REMOS GX nXES

Pilot Operating Handbook

Airplane Registration Number _____

Airplane Serial Number _____

REMOS Order No. 104178, dated December 2017

Introduction

Light Sport Aircraft REMOS GX

The REMOS GX was manufactured in accordance with the Light Sport Aircraft airworthiness standards and does not conform to standard category airworthiness requirements.

The standards to be used for certification are given by FAA and can be obtained from the FAA's website. For this airplane the following standards have been used:

number	revision	purpose
ASTM F2245	16c	Design and Performance
ASTM F2245	16c	Required Equipment
ASTM F2245	16c	Aircraft Operating Instructions
ASTM F2972	15	Quality Assurance
ASTM F2295	06	Continued Airworthiness
ASTM F2483	12	Maintenance Manual
ASTM F2746	14	Pilot Operating Handbook

NOTE	This table is applicable only for newly delivered aircraft. It is not applicable in case the POH has been updated for existing aircraft.

NOTE	This POH may only be used for aircraft SN429 or higher or with REMOS notification NOT-014 implemented.

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Introduction

List of Content and Revisions

This POH consists of the following listed pages and sections. You will find a marking indicating the revision and date of issue at the top border of each page. Insert the latest changed pages.

Pilot Operating Handbook – Main Part

sect.	description	document-no.	revision
0	Introduction	G3-8 MA FM 6200	03
1	General Information	G3-8 MA FM 5201	01
2	Operating Limitations	G3-8 MA FM 1202	07
3	Emergency Procedures	G3-8 MA FM 1203	07
4	Normal Procedures	G3-8 MA FM 1204	07
5	Performance	G3-8 MA FM 5205	01
6	Weight and Balance	G3-8 MA FM 1206	06
7	Systems	G3-8 MA FM 5207	03
8	Handling and Servicing	G3-8 MA FM 1208	07

Pilot Operating Handbook – Supplement

sect.	description	document-no.	revision
9	Flight Training	G3-8 MA FM 1209	07
10	Glider Towing	G3-8 MA FM 1210	07
11	Banner Towing	G3-8 MA FM 1211	04
12	Continued Airworthiness	G3-8 MA FM 1212	03
13	Abbreviated Checklists	G3-8 MA FM 1213	01

NOTE	This POH may only be used for aircraft SN429 or higher or with REMOS notification NOT-014 implemented.

Introduction

Remarks and Alterations

Please make a notation below if any changes have been made to this manual or to the plane. This manual is an important document for the pilot in command to ensure safe operation of the aircraft. Therefore it is recommended to keep this Operating Handbook updated with the newest information available. You can get the latest updates of this manual from your dealer or directly from the manufacturer's homepage.

no.	page	concern	date	sign

1 General Information

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1 General Information

1.1 Introduction

This Operating Handbook is designed to help enable a safe and successful completion of each flight with the REMOS GX. It provides you with all necessary information for regular maintenance and operation of the aircraft. Therefore we recommend that the pilot keep this Operating Handbook updated with the newest information available. You can get the latest version of this Handbook from your local dealer or directly from the manufacturer's homepage.

NOTE	This POH may only be used for aircraft SN429 or higher or with REMOS notification NOT-014 implemented.

1.2 Certification

The REMOS GX was manufactured in accordance with the Light Sport Aircraft airworthiness standards and does not conform to standard category airworthiness requirements.

1.3 Continued Airworthiness

Technical publications for continued airworthiness are released on the REMOS website www.remos.com and they may be downloaded free of charge.

Bombardier-Rotax releases technical publications on their website www.flyrotax.com from which they may be downloaded free of charge. Documentation update for avionics may be downloaded on www.dynonavionics.com and www.garmin.com.

It is the responsibility of the owner/operator of the aircraft to keep the aircraft and its documentation up to date and to comply with all technical publications.

1 General Information

1.4 Quick Reference

Type: Full composite carbon fiber aircraft with two seats.

Design: High wing design with struts, front mounted engine and propeller, traditional stabilizer concept, differential ailerons. Electrically operated flaps (0° to 40°), electric elevator trim, three-wheel landing gear with steerable nose wheel. Main gear with hydraulic disc brakes. The cabin is equipped with two seats side by side and can be entered and exited by doors on the left and right side of the fuselage.

Layout: Main components are built in half shells from composite fiber material, which are bonded together (carbon fiber, Kevlar and glass fiber).

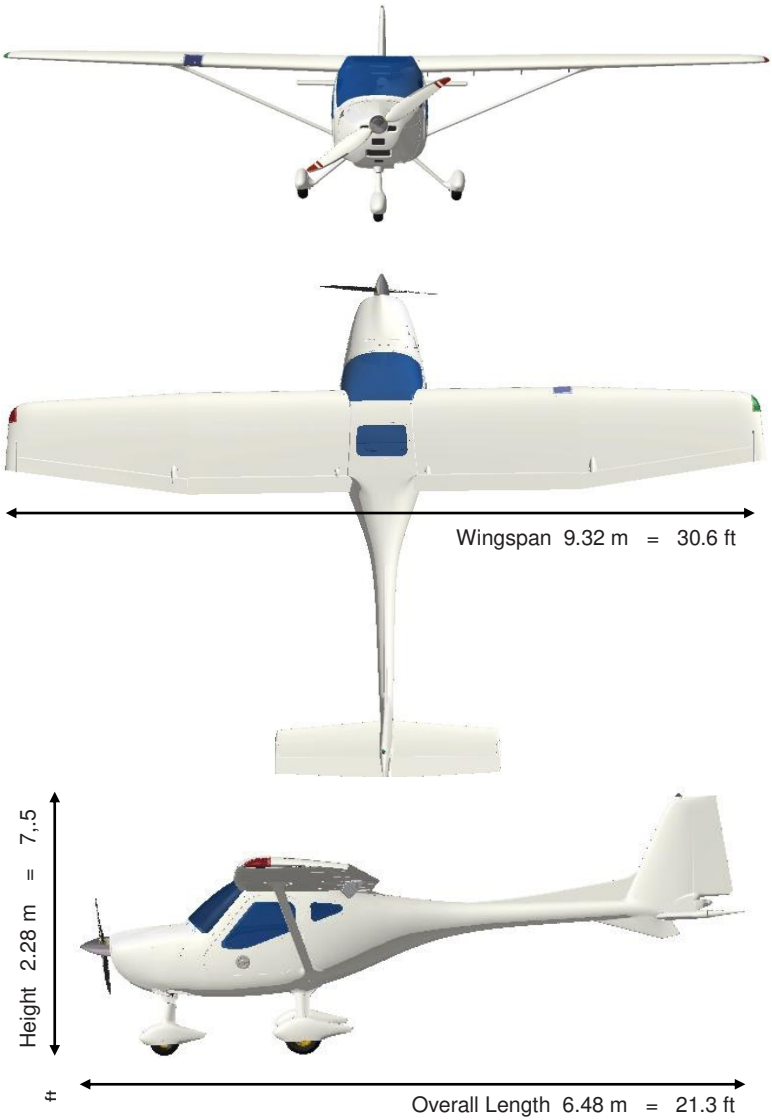
1.5 Technical Specifications

wingspan	9.32 m	=	30 ft 6 in
length	6.48 m	=	21 ft 3 in
height	2.28 m	=	7 ft 5 in
wing area	10.98 m^2	=	118 sq ft

MTOW	600 kg	=	1,320 lb
wing loading	55 kg/m^2	=	11 lb/sq ft

1 General Information

1.6 Views



1 General Information

1.7 Performance

This section shall give a summary of the performance of the REMOS GX. Detailed performance data is given in section 5 of this Pilot Operating Handbook.

top speed at 3,000 ft	115 kTAS	@° 5.500 rpm	(*)
cruise speed at 3,000 ft	102 kTAS	@° 5.000 rpm	(*)
range at 3,000 ft	347 nm	@° 5,000 rpm	(*)
endurance at 3,000 ft	3,4 h	@° 5.000 rpm	(*)
rate of climb at V_X	780 ft/min	@ V_X = 50 kIAS	(*)
rate of climb at V_Y	840 ft/min	@ V_Y = 60 kIAS	(*)
stall speed clean	44 kIAS		
stall speed flaps 40 deg	42 kIAS		

1.8 Engine

manufacturer		Bombardier-Rotax
engine type		912 UL-S2
max. power	**take-off**	73.6 kW / 100 HP
	max. cont.	69.9 kW / 95 HP
max. engine speed	**take-off**	5,800 rpm
	continuous	5,500 rpm
gear ratio		2.43 : 1
coolant	**type**	BASF Glysantin Protect Plus/G48
	mixing ratio	see section 7

1 General Information

1.9 Fuel

total fuel quantity	84 ltr = 22 US gallons
usable fuel quantity	80 ltr = 21 US gallons
fuel qualities	fuel released by latest revision of ROTAX service instruction SI-912-016, preferably free of ethanol.

NOTE	Please refer to REMOS notification NOT-001 and ROTAX SI-912-016 for further information on suitable engine fluids (fuel, oil, cooling liquid, additives, etc). Have a frequent look on www.flyrotax.com and on www.remos.com for the latest information.

1.10 Oil

engine oil	oil released by latest revision of ROTAX service instruction SI-912-016
oil rating	RON 424
engine oil capacity	min. 2.0 ltr = 2.1 qts max. 3.0 ltr = 3.1 qts
recommended oil	AeroShell Sport PLUS 4 10W-40

NOTE	Please refer to REMOS notification NOT-001 and ROTAX SI-912-016 for further information on suitable engine fluids (fuel, oil, cooling liquid, additives, etc). Have a frequent look on www.flyrotax.com and on www.remos.com for the latest information.

1 General Information

1.11 Propeller

manufacturer	type and number of blades
Neuform	CR3-65-47-101,6 3-blade, composite

1.12 ICAO Designator

ICAO Designator: GX (as per ICAO Doc. 8643)

1.13 Noise Certification

According to noise requirements for Ultralight aircraft (LS-UL) dated August 1996, the REMOS GX is certified to a noise level of 60 dB (A).

1 General Information

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2 Operating Limitations

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2 Operating Limitations

2.1 General

NOTE	This POH may only be used for aircraft SN429 or higher or with REMOS notification NOT-014 implemented.

2.2 Reference Airspeeds

speed		IAS	description
V_{NE}	never exceed speed	135 kts	airspeed which shall never be exceeded
V_{NO}	maximum speed in turbulence	107 kts	airspeed which shall not be exceeded in gusty weather
V_O	operating maneuvering speed		maximum airspeed for all permissible maneuvers
		59 kts	with 880 lb (400kg) all up weight
		88 kts	with 1,320lb (600kg) all up weight
V_{FE}	max. speed with flaps fully extended	78 kts	airspeed which may never be exceeded with flaps down
V_{APP}	approach airspeed	60 kts	recommended airspeed for approach at gross weight
V_X	airspeed for best angle of climb	50 kts	airspeed for the steepest climb with flaps up
V_Y	airspeed for best rate of climb	60 kts	airspeed for the greatest altitude gain in the shortest time, flaps up
V_S	stall speed with flaps retracted (0°)	44 kts	stall speed at gross weight with flaps up
V_{S0}	stall speed with flaps extended (40°)	42 kts	stall speed at gross weight with flaps down

2 Operating Limitations

2.3 Airspeed Indicator Range and Markings

The following markings must be on the airspeed indicator at least. Additional markings are permissible, e.g. for recommended approach speed or for maneuvering airspeed.

marking	IAS	range	description
white arc	42…78 kts	V_{S0} - V_{FE}	airspeed range for flaps extended
green arc	44…107 kts	V_S - V_{NO}	normal use
yellow arc	107…135 kts	V_{NO} - V_{NE}	caution in gusty conditions
red line	135 kts	V_{NE}	maximum permissible airspeed

The yellow arc defines the “caution” range in which the aircraft should be flown with care as vertical gusts can damage the airframe structure. At V_{NO} the airframe is able to support a gust with 3.000 ft/min, at V_{NE} the vertical gust velocity is limited to 1.500 ft/min.

2.4 Stalling Speeds at Maximum Takeoff Weight

stall speed with flaps extended V_{S0} = 42 kts
stall speed with flaps retracted V_S = 44 kts

2 Operating Limitations

2.5 Flap Extended Speed Range

Flaps may be operated and the aircraft may be flown at airspeeds higher than V_{FE} as long as flap deflection is limited. Following restrictions apply as a function of airspeed:

δ [deg]	V_{FE} [kts]
10	133
15	113
20	99
30	86
40	78

With flaps set to any deflection the safe load factor is limited to 2.

2.6 Maneuvering Speed

operating maneuvering speed with 600kg all up weight — V_O = 88 kIAS

operating maneuvering speed with 400kg all up weight — V_O = 59 kIAS

For any weight between 400kg and 600kg, the operating maneuvering airspeed may be interpolated linearly.

At maneuvering speed one control, i.e. ***either*** aileron, ***or*** elevator ***or*** rudder control, may deflected until its stop ***once***. Above V_A permissible deflection is reduced, until at never exceed speed V_{NE} only one third of the deflection is permitted.

2 Operating Limitations

2.7 Never Exceed Speed

Due do the reduced density of air at altitude, true airspeed is higher than calibrated or indicated airspeed. Therefore, V_{NE} is limited to 135 kts true airspeed in order to prevent flutter. With increasing altitude V_{NE} is limited to lower values than indicated by redline according to the following table.

altitude [ft]	IAS [kts]
0	135
5,000	128
10,000	119
15,000	110

At never exceed speed V_{NE} only one third of the maximum control deflection (aileron, elevator, rudder) is permitted.

2.8 Service Ceiling

service ceiling 15,000 ft

2.9 Load Factors

safe load factors +4.0 g / -2.0 g

With flaps set to any deflection the safe load factor is limited to 2.

2 Operating Limitations

2.10 Approved Flight Maneuvers

The following maneuvers are permitted

- all non-aerobatic maneuvers,
  including stalls and departure stalls
- flight with the doors off

2.11 Prohibited Maneuvers

Flight maneuvers not permitted

- aerobatics
- spins
- flight in icing conditions

2.12 Crosswind and Wind Limitations

maximum demonstrated cross wind
component for take-off and landing 15 knots

The maximum demonstrated crosswind component is not a limitation. The pilot may exceed this demonstrated crosswind component on his or her own discretion. In case the pilot operates the aircraft in crosswind components higher than demonstrated he or she shall be aware of the fact that this flight regime has not been tested. A general wind limitation is not defined for the REMOS GX.

2.13 Maximum Parachute Deploy Airspeed

maximum parachute deploy airspeed 120 kts

2 Operating Limitations

2.14 Engine

manufacturer		Bombardier Recreational Products Rotax
engine type		912 UL-S2 or 912-S2
max. power	**take-off**	73.5 kW / 100 HP
	max. cont.	69.0 kW / 95 HP
max. engine speed	**take-off**	5,800 rpm
	continuous	5,500 rpm
gear ratio		2.43 : 1
exhaust gas temp	**max**	880°C = 1,616°F
coolant	**type**	BASF Glysantin Protect Plus G48
	mixing ratio	see section 7
coolant or CHT temp	**min**	not defined
	max	135°C = 275°F 120°C = 248°F with SB-012 complied

2.15 Fuel

usable fuel quantity		80 ltr = 21 US gallons
total fuel quantity		84 ltr = 22 US gallons
fuel qualities		Fuel released by latest revision of ROTAX service instruction SI-912-016, preferably free of ethanol.
fuel pressure	**min.**	0,15 bar = 2.2 psi
	max.	0,50 bar = 7.3 psi

NOTE	Please refer to REMOS notification NOT-001 and ROTAX SI-912-016 for further information on suitable engine fluids (fuel, oil, cooling liquid, additives, etc). Have a frequent look on www.flyrotax.com and on www.remos.com for the latest information.

2 Operating Limitations

2.16 Oil

engine oil		oil released by latest revision of ROTAX service instruction SI-912-016
oil rating		RON 424
oil quantity	**min.**	2.0 ltr = 2.1 qts
	max.	3.0 ltr = 3.1 qts
recommended oil		AeroShell Sport PLUS 4 10W-40
oil pressure	**min.**	0,8 bar = 12 psi (below 3500rpm) 2,0 bar = 29 psi (above 3500rpm)
	max.	7,0 bar = 102 psi
oil temperature	**min.**	50 °C = 120 °F
	max.	130 °C = 266 °F

NOTE	Please refer to REMOS notification NOT-001 and ROTAX SI-912-016 for further information on suitable engine fluids (fuel, oil, cooling liquid, additives, etc). Have a frequent look on www.flyrotax.com and on www.remos.com for the latest information.

2.17 Maximum Wind Velocity for Tie-Down

max. wind velocity for tie-down in the open V_R = 38 kts

2.18 Maximum Structure Temperature

max. certified structure temperature 54°C = 130°F

2 Operating Limitations

2.19 Weight and Balance

front limit of C.G.	245 mm	9.6 in
rear limit of C.G.	415 mm	16.3 in

maximum take-off weight (MTOW)	600 kg	1,320 lb
max. baggage in baggage compartment	30 kg	66 lb
max. baggage in each bin	2 kg	4.4 lb
max. fuel	57 kg	126 lb

2.20 Crew

The REMOS GX is certified to be operated with a minimum of 1 occupant (the pilot in command) and a maximum of 2 occupants.

If not otherwise defined by regulations or by the owner/operator, the pilot in command is seated on the left.

2 Operating Limitations

2.21 Flight Conditions and Minimum Equipment List

operation	minimum equipment
Day-VFR	as per D-VFR Minimum Equipment List
Night-VFR	as per N-VFR Minimum Equipment List
IFR in IMC	not approved
IFR in VMC	as per IFR/VMC Minimum Equipment List
Aerobatics	not approved

D-VFR minimum equipment list

- engine ROTAX 912 UL-S
- silencer
- airbox
- propeller as defined in chapter 2
- carburetor heating system
- compass with compass card
- altimeter
- airspeed indicator
- safety belts
- ELT
- electrical system including circuit breakers
- master, avionics and engine kill (ignition) switch
- engine instruments (one DYNON SkyView screen and the EMS module DYNON SV-EMS-220)

2 Operating Limitations

N-VFR Minimum equipment list

- as per D-VFR minimum equipment list, plus
- ADAHRS module DYNON SV-ADAHRS-200 in order to drive the integrated artificial horizon of the SkyView system)
- instrument panel lighting
- taillight
- navigation lights
- strobe lights
- landing light
- communication radio
- transponder

IFR/VMC Minimum equipment list

- as per N-VFR minimum equipment list, plus
- navigation radio
- audio panel or intercom

2 Operating Limitations

2.22 Placards and Markings Inside Cabin

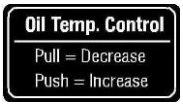
The placards and markings feature the following color codes.

Type	Inside
Information	white lettering on a black background - white framed 
Safety	white lettering on a black background - red framed 
Warning	white lettering on a red background - white framed 

The following list does not define the layout but the content and intent of the placards.

2 Operating Limitations

The following information placards are installed inside the cabin. Installation of these placards is ***mandatory***.

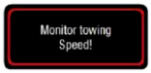
placards	location
	left cockpit not with oil thermostat installed
	center console actual callsign of aircraft
	switchboard
	switchboard
	switchboard
	switchboard
 	right cockpit labelling of CBs may vary with equipment installed

2 Operating Limitations

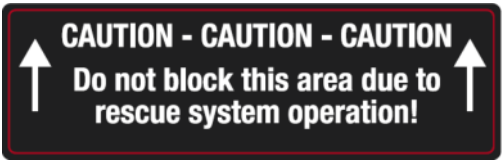
placards	location
	center console
	center console
 	on knob oil temp placard not with oil thermostat installed

2 Operating Limitations

The following safety placards are installed inside the cabin. Installation of these placards is ***mandatory***.

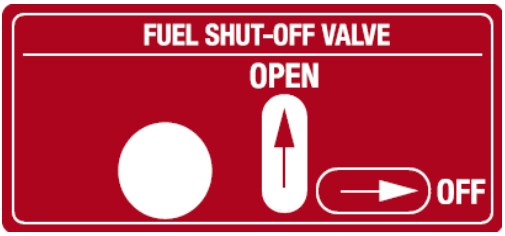
placard	location
	left cockpit above left cockpit screen
	left cockpit above left cockpit screen installed in combination with towing clutch only
	center stack on top of center stack
	right cockpit above right cockpit screen
	hatrack between baggage nets
	fuel tank sight hose indicating minimum fuel level
	cabin ceiling at recovery system release handle when recovery system is installed
	aileron pushrod

2 Operating Limitations

placard	location
	aileron pushrod cut out
	baggage compartment when recovery system is installed

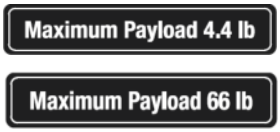
2 Operating Limitations

The following warning placards are installed inside the cabin. Installation of these placards is ***mandatory***.

placards	location
	center console
	door
	door

2 Operating Limitations

The following information placards and markings are found inside the cabin. Attaching these placards is not mandatory; these placards provide additional information to the pilot.

placards	location
	right cockpit
	baggage compartment metric units acceptable
	switchboard
	switchboard
	switchboard
	switchboard
	on knob

2 Operating Limitations

2.23 Placards and Markings Outside Cabin

The placards and markings feature the following color codes.

Type	Outside
Information	black lettering on a white background - black framed 
Safety	red lettering on a white background - red framed 
Warning	red lettering on a white background - red framed 

The following list does not define the layout but the content and intent of the placards.

2 Operating Limitations

The following information placards are installed outside the cabin. Installation of these placards is ***mandatory***.

placards	location
	fuel tank filler cap metric units acceptable

2 Operating Limitations

The following safety placards are installed outside the cabin. Installation of these placards is ***mandatory***.

placards	location
	center of elevator
	next to the opening for aileron pushrod, covered by wing if not folded
	center of fixed surface of elevator, covered if elevator is installed

The following warning placards are installed outside the cabin. Installation of these placards is ***mandatory***.

placards	location
	recovery system egress area when recovery system installed

2 Operating Limitations

The following information placards and markings are found outside the cabin. Attaching these placards is not mandatory; these placards provide additional information to the pilot.

placards	location
2,0 BAR MAX 29 PSI MAX 2,4 BAR MAX 34 PSI MAX	wheel fairings placard set with one unit only acceptable
KEEP CLEAN	static ports

The following safety placards and markings are found outside the cabin. Attaching these placards is not mandatory; these placards provide additional information to the pilot.

placards	location
! WARNING ! Before removing wing bolt disconnect aileron rod-connection!	wing main bolt
! WARNING ! Wing not foldable !	wing when wing folding mechanism not installed
Do not lift	strut

3 Emergency Procedures

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3 Emergency Procedures

3.1 Definitions

Procedures

are instructions that must be performed in the given sequence, as far as possible without interruption.

Checklists

are lists for items to be checked in the applicable phase of flight (taxi, take-off, climb, etc.). Timing and sequence of the steps to be executed may vary according to the individual flight.

Briefings

are guidelines for upcoming procedures. With the help of briefings, the pilot and passenger should recapitulate those procedures.

NOTE	This POH may only be used for aircraft SN429 or higher or with REMOS notification NOT-014 implemented.

3 Emergency Procedures

3.2 Jettison of Doors — Procedure

1.	door lock	OPEN
2.	hinge pin	PULL
3.	door	JETTISON

3.3 Spin Recovery — Procedure

1.	engine	IDLE
2.	aileron	NEUTRAL
3.	rudder	OPPOSITE SPIN DIRECTION
4.	elevator	PUSH
5.	after stopping of rotation	RECOVER

3.4 Recovery System — Procedure

1.	engine	STOP
2.	recovery system	RELEASE
3.	fuel valve	CLOSE
4.	declare emergency	MAYDAY MAYDAY MAYDAY
5.	master switch	OFF
6.	safety belts	TIGHTEN

3 Emergency Procedures

3.5 Emergency Descent Procedure

1.	engine	IDLE
2.	flaps	UP
3.	carburetor heat	PULL
4.	electric fuel pump	ON
5.	airspeed in rough air	107 kIAS
	airspeed in calm air	135 kIAS

3.6 Carburetor Icing Procedure

1.	carburetor heat	PULL
2.	electric fuel pump	ON
3.	power setting	FULL POWER

3.7 Inadvertent Icing Encounter Procedure

1.	engine	FULL POWER
2.	flaps	UP
3.	carburetor heat	PULL
4.	electric fuel pump	ON
5.	heading change	BACKTRACK
6.	descent	LEAVING ICING CONDITIONS
7.	altitude	KEEP SAFE ALTITUDE

3.8 Overvoltage Procedure

1.	overvoltage	IDENTIFY VOLTAGE > 15V
2.	master switch	OFF
3.	land on appropriate airfield	

3 Emergency Procedures

3.9 Generator Failure Procedure

1. alternator failure IDENTIFY (red alarm light)
2. non essential systems OFF
3. continue flight and land on appropriate airfield to determine the reason for the alternator failure

NOTE	During day VFR Operations, nonessential systems are all systems except for the radio and intercom. During night VFR or IFR operations, essential systems also include transponder, areal navigation (GPS or NAV/COMM), instrument lights, position lights, ACL and the artificial horizon (applies as well do the DYNON glass cockpit avionics instead of the artificial horizon).

3.10 Voltage Drop Procedure

1. engine speed MORE THAN 4.000 RPM
2. non essential systems OFF
3. continue flight and land on appropriate airfield to determine the reason for the voltage drop

NOTE	During day VFR Operations, nonessential systems are all systems except for the radio and intercom. During night VFR or IFR operations, essential systems also include transponder, areal navigation (GPS or NAV/COMM), instrument lights, position lights, ACL and the artificial horizon (applies as well do the DYNON glass cockpit avionics instead of the artificial horizon).

3 Emergency Procedures

3.11 Loss of Altimeter Procedure

for aircraft with more than one altimeter installed

1. AVIATE – NAVIGATE – COMMUNICATE
2. altimeter USE ALTERNATE ALTIMETER
3. in case of failure of all altimeters installed continue with procedure below

aircraft with just one altimeter and within airspace requiring clearance

1. radio communication INFORM ATC
2. instructions by ATC ACT ACCORDINGLY
3. continue flight and land on appropriate airfield to determine the reason for the altimeter failure

aircraft with just one altimeter but outside airspace requiring clearance

1. altitude KEEP SAFE ALTITUDE
2. instructions by ATC ACT ACCORDINGLY
3. continue flight and land on appropriate airfield to determine the reason for the altimeter failure

3 Emergency Procedures

3.12 Loss of Airspeed Indicator Procedure

for aircraft with more than one airspeed indicator installed

1. AVIATE – NAVIGATE – COMMUNICATE
2. airspeed indicator USE ALTERNATE ASI
3. in case of failure of all airspeed indicators installed continue with procedure below

for aircraft with one airspeed indicator installed or total failure of ASI

1. engine speed in cruise 4.200…4.600 rpm

landing without airspeed indicator

1. airfield APPROPRIATE RWY LENGTH
2. flaps UP
3. carburetor heat PULL
4. electric fuel pump ON
5. engine speed in decent 2.500…3.000 rpm
6. pitch KEEP WITHIN estd. +/-10 deg
7. short final approach POWER IDLE
8. flare AS APPROPRIATE
9. touch down on main wheels first with very little flare.
10. brakes IMMEDIATELY

NOTE	Landing distance with this procedure is significantly longer than a standard landing. Expect distances far in excess of 2.000 ft / 600m or even more. Select an airfield with sufficient runway length available.

3 Emergency Procedures

3.13 Loss of Elevator Control Procedure

aircraft equipped with recovery system

1. AVIATE – NAVIGATE – COMMUNICATE
2. declare emergency MAYDAY MAYDAY MAYDAY
3. recovery system DEPLOY

aircraft without recovery system

1. AVIATE – NAVIGATE – COMMUNICATE
2. declare emergency MAYDAY MAYDAY MAYDAY
3. power setting FOR LEVEL FLIGHT
4. elevator control USE TRIM SYSTEM
5. landing EMERGENCY LANDING

NOTE	With a failed elevator control the aircraft might be controlled with the trim system. Pitch control is extremely limited. Engine power control might support pitch control.

NOTE	**stuck/blocked elevator control** UP trim will result in a nose down response DOWN trim will result in a nose up response **disconnected/floating elevator control** UP trim will result in a nose up response DOWN trim will result in a nose down response

WARNING	Loss of elevator control is an extremely severe situation that might result in loss of control of the aircraft, serious injuries or even death.

3 Emergency Procedures

3.14 Loss of Aileron Control Procedure

aircraft equipped with recovery system

1. AVIATE – NAVIGATE – COMMUNICATE
2. declare emergency MAYDAY MAYDAY MAYDAY
3. recovery system DEPLOY

aircraft without recovery system

1. AVIATE – NAVIGATE – COMMUNICATE
2. declare emergency MAYDAY MAYDAY MAYDAY
3. power setting FOR LEVEL FLIGHT
4. control USE RUDDER CONTROL
5. landing EMERGENCY LANDING

NOTE	With a failed aileron control the aircraft might be controlled with the rudder control resulting in excessive sideslip conditions.

WARNING	Loss of aileron control is an extremely severe situation that might result in loss of control of the aircraft, serious injuries or even death.

3 Emergency Procedures

3.15 Loss of Rudder Control Procedure

aircraft equipped with recovery system

1. AVIATE – NAVIGATE – COMMUNICATE
2. declare emergency MAYDAY MAYDAY MAYDAY
3. recovery system DEPLOY

aircraft without recovery system

1. AVIATE – NAVIGATE – COMMUNICATE
2. declare emergency MAYDAY MAYDAY MAYDAY
3. power setting FOR LEVEL FLIGHT
4. control USE AILERON CONTROL
5. landing EMERGENCY LANDING

NOTE	With a failed rudder control the aircraft might be controlled with the aileron control resulting in excessive sideslip conditions.

WARNING	Loss of rudder control is an extremely severe situation that might result in loss of control of the aircraft, serious injuries or even death.

3 Emergency Procedures

3.16 Loss of Trim System Procedure

pitch down trim runaway or stuck trim with lot of trim down

1. AVIATE – NAVIGATE – COMMUNICATE
2. expect nose down attitude
3. keep nose up with manual stick input
4. release trim circuit breaker
5. expect higher stick forces than usual
6. continue flight and land on appropriate airfield to determine the reason for the trim system failure

pitch up trim runaway or stuck trim with lot of trim up

1. AVIATE – NAVIGATE – COMMUNICATE
2. expect nose up attitude
3. keep nose level with manual stick input
4. release trim circuit breaker
5. expect higher stick forces than usual
6. continue flight and land on appropriate airfield to determine the reason for the trim system failure

NOTE	The aircraft is controllable even with a complete trim runaway. Keep your airspeed below V_{NO} to keep stick forces within reasonable limits.

3 Emergency Procedures

3.17 Loss of Flaps Control System Procedure

flaps stuck in deflected position or flaps down runaway

1. AVIATE – NAVIGATE – COMMUNICATE
2. max. flap speed V_{FE} = 78 kIAS
3. approach airspeed V_{APP} = 60 kIAS
4. return to airfield or continue flight and land on appropriate airfield to determine the reason of the failure

flaps stuck in retracted position or flaps up runaway

1. AVIATE – NAVIGATE – COMMUNICATE
2. stall speed V_S = 44 kIAS
3. approach airspeed V_{APP} = 60 kIAS
4. return to airfield or continue flight and land on appropriate airfield to determine the reason of the failure

NOTE	Keep in mind that landing distances presented in section 5 of this POH are applicable to the normal landing procedure. Landing with flaps up will result in longer landing distances.

3 Emergency Procedures

3.18 Loss of Oil Pressure Procedure

oil temperature not stable (constantly and rapidly rising)
smell of oil, oil fumes, oil on windscreen

5. AVIATE – NAVIGATE – COMMUNICATE
6. PERFORM PRECAUTIONARY LANDING

oil temperature stable (constant oil temperature)
no obvious oil leakage, engine running smooth

1. monitor oil temperature STABLE
2. coolant or CHT temp max. 135°C =275°F
   max. 120°C =248°F (w/ SB-012)
3. oil temperature 50…130°C =120…266°F
4. continue flight and land on appropriate airfield to determine the reason for the indicated oil pressure loss

WARNING	Loss of oil pressure may be a result of an oil leakage. This is an extremely dangerous situation as is implies the immediate danger of an in-flight fire. Be sensitive to any kind of abnormal smell or fire. Be prepared for an immediate precautionary landing, maybe emergency landing!

3 Emergency Procedures

3.19 High Oil Pressure Procedure

oil temperature not stable (constantly and rapidly rising)
smell of oil, oil fumes, oil on windscreen

1. AVIATE – NAVIGATE – COMMUNICATE
2. PERFORM PRECAUTIONARY LANDING

oil temperature stable (constant oil temperature)
no obvious oil leakage, engine running smooth

1. monitor oil temperature STABLE
2. coolant or CHT temp max. 135°C = 275°F
   max. 120°C = 248°F (w/ SB-012)
3. oil temperature 50…130°C = 120…266°F
4. continue flight and land on appropriate airfield to determine the reason for the indicated high oil pressure

WARNING	High oil pressure may result in an oil leakage. This is an extremely dangerous situation as is implies the immediate danger of an in-flight fire. Be sensitive to any kind of abnormal smell or fire. Be prepared for an immediate precautionary landing, maybe emergency landing!

3 Emergency Procedures

3.20 High Cylinder Head Temperature Procedure

1. AVIATE – NAVIGATE – COMMUNICATE
2. power setting REDUCE TO MIN. POSSIBLE
3. continue flight and land on appropriate airfield to determine the reason of the high cylinder head temperature
4. record max. observed temperature and duration

NOTE	The engine has water cooled cylinder heads. Therefore a failure of the cooling system does not imply immediate danger of engine failure.

NOTE	In case cylinder head temperature can be kept within limits (275°F = 135°C or 248°F = 120°C w/ SB-012) flight can be continued to planned destination.

NOTE	In case cylinder head temperature rises uncontrollable be prepared for precautionary landing, although the engine is not expected to stop suddenly.

NOTE	The ROTAX manual gives advice for inspection and release to service after such an occurrence.

3 Emergency Procedures

3.21 Engine Stoppage during Take-Off Procedure

during take-off run (aborted take-off)

1.	engine speed	IDLE
2.	brakes	AS REQUIRED
3.	engine	OFF

during climb out (altitude below 500ft)

1.	AVIATE – NAVIGATE – COMMUNICATE	
2.	engine speed	IDLE
3.	engine	OFF
4.	fuel valve	CLOSE
5.	declare emergency	MAYDAY MAYDAY MAYDAY
6.	master switch	OFF
7.	safety belts	TIGHTEN
8.	emergency landing	APPROPRIATE TERRAIN

NOTE	No course deviations should be made in excess of 30° to the left or right. Do not return to the airfield.

3 Emergency Procedures

3.22 Engine Stoppage in Flight Procedure

case 1: altitude not enough for engine re-start

1. AVIATE – NAVIGATE – COMMUNICATE
2. landing site IDENTIFY
3. engine OFF
4. fuel valve CLOSE
5. declare emergency MAYDAY MAYDAY MAYDAY
6. master switch OFF
7. safety belts TIGHTEN
8. emergency landing APPROPRIATE TERRAIN

case 2: altitude sufficient for engine re-start

1. AVIATE – NAVIGATE – COMMUNICATE
2. landing site IDENTIFY
3. electric fuel pump ON
4. choke OFF
5. starter ENGAGE
6. if engine does not start continue with case 1
7. if engine starts, continue flight and land on appropriate airfield to determine the reason for engine failure

3.23 Engine on Fire During Start-Up Procedure

1. fuel valve CLOSE
2. carburetor heat PULL
3. electric fuel pump OFF
4. power setting FULL until ENGINE STOPS
5. master switch OFF
6. if fire does not extinguish VACATE IMMEDIATELY

3 Emergency Procedures

3.24 Engine on Fire During Take-Off Procedure

during take-off run (aborted take-off)

1.	engine speed	IDLE
2.	brakes	FULL and SET
3.	fuel valve	CLOSE
4.	carburetor heat	PULL
5.	electric fuel pump	OFF
6.	power setting	FULL until ENGINE STOPS
7.	master switch	OFF
8.	if fire does not extinguish	VACATE IMMEDIATELY

during climb out (altitude below 500ft)

1.	AVIATE – NAVIGATE – COMMUNICATE	
2.	engine speed	IDLE
3.	engine	OFF
4.	fuel valve	CLOSE
5.	carburetor heat	PULL
6.	declare emergency	MAYDAY MAYDAY MAYDAY
7.	master switch	OFF
8.	safety belts	TIGHTEN
9.	emergency landing	APPROPRIATE TERRAIN

NOTE	No course deviations should be made in excess of 30° to the left or right. Do not return to the airfield.

WARNING	Never release the recovery system in case of fire.

3 Emergency Procedures

3.25 Engine on Fire in Flight Procedure

1.	AVIATE – NAVIGATE – COMMUNICATE	
2.	landing site	IDENTIFY
3.	fuel valve	CLOSE
4.	carburetor heat	PULL
5.	electric fuel pump	OFF
6.	power setting	FULL until ENGINE STOPS
7.	declare emergency	MAYDAY MAYDAY MAYDAY
8.	master switch	OFF
9.	descent	EMERGENCY DECENT
10.	slip	AS REQUIRED
11.	safety belts	TIGHTEN
12.	emergency landing	APPROPRIATE TERRAIN

WARNING	Never release the recovery system in case of fire.

3 Emergency Procedures

3.26 Precautionary Landing Procedure

1.	AVIATE – NAVIGATE – COMMUNICATE	
2.	landing site	IDENTIFY
3.	direction of wind	IDENTIFY
4.	landing direction	INTO THE WIND or UPHILL
5.	landing site inspection	PERFORM LOW APPROACH
6.	approach airspeed	V_{APP} = 60 kIAS
7.	max. flap speed	V_{FE} = 78 kIAS
8.	declare emergency	OWN DISCRETION
9.	safety belts	TIGHTEN
10.	flaps	DOWN
11.	landing light	RECOMMENDED
12.	engine power	AS REQUIRED
13.	elevator trim	AS REQUIRED
14.	electric fuel pump	ON
15.	carburetor heat	RECOMMENDED
16.	oil cooler flap	AS REQUIRED
17.	coolant or CHT temp	max. 135°C =275°F max. 120°C =248°F (w/ SB-012)
18.	oil temperature	50…130°C =120…266°F
19.	touch down on main wheels first with very little flare.	
20.	brakes	IMMEDIATELY
21.	avionics switch	OFF
22.	landing light	OFF
23.	position lights	OFF
24.	engine	OFF
25.	ACL	OFF
26.	cockpit lights	OFF
27.	master switch	OFF
28.	recovery system	SECURED
29.	parking brake	SET

3 Emergency Procedures

3.27 Emergency Landing on Land Procedure

1. AVIATE – NAVIGATE – COMMUNICATE
2. landing site IDENTIFY
3. direction of wind IDENTIFY
4. approach airspeed V_{APP} = 60 kIAS
5. max. flap speed V_{FE} = 78 kIAS
6. flaps DOWN
7. trim AS REQUIRED
8. declare emergency MAYDAY MAYDAY MAYDAY
9. master switch OFF
10. safety belts TIGHTEN
11. landing direction INTO THE WIND
    or UPHILL
12. touchdown with full elevator on main wheels first
13. after landing, release safety belts and vacate aircraft

3 Emergency Procedures

3.28 Emergency Landing on Water Procedure

1. AVIATE – NAVIGATE – COMMUNICATE
2. direction of wind IDENTIFY
3. approach airspeed V_{APP} = 60 kIAS
4. max. flap speed V_{FE} = 78 kIAS
5. flaps DOWN
6. trim AS REQUIRED
7. declare emergency MAYDAY MAYDAY MAYDAY
8. master switch OFF
9. safety belts TIGHTEN
10. doors JETTISON
11. touchdown with full elevator on water surface
12. after landing release safety belts and vacate aircraft

4 Normal Procedures

Table of Content

4 Normal Procedures

4.1 Definitions

Procedures

are instructions that must be performed in the given sequence, as far as possible without interruption.

Checklists

are lists for items to be checked in the applicable phase of flight (taxi, take-off, climb, etc.). Timing and sequence of the steps to be executed may vary according to the individual flight.

Briefings

are guidelines for upcoming procedures. With the help of briefings, the pilot and passenger should recapitulate those procedures.

NOTE	This POH may only be used for aircraft SN429 or higher or with REMOS notification NOT-014 implemented.

4 Normal Procedures

4.2 Fuel Draining Procedure

Since auto fuel contains a significant amount of ethanol nowadays, draining of the fuel system is more and more important. Draining of the aircraft must be performed before moving the aircraft at all. After re-fueling the aircraft, draining is also required. Give the fuel several minutes to rest after filling it up and do not move the aircraft prior to draining.

The drainer is located underneath the belly, just behind the main landing gear. From the outside only a plastic hose with 0.5 in diameter is visible. To drain the fuel tank, press on the plastic hose. Capture the released fuel and analyze it for water.

If AVGAS or MOGAS is used, water will clearly deposit underneath the fuel. Continue draining until no more water can be detected.

In the case of auto fuel containing ethanol, water can be absorbed by the fuel up to a certain amount, so no water will be detected during draining. If the fuel looks like a milky dispersion, the fuel is saturated with water. In this case dump all of the fuel, do not use this fuel for flying! After dumping fuel, fill up the fuel tank completely with fuel without ethanol.

To dump fuel, press in the plastic drainer hose and turn it counter-clockwise (as seen from bottom) about ¼ of a turn. To close the drainer, turn the plastic hose back. Be sure the drainer is properly closed. If dust or dirt particles get inside the drainer, the drainer will not close properly. In this case, open the drainer again to clean the drainer.

When draining the aircraft take care that no fuel contaminates the environment. Dispose of drained or dumped fuel in an environmental correct manner.

For further information about fuel containing ethanol please refer to the REMOS Notification NOT-001-ethanol-fuel.

4 Normal Procedures

4.3 Preflight Check Checklist

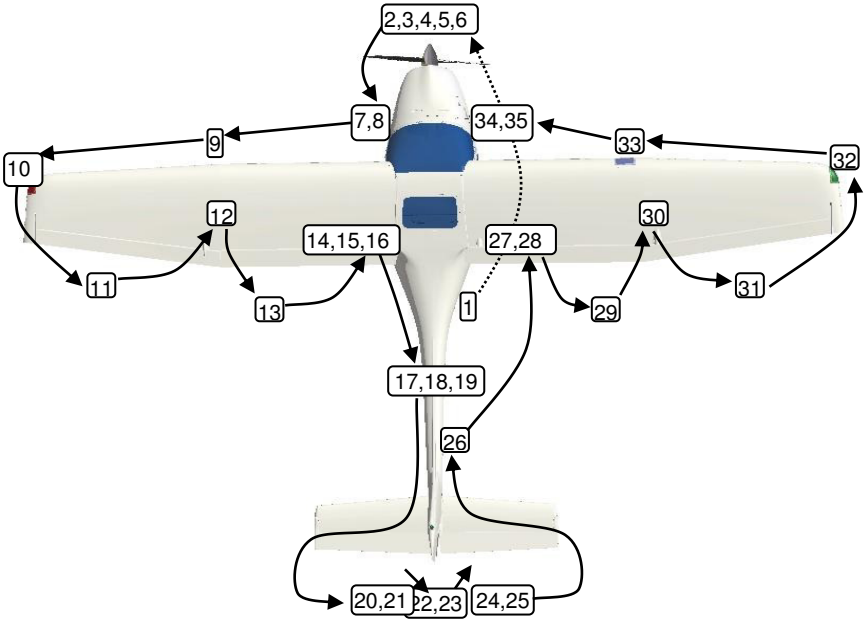
Checks outside the aircraft

1. fuel system drained before moving the aircraft at all
2. engine oil level (between min. and max. markings)
3. level of engine coolant (between min. and max. markings)
4. cowling is closed and properly secured
5. propeller has no damage or wear
6. nose gear and wheel/tire have no damage or wear, air pressure is correct and suspension is free
7. static port is clean
8. main wing bolt properly secured with Fokker needle
9. pitot tube is clean and properly fixed
10. wingtip and cover glass are securely mounted and not damaged
11. aileron, linkage and hinges have free travel and no damage, counterweights are securely fixed
12. upper wing strut attachment is secured
13. flap, linkage and hinges have no damage, rubber stops (flutter damper) on outer hinges are in place
14. lower wing strut attachment is secured
15. belly top antennas are securely mounted and free of damage
16. left main gear and wheel/tire have no damage or wear, air pressure is correct and suspension is free
17. cover of ejection opening has no damage
18. top antennas are securely mounted and free of damage
19. fuselage has no damage
20. horizontal tail, elevator, linkage and hinges have free travel and no damage
21. trim actuator linkage securely mounted and not damaged
22. elevator quick-fastener is securely locked
23. rudder linkage and hinges have free travel and no damage
24. horizontal tail attachment bolts are secured
25. horizontal tail, elevator, linkage and hinges have free travel and no damage

4 Normal Procedures

26. fuselage has no damage
27. right main gear and wheel/tire have no damage or wear, air pressure is correct and suspension is free
28. lower wing strut attachment is secured
29. flap, linkage and hinges have no damage, rubber stops (flutter damper) on outer hinges are in place
30. upper wing strut attachment is secured
31. aileron, linkage and hinges have free travel and no damage , counterweights are securely fixed
32. wingtip and cover glass are securely mounted and not damaged
33. landing light glass is not damaged
34. static port is clean
35. main wing bolt properly secured with Fokker needle

It is suggested to perform the outside check according to the following flow diagram:



Insecurely connected, improper operation of control surfaces or insecurely locked fasteners will lead to loss of control of the aircraft!!

4 Normal Procedures

Checks inside the aircraft

1. aileron quick-fasteners are securely locked

2. enough fuel on board for the flight
3. both seats are properly secured in intended position
4. both doors can be locked
5. check proper functioning of the flap drive and gauge

Insecurely connected, improper operation of control surfaces or insecurely locked fasteners will lead to loss of control of the aircraft!!

4 Normal Procedures

4.4 Before Start-Up Checkliste

1.	doors	LOCKED
2.	safety belts	FASTENED
3.	parking brake	SET
4.	recovery system	ARMED
5.	fuel valve	OPEN

4.5 Engine Start Procedure

cold engine

1.	master switch	ON
2.	anti-collision-light (ACL)	ON
3.	oil cooler flap	CLOSED
4.	electric fuel pump	ON
5.	engine power	CRACKED OPEN
6.	choke	PULL
7.	propeller	FREE
8.	starter	ENGAGE max.10 sec.

warm engine

1.	master switch	ON
2.	anti-collision-light (ACL)	ON
3.	oil cooler flap	AS REQUIRED
4.	electric fuel pump	ON
5.	engine power	CRACKED OPEN
6.	choke	OFF
7.	propeller	FREE
8.	starter	ENGAGE max.10 sec.

NOTE	Do not hold the key in the “START” position for more than 10 seconds, in order to avoid overheating the starter. If the engine does not start, release the key to position "0", wait 2 minutes and repeat the procedure.

4 Normal Procedures

4.6 After Start-Up Procedure

1.	engine has started	STARTER DISENGAGE
2.	choke	OFF
3.	oil pressure	OK
4.	position-lights	ON
5.	avionics switch	ON
6.	intercom	ON
7.	radios	ON and FREQUENCY SET
8.	transponder	AS REQUIRED
9.	electric fuel pump	OFF
10.	engine speed for warm-up	2,500 rpm

NOTE	By having the electric fuel pump switched off after starting the engine, only the mechanical pump is providing the engine with fuel. Make sure that the engine is running without the electric pump for at least two minutes. In that time, the engine burns all fuel in the fuel system behind the mechanical fuel pump. If the engine keeps running, the mechanical fuel pump is operational.

4.7 Engine Run Up Checklist

1.	oil temperature	min. 50°C / 120°F
2.	engine speed	4,000 rpm
3.	magneto check	max. 300 rpm DROP
4.	carburetor heat	TEMPERATURE RISES
5.	engine speed	IDLE
6.	electric fuel pump	ON

4 Normal Procedures

4.8 Taxi Procedure

1.	landing light	RECOMMENDED
2.	parking brake	RELEASE
3.	engine speed	AS REQUIRED
4.	control on ground	VIA PEDALS
5.	min. turn radius	ca. 20 ft = 7 m
6.	braking	AS REQUIRED
7.	taxi speed	APPROPRIATE

4.9 Departure Briefing

1.	wind, weather, visibility	OK
2.	ATIS	CHECKED
3.	runway	CORRECT DIRECTION
4.	traffic pattern	ALTITUDE and ROUTING

4 Normal Procedures

4.10 Take-Off Procedure

standard take-off

1.	oil cooler flap	AS REQUIRED
2.	carburetor heat	OFF
3.	electric fuel pump	ON
4.	flaps	UP
5.	elevator trim	2/3 UP
6.	rudder and aileron	NEUTRAL
7.	engine power	FULL POWER
8.	rotate	45 kIAS
9.	lift-off	50 kIAS
10.	steepest climb	50 kIAS
11.	best climb	60 kIAS

NOTE	Take-off distances given in chapter 5 have been determined with this procedure. Take-off distance varies significantly with precise handling and condition of the runway.

NOTE	It is recommended to keep the electric fuel pump switched on during the entire flight.

NOTE	Take-off with reduced power is possible, though not recommended. No take-off shall be performed with engine speed lower than 4,000 rpm. A drastically reduced take-off performance must be taken into account.

NOTE	Take-off with flaps 15deg is possible and permitted. Take-off distance is presented in section 5. In order to reduce pilot workload, it is recommended to take-off with flaps on grass only (soft or short field take-off).

4 Normal Procedures

short field take-off

1.	oil cooler flap	AS REQUIRED
2.	carburetor heat	OFF
3.	electric fuel pump	ON
4.	brakes	SET
5.	flaps	15 deg
6.	elevator trim	2/3 UP
7.	rudder and aileron	NEUTRAL
8.	engine power	FULL POWER
9.	brakes	RELEASE
10.	rotate and lift-off	45 kIAS
11.	steepest climb	50 kIAS
12.	best climb	60 kIAS
13.	retract flaps	SAFE ALTITUDE
14.	best climb	60 kIAS

NOTE	Take-off distances given in chapter 5 have not been determined with this procedure, but with the procedure for standard take-off. Take-off distance with the short field technique varies significantly with precise handling and condition of the runway.

NOTE	Take care not to stall the aircraft during this maneuver.

NOTE	It is recommended to keep the electric fuel pump switched on during the entire flight.

4 Normal Procedures

soft field take-off

1.	oil cooler flap	AS REQUIRED
2.	carburetor heat	OFF
3.	electric fuel pump	ON
4.	brakes	SET
5.	flaps	15 deg
6.	elevator trim	2/3 UP
7.	rudder and aileron	NEUTRAL
8.	engine power	FULL POWER
9.	brakes	RELEASE
10.	rotate	IMMEDIATELY
11.	lift-off	35 kIAS
12.	accelerate	IN GROUND EFFECT
13.	steepest climb	50 kIAS
14.	best climb	60 kIAS
15.	retract flaps	SAFE ALTITUDE
16.	best climb	60 kIAS

NOTE	Take-off distances given in chapter 5 have not been determined with this procedure, but with the procedure for standard take-off. Take-off distance with the soft field technique varies significantly with precise handling and condition of the runway.

NOTE	Take care not to stall the aircraft during this maneuver.

NOTE	It is recommended to keep the electric fuel pump switched on during the entire flight.

4 Normal Procedures

4.11 Best Angle of Climb Speed (V_X) Checklist

1.	flaps	15deg or CLEAN
2.	electric fuel pump	ON
3.	steepest climb	V_X = 50 kIAS
4.	engine power	FULL POWER
5.	carburetor heat	OFF
6.	oil cooler flap	AS REQUIRED
7.	coolant or CHT temp	max. 135°C = 275°F
		max. 120°C = 248°F (w/ SB-012)
8.	oil temperature	50…130°C =120…266°F

NOTE	Best angle of climb is achieved with flaps 15deg.

4.12 Best Rate of Climb Speed (V_Y) Checklist

1.	flaps	15deg or CLEAN
2.	electric fuel pump	ON
3.	best climb	V_Y = 60 kIAS
4.	engine power	FULL POWER
5.	carburetor heat	OFF
6.	oil cooler flap	AS REQUIRED
7.	coolant or CHT temp	max. 135°C = 275°F
		max. 120°C = 248°F (w/ SB-012)
8.	oil temperature	50…130°C =120…266°F

NOTE	Best rate of climb is achieved with flaps up.

4 Normal Procedures

4.13 Cruise Checklist

1.	flaps	CLEAN
2.	landing light	ON (recommended)
3.	engine speed	AS REQUIRED
4.	maneuvering speed	V_O = 88 kIAS
5.	normal operating speed	V_{NO} = 107 kIAS
6.	never exceed speed	V_{NE} = 135 kIAS
7.	max. cont. engine speed	5,500 rpm
8.	carburetor heat	OFF
9.	oil cooler flap	AS REQUIRED
10.	coolant or CHT temp	max. 135°C = 275°F max. 120°C = 248°F (w/ SB-012)
11.	oil temperature	50…130°C =120…266°F

NOTE	It is recommended to keep the electric fuel pump switched on during the entire flight.

reasonable cruise configurations

with Tonini or Woodcomp fixed pitch propeller:

With an engine speed of 4,800 rpm, a true airspeed of 86 kts = 99 mph is achieved at 3,000ft. Fuel consumption is approx. 4.8 US gal.

with Sensenich ground adjustable propeller:

With an engine speed of 4,800 rpm, a true airspeed of 97 kts = 112 mph is achieved at 3,000ft. Fuel consumption is approx. 4.8 US gal.

with Neuform ground adjustable propeller:

With an engine speed of 4,800 rpm, a true airspeed of 97 kts = 112 mph is achieved at 3,000ft. Fuel consumption is approx. 4.8 US gal.

4 Normal Procedures

4.14 Flying in Rain Checklist

1.	electric fuel pump	ON
2.	carburetor heat	ON
3.	engine speed	AS REQUIRED
4.	oil cooler flap	AS REQUIRED
5.	coolant or CHT temp	max. 135°C = 275°F
		max. 120°C = 248°F (w/ SB-012)
6.	oil temperature	50…130°C =120…266°F

NOTE	• visibility to the front is very limited • windscreen may need defogging • flight performance is reduced • fuel consumption increases • stall speed increases • braking efficiency during landing is reduced

4 Normal Procedures

4.15 Flying Without Doors Procedure

1. door lock — OPEN
2. gas spring on door — DETACH
3. hinge pin — PULL
4. door — TAKE OUT CAREFULLY

NOTE	V_{NE} is reduced to 100 kIAS when flying without doors.

NOTE	Flying without doors leads to high wind velocities inside the cabin.

NOTE	For flight without doors, either one door or both doors must be taken out before flight.

NOTE	Unlocking and opening doors in flight is prohibited.

It is not required to prepare a separate weight and balance report and/or equipment list for operation without doors in case the detachment of the door(s) has been taken into consideration during flight preparation. A logbook entry is not required after the door(s) have been taken out or installed again.

Following data shall be used for the flight's individual weight and balance:

weight of door	3,350 g	=	7.7 lbs	(each)
station of door	150 mm	=	5.9 in	

4 Normal Procedures

4.16 Recovery from Stall Procedure

1.	stick back pressure	RELEASE
2.	rudder	OPPOSITE to BANK
3.	aileron	NEUTRAL
4.	engine power	AS REQUIRED

4.17 Descent Checklist

1.	flaps	CLEAN
2.	engine speed	AS REQUIRED
3.	electric fuel pump	ON
4.	maneuvering speed	V_O = 88 kIAS
5.	normal operating speed	V_{NO} = 107 kIAS
6.	never exceed speed	V_{NE} = 135 kIAS
7.	max. cont. engine speed	5,500 rpm
8.	carburetor heat	RECOMMENDED
9.	oil cooler flap	AS REQUIRED
10.	coolant or CHT temp	max. 135°C = 275°F max. 120°C = 248°F (w/ SB-012)
11.	oil temperature	50…130°C =120…266°F

4 Normal Procedures

4.18 Approach Checklist

1.	wind, weather, visibility	OK
2.	ATIS	CHECKED
3.	runway	CORRECT DIRECTION
4.	traffic pattern	ALTITUDE and ROUTING
5.	radios	ON and FREQUENCY SET
6.	transponder	AS REQUIRED
7.	carburetor heat	AS REQUIRED
8.	oil cooler flap	AS REQUIRED
9.	electric fuel pump	ON
10.	coolant or CHT temp	max. 135°C = 275°F max. 120°C = 248°F (w/ SB-012)
11.	oil temperature	50…130°C =120…266°F
12.	full flaps airspeed	V_{FE} = 78 kIAS
13.	approach airspeed	V_{APP} = 60 kIAS
14.	flaps	AS REQUIRED
15.	landing light	RECOMMENDED

NOTE	In windy and gusty conditions increase approach airspeed as appropriate and take care for increased landing distances.

4 Normal Procedures

4.19 Landing Procedure

1. full flaps airspeed V_{FE} = 78 kIAS
2. approach airspeed V_{APP} = 60 kIAS
3. flaps DOWN
4. target airspeed AS RECOMMENDED
5. engine power AS REQUIRED
6. elevator trim AS REQUIRED
7. touch down on main wheels first
8. brakes IMMEDIATELY

The target airspeed (airspeed on short final, app. 50ft above threshold) differs with actual aircraft weight. Please refer to the following table to select the correct approach airspeed.

aircraft weight	recommended target airspeed
1,000 lb	45 kIAS
1,100 lb	47 kIAS
1,200 lb	50 kIAS
1,320 lb	52 kIAS

NOTE	Landing distances given in chapter 5 have been determined with approach airspeeds given above. Landing with partial flaps or clean is possible and permitted, but landing distance will be significantly longer due to higher approach speeds required by higher stall speed.

NOTE	In high wind or gusty conditions less than full flap setting or clean flaps might be appropriate.

4 Normal Procedures

advise

In landing configuration, the airplane is very draggy and the propeller provides additional braking. Therefore, airspeed bleeds off quickly during flare.

It is easy to misjudge altitude during flare. When flare is initiated too high and airspeed bleeds away the airplane may stall or bounce.

In doubt or without an urge to achieve shortest landing distance as possible, keep a higher target airspeed.

rule of thumb

Keep it at sixty knots!
Or use all your guts.

4 Normal Procedures

4.20 Balked Landing Procedure

1.	engine power	FULL POWER
2.	carburetor heat	OFF
3.	initial climb	50 kIAS
4.	flaps retract	SAFE ALTITUDE
5.	steepest climb	50 kIAS
6.	best climb	60 kIAS
7.	oil cooler flap	AS REQUIRED
8.	coolant or CHT temp	max. 135°C = 275°F
		max. 120°C = 248°F (w/ SB-012)
9.	oil temperature	50…130°C =120…266°F

4.21 After Landing Checklist

1.	landing light	RECOMMENDED
2.	flaps	UP
3.	electric fuel pump	OFF
4.	radio and transponder	AS REQUIRED

4 Normal Procedures

4.22 Shutdown Checklist

1.	avionics switch	OFF
2.	landing light	OFF
3.	position lights	OFF
4.	engine	OFF
5.	ACL	OFF
6.	cockpit lights	OFF
7.	master switch	OFF
8.	recovery system	SECURED
9.	parking brake	SET

NOTE	It is permissible to switch avionics (GPS, radio, transponder, intercom) together with the avionics switch rather than separately.

NOTE	It is permissible to switch lights and fuel pump together with the master switch rather than separately.

NOTE	The engine may only be switched off on ground. Engine shut-down in flight is not an approved procedure. Without technical reason (see section 3 – emergency procedures), engine shut-down in flight shall be avoided.

5 Performance

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5 Performance

5.1 General

NOTE	All flight performances given in this section (speed, range, fuel flow, rate of climb, etc.) are reference values. Tolerances of engine and propeller as well as deviations from standard temperature and density of air may reveal divergent performances.

NOTE	The aircraft may be operated without fairings on wheels and/or landing gear legs. Performance is reduced by app. 5% on any of the following criteria: climb, cruise, range

NOTE	This POH may only be used for aircraft SN429 or higher or with REMOS notification NOT-014 implemented.

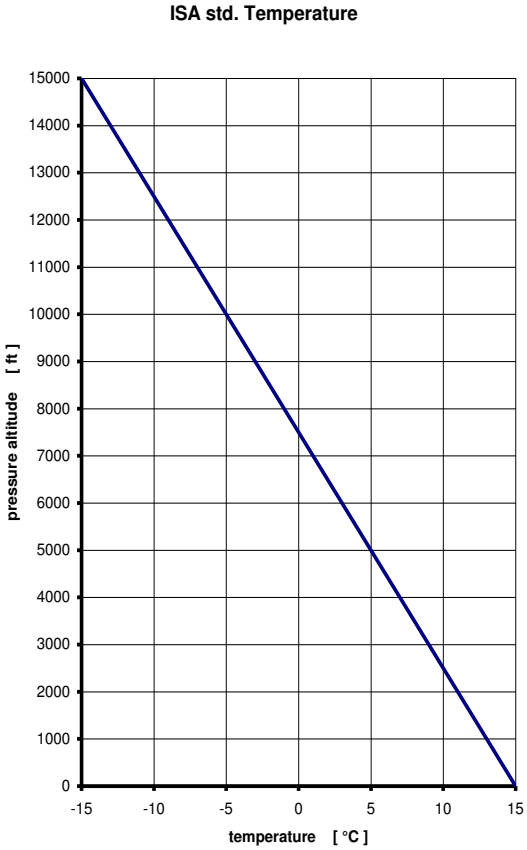
5.2 Summary of Flight Performances

V_{S0} (stallspeed flaps 40°)	kIAS	42	
V_S (stallspeed flaps 0°)	kIAS	44	
V_X (any flap setting)	kIAS	50	
V_Y (flaps clean)	kIAS	60	
rate of climb at MSL flaps clean	ft/min	840	
best glide	kIAS	60	
take-off roll distance (flaps 0°)	m (ft)	234	(770)
take-off air distance	m (ft)	128	(421)
take-off distance	m (ft)	362	(1.191)
take-off roll distance (flaps 15°)	m (ft)	187	(615)
take-off air distance	m (ft)	134	(441)
take-off distance	m (ft)	321	(1.056)
landing air distance (flaps 40°)	m (ft)	140	(461)
landing roll distance	m (ft)	93	(306)
landing distance	m (ft)	233	(767)

5 Performance

5.3 ISA Atmosphere

All flight performance data are given for ISA standard atmosphere at sea level and standard temperature. To determine temperature in relation to ISA conditions please refer to the following chart:



Flight performance can vary significantly due to tolerances, setting of propeller and engine, flight without doors, deviation of temperature and air density from standard ISA conditions, etc.

5 Performance

5.4 Take-Off Distances

For take-off with max. take-off weight on an even, dry, paved runway with ISA conditions on sea level, dry aircraft and wind calm the following take-off distances apply:

take-off ***flaps 0°***

take-off roll distance	234 m 770 ft
take-off air distance over 50ft	128 m 421 ft
take-off distance over 50ft	362 m 1.191 ft

take-off ***flaps 15°***

take-off roll distance	187 m 615 ft
take-off air distance over 50ft	134 m 441 ft
take-off distance over 50ft	321 m 1.056 ft

NOTE	Take-off distances have been determined at ISA standard conditions at mean sea level and over a virtual 50ft obstacle.

NOTE	Standard procedures apply. Diverting from the standard procedures defined in section 4 will lead to different take-off distances.

5 Performance

Performance data apply under ISA conditions on an even, dry, hard runway surface. Various circumstances have an effect on take-off performance. According to CAA-circular AIC 127-2006, it is recommended to use following add-ons on roll- and air distances:

add-ons on take-off roll distance	
for dry grass	+ 20%
for wet grass	+ 30%
for soft surface	+ 60%
per 5 knots tailwind component	+ 20%
per 2% uphill slope	+ 10%
for high temperatures above standard	+ 10% per 10°C
for altitude above sea level (density altitude)	+ 10% per 1,000 ft

add-ons on take-off air distance	
for dirty or wet wings	+ 30%
per 5 knots tailwind component	+ 20%
for high temperatures above standard	+ 10% per 10°C
for altitude above sea level (density altitude)	+ 10% per 1,000 ft

NOTE	Reduction of take-off distances due to downhill slope or headwind must not be taken into account.

5 Performance

example calculation:

Take-off with a REMOS GX equipped with Neuform propeller in 2.000ft at 35°C from wet grass runway, 5kt tailwind, wet wing, take-off with flaps 0°. Standard wheels are mounted with wheel fairings.

1.	temperature acc. to ISA diagram	12°C
	real temperature	30°C
	temperature above ISA:	18°C
	add-on acc. to table	18%
2.	add-on for 2.000ft	20%
3.	add-on for tailwind	20%
4.	add-on for wet grass runway	30%
5.	add-on for wet wing	30%

take-off roll distance = 234m (770ft) + 18% (temperature)
+ 20% (altitude)
+ 20% (tailwind)
+ 30% (wet grass runway)
= 517m (1.701ft)

take-off air distance = 128m (421ft) + 18% (temperature)
+ 20% (altitude)
+ 20% (tailwind)
+ 30% (wet wing)
= 283m (931ft)

take-off distance = 800m (2.632ft)

NOTE	Take-off distance has more than doubled compared to ideal conditions!

NOTE	Real-life take-off distance can be even higher.

5 Performance

5.5 Landing Distances

Landing is to be done with full flaps (40 deg). After touchdown, brake to the max for shortest landing distance, but do not block the wheels.

For landing with max. take-off weight on an even, dry, paved runway with ISA conditions on sea level, dry aircraft and wind calm the following landing distances apply:

landing ***flaps 40°***

landing roll distance	93 m 306 ft
landing air distance over 50ft	140 m 461 ft
landing distance over 50ft	233 m 767 ft

NOTE	Landing distances have been determined at ISA standard conditions at mean sea level and over a virtual 50ft obstacle.

NOTE	Standard procedures apply. Diverting from the standard procedures defined in section 4 will lead to different landing distances.

5 Performance

Performance data apply under ISA conditions on an even, dry, hard runway surface. Various circumstances have an effect on take-off and landing performance. According to CAA-circular AIC 127-2006, it is recommended to use following add-ons on roll- and air distances:

add-ons on landing roll distance	
for dry grass	+ 15%
for wet grass	+ 35%
for soft or slippery surface	+ 60%
per 5 knots tailwind component	+ 20%
per 2% downhill slope	+ 10%
for high temperatures above standard	+ 5% per 10°C
for altitude above sea level (density altitude)	+ 5% per 1,000 ft

add-ons on landing air distance	
for dirty or wet wings	+ 30%
per 5 knots tailwind component	+ 50%
for high temperatures above standard	+ 5% per 10°C
for altitude above sea level (density altitude)	+ 5% per 1,000 ft

NOTE	Reduction of landing distances due to uphill slope or headwind must not be taken into account.

5 Performance

example calculation:

Landing on soft surface with 2.000ft field elevation at 22°C, 5kt tailwind, wet wing and 2% downhill slope

1.	temperature acc. to ISA diagram	12°C
	real temperature	22°C
	temperature above ISA:	10°C
	add-on acc. to table	10%
2.	add-on for 2.000ft	10%
3.	add-on for downhill slope	10%
4.	add-on for soft runway	60%
5.	add-on for wet wing	30%

landing air distance	= 140m (461 ft)	+ 10% (temperature)
		+ 10% (altitude)
		+ 30% (wet wing)
	= 220m (724ft)	
landing roll distance	= 93m (306ft)	+ 10% (temperature)
		+ 10% (altitude)
		+ 10% (slope)
		+ 60% (soft runway)
	= 198m (651ft)	
landing distance	= 418m (1.375ft)	

NOTE	Landing distance has almost doubled compared to ideal conditions!

NOTE	Real-life landing distance can be even higher.

5 Performance

5.6 Cruise Speed, RPM, Fuel Consumption, Range

Rotax 912 UL-S, 100 hp engine, Sensenich or Neuform propeller

engine speed	fuel flow		true airspeed	endurance	range
[rpm]	[gph]	[ltr/h]	[kTAS]	[h]	[nm]
5.400	6,7	25.4	113	3,1	350
5.200	6,0	22.7	107	3,5	375
5.000	5,4	22.4	102	3,9	398
4.800	4,9	18.5	97	4,3	417
4.600	4,4	16.7	91	4,8	437
4.400	3,9	14.8	85	5,4	459
4.200	3,5	13.2	80	6,0	480

NOTE	endurance and range based on 80ltr / 21gal usable fuel, no reserve included

NOTE	Performance may be reduced due to tolerances, atmospheric conditions, age and cleanliness of aircraft, propeller and engine.

NOTE	Expect a performance loss of about 5% when flying without wheel fairings.

NOTE	Expect a performance loss of about 10% when flying without doors

5 Performance

5.7 Rate of Climb

Propeller		Sensenich or Neuform
best angle of climb airspeed V_X	kIAS	50
best rate of climb airspeed V_Y	kIAS	60
best rate of climb at MSL	ft/min	840

NOTE	Climb is flown with flaps retracted, see section 4

NOTE	Expect a performance loss of about 5% when flying without wheel fairings.

5 Performance

5.8 Low Airspeed and Stall

If the center of gravity is within the permissible range, the aircraft will be fully controllable until reaching the stall speed. As the aircraft approaches the stall speed, this will be indicated by slight aerodynamic buffeting. The stall speed is reached when the aircraft drops the nose or the elevator control comes to a stop. Once stall speed is reached, the pilot should lower the nose of the aircraft to re-establish a safe airspeed. Only release of the back pressure of the elevator is required, a significant “push” input is not required. When stalling the aircraft while in a turn the stall speed will increase.

stall speeds in level flight with engine idle

CG at most forward position

flap position	**deg**	**0**	**15**	**40**
stall speed	kIAS	44	42	42

CG at most rearward position

flap position	**deg**	**0**	**15**	**40**
stall speed	kIAS	43	39	39

Stalling the aircraft with engine at full power and/or in turns is possible and permissible. Expect airspeed indication outside the reliable range of the airspeed indicator. A significant stall break will occur. Without experience a mentionable altitude loss shall be considered for safe recovery.

5 Performance

5.9 Safe Glide Ratio

Airspeed for best glide is 60kIAS. Safe glide ratio of the airplane with wind milling propeller is approximately 1:11. This will result in following glide distances:

airspeed for best glide	[kIAS]	60
glide ratio	[--]	1 : 11
flaps	[deg]	0

altitude	[ft]	2,000	4,000	6,000	8,000	10,000
glide range	[nm]	3.6	7.2	10.9	14.5	18.1

NOTE	Glide performance is given for a clean airframe with flaps retracted, airspeed for best glide is 60kIAS. Deflected flaps, dirty airframe or other airspeeds will lead to lower glide ratio.

5 Performance

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6 Weight-and-Balance-Information

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6 Weight-and-Balance-Information

6.1 General

This section provides information how to determine the inflight center of gravity. Prior to each take-off, the pilot in command shall ensure that the center of gravity is within its permissible envelope.

For a correct determination of the inflight center of gravity the pilot needs following information:

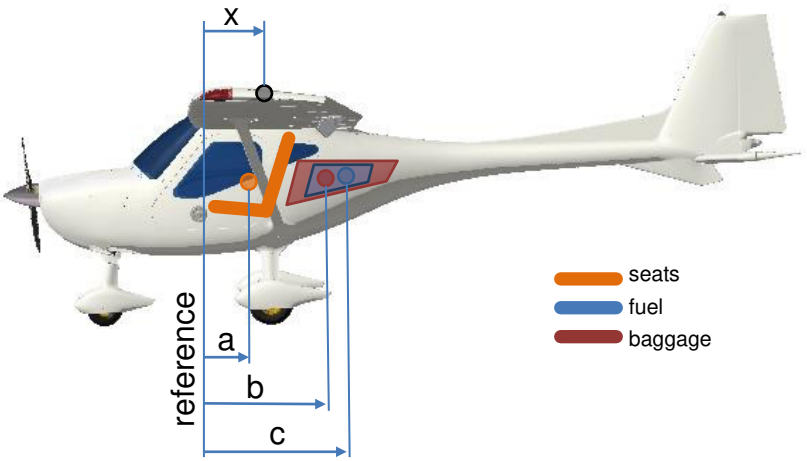
- weight of pilot
- weight of passenger
- weight of baggage
- weight of fuel on board
- weight and center of gravity of the empty aircraft

The weight and balance report of the empty aircraft (empty CG) shall always be up to date and noted in section 6.7 of this manual. The procedure to determine the empty weight and CG is given in section 6.3 of this manual and in section 1 of the maintenance manual. The empty CG must be updated:

- after significant change of equipment
- after major repair

6 Weight-and-Balance-Information

6.2 Station Definitions



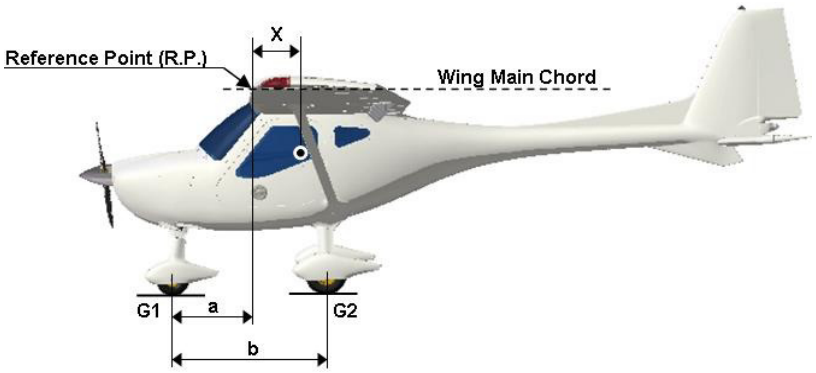
item		station	
a	seats	210 mm	8.3 in
b	baggage	950 mm	37.4 in
c	fuel	960 mm	37.8 in
x	empty/inflight CG	variable	

Procedure for determination of empty CG is given in the maintenance handbook. Actual empty CG can be obtained from the aircraft's individual weight and balance report and/or section 6.8 of this manual.

6 Weight-and-Balance-Information

6.3 Aircraft Weighing Procedure

To determine the aircraft empty weight and CG, put the aircraft on 3 weighing scales, positioned on a level surface. Before weighing, a level wing main chord has to be established (use pads between main wheels and scale beneath). A check-mark reference point (R.P.) on the leading edge of the left wing, adjacent to the pitot tube, is provided to ease the levelling procedure. To level the wing main chord, use a flexible clear hose, filled with water, as a spirit level.



aircraft empty weight $G = G_1 + G_2$

aircraft empty CG $x = \frac{G_2 * b}{G_1 + G_2} - a$

6 Weight-and-Balance-Information

6.4 Change of Equipment

After change of equipment with known weight and CG of the added or removed equipment the new empty weight and CG of the aircraft can also be calculated instead of being determined by weighing as follows:

old empty weight	G_o
new empty weight	G_n
weight of item added/removed	G_i
old empty CG	x_o
new empty CG	x_n
station item added/removed	x_i

new empty weight $G_n = G_o + G_i$

new empty CG $x_n = \dfrac{G_o x_o + G_i x_i}{Go + Gi}$

NOTE	Use negative sign of weight for items removed.

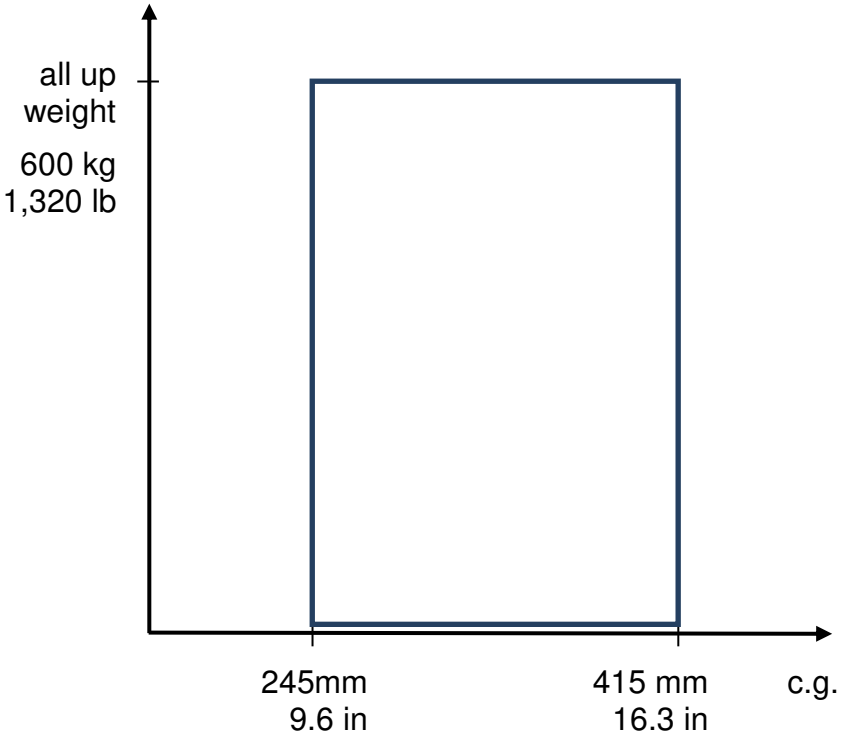
6 Weight-and-Balance-Information

6.5 Operating Weights and Loading

The CG range for any given airborne weight, measured from reference, must be within the permissible limits of 9.6in to 16.3in.

minimum airborne weight	not limited	
maximum take-off weight	600 kg	1.320 lb
front limit of CG	245 mm	9.6 in
aft limit of CG	415 mm	16.3 in

6.6 Weight and Balance Chart



6 Weight-and-Balance-Information

6.7 Center of Gravity Range and Determination

The following procedure must be used to calculate the inflight CG.

1. moment calculation

moment = weight x station

	weight	station	moment
empty weight	____	____	____
occupants	____	210 mm = 8.3 in	____
baggage	____	950 mm = 37.4 in	____
fuel	____	960 mm = 37.8 in	____
weight total:	____	**moment total:**	____

2. center of gravity

$$\text{center of gravity} = \frac{\text{moment total}}{\text{weight total}}$$

front limit of CG	245 mm 9.6 in
aft limit of CG	415 mm 16.3 in

NOTE	Calculate CG for the entire planned flight. Calculate CG with fuel at take-off and for landing.

NOTE	Occupants on board shift CG significantly. When filling up the fuel tank, the airplane may tilt on its tail skid. This is acceptable as long as the inflight CG is within limits.

WARNING	Never fly with an inflight CG outside the permitted envelope!

6 Weight-and-Balance-Information

6.8 Calculation Example

	weight	station	moment
empty weight	305 kg 670 lb	318 mm 12.5 in	96,990 kg mm 8,375 lb-in
occupants	70 kg 175 lb	215 mm 8.3 in	15,050 kg mm 1,453 lb-in
baggage	10 kg 22 lb	950 mm 37.4 in	9,500 kg mm 825 lb-in
fuel	55 kg 120 lb	960 mm 37.8 in	52,800 kg mm 4,536 lb-in
weight total:	440 kg 987 lb	**moment total:**	174,340 kg mm 15,189 lb-in

$$\textbf{center of gravity} = \frac{\textbf{moment total}}{\textbf{weight total}}$$

$$= \frac{\textbf{174,340 kg mm} \quad \textbf{15,189 lb-in}}{\textbf{440 kg} \quad \textbf{987 lb}}$$

$$= \textbf{396 mm} \quad \textbf{15.4 in}$$

OK! Let's fly!

NOTE	Density of fuel is 0,72 kg/ltr = 6 lb/gal

NOTE	The example above is given to show how to calculate the center of gravity. Do not use the weights and the empty CG in this example for your own flight preparation.

6 Weight-and-Balance-Information

6.9 Aircraft Specific Weights

Below are noted the aircraft specific data. Pilots must use this information to ensure a correct weight and balance calculation prior to every flight. This is essential for safe flight. For detailed information of the weight and balance data and the equipment installed on the aircraft refer to the individual aircraft weight and balance report, which includes the equipment list.

sign						
date of list of equipment						
date of weighing						
C.G.						
payload						
empty weight						

6 Weight-and-Balance-Information

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7 Airplane and Systems Description

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7 Airplane and Systems Description

7 Airplane and Systems Description

7.1 General

This section of the POH shall give a brief introduction into the systems installed in the REMOS GX. For further information, maintenance and repair instructions see maintenance manual, latest revision.

7.2 Airframe

Type: Full composite carbon fiber aircraft with two seats.

Design: High wing design with struts, front mounted engine and propeller, traditional stabilizer concept, differential ailerons. Electrically operated flaps (0° to 40°), electric elevator trim, three-wheel landing gear with steerable nose wheel. Main gear with hydraulic disc brakes. The cabin is equipped with two seats side by side and can be entered and exited by doors on the left and right side of the fuselage.

Layout: Main components are built in half shells from composite fiber material, which are bonded together (carbon fiber, Kevlar and glass fiber).

7 Airplane and Systems Description

assembly of the wing

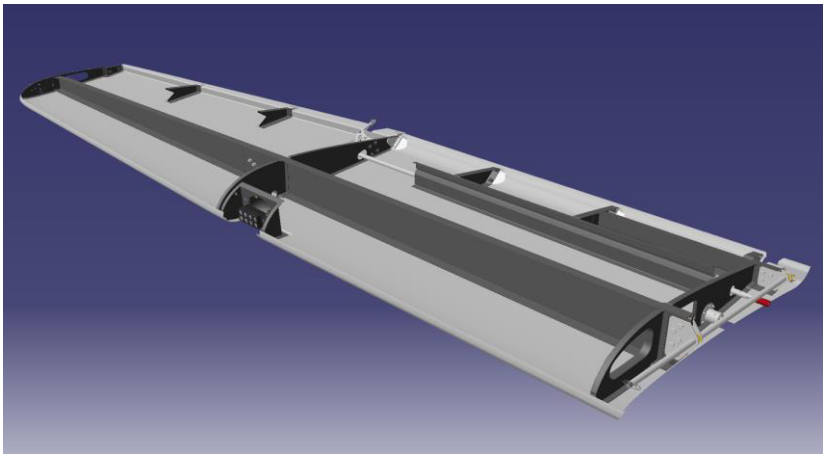
The wing consists of four main parts: wingbox, flap, aileron and wingtip. The wingtip is bolted to the wingbox, aileron and flap are hinged to allow control movements.

The wing is completed by the cover glass of the landing light and the main wingbolt which attaches the wing to the fuselage. All loads are supported by the wingbolt and the strut.

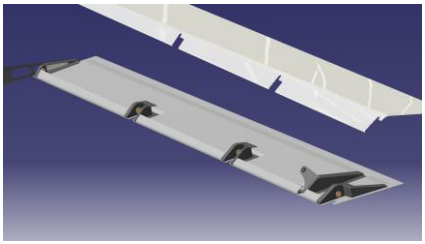
7 Airplane and Systems Description

structure of the wing

The wingbox is built up by the upper and lower wing skin consisting of CFRP sandwich (foam). Loads are transferred into the main and rear wing spar. The structure is completed by the landing light bay and ribs reinforcing hinge areas, closing the wing to the wingtip and the fuselage.



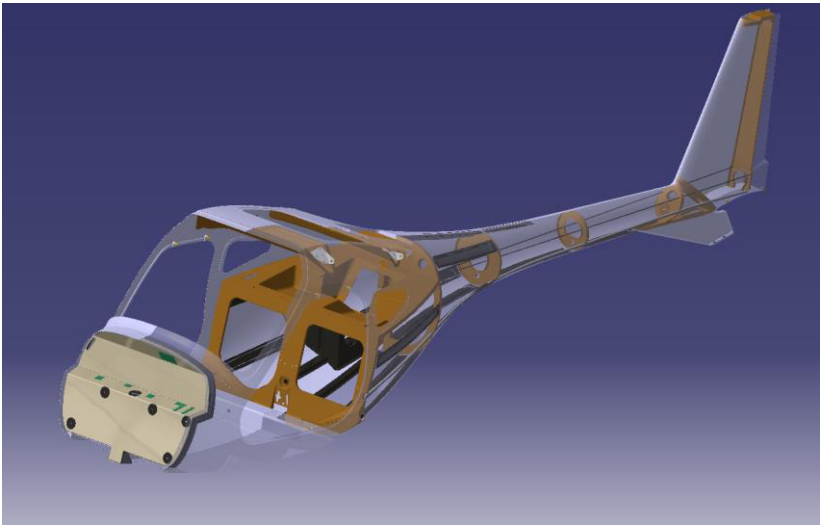
Ailerons and flaps are built up similarly, consisting of ribs and skins.



7 Airplane and Systems Description

structure of the fuselage

The skins of the fuselage are built of a monolithic layup of glass, carbon and Kevlar, reinforced by carbon tapes. Sandwich material (foam) is found in the fixed surface of the vertical tail only, which is an integral part of the fuselage. The fuselage skin is stiffened by stringers and frames.

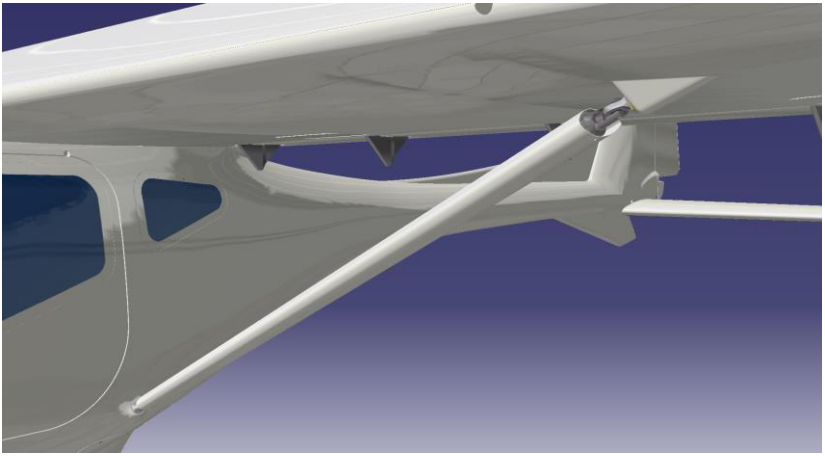


7 Airplane and Systems Description

attachment of struts

The wing strut is attached towards the wing and fuselage by a high tensile bolt, which is a genuine REMOS part. The wing strut can pivot about its axis some degree in order to allow the wing to be folded.

The strut consists of a stainless-steel tube with fork ends, covered with a fairing made from GFRP.



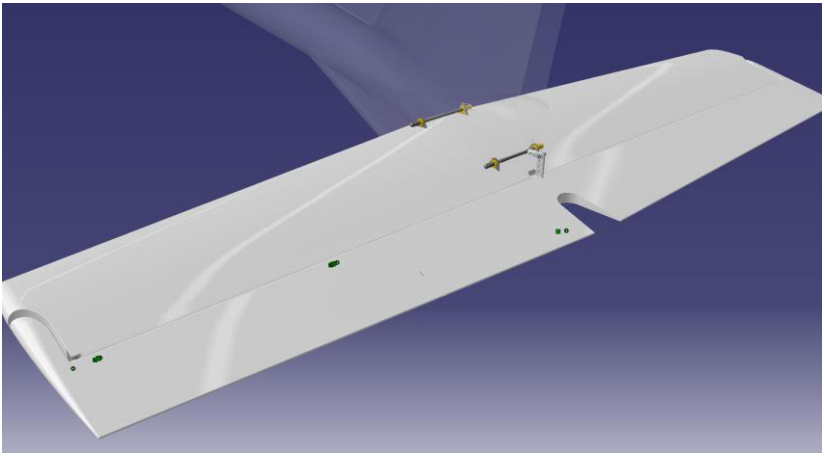
7 Airplane and Systems Description

installation of horizontal tail

The horizontal tail is made from GFRP. It is built up similar as the wing structure, consisting of ribs and spars.

The elevator includes a trim tab, which is operated electrically. The trim tab does not have a dedicated hinge, but uses the elastic flap technology; the upper skin is used as hinge.

Two horns are integral parts of the elevator containing counterweights in order to balance the moving surface.



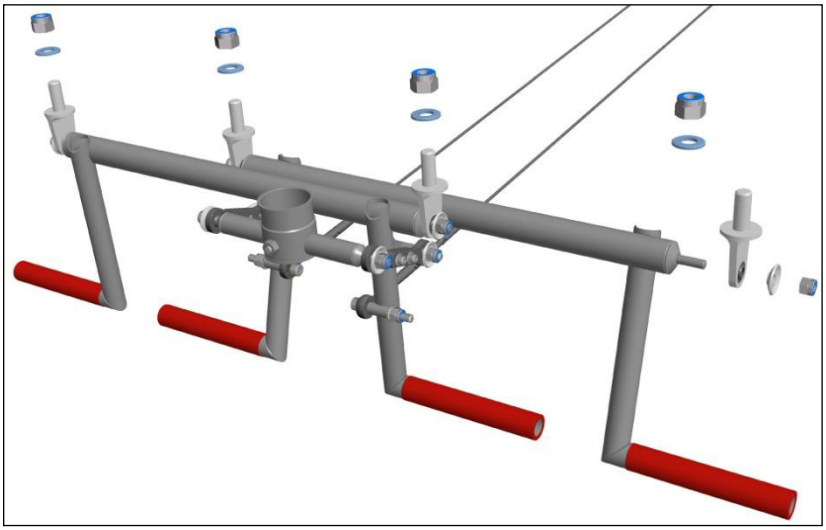
7 Airplane and Systems Description

7.3 Control System

The control system is made of aluminium pushrods and crank bells for the elevator and aileron controls. The rudder is operated by steel cables. The trim system is an electrically driven trim tab on the elevator; aileron and rudder have ground adjustable tabs.

rudder control system

Rudder control is maintained through use of conventional rudder pedals which also control nose wheel steering. The system is comprised of rudder pedals, a steering rod (sliding translator) towards the nose wheel dip tube, cables and pulleys, all of which link the pedals to the rudder and nose wheel steering.



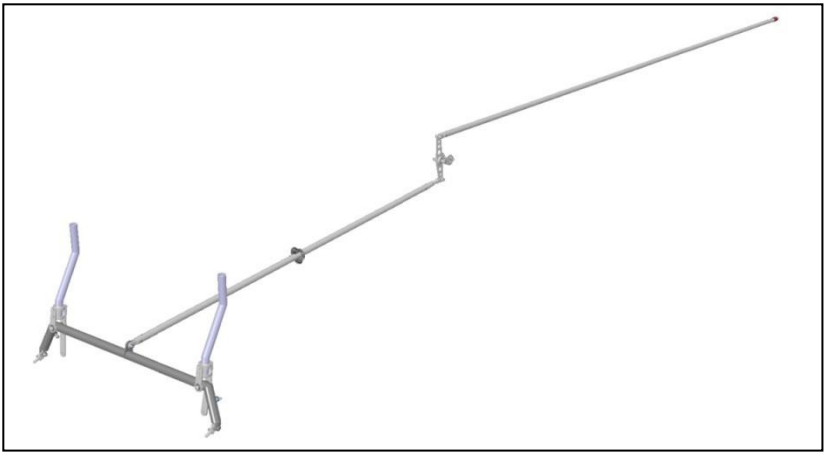
7 Airplane and Systems Description

elevator control system

The control sticks are installed to a pivoting connection element (stick bridge). Thereby a push/pull input stick is transferred from the control stick through a bell crank and a push-pull tube towards the elevator. An electrical operated elevator trim tab is installed on the elevator.

The elevator control system is connected to the elevator by a quick connector to allow the tailplane to be detached from the aircraft. Checking this quick connector is part of the preflight check!

Insecurely connected, improper operation of control surfaces or insecurely locked fasteners will lead to loss of control of the aircraft!!



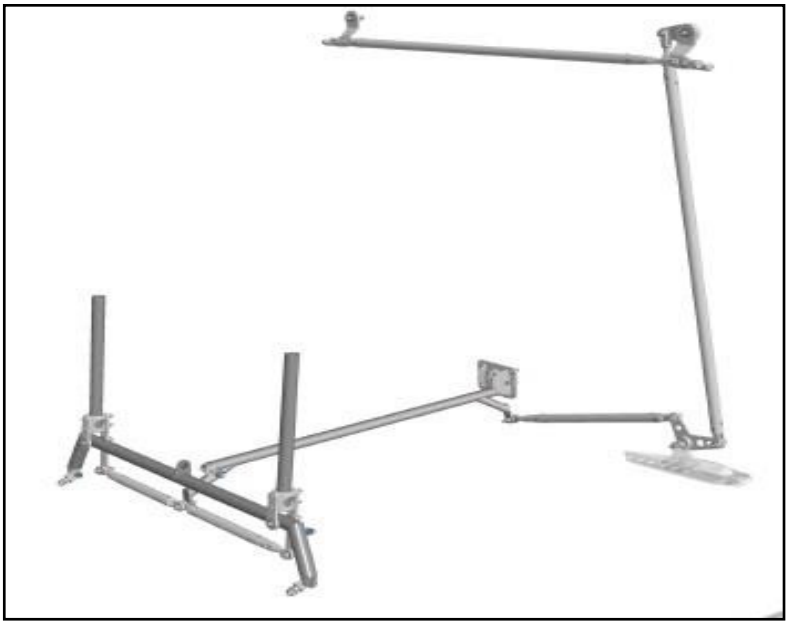
7 Airplane and Systems Description

aileron control system

Both control sticks are linked together by a control rod system to ensure synchronous movement. The linkage is located beneath two fiberglass-panels on the floor of the cabin right in front of the seats. A translator connects the control stick linkage to the aileron linkage, which uses several bell cranks to establish the connection to the control surfaces.

The aileron control system is split between the elements installed in the fuselage and in the wing. Both parts are connected by a connector. This connector is a quick connector to allow the wings to be folded. Checking these quick connectors is part of the preflight check!

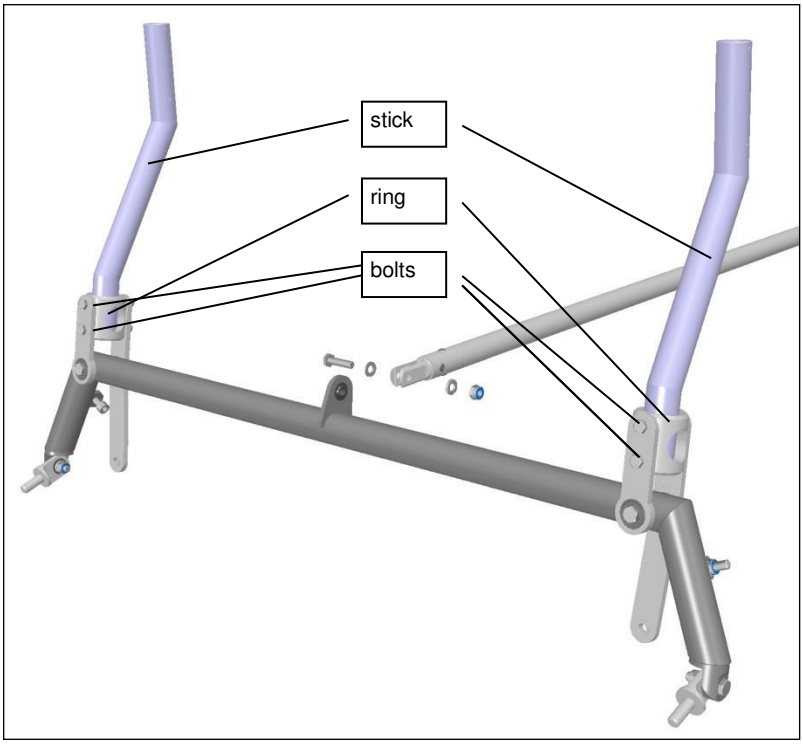
Insecurely connected, improper operation of control surfaces or insecurely locked fasteners will lead to loss of control of the aircraft!!



7 Airplane and Systems Description

flying with only one control stick installed

Under certain conditions it might be favorable to have only one control stick installed. It is permissible to take out the control stick on the passenger side. See section 2 for the definition of the seat of the pilot in command.



Take out the bolts on the side where the stick shall be uninstalled. Take out the stick. Newer aircraft have the trim and PTT buttons wired with a connector so the stick can be left outside the aircraft. In elder aircraft the stick must be stowed safely. Re-install the mounting ring by means of the bolts.

7 Airplane and Systems Description

7.4 Cockpit Overview

general

The REMOS GX is available with several avionic suites. Standard equipment is one DYNON D600 SkyView SE with 7” screen size and a PS Engineering PAR200A radio with integrated intercom.

Optional equipment is a D700 or HDX800 instead of the D600 screen as well as a second one on the right side of the cockpit.

The aircraft may also be equipped with a COM or NAV/COM and separate intercom or audio panel instead of the PAR200A. A choice of GPS is available.

Depending on customer’s order or certification regulations, mechanical backup may also be installed.

Cockpit example

7 Airplane and Systems Description

7.5 DYNON SkyView

versions

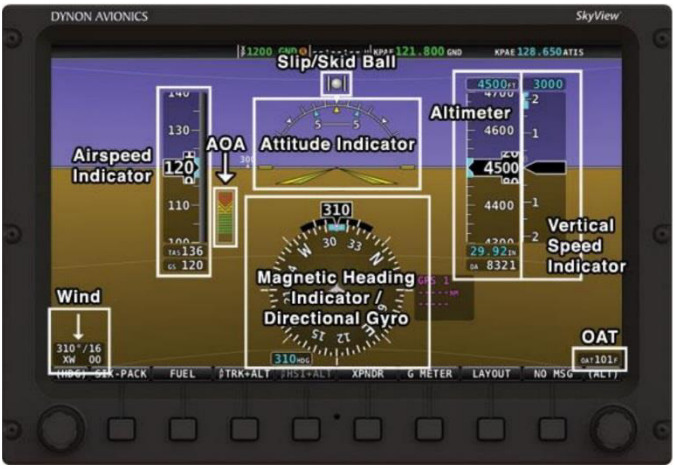
The DYNON SkyView Family is available in three versions:

funktionality	D600	D700	HDX800
HD screen	-	-	●
touch screen	-	-	●
primary flight instrumentation	●	●	●
„six pack“ instrumentation	●	●	●
engine instrumentation	●	●	●
sectional and approach charts	-	●	●
synthetic vision	-	●	●
AoA- and stall-warning	●	●	●
G-meter	●	●	●
ADSB-out transponder	●	●	●
ADSB-in receiver	-	○	○
IFR navigation	-	○	○
timers	-	●	●

- ● standard
- ○ optional
- - not available

7 Airplane and Systems Description

screen of DYNON D600 and D700



Figures show elements. Display may vary in flight

7 Airplane and Systems Description

screen of DYNON HDX800

Figure shows elements. Display may vary in flight

primary instrumentation

The primary flight instrumentation and engine indication are realized by the DYNON SkyView glass cockpit system. This is an integrated system, it includes the “Electronic Flight information Display” and the „Multi-Function Display“. Any primary and secondary flight instruments as well as navigation and engine instruments are shown on the screen. This does not include the fuel tank indication. Although such an instrument is integrated into the SkyView, the primary fuel indication is the fuel sight tube behind the right seat.

standby instrumentation

A dedicated airspeed indicator and altimeter may be installed in the left panel, but the primary instrumentation is the DYNON system.

7 Airplane and Systems Description

operation

This POH can only introduce into the very basic operation of the DYNON SkyView System. The avionic system has a very huge functionality and a detailed description will for sure be beyond the scope of this POH.

For further information please refer to the manufacturer's operating instructions that have been handed over together with the aircraft. The website of DYNON www.dynonavinics.com offers a download link for all manuals and their updates.

The offered functionality of the DYNON SkyView is more than offered and used in the REMOS GX. Therefore, it is possible that the DYNON manual references to functionalities that are not implemented into the REMOS GX.

The guaranteed functionality of the DYNON SkyView system is: airspeed indicator, altimeter, vertical speed indicator, turn- and slip indicator, artificial horizon, trim indication, OAT, HIS incl. CDI and glideslope for ILS approaches. Engine speed, oil pressure, oil temperature, fuel flow, fuel pressure, fuel amount in fuel tank and voltmeter.

NOTE	Although the REMOS GX equipped with the DYNON SkyView system, which is a very capable and reliable avionic suite, please keep in mind that flights in IMC are not permitted as per regulations. IFR flights in VMC may be permitted in certain states, depending on national regulations.

7 Airplane and Systems Description

color code	In aviation it is common to have the HSI pointer displayed green when a VOR or ILS is selected as navigation source. The pointer is magenta when a GPS is selected as navigation source.
joystick	Push, tilt and rotate to select functionality and adjust values, On HDX800, the joystick needs only be rotated and pushed, not tilted.
QNH	Push joystick, tilt up or down to select BARO, then rotate to adjust QNH
layout	The screen split and content can be selected by pressing LAYOUT, then the items to be displayed can be selected, e.g. EMS or PFD. SCREEN changes ratio of split screen, BACK gets you back to main menu.
HSI operation	Select PFD in main menu and the HIS SRC to select navigation source: SKYVIEW is the internal GPS, external GPS is named explicitly, NAV/COM may be selected as well. BACK gets you back to main menu.
adjusting OBS	Select CRS on the joystick, then rotate to select OBS.
adjusting bearing	Select PFD in main menu and then pick bearing source(s) with BRG 1 and/or BRG 2: SKYVIEW is the internal GPS, external GPS is named explicitly, NAV/COM may be selected as well. BACK gets you back to main menu. The yellow or orange pointer in the HSI shows bearing to the selected VOR or to the next GPS waypoint.

7 Airplane and Systems Description

7.6 COM and NAV/COM

PS-Engineering PAR200A

The PS-Engineering PAR200A is a VHF radio with 8.33kHz spacing with integrated intercom. It can manage another radio or NAV/COM (no MKR functionality).

on/off, volume	The PAR200A is switched on and off by pushing the VOL knob. This knob also adjusts volume.
frequency	Frequency is selected with the outer ring and inner selector of the TUNE knob. Frequency selected is displayed in the right of the display. Pressing the TUNE flips standby and active frequency.
monitoring	Pressing N1 for a least 5 seconds enables monitoring of the STB frequency at the same time as the active frequency. Transmission is on active frequency only; audio quality is reduced.
selecting NAV/COM	The PAR200A can manage a second radio or NAV/COM. Selecting a radio from the RCV line allows monitoring to that radio. The intercom will only transmit on radio selected with XMT.
VOX squelch	VOX squelch need not be adjusted as the PAR200A is equipped with IntelliVox technology.

This POH only provides basic introduction and instructions. For detailed data refer to the manufacturer's instruction manual that comes with your plane. The website of PS-Engineering www.ps-engineering.com offers the possibility to download the manuals.

7 Airplane and Systems Description

TRIG TY96/TY96A and TY97/TY97A

The TRIG TY-series are VHF COM transceivers with 8.33kHz or 25kHz (A-suffix) frequency channel spacing. It incorporates a number of functions that save time and effort. The database technology allows to store and recall commonly used or recently used frequencies by an assigned name. All information is displayed prominently on the device's large sunlight-readable LCD display.

on/off, volume	The radio is switched on and off by rotating the left knob. This knob also adjusts volume.
frequency	Frequency is set with the right knob. The large knob adjusts the MHz portion of the standby frequency, and the smaller knob adjusts the kHz portion of the standby frequency. Pushing on it selects 8.33 or 25kHz channel spacing (not on A-models).
flip-flop button	The flip-flop button swaps the frequency in the standby position into the active position, and moves the active frequency to the standby position.
monitoring	Pressing MON enables monitoring of the STB frequency at the same time as the ACT frequency. The radio will only transmit on the ACT frequency. The audio quality is reduced.

This POH only provides basic introduction and instructions. For details refer to the manufacturer's instruction manual that comes with your airplane. The website of TRIG www.trig-avioncs.com offers the possibility to download the manuals.

7 Airplane and Systems Description

GARMIN GTR225A

The GARMIN GTR225 or GTR225A is a VHF COM transceiver with 8.33kHz frequency channel spacing. It incorporates a number of functions that save time and effort. Provide the GTR225 with an airport identifier and it will automatically find its frequency (and vice versa) thanks to a built-in, updateable database. The database technology also allows to store and recall commonly used or recently used frequencies by an assigned name. All information is displayed prominently on the device's large sunlight-readable LCD display.

This POH only provides basic introduction and instructions. For details refer to the manufacturer's instruction manual that comes with your airplane. The website of GARMIN www.garmin.com offers the possibility to download the manuals.

on/off, volume	The radio is switched on and off by rotating the VOL knob. This knob also adjusts volume.
frequency	Frequency is selected with the outer ring and inner selector of the TUNE knob. Frequency selected is displayed in the right of the display. Pressing the flip-flop button ↔ flips standby STB and ACT frequency.
monitoring	Pressing MON enables monitoring of the STB frequency at the same time as the ACT frequency. The radio will only transmit on the ACT frequency. The audio quality is reduced.

7 Airplane and Systems Description

GARMIN GNC255/A

The GARMIN GNC255 or GNC255A is a VHF COM transceiver with 8.33kHz frequency channel spacing and a 200-channel VOR/LOC/GS NAV receiver in one combined housing. The GNC255A also incorporates workload-reducing functions such as automatic decoding of the Morse code station identifier for VOR/LOC/ILS, most-used frequency storage in unit memory, built-in course deviation indicator and more.

The GNC255/A incorporates a number of functions that save time and effort. Provide the GNC255/A with an airport or navaid identifier and it will automatically find all available frequencies (and vice versa) thanks to a built-in, updateable database. The database technology also allows to quickly pull up most frequently or most recently used frequencies. The device even automatically decodes a station's Morse code to provide a positive identification – no aural decoding required.

It offers standby frequency monitoring of NAV and COM providing the capability of two NAV/COMS in one. Standby COM frequency monitoring lets the pilot listen to transmissions like ATIS or the emergency channel without leaving the active frequency.

With the primary VOR/LOC frequency selected as NAV source on the DYNON SkyView, the standby frequency can be tuned to a second VOR to display the current radial on which your aircraft is flying and be displayed as BEARING source on the SkyView. This allows to cross check position fixes with just one receiver, the standby-VOR tuned in serves as an NDB in this case.

7 Airplane and Systems Description

on/off, volume	The radio is switched on and off by rotating the VOL knob. This knob also adjusts volume.
COM/NAV display	Pressing the C/N button changes display of NAV and COM frequencies.
COM frequency	Hit C/N first to select COM frequency band. Frequency is selected with the outer ring and inner selector of the TUNE knob. Frequency selected is displayed in the right of the display. Pressing the flip-flop button ↔ flips standby STB and ACT frequency.
NAV frequency	Hit C/N first to select NAV frequency band. Frequency is selected with the outer ring and inner selector of the TUNE knob. Frequency selected is displayed in the right of the display. Pressing the flip-flop button ↔ flips standby STB and ACT frequency. When GNC225A is selected as navigation source on the SkyView, the NAV STB frequency can be tuned into a second VOR and displayed as bearing on the HSI. In this case the VOR serves as NDB.
listen to NAV ID	By pressing NAV knob the ID of the VOR station or ATIS on NAV frequency can be monitored. Volume can be adjusted by turning the NAV knob.
monitoring	Pressing MON enables monitoring of the STB frequency at the same time as the ACT frequency. The radio will only transmit on the ACT frequency. The audio quality is reduced.

For detailed data refer to the manufacturer's instruction manual that comes with your plane. The website of GARMIN www.garmin.com offers the possibility to download the manuals.

7 Airplane and Systems Description

GARMIN SL40

The GARMIN SL40 is a 760-channel VHF COM transceiver with 25kHz frequency channel spacing. It incorporates active and standby flip-flop frequency tuning. Its frequency monitor function allows to check ATIS or emergency frequencies without leaving the assigned ATC channel

The SL40 is the predecessor of the GARMIN GTR225/A. The functionality is similar. Main differences are that the SL40 has a 25kHz channel spacing only and does not automatically tunes in a station when provided with the station identifier.

GARMIN SL30

The GARMIN SL30 is a 760-channel VHF COM transceiver with 25kHz frequency channel spacing and a 200-channel VOR/LOC/GS NAV receiver in one combined housing. The SL30 also incorporates workload-reducing functions such as automatic decoding of the Morse code station identifier for VOR/LOC/ILS, most-used frequency storage in unit memory, built-in course deviation indicator and more.

The SL30 is the predecessor of the GARMIN GNC255/A. The functionality is similar. Main differences are that the SL30 has a 25kHz channel spacing only and does not automatically tunes in a station when provided with the station identifier.

7 Airplane and Systems Description

7.7 Intercom and Audio Panel

PS-Engineering PMA8000BT/i

This is an audio panel with marker beacon receiver. It incorporates audio-in capability with several muting modes. The audio panel may be used with mono or stereo headsets.

A common volume knob is provided for left and right seat. Setting squelch is not required as the audio panels incorporate INTELLI-VOX that adjusts squelch automatically.

on/off, volume	The audio panel is switched on and off by pushing the VOL knob. This knob also adjusts volume.
selecting NAV/COM	The PMA8000BT/i can manage two radios or NAV/COM. Selecting a radio from the RCV line allows monitoring to that radio. The audio panel will only transmit on radio selected with XMT.
VOX squelch	VOX squelch need not be adjusted as the PMA8000BT/i is equipped with IntelliVox technology.
intercom VOX	Intercom VOX volume is adjusted by turning the outer ring of the VOL knob.

This POH only provides basic introduction and instructions. For detailed data refer to the manufacturer's instruction manual that comes with your plane. The website of PS-Engineering www.ps-engineering.com offers the possibility to download the manuals.

7 Airplane and Systems Description

GARMIN GMA240/245

The Garmin GMA240 and GMA245 are intercom with audio-in capability. Marker beacons cannot be received. Left and right volume and squelch can be adjusted separately.

The GARMIN GMA240 is a Stereo intercom designed to be used in combination with stereo headsets. The wiring of the aircraft is designed to use stereo headsets, too.

If mono headsets are plugged in, the signal for the right channel will short out with ground. The jacks in the REMOS GX do not provide an automated shutdown of the right channel if mono headsets are plugged in.

Shorting out the right channel with ground may lead to damage of the intercom, as described in the GARMIN GMA240 manual. Furthermore, the radio may be damaged. Therefore, only use stereo headsets. If you own mono headsets only and want to continue to use them, use adaptors from the mono jack to the stereo connector. Be sure that those connectors do not short out signal and ground. Adaptors such as this may be obtained at local commercial electronics distributors. The intercom may be damaged, too, if the headset is

7 Airplane and Systems Description

plugged in or pulled or out while the intercom is switched on. Always shut down the intercom when connecting or disconnecting headsets. From SN378 on all aircraft are equipped with stereo/mono switches. In this case mono headsets are approved without any adaptors. Make sure the stereo/mono switch is in the correct position, otherwise you still may damage the intercom. Also make sure that the intercom is switched off when you plug in or pull out the headsets.

NOTE	The warranty does not apply if the intercom or the radio fail when using mono headsets without the appropriate stereo/mono adaptor, during operation with the incorrect position of the stereo/mono switch or when plugging in or disconnecting headsets while the intercom is switched on.

on/off, volume	The intercom is switched on and off by hitting the VOL knob. This knob also adjusts volume.
selecting NAV/COM	The GMA245/245 can manage two radios or NAV/COM. Selecting a radio from the upper line allows monitoring to that radio. The audio panel will only transmit on radio selected with MIC.
VOX squelch	VOX squelch is adjusted by rotating the outer ring of one of the knobs. On the GMA245 VOX squelch need not be adjusted as it is equipped with auto-squelch technology.
intercom VOX	Intercom VOX volume is adjusted by turning one of the inner knobs.

For detailed data refer to the manufacturer's instruction manual that comes with your plane. The website of GARMIN www.garmin.com offers the possibility to download the manuals.

7 Airplane and Systems Description

GARMIN GMA340

This is an audio panel with marker beacon receiver. It incorporates audio-in capability with several muting modes. The audio panel may be used with mono or stereo headsets. Volume for left and right seat can be adjusted separately. Music can be fed into the audio system via the music-in jack in the center console.

on/off, volume — The audio panel is switched on and off by pushing the VOL knob. This knob also adjusts volume for the left seat. Volume for the right seat is adjusted by rotating the inner ring of the right VOL knob.

selecting NAV/COM — The GMA340 can manage two radios or NAV/COM. Selecting a radio from the upper line allows monitoring to that radio. The audio panel will only transmit on radio selected with MIC.

VOX squelch — VOX squelch is adjusted by rotating the outer ring of one of the knobs.

For detailed data refer to the manufacturer's instruction manual that comes with your plane. The website of GARMIN www.garmin.com offers the possibility to download the manuals.

7 Airplane and Systems Description

7.8 GPS Equipment

GARMIN GPSMAP series

The GPSMAP series by Garmin are navigation aids with color screen, operated by discrete buttons. The GPS is switched on automatically once the ignition key is set to AVIONIC.

GPSMAP495/496

GPSMAP695/696

Basic operation is done by following icons:

NRST	shows nearest airfields
ENTER	acknoleges selected menu item
QUIT	aborts actual action
MENU	opens menu for programming
OUT / IN	allows zooming

For detailed data refer to the manufacturer's instruction manual that comes with your plane. The website of GARMIN www.garmin.com offers the possibility to download the manuals.

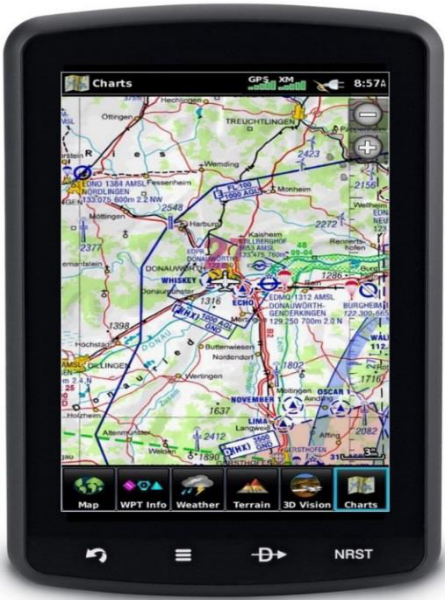
7 Airplane and Systems Description

GARMIN aera660 and aera series

The GPS aera series by Garmin are prime class navigation aids with brilliant color screen and touch operation. The GPS is switched on automatically once the ignition key is set to AVIONIC.

aera 5xx series

aera660



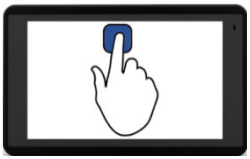
aera 796

This POH only provides basic introduction and instructions. For details refer to the manufacturer's instruction manual that comes with your airplane. The website of GARMIN www.garmin.com offers the possibility to download the manuals.

7 Airplane and Systems Description

Following gestures operate the GPS:

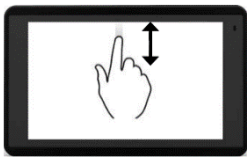
select



zoom

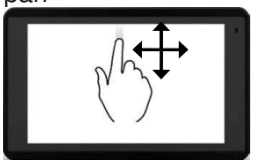
zoom in

scroll



zoom out

pan



Basic operation is done by following icons:

MAP	shows sectional map
NEAREST	shows nearest airfields
DIRECT TO	enabled direct navigation to airfield selected
FPL List	shows active flightplan and allows programming
ZOOM	allows zooming

7 Airplane and Systems Description

FlymapL

This GPS is the top-end equipment offered in the REMOS GX. It relies solely on touchscreen operation. Tap and hold on a map item and a context menu opens.

Operating the FlymapL is self-explanatory, when keeping in mind that tapping and holding on a map item opens a context menu opens. This includes generation of waypoints and activation of approach charts.

Tap on the screen and the tapped position is the new center of the map. Tapping in the center of the screen centers the map on the current position of the aircraft.

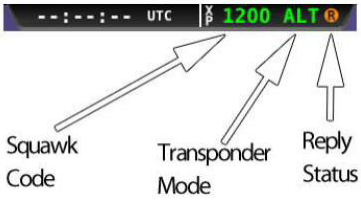
This POH only provides basic introduction and instructions. For details refer to the manufacturer's instruction manual that comes with your airplane or visit www.flymap.net.

7 Airplane and Systems Description

7.9 Transponder

DYNON D600/D700

The top bar displays the transponder status as shown below:



To set the transponder hit the softkey XPNDR from the main menu. The XPDR menu will now show up as follows:

GND	turns on ground mode, pressing the softkey again will put the transponder into standby mode
ON	activates Mode A, pressing the softkey again will put the transponder into standby mode
ALT	activates Mode A/C/S incl. ADS-B out, pressing the softkey again will put the transponder into standby mode
CODE	allows to enter a squawk
VFR	squawks VFR
IDENT	squawks ident
BACK	steps back to main menu

NOTE	With a GPS antenna DYNON SkyView SV-GPS-2020 and the transponder SV-XPNDR-261 installed, the transponder fulfils the FAA ADS-B 2020 mandate.

7 Airplane and Systems Description

DYNON HDX800

The top bar displays the transponder status as shown below. To set the transponder touch into the top bar in the area that displays the transponder status. The XPDR control page will appear as follows:

IDENT	squawks ident
VFR	squawks VFR
BACKSPACE	erases the last input (ued for correcting squawk)
0…7	enter squawk
SBY	puts the transponder into standby mode
GND	turns on ground mode
ON	activates Mode A
ALT	activates Mode A/C/S incl. ADS-B out
X	closes the menu

NOTE	With a GPS antenna DYNON SkyView SV-GPS-2020 and the transponder SV-XPNDR-261 installed, the transponder fulfils the FAA ADS-B 2020 mandate.

7 Airplane and Systems Description

7.10 Autopilot

The autopilot of the DYNON system allows holding and changing altitude, and RNAV, i.e. flying along GPS track, GPS waypoint flightplan or along a radial of a VOR (ILS is a special version of a VOR with just one radial).

In the version as offered by REMOS, the autopilot does not offer VNAV, it can only hold or change a selected altitude. The autopilot does not provide vertical guidance on an ILS or GPS-based LPV approaches.

NOTE	Be responsible when flying with autopilot. The aircraft is not approved for flying in actual IMC.

NOTE	The autopilot does not look on a map or looks out of the window. The pilot in command is responsible for correct navigation (airspaces, obstacles, terrain!!!)

Engaging the autopilot always follows the procedure below:

1. decide for an autopilot mode
2. select navigation source
3. set up navigation source
4. select autopilot mode
5. engage autopilot

7 Airplane and Systems Description

autopilot modes

The DYNON autopilot has two modes:

1. track and altitude (TRK+ALT)

   The autopilot keeps your selected altitude, climbs or descents to it and follows a given ground track. Setting up or even select a navigation source is not required.

   Track hold keeps the aircraft flying in a particular direction, as determined by GPS's ground track, or direction of travel over ground. This target is reflected by the track (TRK) bug in the HSI. When the autopilot is engaged, the TRK bug will automatically be synchronized to the current ground track of the aircraft. Effectively, this means that the autopilot will keep flying in the same direction that the aircraft was flying in the moment before the autopilot was engaged. After the autopilot is engaged, change the track you want the autopilot to fly by adjusting the TRK bug.

   Altitude hold mode keeps the aircraft flying at a particular altitude. The altitude that the autopilot holds is governed by the altitude (ALT) bug. When the autopilot is initially engaged, the ALT bug will automatically by synchronized to the current altitude. Effectively, this means that the autopilot will maintain the altitude that the aircraft was at the moment before the autopilot was engaged. The altitude that the autopilot holds may be adjusted with the ALT bug.

2. HSI and altitude (HSI+ALT)

   The autopilot keeps your selected altitude, climbs or descents to it and follows a given navigation source. A navigation source must be set up, i.e. either a VOR/ILS needs to be tuned in and a radial need to be selected, or a GPS waypoint flightplan must be set up. In case no navigation source is selected AND set up, this mode cannot be selected.

   In HSI mode, the autopilot will fly the lateral course guidance that is displayed on the HSI from the provided source. For

7 Airplane and Systems Description

example, is the selected HSI source is the SkyView GPS, and there is an active flightplan, the autopilot will fly that flightplan. Or if the source is a VOR, the autopilot will seek to capture and hold the set radial to or from the VOR.

Altitude hold mode keeps the aircraft flying at a particular altitude. The altitude that that autopilot holds is governed by the altitude (ALT) bug. When the autopilot is initially engaged, the ALT bug will automatically by synchronized to the current altitude. Effectively, this means that the autopilot will maintain the altitude that the aircraft was at the moment before the autopilot was engaged. The altitude that the autopilot holds may be adjusted with the ALT bug.

navigation sources

A navigation source is the means of lateral (read: left and right steering) navigation for the autopilot. The following navigation sources are available:

1. internal DYNON SkyView GPS
   This is always available, no matter what COM, NAV/COM or external GPS is installed. With a waypoint flightplan set up (even direct-to is a flightplan), the autopilot can follow this planned flight.

2. external GPS
   In case an external GPS is installed in the center stack, this GPS can be used as navigation source. With a waypoint flightplan set up (even direct-to is a flightplan), the autopilot can follow this planned flight.

3. navigation radio
   In case a NAV/COM is installed, this can be used as navigation source. The autopilot can navigate along a radial of a tuned VOR (remember: an ILS is a special version of a VOR with one single radial only).

7 Airplane and Systems Description

control wheel steering

When the autopilot is engaged, press and hold the AP/DISC button on the control stick to put the autopilot into control wheel steering mode.

While control wheel steering mode is active, the autopilot servos are temporarily disengaged. This lets you fly the aircraft by hand for short periods to make an adjustment to the autopilot's targets without completely disengaging the autopilot.

When the disconnect switch is released, the autopilot's targets are adjusted as follows:

TRK+ALT mode

- pitch axis
  The ALT bug and therefore the autopilot's altitude target is synchronized with the aircraft's current altitude.

- roll axis
  The TRK bug and therefore the autopilot's track target is synchronized with the current GPS track.

HIS+ALT mode

- pitch axis
  The ALT bug and therefore the autopilot's altitude target is synchronized with the aircraft's current altitude.

- roll axis
  No change, the roll axis resumes tracking its HSI source.

hold to engage

When the autopilot is not already engaged, press and hold the AP/DISC button on the control stick will place the autopilot into hold to engage mode. The top bar annunciates REL TO ENG (release to engage) while the AP/DISC button is held.

7 Airplane and Systems Description

Then the AP/DISC button is released, the autopilot engages in TRK+ALT mode. TRK and ALT are synchronized to the aircraft's current GPS ground track and altitude.

selecting a navigation source

From the main menu select PFD to open the PFD menu, then hit HSI SCR to cycle the HSI through the different navigation data sources that are connected to the SkyView system. Other than SKYVIEW, which is the system's internal GPS, these are all external navigation devices: external GPS or NAVCOM. The name of the selected navigation source is displayed right of the HSI.

main menu

PFD menu

selecting autopilot mode

Open the autopilot menu from the main menu by pressing the button AUTOPILOT. Now the different modes of the autopilot may be selected.

main menu

autopilot menu

BACK	gets you back into the main menu
OFF	disengages autopilot
TRK+ALT	Engages autopilot in track and altitude mode. Subsequent presses of this button disengages the autopilot again. To disengage the autopilot you may also hit the AP/DISC button on the control stick.

7 Airplane and Systems Description

HSI+ALT — Engages autopilot in HSI and altitude mode, this requires to select and set up a navigation source first, otherwise this softkey is greyed out. Subsequent presses of this button disengages the autopilot again. To disengage the autopilot you may also hit the AP/DISC button on the control stick.

LEVEL — Press the LEVEL button to engage the autopilot in level mode. For safety in emergency situations, subsequent presses of this button do not disengage the autopilot. To disengage the autopilot, press the OFF button or hit the AP/DISC button on the control stick, or switch to the autopilot modes TRK+ALT or HSI+ALT.

180° — Pressing the 180° initiates an autopilot-controlled 180 degree left turn from the current track while maintaining the current altitude. After the turn, the autopilot is in TRK+ALT mode. To disengage the autopilot, hit TRK+ALT, OFF or you may also hit the AP/DISC button on the control stick.

NOTE	The 180° mode will always initiate a LEFT turn.

7 Airplane and Systems Description

adjusting altitude

Click on one of the joysticks or kick it up or down and then select the ALT bug by either rotating the joystick or clicking up or down. Once the ALT bug is selected, adjust the bug and therefore altitude by rotating the joystick.

In case there is not sufficient power set for a climb, the autopilot will not pull on the elevator until stall. Furthermore, below a pre-set speed, the autopilot gives up the climb command in favor of airspeed.

In case there is too much power set for a descent, the autopilot will not push on the elevator until airspeed exceeds VNE. Furthermore, beyond a pre-set speed, the autopilot gives up the descent command in favor of airspeed.

adjusting GPS track over ground

Click on one of the joysticks or kick it up or down and then select the TRK bug by either rotating the joystick or clicking up or down. Once the TRK bug is selected, adjust the bug and therefore course over ground by rotating the joystick.

selecting radial (OBS)

Click on one of the joysticks or kick it up or down and then select the CRS by either rotating the joystick or clicking up or down. In case a VOR station is tuned in, the radial can be selected.

NOTE	An ILS is a special version of a VOR with one radial only, that cannot be selected.

NOTE	CRS is available only in HSI+ALT mode with a VOR station tuned in.

7 Airplane and Systems Description

7.11 Inflight Entertainment

The aircraft is equipped with a 3.5mm jack for feeding in audio signals for inflight entertainment. Any audio source can be connected to this jack in the switchboard, just right of the power lever.

Except for the GARMIN GMA340, all intercom or audio panels allow coupling a cellphone, either direct via BLUETOOTH® or by a special cable that needs to be plugged in directly into the intercom. Once the cellphone is coupled with the aircraft audio system, telephone calls may be placed in flight, depending on reception and coverage of the telephone provider.

WARNING	Listening to music and/or telephone calls during flight may lead to inattention. Take care that you are always aware of the situation of the flight and stay ahead of the aircraft. If in doubt, switch off the audio entertainment, especially during take-off, landing and while talking with ATC, and refrain from using the cellphone.

WARNING	National regulations may apply or using cell phones on board of aircraft.

GARMIN GMA240/245 intercom

Activate the audio-in signal by pressing “MUSIC” and then selecting “♫ 1”. To adjust the volume, pull the right knob and rotate it. In addition to that the GMA245 incorporates BLUETOOTH ® interface to link your cellphone or iPhone® without additional cables.

NOTE	The audio signal will not fade if a radio call comes in or when the pilot and copilot talk to each other. Audio is faded only during alerts by the Dynon System. The music is not transmitted during radio calls.

7 Airplane and Systems Description

GARMIN GMA340 audio panel

Limited audio functionality is provided on aircraft equipped with only the GMA 340. GPS and audio-in cannot be put through the intercom at the same time. If audio is played, the 3.5mm jack of the Garmin GPS must be disconnected. Take out the GPS from the AirGIZMO, disconnect the audio wire and reinstall the GPS in the AirGIZMO.

NOTE	The audio signal will fade each time a radio call comes in or out, during alerts by the Dynon System and when the pilot and copilot talk to each other. Music is not transmitted during radio calls. The GPS will not put out any warnings or alerts if its audio wire is disconnected.

PS-Engineering PAR200A or PMA8000BT/i

These devices incorporate a BLUETOOTH® interface to link your cellphone or iPhone® without additional cables. Select BLUETOOTH coupling on your phone. The device is named PAR200A or PMA8000. The access code is 0000.

Muting modes may be selected as preferred: no muting, muting during radio call, muting during intercom or always muting.

7 Airplane and Systems Description

7.12 Engine Operation

center stack

The ignition and starter keylock is located in the lower part in the center stack; positions are off – left magneto – right magneto – both magnetos – start.

The throttle console in the center stack features a friction lock.

left panel

Carburetor heating is activated by pulling the yellow knob on top

The oil temperature control is installed in the middle position. Push to increase temperature, pull to decrease temperature. When the aircraft is equipped with an oil thermostat instead of an oil cooler flap, this knob is not installed.

Pull the green knob to choke the engine.

The dual throttle control is located in the lower position. The left throttle lever does not feature a friction lock.

7 Airplane and Systems Description

7.13 Electric System

general

The electrical system of the REMOS GX is powered by a generator, which is capable of 250W at engine speeds of at least 4,000 RPM. At lower engine speeds the output of the alternator is lower. Below a certain engine speed, the alternator is not able to support the power demand for all electrical equipment. The exact engine speed is not easily defined and varies based on the equipment installed. The critical engine speed is around 2,500 RPM.

If your REMOS GX is operated in an environment where you have long taxiways or you operate the aircraft for prolonged time with low RPM, switch off electrical equipment that are not essential in order to conserve battery power. The following table gives an overview of the power consumption of your electrical equipment.

consumer	average power consumption [W]	average current @ 12V [A]
DYNON SkyView SV-D700 (each)	28	2,3
DYNON SkyView SV-ADAHRS-200	1	0,1
DYNON SkyView SV-EMS-220	1	0,1
DYNON SkyView SV-GPS-250	1	0,1
DYNON SkyView SV-XPNDR-261	4	0,3
DYNON SkyView SV-32 (each)	17	1,4
GARMIN SL30 (standby)	11	0,9
GARMIN SL30 (TX)	50	4,2
GARMIN GNC255A (standby)	44	1,2
GARMIN GNC255A (TX)	65	5,4
GARMIN SL40 (standby)	5	0,4
GARMIN SL40 (TX)	40	3,3
GARMIN GTR225A (standby)	7	0,6
GARMIN GTR225A (TX)	50	4,2
GARMIN aera500	6	0,5
GARMIN GPS-696	13	1,1
FlymapL	42	3,5
intercom / audio panel	5	0,4
fuel pump	17	1,4

7 Airplane and Systems Description

consumer	average power consumption [W]	average current @ 12V [A]
instrument lighting	6	0,5
aeroLEDs position lights	40	3,3
aeroLEDs landing lights	24	2,0
flap motor	4	0,3
trim Motor	25	2,1
external receptacle	12	1,0

The aircraft is equipped with an ammeter, so the energy balance can be read. The ammeter is installed in a way that only the current into and out of the battery is indicated. Below the critical engine speed, the battery will be discharged, indicated by negative current. When reaching the critical engine speed, the indicated current will become zero. Above that speed the battery is charged, indicated by positive current.

NOTE	With engine idling or when taxiing with low RPM the alternator is definitely not able to cover the electric power consumption and the battery will be discharged.

aircraft battery capacity

The aircraft battery on the REMOS GX has a high responsibility regarding a reliable electric system.

Use min. 6Ah for any equipment.

Installation of battery with higher capacity than minimum specified is acceptable and recommended.

7 Airplane and Systems Description

aircraft battery type

Use approved battery types only. Only lead acid (AGM type preferred) and LiFePO4 batteries are approved by REMOS.

NOTE	Installation of NiCd, NiMH, Li-Ion or Li-Po is prohibited!

NOTE	Please refer to REMOS Service Bulletin SB-013 for further information.

LiFePO4 batteries require a voltage regulator and an overvoltage protection made by SCHICKE electronics. LiFePO4 batteries should preferably have an integrated battery management system for balancing, overload protection and deep-discharge protection. LiFePO4 batteries must comply with UN Manual of Test and Criteria, Part III, Subsection 38.3 (abbreviated: UNT38.3).

recommendations

Charge your battery on a regular basis, especially in the cold time of the year. Take care to use the correct charger. In case a LiFePo4 battery is installed, be aware that this type of battery needs a special kind of charger. To avoid damage to the battery, do not use inappropriate or inexpensive chargers. Contact REMOS for recommendations of appropriate charging systems.

Take the battery out of the aircraft in winter time if you do not fly and stow it in a dry place at room temperature. Aircraft owners that operate their REMOS GX throughout the entire year, even in the cold winter time, or on airfields with long taxi distances, are strongly recommended to use a battery with a higher capacity than the minimum specified.

7 Airplane and Systems Description

aircraft battery specification

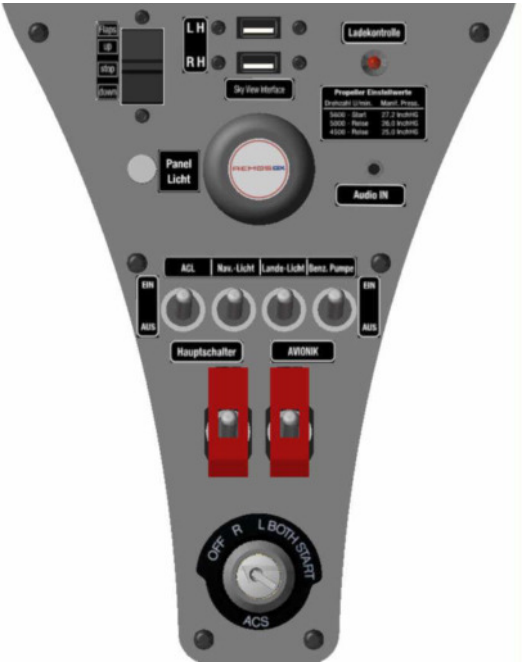
lead battery specification	
cold cranking amps	min. 150 A
battery type	starter lead battery (AGM preferred)
example	Hawker Odyssey PC545 Hawker Genesis 12EP13

lithium battery specification	
cold cranking amps	min. 150 A
battery type	LiFePO4
minimum battery equipment	overload protection overvoltage protection overtemperature protection under voltage protection cell balancing self-contained housing with vent
example	EarthX ETX900VNT

7 Airplane and Systems Description

switchboard

All controls of the REMOS GX are located at the central control panel. All switches are clearly labeled.



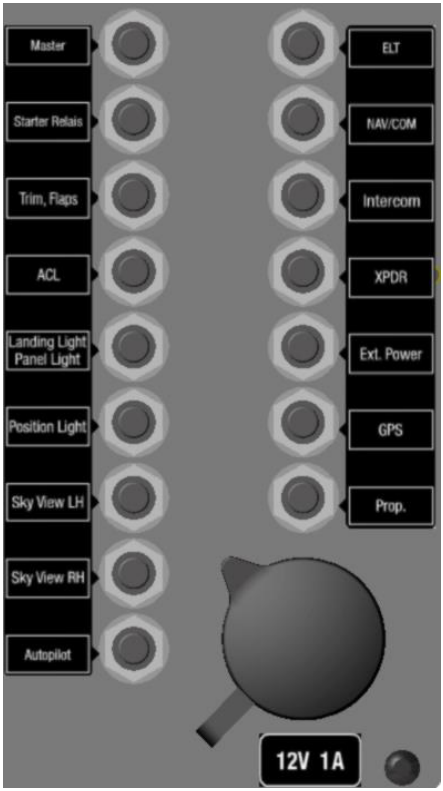
The switch panel incorporates the following:

- Switch for ACL
- Navigation lights
- Switch for landing lights
- Switch for fuel pump
- Throttle lever with locking device
- Charging indicator light of the generator
- Master and avionics switches
- USB sockets
- Dimmer LED Cockpit
- Audio connection

7 Airplane and Systems Description

circuit breakers

The electrical system of the REMOS GX consists of a BUS system, split into master-BUS and avionics-BUS. All electrical components are protected with circuit breakers (CB). The fuse for the charge control check light is located behind the switch panel. An additional fuse for charging and for the regulator is located in front of the firewall, beneath the battery bracket.



If a CB has been released, the black knob points out; in addition to this a white ring is visible. To reset the CB, push in the knob. To release a CB manually, push on it.

7 Airplane and Systems Description

7.14 Heating and Ventilation

The upper corners of the windscreen may feature fresh air nozzles. These nozzles can be adjusted in outlet direction. Airstream is adjusted by rotating the front ring.

Small vents are installed in the door windows. Pulling back the small handle allows opening the vents in two steps.

The right panel features heating and fresh air control. Pull on the knobs and adjust temperature and airflow until comfortable.

7.15 Flaps

Flaps on the REMOS GX can be selected at any position between 0° and 40° with the flap selector switch in the center stack, position of the flaps is displayed in the SkyView system:

- Hold down the flap selector switch to select flap setting. Letting the switch go stops deploying flaps and keeps them in the selected position.

- Selecting the upper position of the flap selector switch will retract flaps completely. Retraction can be interrupted by manually switching into the middle position of the flap selector switch.

Maximum speed is limited depending on flap setting, see section 2.

7 Airplane and Systems Description

7.16 Cockpit Lighting

The REMOS GX cockpit features an effective LED panel lighting system, which can be dimmed independently from the instrument lights. It is a dazzle-free system designed for Night-VFR use.
The system is activated and dimmed by means of the control knob located on the center stack left of the power lever.

7.17 External Lights

The external lighting system consists of nav-lights, anti-collision lights (strobes) and a landing light. All external lights can be switched on and off by dedicated switches on the switchboard in the center stack.

NOTE	It is highly recommended to have all external lights switched on during the entire flight, no matter of weather conditions or daylight. Opposing traffic can identify the REMOS GX way better with lights on instead of having them switched off.

7.18 Seats

The seats can be installed in three different positions. The more forward the seat is installed, the higher is the seating position.

To take out the seat, press in the release knob underneath the seat close to the door about 1…2 inches. Now the seat can be lifted on its outboard side and pulled out to the door.

Installation of the seat is done in reverse order. Slide in the two arresting pins of the seat into the desired position in the center console, push the release knob and push the seat down into its rail at the door. The seat taches once the release knob is released.

NOTE	Always check that the seats are safely locked.

7 Airplane and Systems Description

7.19 Baggage and Luggage

Place light luggage below the luggage nets behind the seats. Larger baggage must be stowed in the baggage compartment behind the pilot seat. It is accessible with the pilot seat taken out.

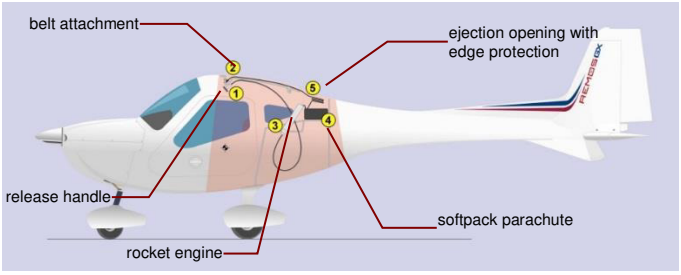
Even if volume permits, the max. baggage is defined by weight, see section 2.

7.20 Recovery System

The recovery system must be installed according to the approved procedures. The belts of the system are attached to the wing's main spar attachment fittings. They are protected against environmental conditions and are maintenance free. A check is neither required nor possible, as the belts are hidden within the airplane's structure.

The main belt is hanging inside the cabin. In case of an installed recovery system the parachute is connected to this belt by means of a snap hook.

NOTES	Any modification of the installation of the recovery system and any of its components is not authorized and will immediately lead to loss of certification of the airplane. Maintenance during the annual condition inspection must be performed according to the recovery system manufacturer's handbook.

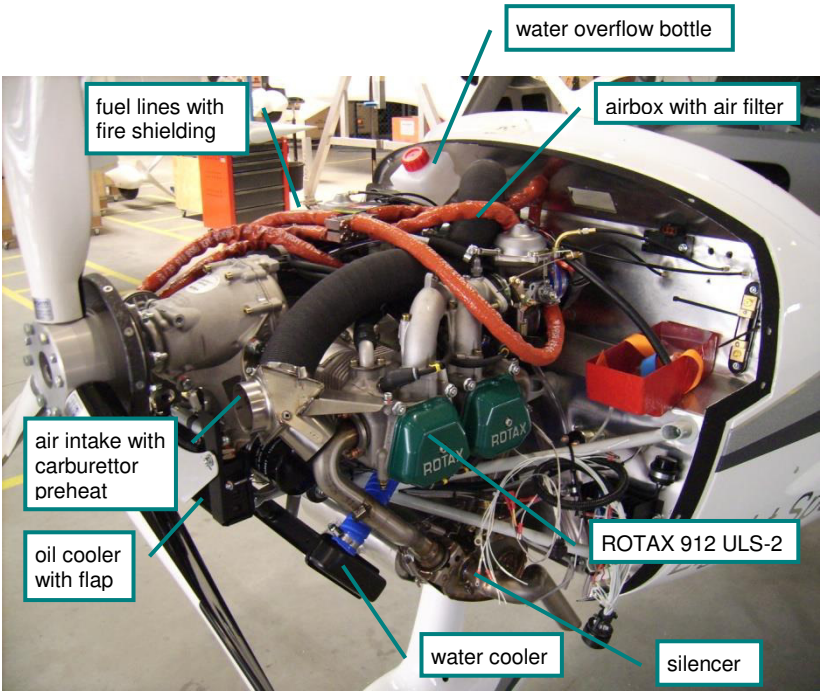


7 Airplane and Systems Description

7.21 Engine

The engine used on the REMOS GX is the ROTAX 912 ULS-2, which complies with ASTM F2239.

The engine is a 4 stroke, 4 cylinder horizontally opposed, duel carbureted, twin spark ignition engine with one central camshaft, pushrods and overhead valves. Cylinder heads are liquid cooled, the cylinders itself are cooled by ram air. Oil system is a dry sump with external oil reservoir.



7 Airplane and Systems Description

7.22 Propeller

The aircraft may be equipped with one of the following propellers, that comes with individual instructions:

manufacturer	type and number of blades
1. Sensenich	1. 2A0R5R70EN 2-blade, composite
2. Neuform	2. CR3-65-47-101,6 3-blade, composite

7.23 Fuel System

The fuel system of the REMOS GX consists of the following components:

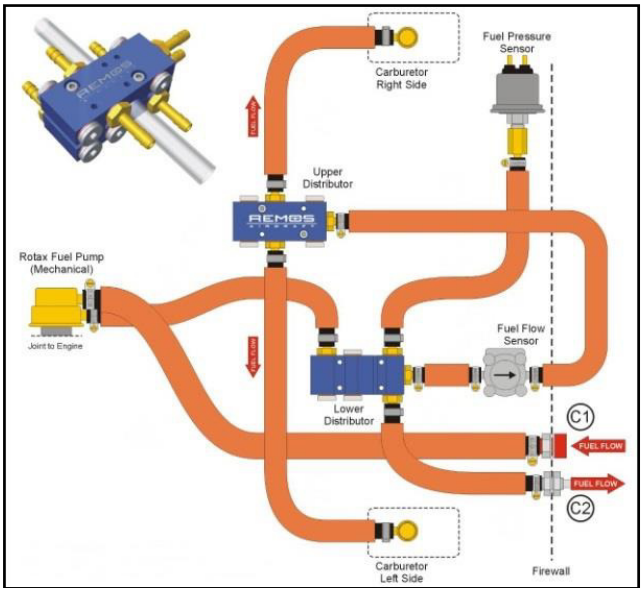
- filler neck (lockable and non-lockable versions available)
- fuel tank (see section 2 and 7 and NOT-001 for fuel grades)
- fuel drainer
- fuel lines
- fuel pump
- fuel shut-off valve
- fuel divider
- fuel return line

7 Airplane and Systems Description

overview of airframe sided fuel system

7 Airplane and Systems Description

fuel shut-off valve



engine sided fuel system

Fuel is fed from the fuel tank to the electric fuel pump. This pump is a boost pump that sets the fuel system under pressure and reliably prevents any tendency for vapor lock.

7 Airplane and Systems Description

Through the fuel shut-off valve and the firewall, the fuel is routed towards the fuel divider. This unit provides ports for measuring fuel pressure and fuel flow and feeds the carburetors.

NOTE	With the fuel shut-off valve closed no fuel is fed to the engine and the engine will fail due to fuel starvation. It is recommended to always keep the fuel valve open. The fuel shut-off valve is a safety item to shut off the fuel in emergency situations and need not be closed for parking or hangaring.

NOTE	In case of a low fuel pressure warning cross check with fuel flow. As long as fuel flow gives reasonable indication, the reason for the warning is most probably found in the fuel pressure sensor or its sensing hose. Vice versa the same applies for the fuel flow sensor.

NOTE	It is recommended to keep the electric fuel pump switched on during the entire flight.

NOTE	Service with permitted fuel grade only and regularly drain the aircraft fuel system

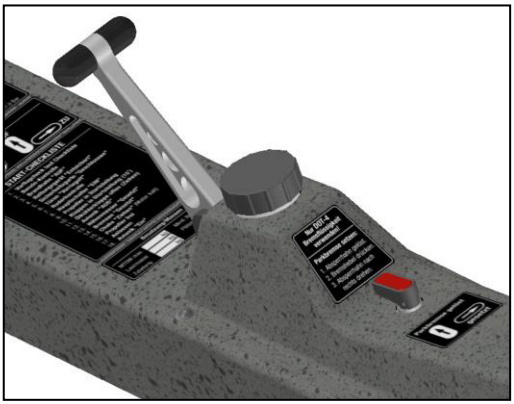
For further information see maintenance manual section 12.

7 Airplane and Systems Description

7.24 Braking System

The braking system of the REMOS GX consists of the following components:

- reservoir
- master cylinder
- parking brake valve
- brake lines
- brake cylinder, brake disc and brake pads



master cylinder with reservoir and parking brake valve

By pressing on the brake lever pressure is built up and is fed simultaneously through the bake lines to the left and right brake cylinders. For setting the parking brake press on the brake and whilst that turn the parking brake valve.

NOTE	Once the parking brake is set, additional braking is not possible. Be sure to always apply enough brake pressure before setting the parking brake and never taxi with the parking brake set.

NOTE	Change brake pads early enough, otherwise the brake cylinder my slide out of its housing and the brake is damaged.

7 Airplane and Systems Description

7.25 Special Equipment and Customizing

The aircraft may be equipped with special or additional equipment on customer's demand. The installation of this equipment must be approved by REMOS and listed in the equipment list.

Avionics other than those mentioned in this manual may be installed on customer's demand. These avionics systems may replace the equipment mentioned in this manual in part or whole. The installation of this equipment must be approved by REMOS and listed in the equipment list.

For operating instructions please refer to the manuals belonging to the equipment installed.

NOTE	The owner of the aircraft is responsible to keep the aircraft airworthy and comply with all applicable regulations.

REMOS

REMOS GX

POH Supplement – Flight Training

Supplement Flight Training

Table of Content

1 Introduction

This chapter should enable you to familiarize yourself with the flight performance and flight characteristics of the REMOS GX. To complete these instructions, please refer to the appropriate sections in the POH.

The following pages describe flight characteristics experienced during various flight configurations and weather conditions:

- Take-off
- Climb
- Cruise
- Stall
- Slip
- Glide
- Descent
- Approach
- Touch down

NOTE	This chapter was introduced as an additional guide to experience the capabilities of the aircraft. It is not a substitute for flight school training! If you are not yet familiar with the aircraft, we strongly recommend that you follow these instructions only when accompanied by a skilled flight instructor.

NOTE	This supplement does not provide checklists or substitutes checklists given in the main part of the pilot operating handbook. This supplement gives additional information on how to handle the aircraft.

NOTE	This POH may only be used for aircraft SN429 or higher or with REMOS notification NOT-014 implemented.

2 Take-Off

Take-off under normal conditions

1. After the pre-flight check has been completed, buckle up, warm up the engine and line up on the active runway. Keep flaps up. Take-off may also be performed with flaps 15deg, but this leads to higher pilot workload and the slightly shorter take-off distance with flaps 15deg is often not a limiting criterion.
2. Ensure that the elevator trim is in the correct position (green line on the trim indicator or about mid position).
3. Whenever possible, take-off directly into the wind. The maximum demonstrated crosswind component is 15 kts.
4. Smoothly apply full throttle (fully forward) and maintain runway heading.
5. As the aircraft accelerates, gently pull back on the control stick to raise the nose slightly until the aircraft becomes airborne at about 50 kIAS.
6. Once airborne, slowly release the back pressure on the control stick to allow the airspeed to increase to airspeed of best rate of climb, i.e. 60 kIAS. Maintain this speed and avoid making any climbing turns until a sufficiently safe altitude has been reached.
7. When at safe altitude, retract the flaps (if they were deployed).

Take-off under tailwind conditions

Similar to normal take-off except that the take-off distance will be significantly longer and the climb angle will be drastically reduced. Ensure that you determine the take-off distance required to ensure you have sufficient runway length prior to take-off.

Take-Off in rain or with a dirty aircraft

Surface conditions, high density altitude and temperatures, raindrops and bugs affect the performance of the aircraft. Be aware that in these conditions the performance figures will not meet the published figures, as they apply to a clean aircraft under standard atmospheric conditions. Expect a significant drop in performance.

3 Climb

Climb with Best Angle of Climb

With engine set to full power, establish V_X = 50 kIAS for all flap settings. At this airspeed the aircraft will achieve the steepest angle of climb. During climb it is essential to monitor oil and water (CHT) temperatures. Adjust the oil temperature regulation flap as required.

Climb with Best Rate of Climb

With engine set to full power, establish V_Y = 60 kIAS for all flap settings. At this airspeed the aircraft will achieve the best rate of climb. During climb it is essential to monitor oil and water (CHT) temperatures. Adjust the oil temperature regulation flap as required.

Climb while in cruise

If you wish to climb in cruise, select an airspeed between 70 to 80 kIAS. At these speeds, the aircraft will climb between slower than best rate of climb due to the higher airspeed.

NOTE	It is strongly recommended that you monitor oil and water (CHT) temperatures. Under no circumstances should any of the engine temperature limits be exceeded, otherwise, an engine failure may result.

Climb in rain or with a dirty aircraft

Raindrops and bugs affect the performance of the aircraft. Be aware that in these conditions the performance figures will not meet the published figures, as they apply for a clean aircraft under standard atmospheric conditions. Expect a performance loss of 10% to15%.

4 Cruise

Normal cruise

An economical cruise is flown at engine speeds of 4,400 RPM to 5,000 RPM. With the Sensenich or Neuform propeller this will result in airspeeds between 85 kTAS and 100 kTAS with a fuel flow between 4 and 5.5 gph

High speed cruise is done with engine speeds between 5,000 RPM and 5,400 RPM. With the Sensenich or Neuform propeller this will result in airspeeds between 100 kTAS and 115 kTAS with a fuel flow between 5 and 7 gph.

If required, the aircraft is capable of achieving an airspeed up to 115 kTAS at full power. If doing so, always monitor the engine speed. The maximum continuous engine speed is 5,500 RPM and may only be exceeded for 5 minutes. Never exceed the maximum engine speed of 5,800 RPM.

Cruise in gusty conditions

When flying in gusty weather conditions, the normal operating airspeed V_{NO} = 107 kIAS should not be exceeded for safety reasons. The REMOS GX offers very stable flight characteristics even in heavy weather conditions.

Cruise in rain or with dirty aircraft

Raindrops and bugs affect the performance of the aircraft. Be aware that in these conditions the performance figures will not meet the published figures, as they apply for a clean aircraft under standard atmospheric conditions. Expect a performance loss of 10% to15%. When flying in rain always activate the carburetor heat.

5 Stall

The REMOS GX is fully controllable when flying at a wide range of airspeeds. At airspeeds below the lower speed limit, the aircraft will display very stable stall characteristics. If the airspeed is reduced by the pilot gradually pulling back on the control stick, aerodynamic buffet will occur, indicating that the aircraft is approaching the stall speed. Should the aircraft then be allowed to stall, the aircraft will still remain controllable. The aircraft can be stalled with flaps both extended or retracted.

Performing a stall maneuver does not require special skills. However, if you are not yet familiar with the aircraft, we recommend you do this exercise only when accompanied by an experienced flight instructor.

6 Slip

The slip is a very stable flight condition and is also very easy to perform. This maneuver is used to increase aerodynamic drag to enable a high rate of descent.

Before establishing a slip, you have to ensure that the airspeed is within the required limits. The operating maneuvering speed V_A = 88 kIAS (valid for max. take-off weight, see section 2) may not be exceeded.

When performing a slip with flaps extended, a maximum indicated airspeed of V_{FE}= 78 kIAS may not be exceeded. You will achieve the maximum rate of descent when slipping with flaps fully extended and flying at V_{FE}.

Conducting a slip does not require special skills. However, if you are not yet familiar with the aircraft, we recommend to do this exercise only when accompanied by an experienced flight instructor.

7 Glide

The aircraft can glide well with the engine off. Best glide ratios are achieved within an indicated airspeed of 60 kIAS. These speeds will establish a glide ratio of about 1:11 with the flaps retracted (0° position).

8 Descent

When descending from level flight it is important to monitor engine temperatures. During descent, the temperatures will decrease, which could cause engine failure or carburetor icing to develop. Therefore we strongly recommend that you not exceed the lower limits of these temperatures. Engage carburetor heat before beginning the descent.

9 Approach

Approach under normal conditions

Always land on the most suitable runway, taking into consideration wind direction, length of runway, obstacles on the approach, etc. It is recommended to fly the approach at 60 kIAS. The recommended target airspeed (airspeed on short final in app. 50ft altitude) for approach at MTOW is 52 kIAS.

In landing configuration, the airplane is very draggy and the propeller provides additional braking. Therefore, airspeed bleeds off quickly during flare. It is easy to misjudge altitude during flare. When flare is initiated too high and airspeed bleeds away the airplane may stall or bounce.

In doubt or without an urge to achieve shortest landing distance as possible, keep a higher target airspeed. Rule of thumb: Keep it at sixty knots! Or use all your guts.

Approach under tailwind conditions

When on final approach with a tailwind component, the REMOS GX does not require different approach or flare procedures than those used in calm or headwind conditions. However, you do have to keep in mind that the landing distance will increase significantly.

Approach in crosswind conditions

Crosswinds do not have a big effect on the flight characteristics of the REMOS GX, as long as the cross-wind component stays within the maximum demonstrated speed of up to 15 kts. Performing a crosswind landing does not require above-average piloting skills. Nevertheless, if not yet familiar with the aircraft, we recommend that you perform crosswind landings only when accompanied by an experienced flight instructor until sufficient experience has been gained.

9 Approach

Approach in turbulent weather conditions

It is recommended to fly the entire approach at 60 kIAS. This will give you a reserve airspeed to balance any unexpected deviations in altitude and heading.

In more gusty conditions it may be beneficial to stabilize the glide slope by keeping the flap setting to the 15° position.

Approach in rain showers

Raindrops on the wing surfaces influence the aerodynamic characteristics of the airfoil; drag will increase while lift decreases. The airfoil used on the REMOS GX features stable flight characteristics in rainy conditions. Therefore, there are no special advisories for flights within rain. we recommend that you operate the aircraft as you would in turbulent weather conditions (see "Approach in turbulent weather conditions). When flying in rain always activate the carburetor heat.

Approach in the slip configuration

If a high descent rate is required on final, we recommend that you conduct a slip maneuver. Conducting an approach in the slip configuration does not require special skills, however, if you are not yet familiar with the aircraft we recommend that you do this exercise only when accompanied by an experienced flight instructor.

10 Touchdown

The aircraft has very good low speed characteristics and as such is easily controllable all the way through the landing phase. After a good approach has been conducted, the REMOS GX does not require much action to land with a perfect touch down. It is important to establish a safe and stable airspeed during the approach.

Imprint

Pilot Operating Handbook REMOS GX
Supplement Flight Training

ASTM Edition

REMOS

REMOS GX

POH Supplement – Glider Towing

Supplement Glider Towing

Table of Content

1 General Information

1.1 Introduction

This supplement is to be used only in addition to the REMOS GX Pilot Operating Handbook!

NOTE	This POH may only be used for aircraft SN429 or higher or with REMOS notification NOT-014 implemented.

1.2 Certification

The REMOS GX is manufactured in compliance with the rules of the Light Sport Aircraft airworthiness standards and does not conform to standard category airworthiness requirements.

1.3 Quick Reference

For use as a glider towing aircraft, the REMOS GX is equipped with the TOST E85 tow release clutch, which is connected to the fuselage tail by a specially developed mounting frame. To release the tow rope a release lever is located on the left hand side of the pilot seat (colored yellow). Additionally, a rear view mirror must be installed inside the aircraft, above the pilot seat.

2 Operating Limitations

2.1 Towing Speed

max. towing speed	V_T of glider
min. towing speed	$1{,}3V_{S1}$ of glider, at least 50 kIAS

2.2 Tow Ropes

length of tow rope	130 to 200 ft
weak link	max. 300 dN

2.3 Maximum Glider Take-Off Weight

The maximum permissible take-off weight of the glider to be towed varies with the propeller mounted to the REMOS GX. The following operating limitations may not be exceeded:

Propeller	Glider	
Tonini GT-2	1,210 lb	[550 kg]
Woodcomp SR38+1	1,210 lb	[550 kg]
Sensenich R70EN	1,580 lb	[720 kg]
Neuform CR3-65	1,580 lb	[720 kg]
Rospeller	1,430 lb	[650 kg]

2.4 Crew

During glider towing operations the REMOS GX must be operated only by one pilot (no passenger allowed, except for training/instruction). In all cases, the total take-off weight (towing aircraft + glider) must not exceed 2,900 lb [1,315 kg].

2 Operating Limitations

2.5 Minimum Equipment List

- as per D-VFR minimum equipment list, plus
- TOST tow release clutch type E85
- REMOS mounting frame for tow release clutch
- yellow colored release handle
- rear view mirror placed on main spar carrythrough

2.6 Flying Without Doors

not permitted during towing operations

2.7 Required Placards and Markings

Adjacent to the airspeed indicator:

Adjacent to the tow release handle:

At the release clutch bracket:

3 Emergency Procedures

3.1 Engine Failure Procedure

Case 1: altitude not enough for engine re-start

1.	AVIATE – NAVIGATE – COMMUNICATE	
2.	landing site	IDENTIFY
3.	glider pilot	NOTIFIED
4.	glider pilot	RELEASE ROPE
5.	engine	OFF
6.	fuel valve	CLOSE
7.	declare emergency	MAYDAY MAYDAY MAYDAY
8.	master switch	OFF
9.	safety belts	TIGHTEN
10.	tow rope	RELEASE
11.	emergency landing	APPROPRIATE TERRAIN

Case 2: altitude sufficient for engine re-start

1.	AVIATE – NAVIGATE – COMMUNICATE	
2.	landing site	IDENTIFY
3.	glider pilot	NOTIFIED
4.	glider pilot	RELEASE ROPE
5.	carburetor heat	PULL
6.	electric fuel pump	ON
7.	choke	OFF
8.	starter	ENGAGE
9.	if engine does not start continue with case 1	
10.	if engine starts, continue flight and land on an airfield	

3 Emergency Procedures

3.2 Abnormal Flight Attitude Procedure

1. AVIATE – NAVIGATE – COMMUNICATE
2. glider pilot NOTIFIED
3. engine REDUCE POWER
4. glider pilot RELEASE ROPE
5. recover gently and return to an airfield

NOTE	If the glider pilot cannot recover from the abnormal flight attitude and does not or cannot release the tow rope, the REMOS GX pilot must release the tow rope to recover from the abnormal flight attitude.

NOTE	If the abnormal flight attitude cannot be recovered from at all, the tow rope cannot be released, or the weak link does not break, activate the recovery system.

3.3 Failure of the Release Clutch Procedure

1. approach airspeed V_{APP} = 60 kIAS
2. full flaps airspeed V_{FE} = 78 kIAS
3. flaps DOWN
4. variable pitch prop 5,600 rpm
5. engine power AS REQUIRED
6. elevator trim AS REQUIRED
7. electrical fuel pump ON
8. touchdown on main wheels first with elevator fully held back.

NOTE	The rope will hang down significantly from the aircraft due to its own weight. Therefore it can become tangled with obstacles, plants, wires, vehicles, persons, etc.

4 Normal Procedures

4.1 Preflight Check Checklist

1. Perform standard preflight check
2. Check tow release clutch and test-release a tow rope

4.2 Take-Off Procedure

1.	oil cooler flap	OPEN
2.	carburetor heat	OFF
3.	electric fuel pump	ON
4.	landing light	RECOMMENDED
5.	flaps	15 degrees
6.	elevator trim	2/3 UP
7.	rudder and aileron	NEUTRAL
8.	taxi forward	ROPE STRAIGHT
9.	engine power	FULL POWER
10.	rotate	45 kIAS
11.	lift-off	50 kIAS
12.	best climb	60 kIAS
13.	flaps	RETRACT

NOTE	During take-off, special care must be taken that the climb rate and airspeed are compatible with the required values of the towed glider. Watch your rate of climb immediately after take-off (do not exceed the glider's climb capability).

NOTE	To maintain permissible water and oil temperatures during climb and descent, the aircraft must be equipped with an oil temperature regulation flap. During climb the operating lever of this flap should be in the "open/cooler" position.

4 Normal Procedures

4.3 Climb Briefing

Flight tests have been conducted with various glider airplanes. These tests revealed that modern composite gliders, especially when loaded with water ballast, must be towed faster than older wooden sailplanes.

The modern gliders are usually towed with airspeeds of 75 mph = 65 kts or possibly above that with flaps retracted. Older sailplanes can be towed with airspeeds as low as 48 mph = 56 kts; in that case select the 15 degrees flap setting.

4.4 Descent Checklist

1.	flaps	CLEAN
2.	engine speed	AS REQUIRED
3.	electric fuel pump	ON
4.	maneuvering speed	V_A = 88 kIAS
5.	normal operating speed	V_{NO} = 107 kIAS
6.	never exceed speed	V_{NE} = 135 kIAS
7.	max. cont. engine speed	5,500 rpm
8.	carburetor heat	RECOMMENDED
9.	landing light	RECOMMENDED
10.	oil cooler flap	AS REQUIRED
11.	CHT or coolant temp.	max. 275°F = 135°C max. 248°F = 120°C (w/ SB-012)
12.	oil temperature	120…266°F = 50…130°C

NOTE	Special care must be taken to keep all temperatures within the permissible range. To keep temperatures within the proper operation levels, the throttle may be left at a setting just above the idle position. Do not allow the oil temperature to drop rapidly.

4 Normal Procedures

4.5 Approach Checklist

1.	wind, weather, visibility	OK
2.	ATIS	CHECKED
3.	runway	CORRECT DIRECTION
4.	traffic pattern	ALTITUDE and ROUTING
5.	radios	ON and FREQUENCY SET
6.	transponder	AS REQUIRED
7.	carburetor heat	AS REQUIRED
8.	oil cooler flap	AS REQUIRED
9.	electric fuel pump	ON
10.	CHT or coolant temp.	max. 275°F = 135°C max. 248°F = 120°C (w/ SB-012)
11.	oil temperature	120…266°F = 50…130°C
12.	full flaps airspeed	V_{FE} = 78 kIAS
13.	approach airspeed	V_{APP} = 60 kIAS
14.	flaps	AS REQUIRED
15.	landing light	RECOMMENDED

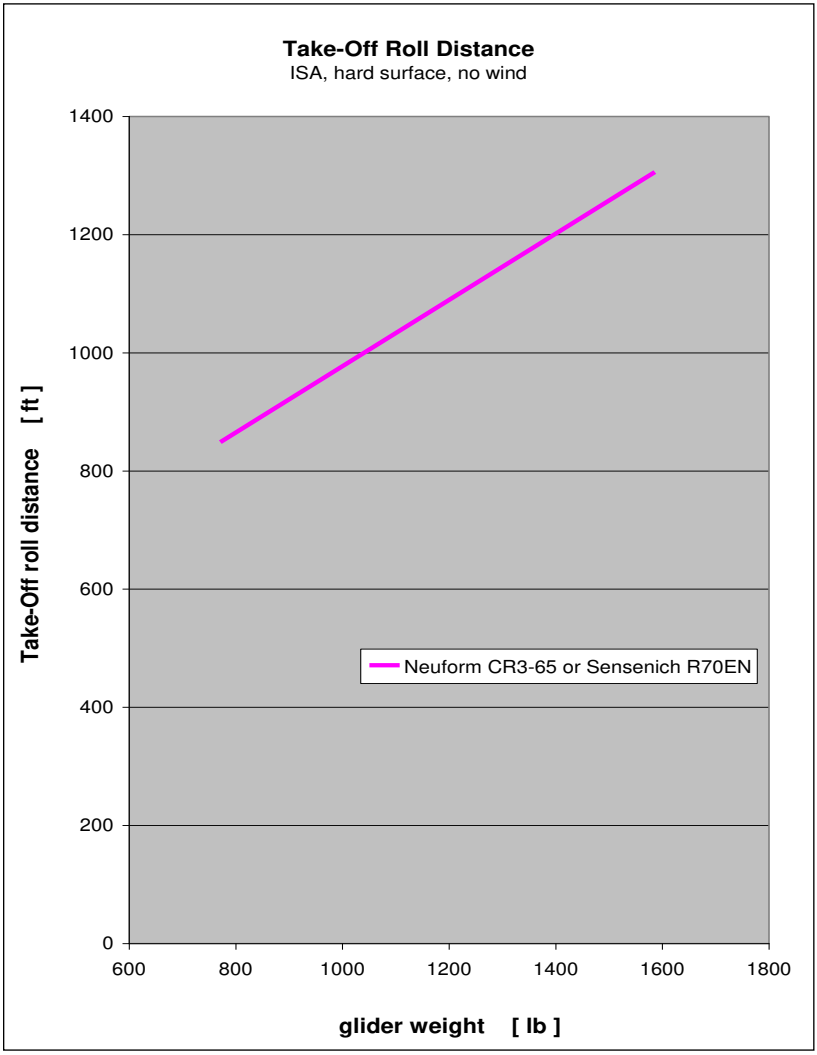
4.6 Landing Procedure

1.	full flaps airspeed	V_{FE} = 78 kIAS
2.	approach airspeed	V_{APP} = 60 kIAS
3.	flaps	DOWN
4.	target airspeed	V_T = 50 kIAS
5.	engine power	AS REQUIRED
6.	elevator trim	AS REQUIRED
7.	tow rope	RELEASE ON THRESHOLD
8.	touchdown on main wheels first	
9.	brakes	AS REQUIRED

5 Performance

5.1 Take-Off Roll Distance

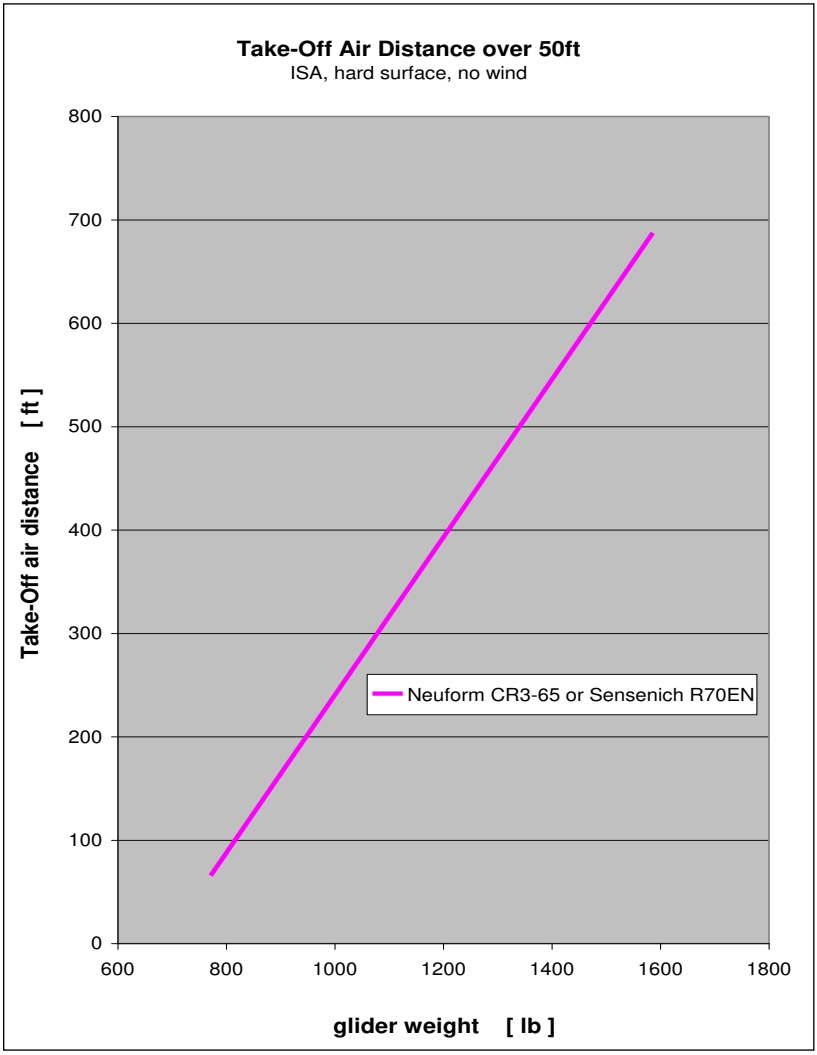
If the REMOS GX is equipped with a Sensenich R70EN or a Neuform CR3-65 propeller, the following take-off roll distances apply (under the conditions of a hard surface runway, ISA conditions, no wind and lift-off at 50 kIAS.



5 Performance

5.2 Take-Off Air Distance

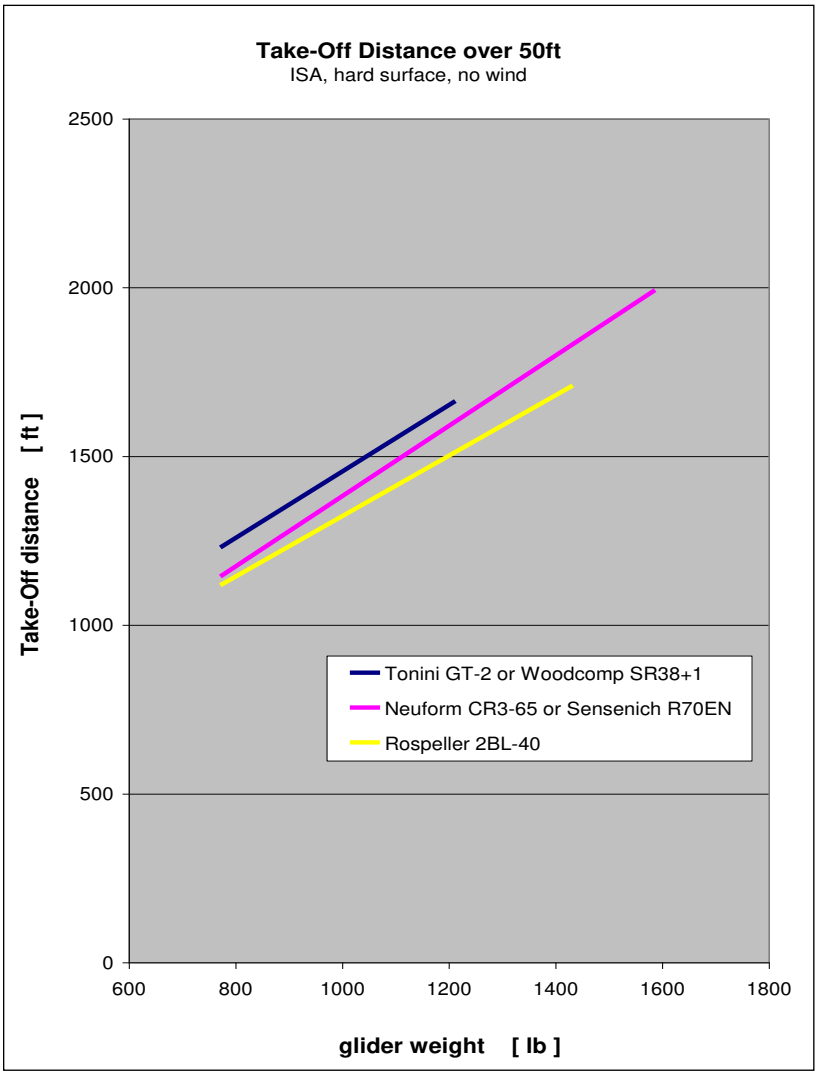
If the REMOS GX is equipped with a Sensenich R70EN or a Neuform CR3-65 propeller, the following take-off air distances apply (under the conditions of a hard surface runway, ISA conditions, no wind and lift-off at 50 kIAS.



5 Performance

5.3 Take-Off Distance over 50ft

The following diagram presents the total take-off distance over 50ft (under the conditions of a hard surface runway, ISA conditions, no wind and lift-off at 50 kIAS.



5 Performance

5.4 Effects on Take-Off Distance

Performance data apply under ISA conditions on an even, dry, hard runway surface. Various circumstances have an effect on take-off performance. According to CAA-circular AIC 127-2006, it is recommended to use following add-ons on roll- and air distances:

add-ons on take-off roll distance	
for dry grass	+ 20%
for wet grass	+ 30%
for soft surface	+ 60%
per 5 knots tailwind component	+ 20%
per 2% uphill slope	+ 10%
for high temperatures above standard	+ 10% per 10°C
for altitude above sea level (density altitude)	+ 10% per 1,000 ft

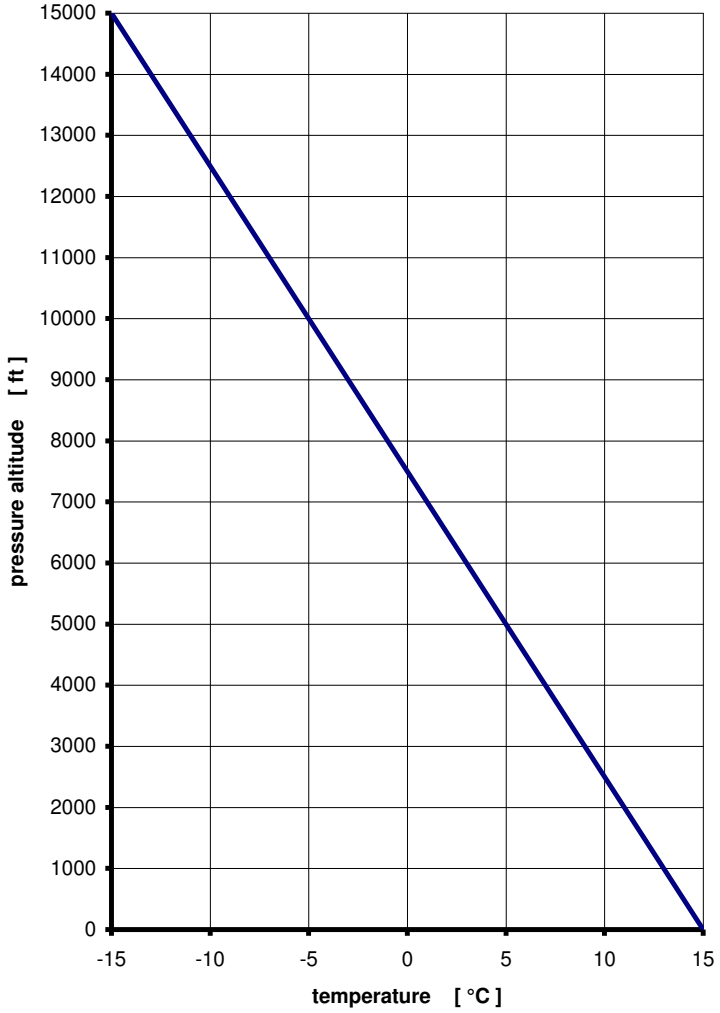
add-ons on take-off air distance	
for dirty or wet wings	+ 30%
per 5 knots tailwind component	+ 20%
for high temperatures above standard	+ 10% per 10°C
for altitude above sea level (density altitude)	+ 10% per 1,000 ft

NOTE	Reduction of take-off distances due to downhill slope or headwind must not be taken into account.

NOTE	Especially in glider towing the take-off distances can vary significantly with precise flying habits and the drag of the glider.

5 Performance

ISA std. Temperature



5 Performance

5.5 Tested Glider Configuration

The following gliders have been towed during flight tests:

LS-1, LS-4, Baby-III, Astir and Twin Astir, Hornbach, Junior, Jantar, Pirat, Puchacz, Discus and DuoDiscus, Blanik, DG-100/300/500, DG-1000, ASK-21 and ASW-24, Nimbus and Cirrus, Cobra, PIK-20.

5.6 Remarks

Based on the rules of the Light Sport Aircraft airworthiness standards, the maximum dimension is defined by the weight of the glider to be towed, without consideration of glider aerodynamics. During the flight test with the DG-1000T, a maximum permissible glider weight of 1,580 lb has been demonstrated.

For gliders with a maximum permissible glider weight of 1,580lb, but less favorable aerodynamics than the DG-1000T, a lower climb rate and significantly longer take-off distance are to be expected.

NOTE	Inexperienced pilots should start with a single seat lightweight glider and increase the glider weight step by step.

6 Weight and Balance

6.1 General

When the aircraft is used for glider towing, the weight and balance calculations for the standard configuration are valid also for towing operations. Concerning payload, there are some restrictions which have to be observed, see also Section 3 within this supplement.

6.2 Required Equipment

The following additional equipment is required to use aircraft for glider towing, and must be taken into account in the weight and balance:

- TOST tow release clutch, type E 85
- REMOS mounting frame for tow release clutch
- release handle (colour yellow)
- REMOS oil temperature regulation flap
- rear view mirror

The following equipment is not part of the center of gravity calculation, but is also necessary for glider towing:

- towing rope with ring connector
- weak link 300 daN (green)

NOTE	The pilot has to ensure that the required weak link is attached to the tow rope; otherwise the structure of the aircraft may be overloaded!

7 Systems

The tow release handle is installed inside the cabin of the REMOS GX. The handle is located on the left hand side of the pilot seat, colored yellow. Pulling the handle releases the tow rope. The handle should provide a free play of 1/2 to 1 inch.

8 Aircraft Ground Handling and Service

During regular servicing intervals, the tow release clutch must be cleaned, lubricated and checked to assure proper operation.

A general overhaul of the release clutch must be conducted every 4 years or 4,000 towing operations, whatever comes first. For further information refer to the separate operator's manual of the manufacturer.

Imprint

Pilot Operating Handbook REMOS GX
Supplement Glider Towing

ASTM Edition

REMOS

REMOS GX

POH Supplement – Banner Towing

Supplement Banner Towing

Table of Content

1 General Information

1.1 Introduction

This supplement is to be used only in addition to the REMOS GX Pilot Operating Handbook!

NOTE	This POH may only be used for aircraft SN429 or higher or with REMOS notification NOT-014 implemented.

1.2 Certification

The REMOS GX is manufactured in compliance with the rules of the Light Sport Aircraft airworthiness standards and does not conform to standard category airworthiness requirements.

1.3 Quick Reference

For use as a banner towing aircraft, the REMOS GX is equipped with the TOST E85 tow release clutch, which is connected to the fuselage tail by a specially developed mounting frame. To release the tow rope a release lever is located on the left hand side of the pilot seat (colored yellow). Additionally, a rear view mirror must be installed inside the aircraft, above the pilot seat.

2 Operating Limitations

2.1 Towing Speed

max. towing speed	65 kIAS

2.2 Tow Ropes

length of tow rope	130 to 200 ft
weak link	max. 300 dN

2.3 Banner

When towing banners, the drag of the banner is relevant and not its size. Low drag banners up to 216m^2 have been tested.

max. drag	700 N at 73 kCAS
max. weight	20 kg

Approved banners should be used.

2.4 Crew

During banner towing operations, the REMOS GX must be operated only by one pilot (no passenger allowed, except for training/instruction).

2.5 Minimum Equipment List

- as per D-VFR minimum equipment list, plus
- TOST tow release clutch type E85
- REMOS mounting frame for tow release clutch
- yellow colored release handle
- rear view mirror placed on main spar carrythrough

2 Operating Limitations

2.6 Flying Without Doors

not permitted during towing operations

2.7 Required Placards and Markings

Adjacent to the airspeed indicator:

Adjacent to the tow release handle:

At the release clutch bracket:

3 Emergency Procedures

3.1 Engine Failure Procedure

Case 1: altitude not enough for engine re-start

1.	AVIATE – NAVIGATE – COMMUNICATE	
2.	landing site	IDENTIFY
3.	engine	OFF
4.	fuel valve	CLOSE
5.	declare emergency	MAYDAY MAYDAY MAYDAY
6.	master switch	OFF
7.	safety belts	TIGHTEN
8.	tow rope	RELEASE
9.	emergency landing	APPROPRIATE TERRAIN
10.	banner	RELEASE BEFORE LANDING

Case 2: altitude sufficient for engine re-start

1.	AVIATE – NAVIGATE – COMMUNICATE	
2.	landing site	IDENTIFY
3.	carburetor heat	PULL
4.	electric fuel pump	ON
5.	choke	OFF
6.	starter	ENGAGE
7.	if engine does not start continue with case 1	
8.	if engine starts, continue flight and land on an airfield	

3 Emergency Procedures

3.2 Failure of the Release Clutch Procedure

1. approach airspeed 60 kIAS
2. full flaps airspeed 78 kIAS
3. max. airspeed with banner 65 kIAS
4. flaps DOWN
5. engine power AS REQUIRED
6. elevator trim AS REQUIRED
7. electrical fuel pump ON
8. touchdown on main wheels first with elevator fully held back.

NOTE	The banner will hang down significantly from the aircraft due to its own weight. Therefore it can become tangled with obstacles, plants, wires, vehicles, persons, etc. Keep the approach as steep as possible so that banner and aircraft are on the ground at the same time.

4 Normal Procedures

4.1 Preflight Check Checklist

1. Perform standard preflight check
2. Check tow release clutch and test-release a tow rope

4.2 Take-Off Procedure

1.	oil cooler flap	OPEN
2.	carburetor heat	OFF
3.	electric fuel pump	ON
4.	landing light	RECOMMENDED
5.	flaps	15 degrees
6.	elevator trim	2/3 UP
7.	rudder and aileron	NEUTRAL
8.	taxi forward	ROPE STRAIGHT
9.	engine power	FULL POWER
10.	rotate	45 kIAS
11.	lift-off	50 kIAS
12.	best climb	60 kIAS
13.	max. airspeed with banner	65 kIAS
14.	flaps	retract

NOTE	During take-off, special care must be taken that the climb rate and airspeed are adjusted to the characteristics of the banner. Watch your rate of climb immediately after take-off.

NOTE	To maintain permissible water and oil temperatures during climb and descent, the aircraft must be equipped with an oil temperature regulation flap. During climb the operating lever of this flap should be in the "open/cooler" position.

4 Normal Procedures

4.3 Approach Checklist

1.	wind, weather, visibility	OK
2.	ATIS	CHECKED
3.	runway	CORRECT DIRECTION
4.	traffic pattern	ALTITUDE and ROUTING
5.	radios	ON and FREQUENCY SET
6.	transponder	AS REQUIRED
7.	carburetor heat	AS REQUIRED
8.	oil cooler flap	AS REQUIRED
9.	electric fuel pump	ON
10.	CHT or coolant temp.	max. 275°F = 135°C max. 248°F = 120°C (w/ SB-012)
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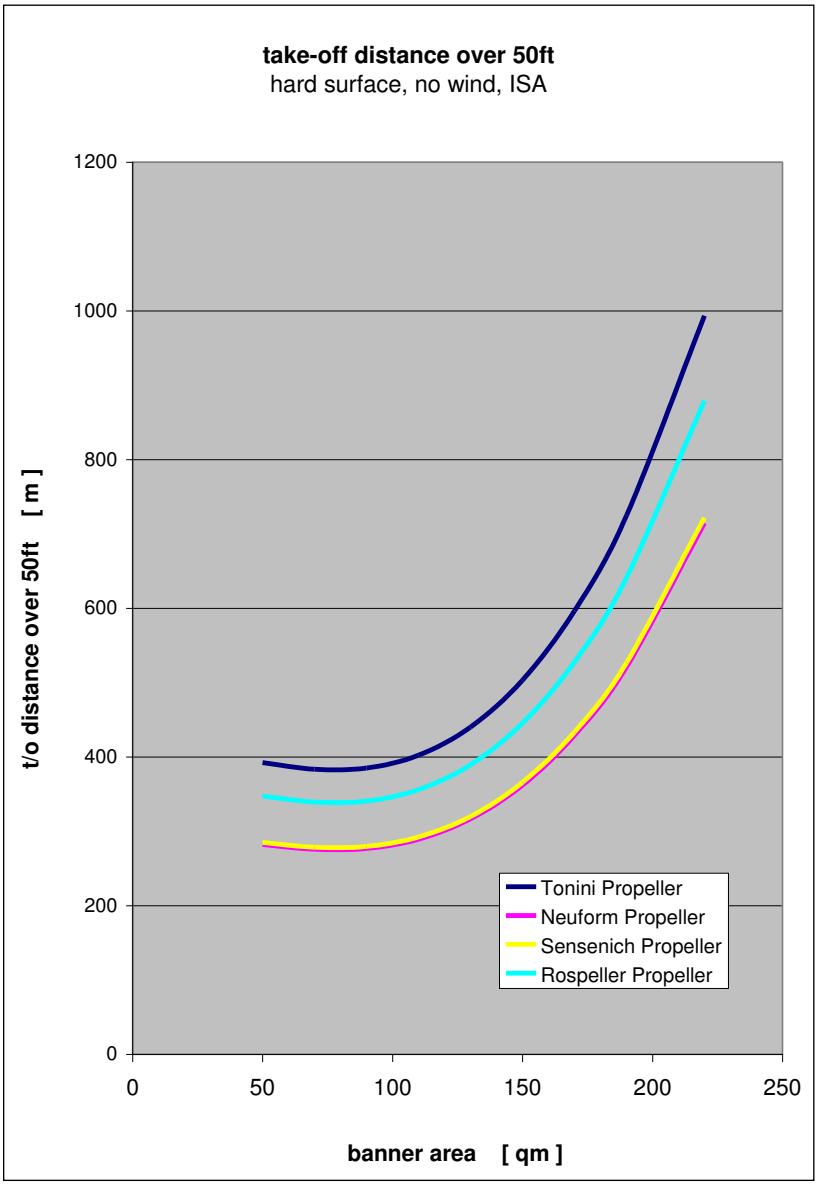
12.	full flaps airspeed	V_{FE} = 78 kIAS
13.	approach airspeed	V_{APP} = 60 kIAS
14.	flaps	AS REQUIRED
15.	landing light	RECOMMENDED

4.4 Landing Procedure

1.	full flaps airspeed	V_{FE} = 78 kIAS
2.	approach airspeed	V_{APP} = 60 kIAS
3.	flaps	DOWN
4.	target airspeed	V_T = 50 kIAS
5.	engine power	AS REQUIRED
6.	elevator trim	AS REQUIRED
7.	tow rope	RELEASE ON THRESHOLD
8.	touchdown on main wheels first	
9.	brakes	AS REQUIRED

5 Performance

5.1 Take-Off Distance



5 Performance

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add-ons on take-off roll distance	
for dry grass	+ 20%
for wet grass	+ 30%
for soft surface	+ 60%
per 5 knots tailwind component	+ 20%
per 2% uphill slope	+ 10%
for high temperatures above standard	+ 10% per 10°C
for altitude above sea level (density altitude)	+ 10% per 1,000 ft

add-ons on take-off air distance	
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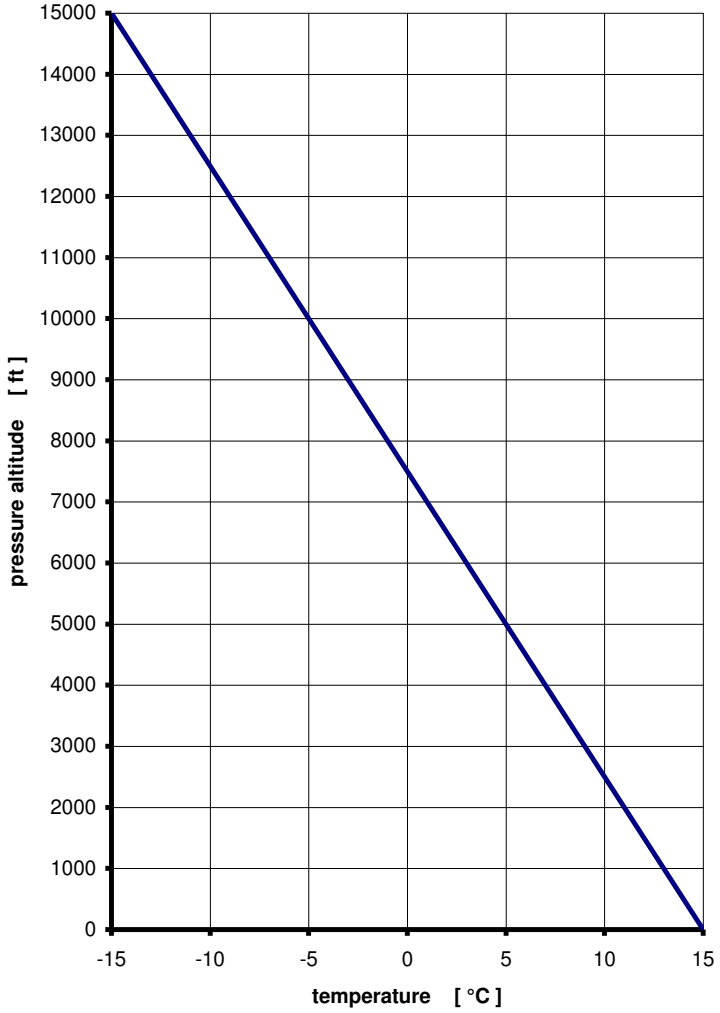
for altitude above sea level (density altitude)	+ 10% per 1,000 ft

NOTE	Reduction of take-off distances due to downhill slope or headwind must not be taken into account.

NOTE	Especially in banner towing the take-off distances can vary significantly with precise flying habits and the drag of the banner.

5 Performance

ISA std. Temperature



6 Weight and Balance

6.1 General

When the aircraft is used for banner towing, the weight and balance calculations for the standard configuration are valid also for towing operations. Concerning payload, there are some restrictions which have to be observed, see also Section 3 within this supplement.

6.2 Required Equipment

The following additional equipment is required to use aircraft for banner towing, and must be taken into account in the weight and balance:

- TOST tow release clutch, type E 85
- REMOS mounting frame for tow release clutch
- release handle (colour yellow)
- REMOS oil temperature regulation flap
- rear view mirror

The following equipment is not part of the center of gravity calculation, but is also necessary for glider towing:

- towing rope with ring connector
- weak link 300 daN (green)

NOTE	The pilot has to ensure that the required weak link is attached to the tow rope; otherwise the structure of the aircraft may become overloaded!

7 Systems

The tow release handle is installed inside the cabin of the REMOS GX. The handle is located on the left hand side of the pilot seat, colored yellow. Pulling the handle releases the tow rope. The handle should provide a free play of 1/2 to 1 inch.

8 Aircraft Ground Handling and Service

During regular servicing intervals, the tow release clutch must be cleaned, lubricated and checked to assure proper operation.

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Imprint

Pilot Operating Handbook REMOS GX
Supplement Banner Towing

ASTM Edition

REMOS GX

POH Supplement – Continued Airworthiness

Supplement Continued Airworthiness

Table of Content

1 Purpose

Continued Airworthiness is everything that is required to keep an aircraft in a safe condition to fly. This does not only include the technical part like maintenance and annual condition inspection. It also includes update of documentation, e.g. Pilot Operating Handbook, issuing repair instructions and repair approvals, change on equipment and feedback of the customer to the manufacturer. Especially the latter one is really important as this is the only way that the manufacturer gets to know of potential issues of safety of flight.

In some areas, the procedures of the continued airworthiness system of an LSA differ significantly from the ones of a standard category aircraft. This POH supplement shall give guidance to the customer how to act correctly in the continued airworthiness system and how to keep his aircraft airworthy and legal to fly.

2 Continued Airworthiness System

REMOS AG shall be informed about potential issues of safety of flight or service difficulties by means of the Customer Feedback Form G3-8 MA CA 0050. This document is attached to the maintenance manual and is also available on the website www.remos.com. If a customer does not inform the manufacturer by means of this form, REMOS AG also accepts any other way of information as long as it contains at least the following information:

- aircraft make and model
- serial number and callsign
- propeller make and model
- total time of aircraft and engine
- use of aircraft: private or commercial
- name and contact data of reporting person
- description of potential issue of safety or service difficulty

Once the customer has notified REMOS AG, the information will be forwarded immediately to the Head of Design by means of the customer feedback form.

Shall the customer opt for e-mail notification via info@remos.com then this e-mail will immediately be forwarded to the Head of Design.

Based on the information given in the customer feedback form, the Head of Design will perform a risk assessment. In most cases, the Head of Design will contact the customer to collect more and precise information. This includes eventual cooperation with authorities, e.g. in case of an accident.

2 Continued Airworthiness System

A risk assessment consists of:

- cause of accident/incident by pilot error or technical background
- safety effect determination
- risk assessment evaluation
- decision of required alerting of the public
- decision of corrective action

The continued airworthiness system of REMOS AG does not only cover events that have occurred during operation of the aircraft. Proposals for improvements or corrections, service difficulties, findings during maintenance events or annual condition inspections are also covered by the continued airworthiness system. In case that service staff identifies a potential safety of flight issue or a real service/maintenance problem, a customer feedback form must be filled out and handed forward to the Head of Design.

The customer shall not be afraid of consequences like revoking licenses. This is not the intention and not the job of an aircraft manufacturer. If there is no immediate danger for other customers or the flying public, REMOS AG will never notify authorities.

3 Owner/Operator Responsibilities

During handover of the aircraft, the owner/operator is introduced into the continued airworthiness system of REMOS AG. The customer is informed about the following:

- The maintenance handbook provides all information that the customer needs to comply with the regulations, especially with continued airworthiness and maintenance.
- It is the owner/operator's responsibility to provide the manufacturer with current contact information. Only with current contact information the manufacturer is able to contact the customer in case service bulletins or safety alerts need to be sent out.
- In case a safety of flight issue or significant service difficulty reveals, it is the responsibility of the owner/operator to inform the manufacturer. The owner/operator shall not seek for solutions on his own and/or modify the aircraft in a way that is not covered by the maintenance manual.
- Shall the manufacturer release a notice of corrective action, it is the responsibility of the owner/operator to comply with it. Furthermore, the owner/operator has the responsibility to comply with all applicable aviation authority regulations in regard to maintaining the airworthiness of the LSA airplane.
- In case the manufacturer has released a notice of corrective action, the owner must comply with it within the timeframe defined in the notice. If there is no timeframe defined, then the latest time to comply with it is the next annual condition inspection.
- In case the owner/operator does not comply with the maintenance manual and/or releases of corrective action, the LSA is not in compliance with the accepted ASTM consensus standards. This means that the aircraft is not airworthy and operating this aircraft is not legal. In case the responsible aviation authority (in case of the USA this is the FAA) gets to know about this, the owner/operator may be subject to regulatory action by the authority.

3 Owner/Operator Responsibilities

This information is provided by means of the customer commitment form, which is part of the maintenance manual. The owner/operator shall sign this form and send it to REMOS AG. On this form the owner/operator shall also provide the manufacturer with current contact data.

If the aircraft is sold to another customer, a new customer commitment form needs to be signed. This form will have the identical document number added by a dash and a counting number starting with 1 to make clear that this new form is a new revision.

4 Releases of Notices to the Public

There are three different levels of notices to the public, each representing a different level of importance:

- SAFETY ALERT
  will be issued in case of an urgent safety of flight situation. Potentially an emergency safety of flight action is required in this case. All safety alerts will be published on the website www.remos.com which is the central means of communication of REMOS AG to its customers.

- SERVICE BULLETIN
  will be issued in case a corrective action, a mandatory inspection or a modification of the aircraft is required. An immediate action is not required but a future action is required or recommended. All service bulletins will be published on the website www.remos.com which is the central means of communication of REMOS AG to its customers.

- NOTIFICATION
  will be issued in case service information is required. The public is notified via the website www.remos.com which is the central means of communication of REMOS AG to its customers.

5 Documentation Update

Any documentation update will be released on the website www.remos.com. Owner/operators will not be informed by postal mail, unless such a documentation update is mandatory for safety of flight and is released by a safety alert or a service bulletin. Examples for documentation updates are new revisions of:

- Pilot Operating Handbook
- Service and Maintenance Checklist
- Annual Condition Inspection Checklist
- Type Design Datasheet

For copyright reasons, a new revision of the maintenance handbook is not available on the website, but only on request as hardcopy.

6 Maintenance and Annual Cond. Inspection

Maintenance intervals of all REMOS aircraft are 25h for the first maintenance event, followed by 100h inspections. In case that AVGAS 100LL is used for more than 30% of the time, oil change interval is reduced to 50h.

REMOS AG hereby defines the following persons that may perform maintenance and repair as defined in the Maintenance Manual including 25h and 100h inspection:

- Owner/operator: with Sport Pilot Certificate or higher: preventative maintenance, or line maintenance.
- LSA Repairman Maintenance: preventative maintenance, line maintenance, or heavy maintenance.
- A&P Mechanic: preventative, maintenance, line maintenance, or heavy maintenance.
- Part 145 Repair Station with appropriate ratings: preventative maintenance, line maintenance, or heavy maintenance

REMOS AG hereby defines the following persons that may perform the annual condition inspection:

- LSA Repairman Maintenance
- A&P Mechanic
- Part 145 Repair Station with appropriate ratings

Always use REMOS documents for your maintenance events and the annual condition inspection. These documents are available on the website www.remos.com.

7 Modifications or Change of Equipment

Certified equipment is listed in the maintenance manual. Only listed equipment may be installed on the aircraft without notifying REMOS AG. In case equipment that is described in the maintenance manual shall be exchanged on the aircraft, it is required to:

- update equipment list
- update weight and balance

Modifying the aircraft or changing equipment may be performed by any competent person. Updating the equipment list and the weight and balance report may only be performed by

- LSA Repairman Maintenance
- A&P Mechanic
- Part 145 Repair Station with appropriate ratings

Any change that is not documented may not be performed on the aircraft without having it certified by REMOS AG. Nevertheless, it is possible to do so. Notify REMOS AG prior to the intended change of the aircraft. Engineering department will then decide which kind of documentation is required and will either prepare them or will ask the customer to have this documentation prepared. Followed by this, a Letter of Approval (LOA) will be prepared that needs to be signed by either an A&P Mechanic or a Part 145 Repair Station with appropriate ratings after the work is accomplished. Then this LOA will be signed by the Head of Design of REMOS AG and handed out to the customer. This procedure will be performed by e-mail.

The extent of work cannot generally be defined; it is always an individual project. Working hours of the engineering department will be charged by the hour according to actual pricelists.

This procedure is not intended and built up for the manufacturer to make money of it. In contrary, due to running projects within engineering department it usually costs more to prepare the documentation than it is charged for. This procedure is defined in the regulations, in this case ASTM F2483.

7 Modifications or Change of Equipment

Without having updated the equipment list and weight and balance or not having changes that are not part of the maintenance manual approved by the manufacturer, the aircraft is considered not airworthy and unsafe to fly. It is not legal to operate an aircraft without a current equipment list and weight and balance and required approvals by the manufacturer. Make sure the change of equipment is signed off in the aircraft's logbook and is entered in the aircraft's permanent record.

8 Repairs

Repairs are handled similarly as change of equipment. Any repair that is performed with standard tools by replacing damaged parts may be performed by any competent person. To release the aircraft back to service the repair must be signed off by

- Owner/Operator with at least a Sport Pilot License
- LSA Repairman Maintenance
- A&P Mechanic
- Part 145 Repair Station with appropriate ratings

It is recommended to perform a standard maintenance event and an annual condition inspection once a repair has been performed that could affect safety of flight.

Structural repairs that are described in the maintenance manual are handled identically. In case the damage exceeds the described ones, an individual repair instruction is required. In this case notify REMOS AG by means of the customer feedback form. Engineering will then prepare individual and precise repair instructions. Repairing a composite aircraft is completely different from repairing a metal aircraft or a composite boat. Therefore only competent persons may perform the work. REMOS AG hereby defines the following persons that may perform the repair:

- LSA Repairman Maintenance with composite knowledge
- A&P Mechanic with composite knowledge
- Part 145 Repair Station with appropriate ratings

Notify REMOS AG prior to the intended repair. Engineering department will then decide which kind of repair and documentation is required and will either prepare them or will ask the customer to have this documentation prepared. Followed by this a Repair Approval (LOA) will be prepared that needs to be signed by either an A&P Mechanic or a Part 145 Repair Station with appropriate ratings after the work is accomplished. Then this Repair Approval will be signed by the Head of Design of REMOS AG and handed out to the customer. This procedure will be performed by e-mail.

8 Repairs

The extent of work cannot generally be defined; it is always an individual project. Working hours of the engineering department will be charged by the hour according to actual pricelists.

This procedure is not intended and built up for the manufacturer to make money of it. In contrary, due to running projects within engineering department it usually costs more to prepare the documentation than it is charged for. This procedure is defined in the regulations, in this case ASTM F2483.

Without having the repair performed and approved according to the manufacturer's instruction, the aircraft is considered not airworthy and unsafe to fly. It is not legal to operate an aircraft without current documentation and required approvals by the manufacturer. Make sure the repair is signed off in the aircraft's logbook and is entered in the aircraft's permanent record.

9 Contact Data

The manufacturer of the REMOS aircraft and the only responsible entity for continued airworthiness is

REMOS AG

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Imprint

Pilot Operating Handbook REMOS GX
Supplement Continued Airworthiness

ASTM Edition

REMOS GX

POH Supplement – Abbreviated checklists

Supplement Abbreviated Checklists

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Supplement Abbreviated Checklists

Purpose

No matter if the airplane is operated according to non-commercial or commercial operating regulations, the pilot is obliged to use cockpit checklists.

The checklists provided in the POH sections 3 (emergency procedures) and 4 (normal procedures) are very comprehensive and therefore sometimes a bit inconvenient to use. Therefore, third parties often offer abbreviated checklists that are often used in the cockpit. These checklists are neither approved nor controlled by the airplane manufacturer and therefore not necessarily complete or correct.

NOTE	REMOS encourages the pilot NOT to use third party abbreviated checklists, but checklists released by REMOS only.

This POH supplement section 13 offers abbreviated checklists released by REMOS. By using these abbreviated checklist, the pilot in command acknowledges that the content is abbreviated and might be incomplete. Always refer to sections 3 and 4 for full version of these checklists.

NOTE	Always refer to POH sections 3 and 4 for full version of these checklists.

NOTE	This POH may only be used for aircraft SN429 or higher or with REMOS notification NOT-014 implemented.

Supplement Abbreviated Checklists

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Supplement Abbreviated Checklists

CHECK BEFORE ENGINE START
preflight check ..... OK
seat belts ..... FASTENED
brake ..... SET

ENGINE START
master switch ..... ON
external lights ..... ON
electric fuel pump ..... ON
choke..... AS REQUIRED
starter ..... ENGAGE
oil pressure..... min. 2.0 bar
avionic switch ..... ON

ENGINE RUN-UP
oil temperature ..... min. 50°C
engine speed..... 4.000 rpm
magneto check... max. 300 rpm drop

TAKE-OFF
departure..... BRIEFED
flaps..... CLEAN
engine ..... FULL POWER
lift-off ..... 45 kIAS
climb..... 60 kIAS

CLIMB
flaps..... CLEAN
engine ..... FULL POWER
best climb ..... 60 kIAS

CRUISE
power setting..... AS R'QRD
engine parameters ..... OK

DESCENT
flaps..... CLEAN
power setting..... AS R'QRD

LANDING
approach..... BRIEFED
flaps ..... DOWN
approach speed..... 60 KIAS

SHUTDOWN
brake..... SET
avionic switch ..... OFF
ignition key..... OFF
master switch..... OFF

AIRSPEED LIMITATIONS for MTOW
demonstrated x-wind ..... 15 kts
stallspeed flaps 40° ..... 42 kIAS
stallspeed flaps clean ..... 44 kIAS
best angle of climb..... 50 kIAS
best rate of climb ..... 60 kIAS
max. flap extended ..... 78 kIAS
max. maneuvering ..... 88 kIAS
max. turbulence ..... 107 kIAS
never exceed speed ..... 135 kTAS

FUEL
total..... 84 ltr
usable..... 80 ltr
grade ..... AVGAS, MOGAS, E10

ENGINE PARAMETERS
RPM warmup..... 2.000 rpm
max. cont. speed. ..... 5.500 rpm
max. speed ..... 5.800 rpm
max. cooling temp..... 120/135°C
min oil temp. ..... 50°C
max. oil temp. ..... 130°C
max. EGT ..... 890°C
oil pressure ..... 2.0 … 5.0 bar
fuel pressure..... 2.8 … 3.2 bar

THIS IS AN ABBREVIATED CHECKLIST! REFER TO PILOT OPERATING HANDBOOK SECTION 4 FOR FULL VERSION!

Supplement Abbreviated Checklists

ABBREVIATED EMERGENCY CHECKLIST

AVIATE – NAVIGATE - COMMUNICATE

DECLARE EMERGENCY

SPIN RECOVERY
engine ..... IDLE
aileron ..... NEUTRAL
rudder..... OPPOSITE SPIN
elevator ..... PUSH

RECOVERY SYSTEM RELEASE
Engine..... STOP
Recovery system ..... RELEASE
Fuel valve .....CLOSE
Master switch.....OFF
Safety belts ..... TIGHTEN

EMERGENCY DESCENT
engine ..... IDLE
flaps .....CLEAN
max. turbulence ..... 107 kIAS
never exceed speed ... 135 kTAS

ENGINE STOPPAGE ON TAKE-OFF
brakes .....AS R'QRD
ignition key.....OFF

ENGINE STOPPAGE IN FLIGHT
landing site..... IDENTIFY
electric fuel pump.....ON
starter..... ENGAGE
landing ..... EMERGENCY LDG

GENERATOR FAILURE
non-essentials.....OFF
system ..... TROUBLESHOOT

ENGINE FIRE ON GROUND
ignition key.....OFF
brakes .....AS R'QRD
vacate aircraft .... IMMEDIATELY

ENGINE FIRE IN FLIGHT
ignition key.....OFF
sideslip.....AS R'QRD
landing ..... EMERGENCY LDG

CARBURETOR ICING
carburetor heat ..... PULL
electric fuel pump.....ON
power setting ..... FULL POWER

EMERGENCY LANDING
landing site..... IDENTIFY
direction of wind..... IDENTIFY
flaps .....DOWN
master switch.....OFF
approach speed.....60 KIAS
vacate aircraft .... IMMEDIATELY

THIS IS AN ABBREVIATED CHECKLIST! REFER TO PILOT OPERATING HANDBOOK SECTION 3 FOR FULL VERSION!

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