

Flight Test Report

Flight date: _____



Pilot name: _____ Location: **EDVM**

Gyro Type: MTO2010 MTO2017 Serial No. _____

Rotor: 8,4m 8,4m TOPP 8,8m 8,6m TOPP

Prop: HTC IVO Woodcomp

Background/test reason: Complete standard production compliance/permit renewal check as per schedule below.

Key test data

Standard Pilot weight 90kg Add weight to reach MTOW

Maximum Takeoff weight for Test		450kg	500kg	560kg
Aircraft loading for test	Empty weight (Kg)		kg	
P1 mass	kg	P1 ballast (nose)	kg	
P2 mass	kg	P2 ballast	kg	
Fuel	Ltrs kg	Other ballast (nose)	kg	
OAT	°C	Operating hours	h	
Runway used:		Engine hrs since new:	h	
QNH at airfield		Airframe hours since new:	h	
Wind speed:	< 20 kts ok	Crosswind <10Kts	ok	Abort

No.	Test	Task	Result			
1	Preparation	Check 2nd Fuel pump	audible check	ok	nok	
2	Engine run & ground checks	Run engine to normal operating temperatures.	Oil pressure check:	green	above / below	
		Check operation of engine/fuel controls	Fuel pressure check:	green	above / below	
		Idle speed range: not below 1600 rpm		below 1600rpm	1600 -1700rpm	above 1700rpm
		Record mag drops @ 4000rpm	Mag1 off	<300rpm	>300rpm	
		(Limits: 300 per coil)	Mag2 off	<300rpm	>300rpm	
		(115 maximum difference)	difference between	<115rpm	>115rpm	
			Oil temp check:	above 50°C	above 130°C	
			Water Temp check:	above 50°C	above 120°C	
	Confirm brakes hold at 5,000rpm.	Brakes hold?	ok	nok		
	Check propeller pitch adjustment - position full fine -> full coarse at 4000rpm	significant rpm drop:	ok	nok		
	Check flying & trimming controls for free and correct movement, excess backlash and sense of operation.	Steering Check:	ok	nok		
3	Ground handling	Check for manoeuvring ability, i.e., turning radii, directional stability under braking.	Manoeuvring	ok	nok	
			Turning radius	ok	nok	
			Directional stability under braking	ok	nok	

4	Pre rotation operation	Check functioning of rotor pre-rotator mechanism.	MTO 2010 (220rpm)	>220rpm ok	<220rpm nok
			MTO 2017 (300rpm)	>300rpm ok	<300rpm nok
		Check clutch LED lights when clutch slips (only MTO 2017)	light on between 2000-5000 rpm clutch engaged	ok	nok
			flashing light > 5000rpm clutch disengaged	ok	nok
5	Take off	The take off is to be made at full power, using standard technique as per flight manual. Ensure that engine does not overspeed	< 5500 rpm	5500 rpm	> 5500 rpm
set Altimeter to standard Atmosphere					
6	climb	Record the time taken to climb from FI 10 to FI 20 and establish the climb rate. Use full power, if fitted with a pitch adjustable prop, full fine .	Time to climb 1000':	sec	OAT QNH
		MTO2017 912 ULS	500kg MTOW	>2,5 m/s OK	<2,5m/s nok
		914UL	500kg MTOW	>3,2 m/s OK	<3,2m/s nok
			560kg MTOW	>3,1 m/s OK	<3,1m/s nok
		915IS	560kg MTOW	>X,X m/s OK	<X,Xm/s nok
		MTO2010 912ULS	450kg MTOW	>4,0 m/s OK	<4,0m/s nok
			500kg MTOW	>3,0 m/s OK	<3,0m/s nok
		914UL	450kg MTOW	>4,5 m/s OK	<4,5m/s nok
			500kg MTOW	>3,5 m/s OK	<3,5m/s nok
		Confirm the engine does not overspeed, and that the manifold pressure remains with limits (where a gauge is fitted)		ok	nok
		Instruments readings at the end of climb	Oil pressure check:	green	above / below
			Oil temp check:	green	above / below
	CT Water Temp check:	green	above / below		
pedals parallel in straight flight, into wind:	tolerance +- 2cm	ok	nok		
Stick central (cruise speed - level flight)	tolerance +- 1cm	ok	nok		

7	In Flight manoeuvring	The aircraft should possess an adequate range of control function to enable full control about its three axes at all flight speeds.	roll	yes	no
			pitch	yes	no
			yaw	yes	no
		Check for tendency to enter pilot induced oscillation at 55Kts and 88Kts, stick free.	55Kts	yes	no
			88Kts	yes	no
		Control forces during all manoeuvres should be normal for a gyroplane. Monitor control responses and rotor/airframe vibration levels throughout all the following manoeuvres.	control forces	ok	nok
		Cruise: set the aircraft in cruise at 55Kts . Assess ability to trim the aircraft for straight & level flight, hands off.	Trim pressure	Trim pressure < 6 bar	Trim pressure > 6 bar
		Assess high speed flight to 90% Vne at Fl 10 (do not overspeed the engine, adjust propeller pitch as required - where fitted).	possible to reach Vne	ok	nok
		90% Vne assess turns left and right, and nose up recovery to cruise speed.	Vibrations	ok	nok
			Yaw Control	ok	nok
			Nose up recovery	ok	nok
		Record the minimum aircraft speed at maximum engine-power in level flight (Vmin) at FL10. Throttle to max power - not exceed 5800rpm . Pitch adjustable prop - set to full fine	Vmin		
		Reduce airspeed to minimum indicated, at full power. Perform left and right turns and recover aircraft to normal power on cruise attitude. Check effective recovery and controllability.	0 Vne left / right turns	ok	nok
Dynamic stability: Trim the aircraft for level flight at 92Kts. Initiate a pitch disturbance downwards, stick free. There must be no undamped or divergent phugoid response.	Phugoid test and trim acceptability:	ok	nok		
Steep turns in each direction flying at a constant bank-angle of 45° and at a constant turn-rate.	Steep turns	ok	nok		
Vertical descent at min power and minimum indicated airspeed using standard entry and recovery techniques; (entry at Fl 15). Check yaw control left and right	Vertical descent with recovery	ok	nok		
Recovery to stable powered climb following an aborted glide approach (60kts, throttle closed for touchdown). During glide perform left and right turns, and comment on controllability.		ok	nok		

8	Functional checks	Control: during flight check that all controls including trim systems operate without excessive friction or force, and their operation does not provide a distraction to the pilot.	Control Forces	ok	nok				
			Confirm throttle lever does not move itself	ok	nok				
	Instruments: Inspect all instruments and warning lights for correct indications with particular emphasis on the flight instruments	Compass	if calibrated +- 2°	ok	nok				
		ASI		ok	nok				
		Altimeter		ok	nok				
		Rotor Tachometer		ok	nok				
		Slip Indicator		ok	nok				
		Fuel Gauge		ok	nok				
		Manifold pressure		ok	nok				
VSI		ok	nok						
Fuel Pressure Gauge		ok	nok						
9	Radio	Check the radio transmit / receive function to EDVE at FI 20 Confirm absence of radio noise at a squelch setting of 3.	Radio strength	1	2	3	OK	4	5
set Altimeter to QNH									
10	Landing	Using standard flight manual technique for landing, monitor any unusual handling or functioning characteristics of the machine including the rotor and rotor	Rotorbrake check		ok				nok
			Overdrive System		ok				nok
11	Low weight	Low weight assessment - perform a climb test to FI 10 with only Pilot and 10-20ltr fuel (ideal pilot weight <85Kg)	Low weight assessment		ok				nok
12	Vibrations	General comment on unusual or unacceptable vibration in any flight phase, at light and MTOW weights.	Vibrations		ok				nok
Flight test conclusion; this aircraft does/does not conform to the flight characteristics required to be released to service.									
					Conforms			Does not conform	
Pilot signature:									
Date:									

remarks

Crossflight necessary

Crossflight conclusion; this aircraft does/does not conform to the flight characteristics required to be released to service.

Conforms

Does not conform

Pilot signature:

Date: