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

Climbrate calculation according to DULV TADS

(Kennblattnummer)

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	If not ok, do not test

No.	Test	Task	Result		
1	**Preparation**	Check 2nd Fuel pump	audible check	☐ ok	☐ nok
		Low Fuel indicator Lamp "OFF" (optional)	☐ n.a.	☐ 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: ☐ n.a.	☐ green	☐ above / below
		Idle speed range: not below 1600-1700 rpm		☐ ok	☐ nok
		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	significant rpm drop: ☐ n.a.	☐ 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	☐ <220rpm
			MTO 2017 (300rpm)	☐ >300rpm	☐ <300rpm
		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**				
		set Altimeter to standard Atmosphere			
6	**climb**	Record the time taken to climb from Fl 10 to Fl 20 and establish the climb rate. Use full power, if fitted with a pitch adjustable prop, **full fine**.	Time to climb 1000':	sec 1013	OAT QNH
		climbrate archieved?	Calculated according to the specific AC configuration 04-006	☐ ok	☐ nok
		The climb is to be made at full power, using standard technique as per flight manual. **Ensure that engine does not overspeed**	5400-5600rpm	☐ ok	☐ nok
		Instruments readings at the end of climb	Oil pressure check: Oil temp check: CT Water Temp check: min 85°C = ok	☐ green ☐ green / below ☐ green	☐ above / below ☐ above ☐ above / below
		pedals parallel in straight flight, into wind:	tolerance +- 2cm	☐ ok	☐ nok
		Stick central (cruise speed - level flight)	tolerance +- 1cm	☐ ok	☐ nok
		Pitch adjustable propeller, change to full coarse pitch. Engine rpm should not be below 4400 rpm, and a minimum climb rate of 250fpm (1.3m/s)	☐ N/A	☐ 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 pitch yaw	☐ yes ☐ yes ☐ yes	☐ no ☐ no ☐ no
		Check for tendency to enter pilot induced oscillation at 55Kts and 88Kts, stick free.	55Kts 88Kts	☐ yes ☐ yes	☐ no ☐ 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 75Kts . Assess ability to trim the aircraft for straight & level flight, hands off.	Trim pressure 6,5bar max	☐ ok	☐ nok
		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 ☐ N/A	☐ ok	☐ nok

7	**In Flight manoeuvring**	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
		oil temperature minimum 75°C in flight		☐ 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	Any analog dev. Compass <10° ☐ n.a.	☐ ok	☐ nok
			ASI	☐ ok	☐ nok
			Altimeter	☐ ok	☐ nok
			Rotor Tachometer	☐ ok	☐ nok
			Slip Indicator ☐ n.a.	☐ ok	☐ nok
			Fuel Gauge	☐ ok	☐ nok
			Manifold pressure ☐ n.a.	☐ ok	☐ nok
			VSI ☐ n.a.	☐ ok	☐ nok
			Fuel Press Gauge ☐ n.a.	☐ ok	☐ nok
9	**Radio**	Check the radio transmit / receive function to EDVE (120,055) at Fl 20 Confirm absence of radio noise at a squelch setting of 3	Radio strength	☐ 4-5 ok	☐ 1-3 nok

		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
		Check the function of the Overdrive System to park the rotors in line with the aircraft	Overdrive System	☐ ok	☐ nok
11	**Low weight**	Low weight assessment - perform a general handling test with only Pilot and 10-20ltr fuel (ideal pilot weight <85Kg) The Aircraft must be possible to be trimmed for level flight @Vne	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
13	**options**	Garmin device ☐ G5 ☐ G3X			
		Artifical Horion Function	☐ N/A	☐ ok	☐ nok
		Garmin Transponder functional	☐ N/A	☐ ok	☐ nok
		Garmin radio funktion	☐ N/A	☐ ok	☐ nok
		Fuel Pressure Gauge calibrated?	☐ N/A	☐ ok	☐ nok
		Magnetometer calibrated?	☐ N/A	☐ ok	☐ nok
		Fuel storage calibrated?	☐ N/A	☐ ok	☐ nok
		GPS Signal available?	☐ N/A	☐ ok	☐ nok
		Unit selection correct?	☐ N/A	☐ ok	☐ nok
		OAT available?	☐ N/A	☐ ok	☐ nok
		GDL 50 fitted: Bluetooth available?	☐ N/A	☐ ok	☐ nok
		Card Compass heading between Garmin & Aircraft the same +/- 5°	☐ N/A	☐ ok	☐ nok
		Altimeter between Garmin G3X & Garmin G5 & Aircraft standby Instruments the same +/- 100ft	☐ N/A	☐ ok	☐ nok
		Airspeed between Garmin G3X & Garmin G5 & Aircraft standby Instruments the same +/- 5mph (8km/h / 4,3Kts)	☐ N/A	☐ ok	☐ nok
		FLARM fitted	☐ N/A	☐ ok	☐ nok

remarks

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:

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

Pilot signature:

☐ **Conforms** ☐ **Does not conform**

Date: