present and secure. On HTC propeller and IVO prop, check torque stripes to ensure that bolts have not turned, and on Woodcomp prop check nut tab washers are bent over).</p> <p>Op/C - Propeller and engine turns over smoothly (in normal direction of travel only) with no undue noises etc (with ignition OFF and throttles closed!!) Remember, it may start!! If possible check the aircraft and/or apply brakes! Op/C – if a variable pitch propeller, operate the control to cycle the propeller to both pitch limit stops. Then set propeller controller in 'Take Off' mode or fine pitch if under manual control</p>
	Addition IVO prop checks	<p>Visual: Check each of the propeller blades for damage, small nicks or delamination of the stainlesssteel edge protector, and security of attachment to hub. Check the aluminium hub parts for cracks or damage and security of attachment to engine Check the security of the spinner and presence of 9-off attachment screws Check the fabricated bracket holding the brush carrier for security of attachment and absence of cracks Check the condition of the two carbon brushes (no pieces broken-off) and security of attachment screws.</p> <p>Functional: Turn on the master switch and without starting the engine, use the selector (rocker) switch to cycle the propeller to-full-COARSE then back to full-FINE. Verify visually that the two indicator LED's function correctly, and audibly and visually that the propeller blades have changed pitch.</p>
Task	Aircraft area	Task & task type
A8	Fuel System	<p>Inspect - Both tanks (where fitted) for security and condition, ensure absence of leakage, check cap for seal and security, check fuel shut off valve (where fitted) for proper operation and positioned 'ON'. Inspect – for fuel leakages (pressurize fuel system by turning keyswitch and electrical fuel pump ON for the test, and then back off again). Op/C - Check fuel gauge reading same as actual tank level, & qty sufficient. Inspect – fuel for water content via drain points under each tank. Inspect - check fuel line for security, cuts, dry rot, and kinks. Inspect - Fuel filter – ensure filter is clear of debris</p>
A9	Rotor	<p>Inspect - Rotor teeter bolt, nut and locking pin in place and rotates freely Inspect - Blade to hub bolts, washers and nuts in place Inspect - No sign of blade cracking or other failure (visual check) Op/C - Rotor teeters freely to stops (both planes) and rotates freely (check with/without control stick). Inspect - Blades clean and free from chips, dents or damage Inspect – that teeter bolt has been correctly lubricated Check – bolts (6) connecting prerotator gear to rotor hub are secure</p>
A10	Spin-up mechanism	<p>Op/C - Secure and free, and that the belt is free of splits/cracks (note; if the belt is dry vibration during pre rotation may be experienced: lube with dry lube PTFE or equivalent silicon spray) Inspect – pre rotator bracket & system for cracks or damage Inspect - pre rotator universal joints for free operation or failure Inspect – engine mounting bracket for cracks/fractures Op/C – pre rotator brake works with panel switch switched to 'BRAKE' Inspect - lower shaft rubber boot for damage and free movement of slider shaft.</p>
A11	Tail assembly	<p>Op/C - condition and security, check surface for delamination, check cables for fraying and secure connection to rudder, check nico clamp for security, check horizontal stabiliser and fins for security and any sign of damage from heavy tail down landings. Op/C – check rudder bearings for security and operation Op/C – check that cable pulleys work smoothly with no cable fraying Inspect – Trim tab is set correctly</p>

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A12	Cabin area & Instruments	Op/C - Safety harness mountings secure, webbing free of tears/frays, and connects/disconnects freely on demand Inspect that seats are securely attached to airframe (and rear seat refixed in place) Inspect - Radio secure, battery charged (if applicable) Inspect - Electrical wiring sound and secure - no sign of overheating or damage Inspect - instrument readings are consistent with ambient conditions Inspect - Test operation of electrical circuits Inspect - that markings and placards are legible Inspect – Roll trim, where fitted, is set fully left (no trim)
A13	Airframe	Inspect – Welded joints for any sign of distress or accident damage (all areas, but especially the mast to lower airframe behind the seat and under the engine). Inspect – all hardware for tightness/security
A14	Pneumatics	Inspect airlines and cylinders for loose fittings
A15	Other	Op/C – brake lever operates normally and brakes function. Op/C - Ground run. Check both electric fuel pumps (where fitted) are operational before starting engine. Confirm full power obtainable (if practical), & that engine, propeller & rotor vibration is within normal limits. Confirm all gauges reading normally. Check - Remove any rotor retaining straps, and close any luggage bags/lockers.