



# AMM

## Aircraft Maintenance Manual



**Seamax M-22**

SN\_\_\_\_\_

## Revisions Registration

The revisions pages are updated by **SEAMAX AIRCRAFT LTDA**, each time revision is issued.

The list below contains all the revisions made on the maintenance manual.

Revision number	Date issued	Affected chapters	Affected pages	Approved by
00	06/15/2007			Miguel Rosário
01	03/20/2010	2, 2.2, 2.4	9,11, 12, 14, 15	Miguel Rosário
02	11/06/2013			Miguel Rosário
03	01/10/2017	2, 4, 7	2,10,11,18,21, 23,44, 58, 74	Miguel Rosário
04	02/28/2018	2	11, 12, 17, 25	Miguel Rosário
05	10/26/2018	2, 6, 12, 13	27, 71, 94, 95	Miguel Rosário
05.1	07/23/2019	2	2, 23	Miguel Rosário
05.2	10/22/2020	2, 12	6, 8, 13, 94	Miguel Rosário
05.3	06/04/2021	2	5, 7, 8	Miguel Rosário
05.4	01/17/2022	4, 6, 9	40, 77, 89, 90	Miguel Rosário

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## 2. General

This is Seamax AMM manual, for the airplane Seamax M-22.

Seamax M-22 is a monohull seaplane, with a S-LSA certification, with composite fuselage / hull, elevator and wing tip floats, and an aluminum fabric covered wing, ailerons and flaps. Landing gear is a retractable tricycle configuration with differential braking steering. One piece canopy, pusher engine and stabilator with anti servo tab are the main characteristics of this airplane.

NOTE: to accomplish the tasks described on this manual needed responsible person with following level of certification:

OWNER - responsible owner of the Light Sport Aircraft, which holds a sport pilot certificate, or higher rating.

REPAIRMAN – To make repairs on this aircraft, one must be a Light Sport Repairman Maintenance Aircraft (LSRMA) - which holds a FAA repairman certificate (LSA), with maintenance rating or equivalent (FAA A&P).

SEAMAX compliance with all standards ASTM for LSA: F2245-16c, F2483-12, F2295-10, F2746-14, F2972-15, F3035-13, F2745-11

### WARNING

To assure the receiving supplemental notification bulletins, and manuals revisions, is owner/operator responsibility, providing SEAMAX with current contact information, where they will be sent

### BRAZIL HEADQUARTERS:

#### SEAMAX AICRAFT LTDA.

Aeroporto de São João da Boa Vista – SP - BRA  
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## UNITED STATES HEADQUARTERS:

### SEAMAX, LLC.

Embry Riddle Aeronautical University Research Park

1535, Aviation Center Parkway, Unit 2

Daytona Beach, FL, 32114 - USA

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## DEFINITIONS

Heavy Maintenance	Line Maintenance	Overhaul
any maintenance, inspection, repair, or alteration a manufacturer has designated that requires specialized training, equipment, or facilities.	any repair, maintenance, scheduled checks, servicing, inspections, or alterations not considered heavy maintenance that is approved by the manufacturer and is specified in the manufacturer's maintenance manual	maintenance, inspection, repair, or alterations that are only to be accomplished by the original manufacturer or a facility approved by the original manufacturer of the product
100 hours	Annual Inspection	Major Repair/Alteration
This is the required inspection in RBHA91 section 91.409 (b) with the scope detailed in Appendix D of RBAC 43. This type of inspection is required in the aircraft manufacturer's maintenance manual	Inspection which is intended to attest to the airworthiness conditions of an aircraft, including its components and equipment, as defined by RBAC 91.403 (e) and Appendix D of RBAC 43.	means a modification not listed in the approved technical specification of the aircraft, engine or propeller and which: (1) may substantially affect weight, balance, structural strength, flight and maneuverability characteristics or any other airworthiness related feature; or (2) is not performed in accordance with acceptable practices or can not be performed using elementary operations.

### NOTE

## MAJOR REPAIRS AND/OR ALTERATIONS

All major repairs and/or alterations require an approved MRA (Major Repair and/or Alteration) form from SEAMAX. Requests for an MRA can be made to Customer Support at SEAMAX, or through a form on the company website, link: <http://www.seamaxaircraft.com/ownership.html>

The latest revisions of all applicable service documents released by SEAMAX, require an MRA form. These documents, which include Safety alerts, Service bulletins, and Notification are considered appendices to this maintenance manual.

### AUTHORIZATION TO PERFORM HEAVY MAINTENANCE

No heavy maintenance, as outlined in ASTM F2483, RBAC/FAR 43, or in this manual are authorized at this time.

To obtain engineering approvals for any major repairs or alterations, please contact SEAMAX AIRCRAFT LTDA.

**HEAVY MAINTENANCE TASKS:**

- 1- Removal and Replacement of Components
- 2- Repair of Components or Aircraft Structure
- 3- Alterations of Components or Aircraft Structure

**OVERHAUL**

No overhauls as outlined in ASTM F2483, RBAC/FAR 43, or in this manual are authorized at this time. Overhauls can only be performed by SEAMAX.

To obtain engineering approvals for any major repairs or alterations, please contact SEAMAX.

COMPONENTS PLANNED FOR OVERHAUL: 1- Structure, 2- Engine, 3- Propeller

## **2.1 Instructions for Reporting Possible Safety of Flight Concerns Found During Operation and Authorization to Perform Maintenance**

Possible safety of flight concerns should be reported to the factory, by e-mail, letter or fax. Bellow addresses for report:

**SEAMAX BRAZIL HEADQUARTERS:****SEAMAX AICRAFT LTDA.**

Aeroporto de São João da Boa Vista - SP  
Hangar 01

Rod. SP 344, km 219, ZIP: 13.870-970

Phone: (55) 19 99850-6810

E-mail: [support@seamaxaircraft.com](mailto:support@seamaxaircraft.com)

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Phone: +1 (260) 460-7587  
E-mail: [info@seamaxaircraft.com](mailto:info@seamaxaircraft.com)

## SEAMAX FACTORY AUTHORIZED MECHANIC:

**WESLEY ALVES QUEIROZ****MECHANICAL ENGINEER****IRMT ROTAX ENGINES: 410813230527-4869**

Embry Riddle Aeronautical University Research Park  
1535, Aviation Center Parkway, Unit 2  
Daytona Beach, FL, 32114 – USA  
Phone: +55 (11) 98586-5088  
E-mail: [wesley.queiroz@seamaxaircraft.com](mailto:wesley.queiroz@seamaxaircraft.com)

## AUTHORIZED MAINTENANCE CENTER:

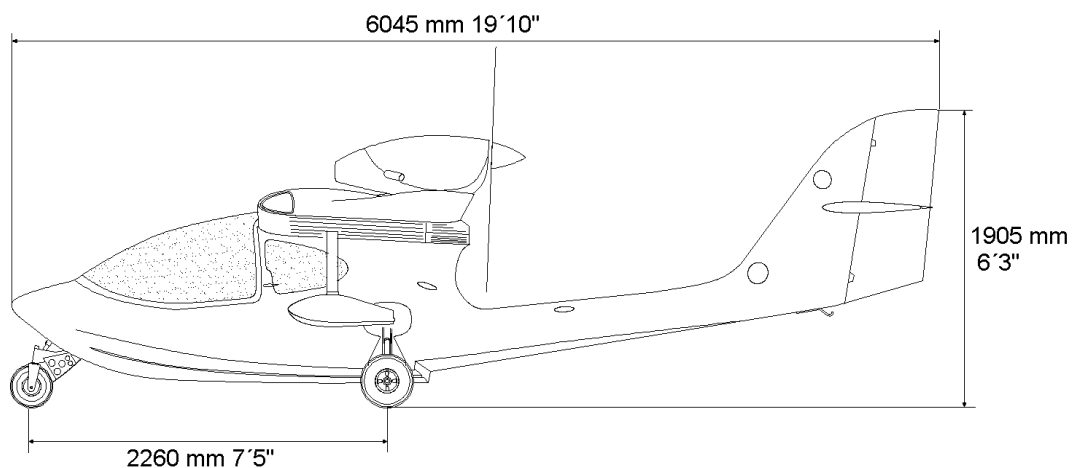
**LOCKWOOD AVIATION SUPPLY**

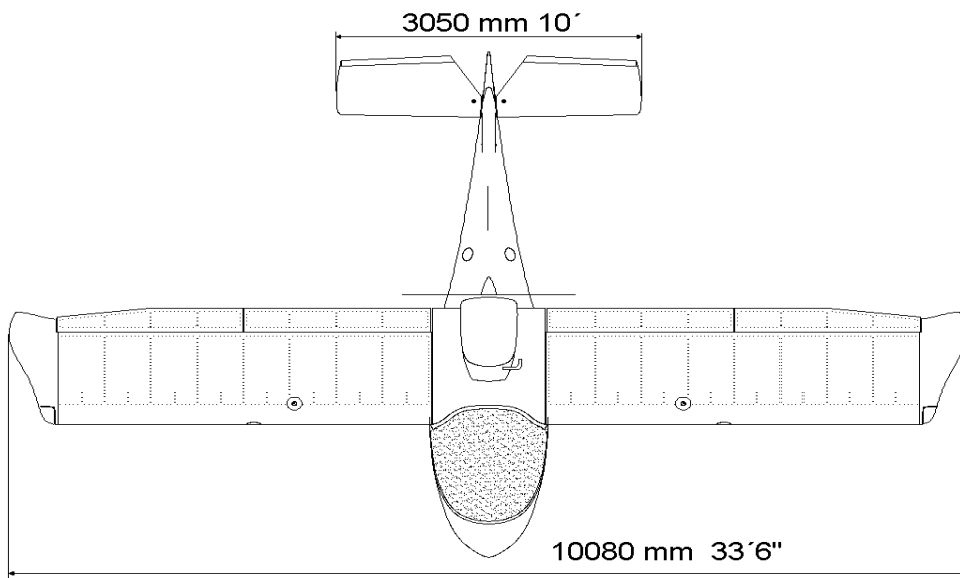
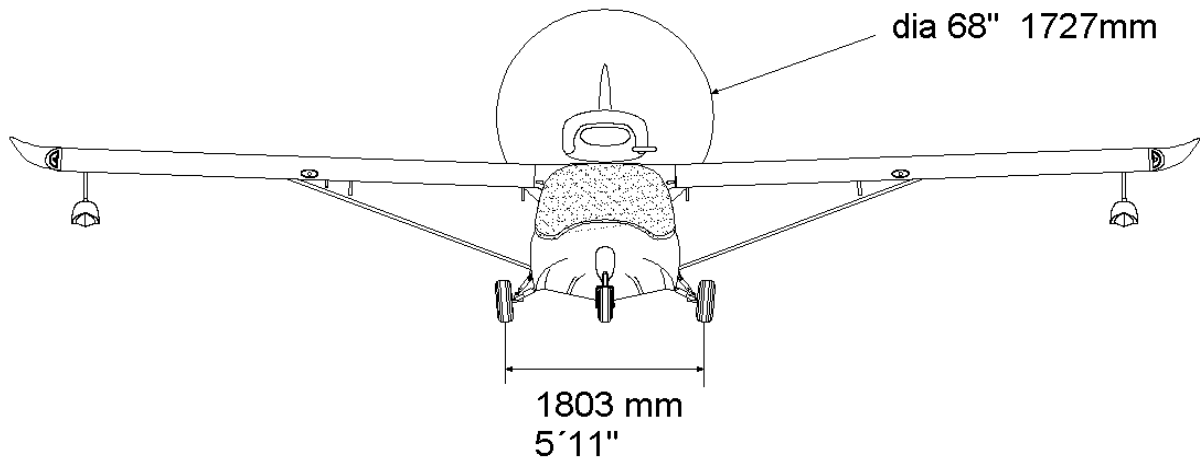
1, Lockwood Lane  
Sebring, FL 33870, USA  
Phone: + 1 (863) 655-4242  
Website: <https://lockwood.aero/>



## 2.2 Views and Dimensions

Wing span	33, 07 ft	10, 08 m
Stabilator span	10, 09 ft	3, 07 m
Vertical fin	6, 4 ft	1905 m
Length	19, 8 ft	6,05 m
Wing area	129, 6 sqft	12, 04 sqm
Height	6, 2 ft	1, 9 m





## 2.3 List of Materials

- 1 Epoxy resin GY 260 (Huntsman)
- 2 Hardener HY 951 (Huntsman)
- 3 Fiberglass bidirectional fabric 4 Oz
- 4 Fiberglass bidirectional fabric 10Oz
- 5 Fiberglass bidirectional fabric 16 oz

- |    |   |
|----|---|
| 6  | Carbon fiber bidirectional fabric 8 oz    |
| 7  | Carbon fiber unidirectional tape          |
| 8  | Kevlar bidirectional fabric 10 oz         |
| 9  | Aluminum 6061T6 tubing                    |
| 10 | Aluminum 5051H34 sheets                   |
| 11 | Stainless steel sheet and tubing AISI 304 |
| 12 | Covering fabric                           |

## 2.4 List of Equipments

Seamax M-22 S-LSA “ready to fly” seaplane

### **Standard Equipment**

Outside paint, UV resistant, PU base white;

Outside decorative stripes in vinyl;

One piece canopy, tinted green with two snap vents;

Inside leather finishing;

Three point seat belts;

Adjustable seats, in leather cushions;

Carpets for both sides;

Front pockets in leather;

Central joystick mount;

Dual power levels;

Dual hydraulic brakes, differential for steering;

Electric pitch trim with level on dashboard;

Electric actuated flaps, with position lights on dashboard;

Two fuel valves, one for each tank;

Two wing tanks and a central heater tank;

Retractable, electric activated tricycle landing gear with position lights on dashboard;

Ignition switch with key;

Circuit brakes for all electric system;

Retractable water rudder;

Landing lights;

Strobe lights;

Navigation lights;

Electric fuel pump;

Electric bilge pump.

## **Engine**

Rotax 912 ULS 100hp, equipped with clutch and stainless steel exhaust system.

## **Standard Flight Instruments**

3 1/8 UMA altimeter

UMA Vertical speed indicator

UMA airspeed indicator

Magnetic compass

## **Optional Flight Instruments**

Glass instruments Garmin G3X, Garmin G5, Dynon D-100, or D-180

## **Engine Instruments**

Mitchell 2 1/4 analogical instruments

Fuel pressure

Voltmeter

Oil pressure

Oil temperature

Cylinder head temperature

UMA 2 1/4 RPM

## **Propeller**

Warp drive, three blades constant speed shape, with nickel protection leading edge, HPL-R hub / Sensenich Propeller three blades.

Fiberglass spinner is optional.

## **Communication & Navigation (optional)**

VHF Radio X-com

Transponder Becker with "C" mode

ELT Ameri-king corporation model AK-450 per TSO-C91a and DO-160c Requirements.

### **Options**

VHF radio, Xponder, GPS, EFIS, EMS, Auto pilot, Intercom, PCAS, GPS.

## **General Options**

Canopy protection cover;

Jack for landing gear test;

Hardware for water operation;

Fins for elevator;

Wing tips model 2010.

## 2.5 Sources to Purchase Parts

All the spare parts can be purchased from the factory, **SEAMAX AIRCRAFT LTDA.** ([www.seamaxaircraft.com.br](http://www.seamaxaircraft.com.br)) E-mail [support@seamaxaircraft.com](mailto:support@seamaxaircraft.com).

Usual aircraft parts as bolts, nuts, rivets, turnbuckles, etc, can be purchase on any aviation supply company.

All parts can be checked and ordered, using the information's and drawings along this maintenance manual.

## 2.6 List of Disposable Replacement Parts

Air filter	KN
Fuel filter	fuel filter
Oil filter	oil filter
Main wheel tire	500X5
Main wheel tube	500X5 bent valve
Front wheel tire	350X4
Front wheel tube	350X4 bent valve
Brake pads	brake pads
Engine Spark plugs	spark plugs

## 2.7 Engine Specifications

**NOTE:** for complete information about engine specifications and limitation, read the Maintenance Manual for Rotax 912 series, supplied with the aircraft

Manufacturer	Rotax
Type	912
Model	ULS/S

### **General Specifications:**

	4 stroke, 4 cylinders opposed, one central camshaft, push rods OHV
	Liquid cooled heads
	Ram air cooled cylinders
	Dry sump forced lubrication
	2 constant depression carburetors
	Mechanical fuel pump
2,43:1	Propeller drive via reduction gear with shock absorber and clutch, ratio
	Electric starter
	Integrated AC generator with external rectifier/regulator

### **Operating Limits**

#### **Speed**

Take off speed	5800 rpm/min (5 minutes)
Max. Continuous speed	5500 rpm/min
Idle speed	1400 rpm/min



**Performance**

Take off performance	73,5 KW @ 5800 rpm
----------------------	--------------------

Max. Continuous performance	69 KW @ 5500 rpm
-----------------------------	------------------

**Acceleration**

Max.	5 seconds at max -0,5 g's
------	---------------------------

**Oil pressure**

Max.	7 bar (short period, cold start)
------	----------------------------------

Min.	0,8 bar (12 psi) below 3500 rpm
------	---------------------------------

Normal	2,0-5,0 bar (29-7 psi) above 3500 rpm
--------	---------------------------------------

**Oil temperature**

Max	130 C (266 F)
-----	---------------

Min	50 C - 130 (120 F – 266 F)
-----	----------------------------

Normal	90-110 C (190-230 F)
--------	----------------------

**Cylinder head temperature**

Normal	130 (266)
--------	-----------

Attention	130 (266)–135 (275)
-----------	---------------------

Max	135 C (275 F)
-----	---------------

**Engine start, operating temperature**

Max	50 C (120 F)
-----	--------------

Min	-25 C (-13 F)
-----	---------------

**Fuel pressure**

Max	0, 4 bar (5, 8 psi)
-----	---------------------

Min	0, 15 bar (2, 2 psi)
-----	----------------------

**More detailed engine information is available in the Maintenance Manual for Rotax, type 912 ULS, supplied with the aircraft**

## 2.8 Weight and Balance Information

Weights starting:

Minimum load with ballast on front seats,	122 lb	55 kg
Maximum load on front seats, w/o ballast	489 lb	220 kg
Maximum take off weight	1320 lb	600 kg
Baggage weight (limited by MTOW)	44 lb	20 kg
Empty weight (standard ULM)	715 lb	325 kg
Empty weight (Fixed Wing)	753 lb	342 kg
Empty weight (Foldable Wing)	818 lb	350 kg

Datum line is **wing leading edge**

Level line is **wing lower surface, at root section, with 4,6 degrees positive.**

Baggage is located very close to CG position, so limit of baggage weight is only limited by maximum take off weight.

**Leveling:** The airplane should be leveled by the bottom of the wing with + 4, 6 degrees positive.

Main landing gear wheels should be positioned over level blocks. Depending on shock absorbers on main landing gear, those blocks probably will have different heights in different airplanes.

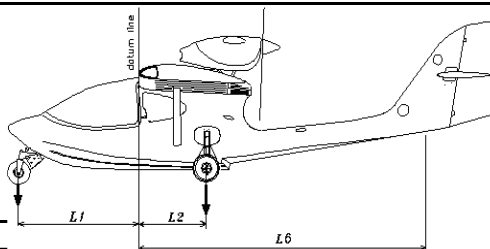
**Measuring:** Measurement should be taken with a bob weight, marked on ground and then measured.

**Weighting:** Using one or three scales, the airplane should stay on same level for weighting.

### Empty Weight @ CG position

Tail Number \_\_\_\_\_ Maker \_\_\_\_\_  
Model \_\_\_\_\_ S/N: \_\_\_\_\_  
Datum \_\_\_\_\_

Weight Scale: \_\_\_\_\_  
S/N \_\_\_\_\_



### 1. Pesagem

		①	②	③=①-②	④	⑤=③x④
Pontos de reação	units	Scale Value lb	Tara lb	Weight lb	Arm in	Moment in.lb
1.1 Left MLG	L2 LH (+)	380,0		380,0	32,05	12.179,0
1.2 Right MLG	L2 RH (+)	379,8		379,8	32,05	12.172,6
1.3 Third point	L1(-) or L5	0,0		0,0	-56,95	-
1.4	totals			759,8		24.351,6

**Note:** Arms L1, L2 or L5 shall be measured for each specific aircraft

Notes: a) Empty fuel tanks, lines with fuel, engine with oil, radiator with water  
b) NO Ballast  
c) NO Ballistic Parachute

### 2. Items to add or to subtract

<b>Acft Basic Items</b> not installed in the aircraft when aircraft was weighte (individual weight shall have plus signal)			
2.1			0
2.2			0
2.3			0
2.4			0
<b>Not Acft Basic Items</b> installed in the aircraft when aircraft was weighte (individual weight shall have minus signal)			
2.5			0
2.6			0
2.7			0
2.8			0

### 3. Empty Weight and C.G.

	⑥	⑦=⑥/⑥	⑧
3.1 Basic Empty Weight (BEW) (lb) equal 1.4 + (2.1 a 2.8)	759,8		24.351,6
3.2 CG for Basic Empty Weight (CGBEW); inches from Datum		32,05	

Date: \_\_\_\_\_ Operator \_\_\_\_\_

### 4. Notation

Cell to INPUT data	
CALCULATED usefull data	
CALCULATED data	

## TIPICAL PRODUCTION STD AIRCRAFT

4.1	Fuel for Taxi, Climb and Cruise	5	gallons	29		
4.2	Reserve Fuel (alternate)	0	gallons	0		
4.3	Fuel for descent and hold		gallons	0		
4.4	.1+4.2+4.3)	5	gallons	29	55,00	1.614
<b>4. Ramp Weight</b>		(equal to 3. + 4.4)		<b>1.099</b>		25.986
5.1	Fuel for taxi		gal	-	55,00	0
<b>5. Take-off Weight</b>		item 4 + 5.1		<b>1.099</b>		25.986
CG Take-off (inch to DATUM)					<b>23,64</b>	
6.1	Estimate fuel consumption to destiny	5		29		
6.2	Fuel at Landing (4.4 - 6.1)	0		0	55,00	0
<b>6. Landing Weight</b>		(3. + 6.2)		<b>1.070</b>		24.372
CG Landing (inch to DATUM)					<b>22,78</b>	

date 

operator 

### 7. Design Limits

7.1	Maximum Take Off Weight		<b>1320</b>	lb
7.2	C.G limits	front <b>17,70</b>	rear <b>27,60</b>	in
7.3	Solo Flight Requires 23 lb of ballast 23 at 46,85 ahead of datum			
7.4	Maximum Fuel capacity		<b>24,3</b>	gallons
7.5	Maximum Bagagge capacity		<b>10,0</b>	lbs
7.6	Most aft wei Seats (190 lb), Fuel (17 gal)		<b>1085</b>	lb
7.7	Most aft wei Seats (180 lb), Fuel (18 gal)		<b>1069</b>	lb
7.8	Most aft wei Seats (140 lb), Fuel (11 gal)		<b>998</b>	lb
7.9	Most Forwai Seats (300 lb), Fuel (5 gal)		<b>1099</b>	lb
7.10	Most Forwai Seats (300 lb), Fuel (0 gal)		<b>1070</b>	lb
7.11	Flight Test Weight			lb

<b>24,44</b>	in
<b>27,44</b>	in
<b>27,60</b>	in
<b>23,64</b>	in
<b>22,78</b>	in

### 8. Notation

Cell to INPUT data  
CALCULATED usefull data  
CALCULATED data  
Factory average values

<b>XX</b>

## 2.9 Tire Inflation Pressure

Front tire, 350X4	15 - 20 psi	1,0 – 1,4 bar
Main tires, 500X5	30 - 40 psi	2,1 – 2,8 bar

## 2.10 Approved Oils and Capacities

### Fuel:

Wing tanks (each)	12, 5 us gal	46 l
Total wings	25,0 us gal	92 l
Heather tank	1, 6 us gal	6 l
Total fuel	26, 0 us gal	98 l
Usable fuel	24, 8 us gal	94 l

Fuel specification: Minimum RON 95; Minimum AKI 92 octane auto fuel

Usable types: EN 228 Premium; EN 228 Premium Plus, AVGAS 100LL

### Oil:

NOTE: See Rotax Operator's Manual, supplied with the aircraft, for correct oil information.

Use motorcycle oil of a registered brand, with gear additives.

Use only API classification "SF" or "SG"

Oil Capacity: 3 L (6.4 liq pt) minimum 2 L (4.2 liq pt)

Oil Consumption: maximum 0.1 L/H (0.2 liq pt/h)

Oil viscosity: See chapter 10 of Rotax operator's manual

For complete oil specification see the Rotax operator's manual.

### **Cooling Fluid:**

NOTE: See Rotax Operator's Manual, supplied with the aircraft, for correct cooling liquid information.

Cooling liquid capacity	5, 3 liq pt	2,5 l
-------------------------	-------------	-------

NOTE: Do not mix waterless cooling fluid with normal ethylene glycol fluids. Cooling systems must be washed before changing fluid type.



## Braking Fluid:

Use automatic transmission oil type (ex. Mobil ATF ),

NOTE: do not use automotive brake fluid oil, usually used on brake systems.

Oil capacity

1.1 liq pt

0,5 l

## 2.11 Recommended Fasteners Torque Values

All torque values are in inch-pound

	<b>#10-32</b>	<b>#10-24</b>	<b>1/4- 28</b>	<b>1/4-20</b>	<b>5/16-24</b>	<b>5/16-18</b>
Bolt	20-25	12-15	50-70	40-50	100-140	80-90
Nut	12-15	12-15	30-40	25-30	60-85	48-55
Over composite parts	6-7	6-7	15-20	12-15	30-42	24-27

NOTE: Engine torques are available on Rotax Operator's Manual, supplied with the aircraft.

## 2.12 General Safety Information

Always remove the ignition key, when not inside the aircraft. Ignition key is located on rear part of the overhead panel. Use central console pocket to keep keys, on ground.

Check the landing gear switch position, before turn on the master switch.

Before leaving the airplane, check if all switches are off, specially the master switch.

Check oil level, water level and general engine conditions at least once a day, before the first flight, by removing the upper part of engine cowling, opening 11 "D-zuz" bolts.

## 2.13 Instructions for Reporting Possible Safety of Flight Concerns Found During Inspection / Maintenance

Possible safety of flight concerns should be reported to the factory, by e-mail, letter or fax. Bellow addresses for report:

### **SEAMAX AIRCRAFT LTDA.**

Aeroporto de São João da Boa Vista - SP

Hangar 01

Rod. SP 344, km 219, ZIP: 13.870-970

Phone: (55) 19 99850-6810

support@seamaxaircraft.com

info@seamaxaircraft.com.br

[www.seamaxaircraft.com.br](http://www.seamaxaircraft.com.br)

The descriptions of possible safety concerns should have also the following information's:

**Owner or operator of the airplane;**

**Inspector or repairman;**

**Date of inspection;**

**Aircraft serial number;**

**Engine serial number;**

**Airframe total hours;**

**Engine total hours.**

**(Form S.A 043)**

**WARNING**

To assure the receiving supplemental notification bulletins, and manuals revisions, is owner/operator responsibility, providing SEAMAX with current contact information, where they will be sent

## 3. Inspections

### Aircraft condition inspect checklist

Aircraft:

“N” number:

Model:

Aircraft Serial number:

Engine:

Engine serial number:

Total Time of airframe:

Total Time of engine

Owner:

Inspector:

Inspection date:

Level of Certification			
(MMA) Aeronautical Maintenance Mechanic (BRA)  Repairman (USA)	(M) Manufacture	(O) OWNER	(RS) RepairStation RBAC/FAR 145

## 3.1 Aircraft Records

Inspection and/or Maintenance Checklist	50 Hours	100 hours	Annual	Certification level
<b>Aircraft Log Books:</b> Check total time, time since overhaul, time since last maintenance and records.	X		X	O/M/MMA/RS
<b>Service Bulletins:</b> Check for recommended service bulletins to be complied within the inspection	X		X	M/MMA/RS
<b>Safety Directives:</b> Check (SD's) must be complied within the inspection	X		X	M/MMA/RS
<b>Airworthiness Directives:</b> Check (AD's) must be complied within the inspection	X		X	M/MMA/RS
<b>Aircraft records :</b> Check registration form and airworthiness certificate			X	O/M/MMA/RS
<b>Aircraft maintenance manual:</b> Check last revision			X	O/M/MMA/RS
<b>Pilot's Operating Handbook (POH):</b> Check last revisions, check equipment list and Weight and balance forms.			X	O/M/MMA/RS

## 3.2 Start-up

<b>Inspection and/or Maintenance Check-list</b>		<b>50 Hours</b> <input type="text"/>
		<b>100Hours</b> <input type="text"/>
		<b>Annual</b> <input type="text"/>
<b>Before star-up</b>		
	Pre-Inspection	Post -Inspection
Battery		
ELT battery test		
Fuel valves		

<b>Start-up</b>		
Starter		
Oil pressure		
Instruments		
Avionics		
Ignition test		
brakes		
<b>Before shut down</b>		
Oil pressure		
Idle RPM		
Oil temperature		
Battery		
<b>Before leaving airplane</b>		
Switches off		
Check fuel odors		
Fuel valves off		
NOTES:		

### 3.3 Post Run-up

Inspection and/or Maintenance Checklist	Pre Flight	100 hours	Annual	Certification level
<b>Engine Cowling.</b> Remove engine cowling by unscrew 11 "D-zus" bolts. Check for cracks on cowling, bolts and springs.	X			O/M/MMA/RS

<b>Engine oil</b> Check the level according Rotax operator's manual	X			O/M/MMA/RS
<b>Engine cooling liquid</b> Check level on system and overflow bottle. More information on Rotax Operator's Manual	X			O/M/MMA/RS
<b>Engine exhaust system</b> Check heat protection, springs and cracks.	X			O/M/MMA/RS
<b>Engine heat protection</b> Check general conditions, on tubes and hoses.	X			O/M/MMA/RS
<b>Engine rubber mounts</b> Check general conditions	X			O/M/MMA/RS
<b>Propeller</b> checks general conditions, bolts and spinner, if available.	X			O/M/MMA/RS
<b>Canopy seal, ventilation and lock</b> Check air springs, travel, seal condition, lock operation	X			O/M/MMA/RS
<b>Elevator</b> Check travel, smoothness and unusual noises	X			O/M/MMA/RS
<b>Rudder</b> Check neutral, travel and unusual noises	X			O/M/MMA/RS
<b>Ailerons</b> Check travel, smoothness and unusual noises	X			O/M/MMA/RS
<b>Flaps</b> Check travel, position lights, smoothness and unusual noises	X			O/M/MMA/RS
<b>Elevator trim</b> Check travel and position lights	X			O/M/MMA/RS
<b>Landing gear retraction</b> on stands, check retraction, indication lights, limits and play	X			O/M/MMA/RS
<b>Brakes</b> Check disk and paddles wearing, tubes and oil level	X			O/M/MMA/RS
<b>Inspection window</b> remove vinyl seals, remove inspection windows, clean it, and check all inside links and connections.	X			O/M/MMA/RS
<b>Inside fairings</b> , remove all inside fairings to check all systems and equipments behind, also seats and carpets	X			O/M/MMA/RS



<b>Battery</b> Check fixation, cables and general condition	X			O/M/MMA/RS
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## 3.4 Power Plant

Inspection and/or Maintenance Checklist	50 Hours	100 hours	Annual	Certification level
<b>Engine</b> check general conditions clean and Inspect it as required on Rotax Maintenance Manual.	X		X	O/M/MMA/RS
<b>Carburetors</b> check carburetors fixation, leaks, throttle and choke cables and travel.	X		X	O/M/MMA/RS
<b>Air filters</b> check fixation, general conditions and cleanliness		X	X	O/M/MMA/RS
<b>Fuel lines</b> check for general conditions, heat protection, proper fixation, leaks, bents, etc.		X	X	O/M/MMA/RS
<b>Propeller</b> check for cracks, erosion, and corrosion on hub, re-torque fixation bolts if necessary. Check hub fixation and condition, if available.	X		X	O/M/MMA/RS
<b>Exhaust system</b> check for broken springs, heat protection, cracks and gas leaking points	X		X	O/M/MMA/RS
<b>Water radiator</b> checks fixation points and rubber conditions, hoses, heat protection and clamps.	X		X	O/M/MMA/RS
<b>Oil radiator</b> check fixation points, hoses, heat protection and clamps.	X		X	O/M/MMA/RS
<b>Engine mounts</b> check for corrosion points and cracks.	X		X	O/M/MMA/RS
<b>Engine rubber mounts</b> check general conditions of rubber	X		X	O/M/MMA/RS

<b>Sensors and electric cables</b> check general conditions, heat protection and fixation	X		X	O/M/MMA/RS
<b>General fire sleeve conditions</b> check general conditions and fixation points	X		X	O/M/MMA/RS
<b>Vent lines</b> check heat protection, fixation and general conditions	X		X	O/M/MMA/RS

## 3.5 Wings

Inspection and/or Maintenance checklist	50 Hours	100 hours	Annual	Certification level
<b>Wing struts</b> Check general conditions, clean and Inspect both ends, looking for corrosion, cracks and fixation bolts .	X		X	O/M/MMA/RS
<b>Covering</b> Check general conditions of fabric and painting. Rear bottom part of wing, check for fuel leakage.	X		X	O/M/MMA/RS
<b>Attachment points</b> Check general condition of fixation points inside the fuselage (4 points), corrosion, and cracks.		X	X	O/M/MMA/RS
<b>Wing fuel tanks</b> Check connection points on root, check fuel caps general conditions. Check fuel placards.		X	X	O/M/MMA/RS
<b>Ailerons</b> Check hinge points, travel, and unusual noises. Remove vinyl inspection windows and check belcranks and connection points. Check trim tab, if available.		X	X	O/M/MMA/RS
<b>Flaps</b> Check hinge points, travel, unusual noises, limits and indication lights.		X	X	O/M/MMA/RS
<b>Pitot tube</b> Check fixation, connection points and cleanliness.	X		X	O/M/MMA/RS
<b>Transponder antenna</b> Check fixation and connections.		X	X	O/M/MMA/RS

<b>Lights</b> Check landing lights, strobe lights and position lights. Check general condition of lenses.		X	X	O/M/MMA/RS
<b>Flight controls</b> Check travel, unusual play, and noise. Check in neutral position.	X		X	O/M/MMA/RS

## 3.6 Fuselage

Inspection and/or Maintenance Checklist	50 Hours	100 hours	Annual	Certification level
<b>Fuselage</b> Check general conditions look for cracks, paint damage, vortex generators conditions and placards conditions. Special look for cracks along the edges of the fuselage, and top central part of the tail cone.	X		X	O/M/MMA/RS
<b>Hull</b> Check general condition of hull, looking for paint damage areas, cracks, check spray rails conditions, and vents	X		X	O/M/MMA/RS
<b>Inspection windows</b> remove vinyl seals, and inspection windows, clean it and inspect inside mechanisms, cables and push rods.		X	X	M/MMA/RS
<b>VHF antenna</b> Check general conditions, fixation points and connection	X		X	O/M/MMA/RS
<b>Canopy</b> Check for scratches, general condition of seals, ventilation, lock mechanism and gas springs. Check open and closed travel.		X	X	M/MMA/RS
<b>“N” number</b> Check general conditions.	X		X	O/M/MMA/RS
<b>Placards</b> Check general conditions.	X		X	O/M/MMA/RS
<b>Drain valve</b> Check for operation and eventual leaks.	X		X	O/M/MMA/RS
<b>Bilge pump exit</b> Check fixation and hoses.	X		X	O/M/MMA/RS

## 3.7 Tail

Inspection and/or Maintenance Checklist	50 Hours	100 hours	Annual	Certification level
<b>Fin</b> Check general conditions, look for cracks and painting damage.	X		X	O/M/MMA/RS
<b>Rudder</b> Check General conditions. Check hinges points travel and play. Check for cracks.	X		X	O/M/MMA/RS
<b>Water rudder</b> Check general conditions, travel, and play.	X		X	O/M/MMA/RS
<b>Rudder trim tab</b> Check general conditions and correct regulation bend	X		X	O/M/MMA/RS
<b>Elevator</b> Checks for unusual play, travel and fixation points. Inspect for paint damage.	X		X	O/M/MMA/RS
<b>Anti servo and trim tab</b> check hinges, travel of anti servo and trim. Check indication lights.	X		X	O/M/MMA/RS
<b>Flight controls</b> Check travel, unusual noises and smoothness	X		X	O/M/MMA/RS

## 3.8 Landing Gear

Inspection and/or Maintenance Checklist	50 Hours	100 hours	Annual	Certification level
<b>Tires and wheels</b> Check for cracks, fixation bolts and general conditions	X		X	O/M/MMA/RS
<b>Brakes</b> Check disk and paddles conditions, oil lines and oil level. Clean it if necessary		X	X	M/MMA/RS

<b>Ball bearings</b> While on stands check for general conditions. Remove and clean it if necessary		X	X	M/MMA/RS
<b>Shock absorbers</b> While on ground check in the neutral position and if left and right sides are equal.	X		X	O/M/MMA/RS
<b>Main landing gear</b> Check unusual play, corrosion and fixation points	X		X	O/M/MMA/RS
<b>Nose landing gear</b> Checks unusual play, corrosion and fixation points. Check for cracks or wearing points.	X		X	O/M/MMA/RS
<b>Landing gear retraction</b> on stands check for travel, limits and unusual noises. Check indication lights.		X	X	M/MMA/RS
<b>Fairings</b> Check for proper fixation, loosen bolts and general conditions	X		X	O/M/MMA/RS

## 3.9 Cabin

Inspection and/or Maintenance checklist	50 Hours	100 hours	Annual	Certification level
<b>Inside fairings</b> Remove for inside inspection. Inspect general conditions and fixation points. Clean if necessary.	X		X	O/M/MMA/RS
<b>Seat belts</b> Check general condition, fixation points and lock and release.	X		X	O/M/MMA/RS
<b>Seats</b> Remove seats, check travel and lock pin, fixation points and plastic bushings		X	X	M/MMA/RS
<b>Avionics</b> Inspect for general conditions, fixation and operation		X	X	M/MMA/RS
<b>Instruments</b> Inspect for general conditions, fixation and operation		X	X	M/MMA/RS
<b>Dashboard</b> Inspect proper fixation, instruments fixation, placards and general		X	X	M/MMA/RS

conditions. Check both, front panel and top panel				
<b>Cables wires and hoses</b> On back panel check for proper fixation, wearing and connections. Check moving parts of front landing gear to avoid contact with wires etc.		X	X	M/MMA/RS
<b>Switches, circuit brakes and ignition key</b> On top panel check operation, and fixation. General condition should be inspected too.		X	X	M/MMA/RS
<b>Placards</b> Check general conditions and legibility	X		X	O/M/MMA/RS
<b>Fuel valves</b> Check operation, fixation and look for leaks	X		X	O/M/MMA/RS
<b>Rudder pedals</b> Check travel, and unusual noises. Check neutral position and smoothness.	X		X	O/M/MMA/RS
<b>Brake pedals</b> Check for normal operation. Look for leaks and unusual play	X		X	O/M/MMA/RS
<b>Control stick</b> Checks travel, look for unusual noises, movement and smoothness. Check for abnormal gaps and proper connections	X		X	O/M/MMA/RS
<b>Floor and access panels</b> After removing seats, remove access panels, and look for strange objects inside. Clean if necessary		X	X	M/MMA/RS
<b>Throttle levels</b> Check general conditions, gaps and travel. Check for smooth operation.	X		X	O/M/MMA/RS
<b>ELT</b> Inspect battery conditions and validity, cables and operation. Inspect general condition of fixation	X		X	O/M/MMA/RS
<b>Ballast</b> Check ballast location and proper conditions	X		X	O/M/MMA/RS

## 3.10 Inspection Completion

Inspection and/or Maintenance Checklist	50 Hours	100 hours	Annual	Certification level
<b>Wings</b> Check for foreign objects and tools, replace vinyl inspection windows		X	X	M/MMA/RS
<b>Fuselage</b> Check for tools and foreign objects, glue inspection windows and apply vinyl seals		X	X	M/MMA/RS
<b>Engine</b> Check fluid levels and general conditions before start it up. Check on Rotax Operator's Manual for extra information.		X	X	M/MMA/RS
<b>Start up</b> With out the engine cowlings, start up, and let it warm. After shut off look for leaks and unusual conditions, before close the cowlings		X	X	M/MMA/RS
<b>Cabin</b> Reinstalls all fairings, seats belts and carpets. Look for tools or parts inside.		X	X	M/MMA/RS
<b>Aircraft Records</b> Record all required entries on logbooks, and check for AD, SD and SB compliance		X	X	M/MMA/RS

## 4 Structures

### 4.1 Wings

#### 4.1.1 Wing Structure

Seamax M-22 wing structure is basically made in aluminum. An aluminum tubular single spar with a diagonal drag tube and rear "C" shape spar only for hinge fixation. Wing sections are made of aluminum sheet, and leading edge and rear fairing made of composite. Ailerons and flaps have similar construction as wing; each control surface is attached to the wing with two hinges each. All covered with polyester fabric, doped, primed and painted with PU base paint, with anti UV protection.

Wing is attached to fuselage by 3 points, one in main spar, other in diagonal drag tube, both in wing root. The third is the single wing strut, to the bottom side of fuselage.

**Wing Carbon Fiber Version** - Seamax Aircraft made a modification in the design of the wing for its Seamax M-22 model, now completely made of composite material. All physical and aerodynamic characteristics were maintained in the original design, with the structure being optimized only due to the new material used, basically carbon fiber.

Such technology change makes the Seamax M-22 structure more harmonic and advantageous, now 100% in composite material. As improvements, the new composite wing achieved a weight reduction of approximately 18 kgf, and in addition, the structural components are immune to corrosion and fatigue.

It has a C wing spar, with a leading edge in a rigid D structure. It has the same coating process, same tank capacity and same wing folding operation.

The inspection, maintenance, installation and removal procedures of the wings remain the same as for the aluminum version.



Each wing has a fuel tank that can be removed, and a fuel cap on the top of the wing.



## 4.1.2 Wings Installation and Removal

To install and remove the wings, be careful to disconnect or reconnect all the wires, cables and hoses, as described bellow. Be sure the fuel wing fuel tanks are empty, to avoid leaks during the installation or removal process.

### 4.1.2.1 Tools required

---

Wrench 7/16	02 required	
Wrench ½	02 required	
Phillips screw drive ¼	01 required	help holes alignment
Allen wrench 5/32	01 required	

### 4.1.2.2 Parts and material required

---

Multipurpose grease  
Lock wire

### 4.1.2.3 Type of maintenance

---

Heavy

### 4.1.2.4 Level of certification

---

MMA/Manufacturer/RS

Light Sport Aircraft Repairman Maintenance Airplane (LSRMA)

#### *4.1.2.5 Wing installation*

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The procedures, sequences and general instruction described for this operation, are only applicable for a normal wing installations or removal. For damage parts or repaired parts please contact SEAMAX or dealers. Three people are needed for this operation.

1- Prepare both wings, wing struts, bolts, nuts and fairings needed to this operation; apply some grease on the wing fitting points and on the same points in the fuselage. Bolts can be greased too.

2- Place the fuselage, and block the wheels to avoid undesirable movements of the airplane during wing installation or removal;

3- Install on fuselage both wing struts, using the proper bolt and the plastic saddles between the fuselage fittings. Install the wing strut fairings on the other end of the wing struts, and lay down this end until wing installation.



4- Place the wing near the fuselage, and insert the main wing fitting only one inch inside the fuselage fitting, leaving a space between the wing root and the fuselage;

5- At this point we only need one person holding the wing tip, and other below the wing near the root, preparing all the hoses, cables and electric wires that come from the wing, to the respective holes on the fuselage. Right wing has wires for landing lights, wires for strobe and navigation lights, transponder cables and two steel cables for aileron mechanical system.



6- After all cables, hoses and wires are passing through their correct places, force the wing to fit both connections on places, the front one already with one inch inside, and the rear one. Do not worry if wing does not seem to fit in fuselage, because of a gap between.

7- Connect the wing strut to the wing and install the bolt. Since there is a gap between the fuselage and wing, the wing should appear a negative dihedral.

8- Force the wing tip up, and the gap between the wing and the fuselage should be closed. From the inside part of the cabin, use (if necessary) the ¼ Philips screwdriver to align the holes of the main wing fitting, and place the bolt. Only this bolt and the wing strut will keep the wing in place. Be careful to avoid front movement on the wing tip. Install at the rear fitting point, through the rear inspection holes on the top of fuselage. If necessary force the wing tip toward the and back.

9- Repeat the same procedures for the other side of the wing, and then install all the nuts in their bolts and torque them. Total of bolts to torque:

- 04     ¼, inside the fuselage, wing/fuselage attaching points
- 04     5/16, on each end of wing struts.

10- Start connecting aileron cables from inside the cabin. Connect the longest and rear ones to the torque tube belcrank arm, then thru pulleys located in the top of the cabin. The turnbuckles should be connected on the inside hole, using an AN3 bolt/nut.

NOTE: The right wing cable connects at the left belcrank arm after passing thru the pulley.

Connect both front ailerons cables to each other. Check proper ailerons cable and belcrank regulations. Check aileron neutral position. Use wire lock in all turnbuckles after the ailerons system is properly regulated.

11- Connect the strobe lights to the central unit located in the middle of the airplane. Connect the navigation light plugs to the cables with the same color located near the central unit. Connect the landing lights plugs.

After all connections are made, secure all cables along the structure tubes with tie-up clamps to avoid contact with any moving parts.

12- Connect the fuel hoses by feeding one line in each side, and two vent lines in each side. This gravitational fuel line can be secured on the connection with tie-up clamps. If necessary, affix with tie-ups to ensure that none of the fuel lines touch any part that can be damaged.

13- Connect the transponder antenna cable at left side, and secure it with tie-ups.

14- Connect the pitot tube at right side of the cabin.

15- From outside the aircraft, reach through the rear top inspection window, and connect the ball joint to the ailerons after applying some grease. Connect one safety pin in each ball joint. Be sure to correctly install all safety pins. Check the flap alignment in a neutral position. Replace the inspection window by gluing it with silicon. Apply a vinyl seal over the seam.

16- Install the wing tip floats to their corresponding sides. Don't forget to install the fairing on the float strut before installing it on the wing. Install the bolt and the nut.

17- Install the pitot tube inside the plastic base on the bottom part of the right wing.

18- With the fuel valves closed, put fuel in both fuel tanks. Check for leaks. Open one valve at a time, and check it is flowing to the heater tank. Fill the fuel system, and look for potential leaks.

#### *4.1.2.6 Wing removal*

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The first step to removing the wings, is to empty the fuel tanks.

Once the fuel tanks are empty, proceed with the wing removal in the reverse sequence of installation.

#### *4.1.2.7 Verification required*

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Check all bolts and nuts.

Check the fuel system, looking for leaks and odors.

Check the pitot and transponder antenna.

Check the landing, strobe, and navigation lights.

Check the flap and aileron control system.

## 4.2 Tail

The Seamax M-22 tail has a fin, rudder, and a stabilator installed on two half's. The fin is made of composite. It is part of the fuselage, and where the stabilator mechanical system is fixed. The udder will be detailed later on control surfaces.




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### 4.2.1 Stabilator Installation and Removal

#### 4.2.1.1 Tools required

---

Wrench ½	02
Allen wrench xx	01
Pliers	01

#### *4.2.1.2 Parts and material required*

Grease and Loctite 277

#### *4.2.1.3 Type of maintenance*

---

Heavy

#### *4.2.1.4 Level of certification*

---

MMA/Manufacturer/RS

Light Sport Repairman Maintenance (LSRMA)

#### *4.2.1.5 Stabilator installation*

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- 1- On the fuselage sides, there is a stainless steel tube which is the axle of the stabilator. On the top of it, there are two small belcrancks (one in each side) which are the trim tab arms. This is also the fixed point for the anti servo tab. Grease should be applied over the tube and on the plastic bushing of the belcranck.



2- Place some blocks on the main wheels to avoid undesirable movements of the airplane while installing the stabilator. At this time, the trim belcranks should be installed on the stabilator trim rod, as shown on picture. Protect them with some plastic to avoid fin damage during installation. Place two stabilator halves (belcrank trim is up), and introduce the stainless steel spar tube on the stabilator's hole (spar tube too). When the bolt holes are only one inch from being aligned, introduce the belcrank on the plastic bushing. It will only fit in place at one position. Complete the stabilator installation, and after the holes are aligned, just install the AN5 bolt. Repeat this process for the other side.

3- Tighten the nuts, just enough to avoid gaps. Loctite should be on the Allen bolts of the belcrank before installation.

4- Apply a transparent plastic window over the stabilator bolts (there is a place around the bolt housing) using a vinyl seal.

Lock seal should be applied over the belcrank bolts.

#### *4.2.1.6 Angles of deflection*

---

The elevator and trim mechanisms are all located inside the airplane, and it is not necessary to change regulations. However, a description of these regulations is described on control surfaces.

Three red dots are marked on the right side of the fin. These dots ensure that proper deflection and regulation can be easily seen. The top mark shows the minimum travel for pitch down, and bottom mark shows the minimum travel for pitch up. The central dot shows the neutral point, and this should be used to check the neutral control stick position and the neutral for trim adjustment.

Once the stabilator is aligned with the central dot, check that the trim indication lights are on the middle and trim tab position is neutral. Small trim adjustments can be made by removing the connection fork pin on the tab horn. Loosen the nut, regulate the fork, and reassemble the pin and cotter pin.





#### *4.2.1.7 Verification of stabilator installation and adjustment*

---

Check the stabilator movement for play, smooth travel and unusual sounds. Check minimum and complete travel. Check neutral position of control stick and stabilator.

Check bolts and pins.

## **4.3 Landing Gear**

As a sea plane, the Seamax M-22 landing gear is a repositionable tricycle that is activated powered by a electric motor. Lock down is made by an off center hinge located on the three legs. The electric system activates the three landing gears at the same time.

### **4.3.1 Front landing gear**

#### *4.3.1.1 Tools required*

---

Allen wrench (5/16)

Allen wrench (1/4)

Allen wrench (3/16)

Allen wrench (5/32)

Wrench 7/16

Wrench 3/8

Pliers, fine point

Jack for retraction test

Philips screw driver

#### *4.3.1.2 Materials required*

---

Grease

Loctite 277

Vaseline

Safety wire

#### 4.3.1.3 Type of maintenance

Heavy

#### 4.3.1.4 Level of certification

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Manufacturer/MMA/RS

Light Sport Repairman Maintenance Aircraft (LSRMA)

#### 4.3.1.5 General

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To remove, inspect, or install the front landing gear, the tail must be set down. Install some support just below the front wheel and below the keel to prevent the airplane from falling down on front wheel. Also install some blocks on the main wheels to avoid undesirable airplane movement.

If the landing gear retraction system will be inspected, place the entire aircraft on the special jack. Install a support below the keel, and **MAKE SURE** that none of the wheels will touch the ground.

#### 4.3.1.6 Inspections

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Check for general conditions of the tires, tire pressure, and arm and shock absorber legs. Also check the fairing conditions.

##### 4.3.1.6.1 Arm / fork inspection

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Check for cracks or damaged points. Check the lateral play of the arm over the retraction hinge by forcing it sideways with your hand. Check the swivel travel of fork, movement, and neutral position by spring loading.

#### 4.3.1.6.2 Shock absorber inspection

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Before placing the airplane on a jack, inspect the position of the limit travel bolt with the Airplane on ground. With no load inside, the limit travel bolt should not be more than 3 mm after the bottom limit of the telescopic leg. Check the rubber/aluminum disks if it is more than 3 mm.

Force the nose down to check the telescopic movement.

#### 4.3.1.6.3 Retract system inspection

---

With the airplane on jack, as described in 4.3.1.5, turn on the master switch, and place the landing gear switch up to the “on” position. Check for travel, unusual noises, and smooth movement. Check that the “up” and “down” positions are correct. Check for free movement of the hinges on the center lock by pulling gently with your hand. You must be able to move the hinge more than zero and less than ¼ inches. If not, tune the retraction limits as described on 4.3.2.10.

#### *4.3.1.7 Front landing gear Removal / installation*

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Unless specified, the installation process will be the reverse sequence of removal. Special details on installation will be described.

##### *4.3.1.7.1 Wheel and fork removal / installation*

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To remove the complete set of wheel and fork, first remove the front wheel fairing by unscrewing the four screws on the front wheel arm. Remove the neutral position spring.

Remove the bolt / nut on the top of the fork axle, and remove cap. Swivel it and push it down and the complete set of wheel and fork will come out.

Unscrew at least one of the two bolts on the top of the wheel axle. Pull from the side with the bolt /washer and the axle can be removed. The front wheel will be out of the fork.



#### 4.3.1.7.2 Shock absorber removal / installation

---

Use needle nose pliers to remove the cotter pin that connects the telescopic leg to the carbon fiber arm.

From inside the cockpit, remove the four springs (for locking up and down position).

The teleflex cables should be removed from their place by cutting the safety wire. Then slide them out of the support.

The teleflex ends should be disassembled from the retraction belcranks. Remove the belcranks by removing the bolts.

Remove the transparent window to allowed access to the central bolt that affixes the telescopic arm to the axle. Slide the axle sideways and remove the telescopic arm.

Use grease on all moving parts during assembly.



#### 4.3.1.7.3 Arm removal / installation

---

Unscrew the two bolts located inside the cockpit on bottom. Those bolts are installed with Loctite, so they will be a little hard to remove.

Be careful when applying Loctite on bolts threads during installation. Avoid getting Loctite on aluminum / "O" rings.

Remove bolts and stainless steel bushings to release the carbon fiber arm will from the landing gear housing. Before installation, carefully grease the aluminum bushings where the retraction is hinged. Replace the "O" rings in the correct position.



### 4.3.2 Main landing gear

#### 4.3.2.1 Tools required

---

Allen wrench (5/16)

Allen wrench (1/4)

Allen wrench (3/16)

Pliers

Wrench 5/16

Wrench 7/17

Wrench 3/8

#### *4.3.2.2 Materials required*

---

Grease

Loctite 277

Vaseline

Safety wire

#### *4.3.2.3 Type of maintenance*

---

Heavy

#### *4.3.2.4 Level of certification*

---

Manufacturer/MMA/RS

Light Sport Repairman Maintenance Aircraft (LSRMA)

#### *4.3.2.5 General*

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To remove, inspect or install the main landing gear, place the aircraft on the special jack. Install a support below the keel, and make sure that none of the wheels will touch the ground, when the landing gear is deployed in a downward position.

#### *4.3.2.6 Inspections*

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Perform a visual inspection to look for unscrewed bolts, oil brake leaks, general conditions of fairings, and position of travel limit of shock absorber leg.

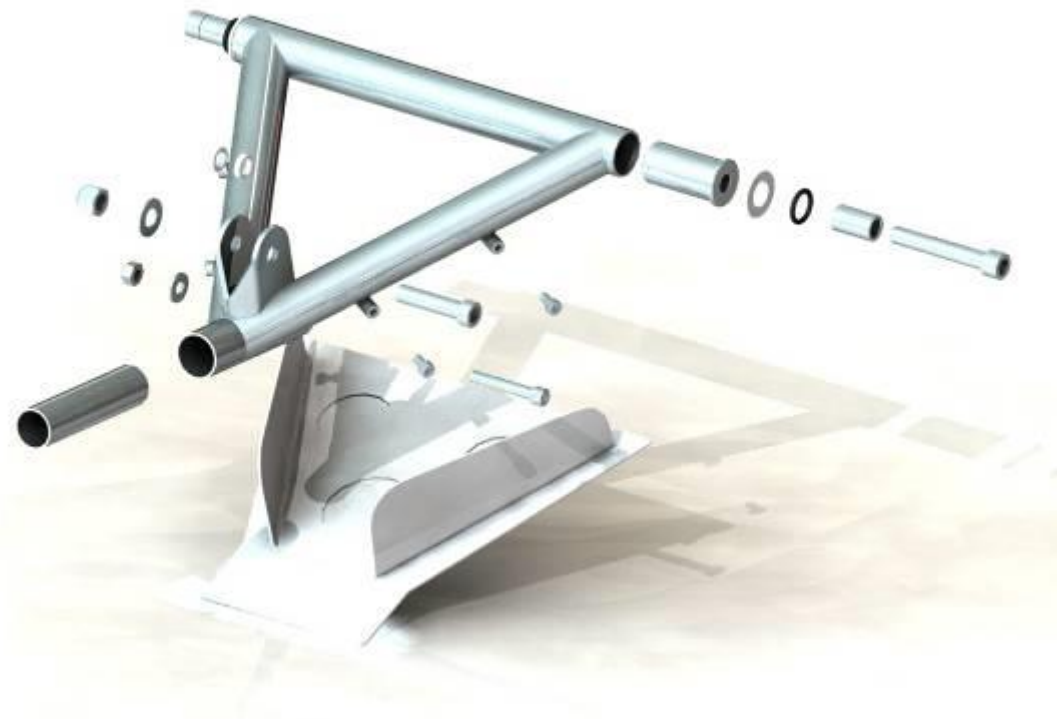
A visual check of wheels position on ground can show main landing gear damage by looking for visual caster of main wheels. If the main wheels are with the negative caster, (more than 5 degrees) check the of limit travel or if the main landing gear arm is bent.



#### *4.3.2.6.1 Arm inspection*

---

Push the arm in a forward and backward position to look for bends, corrosion points, and unusual play. Look for traces of grease on the hinge points.



#### *4.3.2.6.2 Shock absorber inspection*

---

Check that the ball joint is connected with the arm, and look for corrosion points. Force the leg for retraction while applying force to the hinge point, and check play of retraction hinge. Play must be between 1 to 6 mm of travel.



#### *4.3.2.6.3 Retract system inspection*

---

First, check the landing gear retraction movement. Check that the landing gear is correctly locking when positioned up or down. Check that the central fuse is properly greased, and check that the teleflex connections have free movement and not too much play. Check that all moving points are well greased.

#### 4.3.2.7 Main wheel and axle removal / installation

---

To remove main wheel, first remove the safety pin on the top of the wheel axle. Remove the nut, and then apply force on the tire from the inside to the outside. This will move the wheel out of the axle. The brake disk will stay in its original position between the brake pads.

Unscrew the four bolts on the main landing gear arm to remove the fairing. Mark the original position with a pencil to assure the correct adjustment during installation.

These bolts were installed with Loctite applied, so they will be a little hard to remove.

Unscrew and remove the  $\frac{1}{4}$  bolts and nut on the back of the axle. The axle can then be removed from the stainless steel arm. This axle should be very well greased to avoid corrosion between parts.

Installation should be done by the reverse sequence of removal. Apply grease when installing the axle on arm and the three disc brake pins.



#### 4.3.2.8 Triangle arm removal / installation

---

First, disconnect the ball joint from the leg by removing the 5/16 bolt and nut. Remove the two plastic spacers, that keep the ball joint centered on the arm.

Remove the two bolts that hinged the arm on the steep of the hull, one from the inside the cabin, and the other from the outside. These bolts (3/8) are installed with Loctite applied, so they should be a little hard to remove. Remove the stainless steel bushing and "O" ring inside the aluminum base on the fuselage structure. The stainless steel should be very well greased, but avoid grease contact with bolts when assembling.

During the installation process, grease the bushings, apply Loctite to the bolts, screw in both bolts, and check travel for free swiveling.

#### *4.3.2.9 Shock absorber leg removal/installation*

---

Disconnect the ball joint from inside the cockpit as described in the last step. Then, disconnect the Teleflex fittings on both sides by removing the 3/16 bolts on the retraction aluminum arm.

Disconnect the end of the retraction arm from the retraction mechanism by removing the safety pin and washers. Remove the safety wire, and remove the four bolts that keep the big hinge pins on the leg hinge point. Twist the protection plates, and remove the two big aluminum pins from each side of the safety mechanical breaker axle. The leg will drop down by the hole of main landing gear arm. If necessary use the bolts to remove the big aluminum pins.

The landing gear arm is affixed to the leg by the safety mechanical breaker axle and a bolt with bushing that allows travel between the leg and arm. If necessary remove this bolt to completely bend the arm into leg direction.

Installation is exactly at the reverse sequence of removal.

Make sure to apply grease in all moving parts.

Teleflex connection on the retraction arm should allow a free travel with out much play

#### *4.3.2.10 Retraction system tuning*

---

First disconnect both Teleflex on the main landing gear retraction arm or on the front landing gear belcranck. (These Teleflex will synchronize the front landing gear with main landing gear.

With the airplane on a jack, move the main landing gear to and up and down position to check the landing gear lock. The lock positions are determined by the position of the micro switch on the retraction mechanism. Lock down should allow a travel from 1 to 8 mm on the main landing gear legs, forcing the leg hinge to the inside. Values greater or lower than limits, requires a micro switch adjust tuning.

Check travel and lock position of the main landing gear before proceeding to the front landing gear tuning.

With the landing gear down, connect Teleflex with grease. The hinge bolt should allow a free movement of the fitting. Screw the bolt to the limit and then unscrew a half turn.

Adjust the Teleflex fitting at proper length, to assure front landing gear lock down.

Forcing the front landing gear retraction hinge, a free movement should be allowed from 1 to 5 mm.

Adjust the Teleflex fitting length to have those limits.

After all systems are connected, recheck movements, and lock up and down.



### 4.3.3 Brakes

#### 4.3.3.1 Tools required

---

Allen wrench (1/4)

Allen wrench (3/16)

Wrench 7/16

#### 4.3.3.2 Materials required

---

Fluid for brake system, (not braking fluid)

Loctite 277

Nylon ¼ high pressure tubing

#### 4.3.3.3 Type of maintenance

---

Line Heavy

#### 4.3.3.4 Level of certification

---

Manufacturer/MMA/RS

Light Sport aircraft Repairman Maintenance Aircraft (LSRMA)

#### 4.3.3.5 General

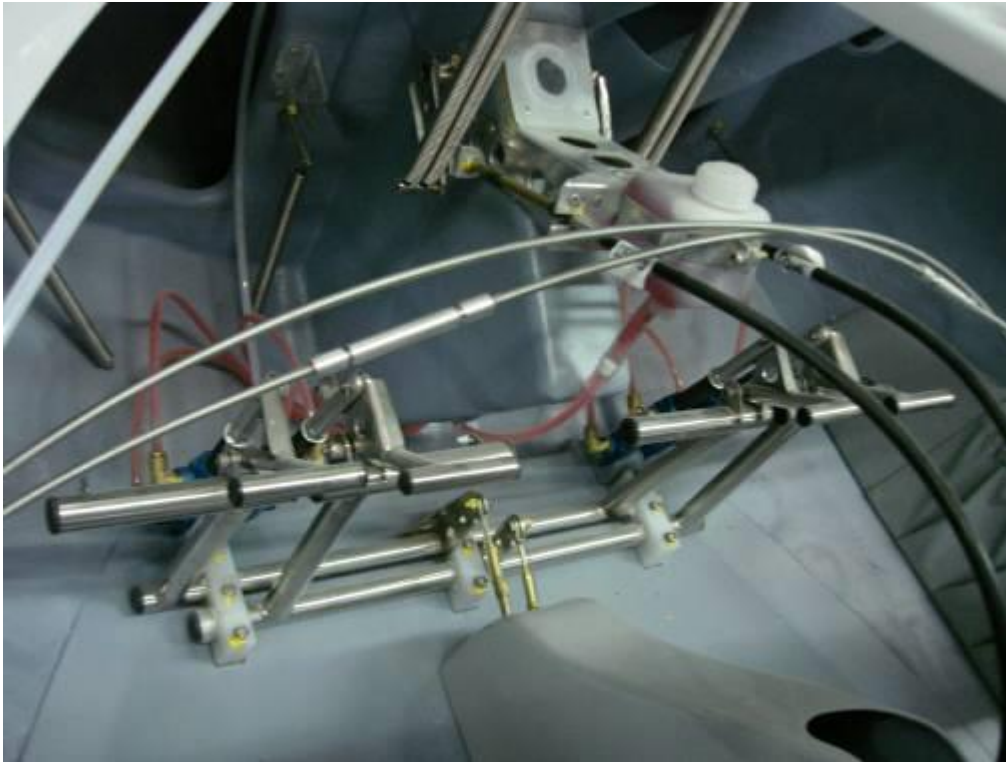
---

The Seamax M-22 braking system consists of two independent hydraulic lines; one for the right wheel, and other for the left wheel. It is a differential brake system which allows you to make turns with the airplane on ground.

The brake pedals and toe brakes can be controlled by both the pilot and passenger.

The brake system has two brakes cylinders for each wheel. These can also be controlled by both the pilot and the passenger.

The oil tank feeds both hydraulic lines, and it is located behind the panel in the middle of the cockpit.



#### *4.3.3.6 Inspection*

---

A visual inspection can be done on the complete system checking for:

- Check for leaks on the tubing ends and fittings and over the brake cylinders.
- Check the oil level in the tank.
- Check the general conditions of the nylon tubing, especially near the main landing gear which is the articulated system for retraction. Check protection and fixation points.
- Check the general conditions of disk brakes. Check for corrosion, and make sure there is free movement along the axle direction on the three point of connection.

While taxiing the airplane, check for unusual noises and correct brake response while turning left and right.

#### *4.3.3.7 Filling the system with oil*

---

After replacing the nylon tubing, follow these steps to fill all system with oil:

- Place the airplane on a jack so that the main wheels are off the ground. The front wheel can stay on ground.
- Remove the main landing gear fairing and axle fixation bolt (see sequence 4.3.2.7) to allow the axle to swivel. It just needs to rotate to be enabling easier oil filling.
- Rotate the axle 180 degrees to keep the oil filling cap up (original position is down).
- Remove the oil cap (1/8 NPT cap) and insert the filling terminal to feed the hydraulic line.
- Return the axle to the original position, and with filling cap down, insert a syringe to fill oil. The oil should be filled with the terminal at down position to allow all the air be removed from the line with new oil.
- Fill the oil until it arrives at the central oil tank.
- Once all system is filled, turn axle to place the fill fitting to up an position again. Remove the fill fitting. Complete with oil, and install the oil cap always with this side up.
- Replace with oil cap down and proceed to the assembly process.
- Check all system for leaks, air bubbles in oil line, and system operation.



#### *4.3.3.8 Brake pad replacement*

---

To change the brake pads, place the airplane on the jack, to prevent the main wheels from touching ground. The front wheel can stay on ground.

Remove the wheel as described on 4.3.2.7. The disk brake will stay in between the brake calipers.

Remove the six 3/16 bolts on brake calipers, to release the disc brake and the disk pads.

Replace the disk pads and reassemble in the reverse way.



## 4.4 Control Surfaces

### 4.4.1 Ailerons

#### *4.4.1.1 Tools required*

---

Allen wrench (3/16)

Allen wrench (1/4)

Wrench 7/16

Wrench 3/8

Wire cutter pliers

#### *4.4.1.2 Materials required*

---

Grease

Safety wire

Lock seal

Vinyl inspection window seal

#### *4.4.1.3 Type of maintenance*

---

Heavy

#### *4.4.1.4 Level of certification*

---

Manufacturer/MMA/RS

Light Sport aircraft Repairman Maintenance Aircraft (LSRMA)

#### 4.4.1.5 General

---

The aileron control system consists of two different mechanisms:

-The first part is made of stainless steel cables and closed circuit pulleys which run from the torque tube to the belcranks inside the wing. The ailerons are connected to the belcranks by a push-pull tube with two rods ends in each end. These rods ends have left and right, to fine adjustments.

If necessary, first adjust the close circuit control cables by adjusting the three turnbuckles. Two of turnbuckles are connected on the torque tube, and other on the top of the cockpit. This adjustment must keep the two wings belcranks parallel to each other, and maintain a constant tension on the cable circuit.

The aileron neutral position is adjusted by turning the connection rods, after unscrewing the lock nuts. The vinyl inspection window should be removed for this operation

#### 4.4.1.6 Inspection

---

Inspect the general condition of aileron, fabric, and paint conditions. Check the hinge brackets, hinge plastic bushings, and hinge bolts.

Check the connection rods conditions to see if they have a normal travel, and are properly greased.

Check also the cable circuit, turnbuckles, and pulleys. Check cable tension.

#### 4.4.1.7 Aileron removal/installation

---

To remove the aileron from the wing, first remove the ¼ bolt that connects the rod to the aileron. After, cut the safety wires on the hinge bolts, and remove them. Assembly is done in the reverse sequence. Check that there is no metal to metal movement on the aileron hinge. A plastic bushing should always contact the metal parts. Properly greases, and use safety wire on hinge bolts.

If the wing needs to be removed, disconnect the three turnbuckles inside the cockpit, and remove them from the pulleys located on top of the cockpit.

#### 4.4.1.8 Aileron setting

---



As described on 4.4.1.5, close circuit of control cables should be adjusted at first.

The wing belcrancks should be parallel to the centerline of the fuselage, regarding the two pins holes where cables are attached. This adjustment is done by twisting the turnbuckles up to achieve the correct position. The turnbuckles on the tube should be connected on the inside holes.

Put the control stick in neutral position, and then turn the connection rods up so that the ailerons are aligned with the bottom surface of the wing. Use a ruler near the first hinge point to find the correct position.

Then set the ailerons on a correct position, and screw the lock nuts on the rods ends. Use lock seal to perform a visual check.

In-flight fine tuning can be made by bending or installing a tab that can be glued to the aileron's trailing edge. Bend it up to have an in flight aileron neutral position.

#### 4.4.1.9 Aileron verification and adjustment

---

Check all mechanical circuits for unscrewed bolts or nuts, and missing safety wire.

Check free and smooth travel, and look for unusual noises.

Check the hinges and hinge brackets. Check that all moving parts are well greased and locked.

Check the ailerons neutral point with neutral control stick.

## 4.4.2 Flaps

### 4.4.2.1 Tools required

---

Allen wrench (3/16)

Wrench 3/8

Wire cutter pliers

Pliers

Small screwdriver

### 4.4.2.2 Materials required

---

Grease

Safety wire

Lock seal

Silicon

Vinyl plastic seal for inspection windows

### 4.4.2.3 Type of maintenance

---

Heavy

### 4.4.2.4 Level of certification

---

Manufacturer/MMA/RS

Light Sport aircraft Repairman Maintenance Aircraft (LSRMA)

#### *4.4.2.5 General*

---

The Seamax M-22 flaps are activated by a single electric motor.

The flap's deflection limits are made by two micro switches (big ones), one on the top and other on the bottom of the flap activator.

Small micro switches are used to provide the position information on the dashboard. It is indicated by five LED lights, one red on the top, and four greens on the bottom.

The red led indicates flap negative positions, the four green led lights indicates flap deflection from 0 degrees to 35 degrees. If there is no led light, it indicates a neutral position.

The flaps deflection can also be seen through the lateral window during flight.

If the micro switches malfunction, the electric activator has a clutch to avoid over load.



#### *4.4.2.6 Inspection*

---

Inspect the general condition of flaps, fabric, and paint. Check the hinge brackets, plastic bushings, and bolts.

Check travel, limits, and led light indicators. Check for unusual play and noises during flap travel.

#### 4.4.2.7 Flaps removal/installation

---

Remove the four inspections windows on the top of fuselage to allow access to the flap connection.

Remove the safety clip on the flap ball joint.

Remove the safety wire on flap hinges, and then remove the flaps.

Assembly is done the reverse sequence .Use grease on the ball joint connection.



#### 4.4.2.8 Flaps setting

---

The Seamax M-22 flap has a negative position for cruise. In a negative position a red LED will light in the flap indicator on the instrument panel. A negative deflection should not be more than 5 degrees. This adjustment is made by repositioning the bottom micro switch on the activator.

The neutral point is set when the flap trailing edge is aligned with fuselage trailing edge. This negative point is zero degrees, and no led lights should be lit.

The full flap limit is also set by the upper activator micro switch. The full flap should not be more than 35 degrees.

#### *4.4.2.9 Flaps verification and adjustment*

---

Check travel and flap limits.

If the flaps are not at the same position, remove one of the ball joint connections. Then unscrew the lock nut on the female ball joint part, and twist it or untwist as desirable for adjustments.

Once at the correct position, screw the lock nut, re-grease, and install the safety clip.

Check the hinges and hinge brackets.

### **4.4.3 Rudder**

#### *4.4.3.1 Tools required*

---

Allen wrench (3/16)

Allen wrench (1/8)

Wrench 3/8

Pliers

#### *4.4.3.2 Materials required*

---

Grease

Torque seal

Safety wire

Vinyl inspection window seal



#### *4.4.3.3 Type of maintenance*

---

Heavy

#### *4.4.3.4 Level of certification*

---

Manufacturer/MMA/RS

Light Sport aircraft Repairman Maintenance Aircraft (LSRMA)

#### *4.4.3.5 General*

---

The rudder is activated by stainless steel control cables. The control cables are connected to the rudder pedals with turnbuckles that provide a fine adjustment.

A central fairing inside the cockpit should be removed to access the two turnbuckles.

With normal use, those turnbuckles should be adjusted to the normal cable tension, and the rudder pedals should be in the correct position.

#### *4.4.3.6 Water rudder removal / installation*

---

To remove the water rudder, first remove inspection window located on the left side, in the rear part of the fuselage.

Hold the water rudder in the retracted position with some tape, and then set the lever to the down position (on central console). Unscrew the two allen bolts, and disconnect the fitting through the inspection window.

Carefully unscrew the four bolts on the aluminum fittings inside the lower part of the rudder that keep the retraction bushings in place. Pay **ATTENTION** to the spring load pressure.



Remove the two fittings and the water rudder can be removed. Gently pull the retraction cable.

Assembly is done in the reverse sequence. Grease the retraction cable, and be careful of the spring pressure when assembling the two fittings with bolts.

Start inserting the water rudder in a down position so that it fits in the housing. Turn it on in the retracted position and keep the pressure to prevent spring loading.

#### *4.4.3.7 Rudder removal / installation*

---

Remove or disconnect the water rudder retraction cable, as described on 4.4.3.6. It is not necessary to fully remove the water rudder unless it is necessary to perform maintenance or make an inspection.

To ease the removal of the rudder cables, disconnect the four springs on the rudder pedals.

Remove the clevis pins and pins on the rudder bracket. Pay attention to the plastic bushings.

Remove the safety wires and nuts on the hinge bolts.

Remove the bolts and rudder. Pay attention to the plastic hinge bushings.

Assembly is made the reverse sequence. Make sure to place the plastic bushing between to prevent metal to metal movements.



#### *4.4.3.8 Rudder adjustment*

---

To adjust the rudder to neutral position, put the rudder pedals in neutral position, and adjust the two turnbuckles.

The pedals must be aligned and be at least one inch far from the front wheel housing.

In-flight adjustments should be made by bending the trim tab located at the end of the rudder.

#### *4.4.3.9 Rudder verification and Adjustments*

---

Check the general rudder condition for cracks and damage to the paint.

Check free travel, make sure there is grease on the hinges and control cables, and that the pedals are in neutral position.

Check for smooth travel and unusual sounds.

## 5. Engine

The engine manuals for the Rotax engine are issued by Rotax, and supplied with the Seamax M-22.

These manuals are:

- The Operator's Manual for all versions of Rotax 912 ULS
- The Maintenance Manual for Rotax 912 series (Line maintenance).
- The Maintenance Manual II for Rotax 912 series (Heavy maintenance).

NOTE: Removal and installation of the engine can only be done by a Seamax authorized service center, or by an authorized A&P mechanic.

Since the Seamax M-22 has a pusher engine, one must be very careful to avoid forgetting any tools, parts, or objects loose inside the engine cowling. This is especially important because while the engine runs, these objects can move toward the turning propeller, and cause damage or accidents.

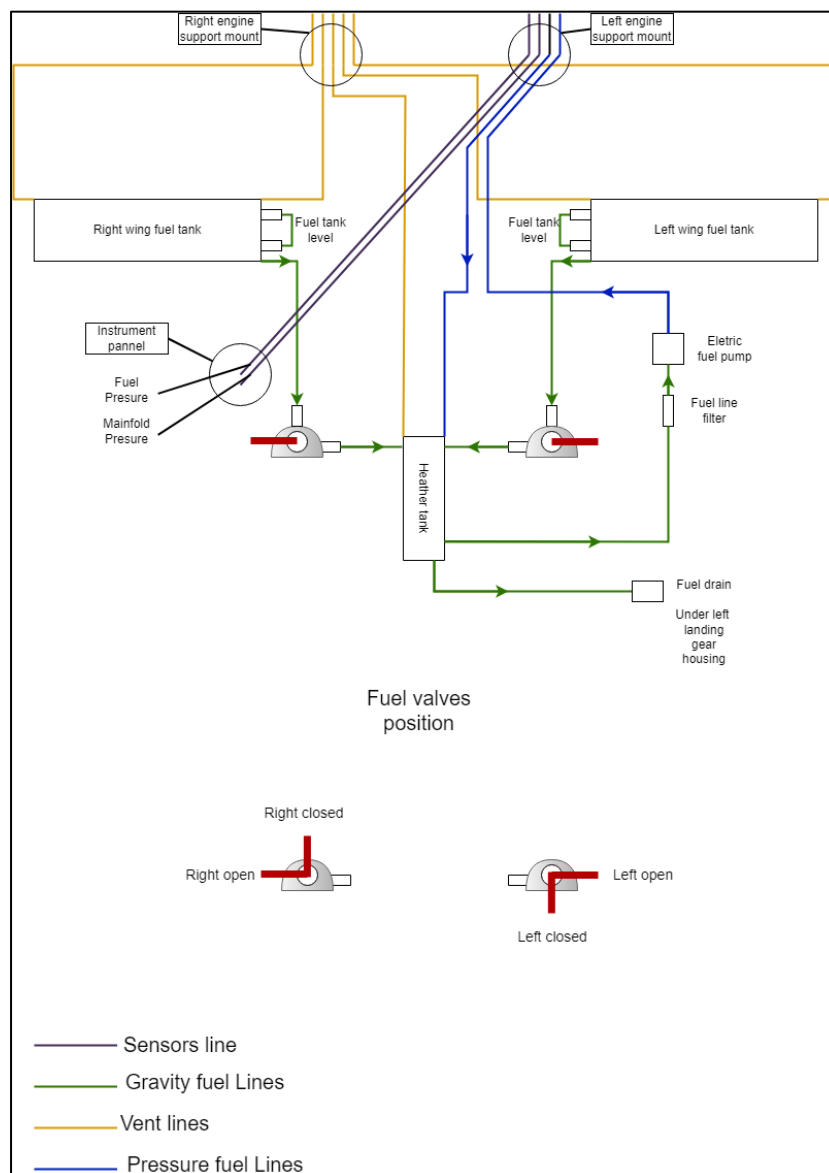
## 6 Fuel System

### 6.1 General

The fuel system inspection should be performed in a well ventilated area away from heaters or flames.

The Seamax M-22 fuel system consists in two wing fuel tanks and one central header tank.

Both wing fuel tanks feed the central header tank by gravity. From the header tank, the fuel goes to the engine mechanical fuel pump through a fuel filter and an electric fuel pump as shown in fig 26. The header tank is located behind the luggage compartment.



## 6.2 Tools Required

Cutting pliers

Wrench 7/16

Knife

Philips screwdriver

Allen wrench (1/4)

## 6.3 Materials Required

Transparent silicon fuel hose

½ metallic clamps

Plastic clamp

Tire ups

Silicon rubber

## 6.4 Type of Maintenance

Heavy

## 6.5 Level of Certification

Manufacturer/MMA/RS

Light Sport Aircraft Repairman Maintenance Airplane (LSRMA)

## 6.6 Fuel System Inspection Check List

- 1 Inspect fuel caps, check fuel cap seals and key operation, check for smoothness. Check the general conditions of the fuel cap.

- 2 From inside the cockpit, inspect all the plastic connections to the fuel tanks, and look for leaks and loose clamps.
- 3 Inspect all the fuel hoses for general conditions, cracks, and hose rigidity. Check that the hoses are well fixed to avoid contact with other parts and moving parts
- 4 Check the fuel filter. Empty the header tank, close both fuel valves from the wing tanks, and open the drain valve before removing the fuel filter. Replace each year or each 100 H.
- 5 Drain the header tank to check the water and fuel quality.
- 6 Check the fuel pump, fuel pump connections, and fuel pump fixation.
- 7 Inside the engine cowling, check the fire sleeve protection on fuel hoses. Check the fuel circuit inside the cowling.
- 8 Check the fuel vents inside the engine cowling.

## **6.7 Fuel Filter**

Check the fuel filter for foreign objects and cleanliness. Replace each 100 h or each year. Do not use paper fuel filters. Consult the Rotax manual for fuel filter information.

## **6.8 Fuel Vents**

The Seamax has five fuel vents; two for each wing's tank, one in each side of fuel tank, and one from the header tank.

All the five fuel vents go to the engine cowling, the highest part of the airplane, protected inside with fire sleeve.

## **6.9 Removal / Installation of Wing Fuel Tanks**

Before removing a wing fuel tank, first empty the entire fuel system by opening both fuel valves and drain the fuel.

Disconnect the fuel line and the two fuel vents from each fuel tank.

Remove the wing following the instruction described in 4.1.2.5.

Use a knife to cut the silicon that goes between the side of the fuel tank and the wing.

Remove the fuel cap and unscrew the six Philips screws on the tank intake. Remove the tank intake and be careful to prevent the "O" ring from falling inside the tank .

Through the inspection window on the bottom of the wing, disconnect the fuel drain.

Remove the fuel tank by sliding to the wing root.

Check the protection tape on the tank over the wing ribs. Replace if necessary.

Fuel tank installation is done in the reverse sequence. After tank installation, and before wing installation, apply some silicon rubber between the tank and wing root.

## **6.10 Removal / Installation of Header Tank**

The first step is to empty all fuel from tanks and fuel system.

Disconnect all the fuel hoses from header tank; two from the wing tanks (on the side), one from the vent, one from the returning line (on top), one at the exit to the fuel filter (on the side) , and one at the fuel drain on the bottom.

Unscrew the four allen bolts, and remove the header tank.

Assembly is in the reverse sequence of removal.





## 7 Propeller

The propeller installed on the SeaMax M-22 is manufactured by Warp Drive or Sensenich.

The leading edges of the blades are protected with a metallic strip to minimize erosion due to water spray contact.

Manufacturer ..... WarpDrive

Diameter ..... 68" - 172 cm (maximum)

Number of Blades ..... 3

Type ..... ground adjustable

Maximum RPM ..... 2800

Manufacturer ..... Sensenich

Diameter ..... 68" - 172 cm (maximum)

Number of Blades ..... 3

Type ..... ground adjustable

Maximum RPM ..... 2800

### 7.1 Type of Maintenance

Heavy

Check on the manufacturer maintenance manual to check what maintenance must be performed on the propeller.

### 7.2 Level of Certification

Light Sport Repairman Maintenance Aircraft (LSRMA) - which holds a FAA repairman certificate (LSA), with maintenance rating or equivalent (FAA A&P).

## 8 Instruments and Avionics

Seamax M-22 standard instruments are:

- Airspeed
- Altimeter
- Vertical speed
- Compass
- Bank indicator
- RPM
- Oil pressure
- Oil temperature
- Water temperature

### 8.1 Tools Required

Screwdriver

Philips screwdriver

### 8.2 Parts Required

Tags (For marking wires if they are disconnected)

### 8.3 Type of Maintenance

Heavy

### 8.4 Level of Certification

Manufacturer/MMA/RS

Light Sport Aircraft Repairman Maintenance Airplane (LSRMA)

## 8.5 Maintenance

No special maintenance is required on the aircraft instruments. Instruments errors depend on operating conditions, as described in FAA-H-8083-15, chapter 3.

For particular maintenance, malfunction and special instructions, contact an instrument dealer, according to the specifications on the instruments manuals, supplied with the airplane.

Malfunction instruments can also be changed by other type or other manufacturer, by a Light Sport Aircraft Repairman Maintenance Airplane (LSRMA)

### 8.5.1 Airspeed

---

This instrument does not require maintenance. If required a special repair is needed, check instrument manuals for procedures on how to return the instrument to the manufacturer or authorized dealer.

An annual leak test should be performed on pitot lines.

Check proper fixation, and perform a visual check for general conditions.

### 8.5.2 Altimeter

---

This instrument does not require maintenance. If special repairs are required, check the instrument manuals for procedures on how to return the instrument to the manufacturer or authorized dealer.

Check proper fixation, and perform a visual check for general conditions.

### 8.5.3 Vertical Speed

---

This instrument does not require maintenance. If special repairs are required, check the instrument manuals for procedures how on to return the instrument to the manufacturer or authorized dealer.

Check proper fixation, and perform a visual check for general conditions.

#### *8.5.4 Compass*

---

Check the compass for proper fixation, and perform a visual check for general conditions. Check the liquid for air bubbles and leaks.

Check for deviation card and seal.

#### *8.5.5 Bank Indicator*

---

Check for proper fixation, and perform a visual check for general conditions.

#### *8.5.6 RPM*

---

Check for proper fixation, and perform a visual check for general conditions.

Check the accuracy once a year by measuring the propeller rpm with an optical device.

#### *8.5.7 Oil Pressure*

---

Check for proper fixation, and perform a visual check for general conditions.

Check the electric connections on the instrument and engine sensors.

#### *8.5.8 Oil Temperature*

---

Check for proper fixation, and perform a visual check for general conditions.

Check the electric connections on the instrument and engine sensors.

### *8.5.9 Water Temperature*

---

Check for proper fixation, and perform a visual check for general conditions.

Check the electric connections on the instrument and engine sensors.

### *8.5.10 Flap Position Indication Light*

---

Check the operation of the indication lights and micro switches on the flap motor. These lights are only for indication purposes, and are activated by the small micro switches.

## **8.6 Pitot Line and Static Port**

The pitot line located on airspeed instrument should be inspected for obstruction at least once year.

The aluminum pitot tube located on the right wing can be easily removed from its plastic base by gentle pulling and turning. Check its fixation and position. Check the connection point near the wing root, where the line is disassembled during wing removal.

The static ports and the airspeed, altimeter and vertical speed have no special connection, and the static port is open to cockpit environment.

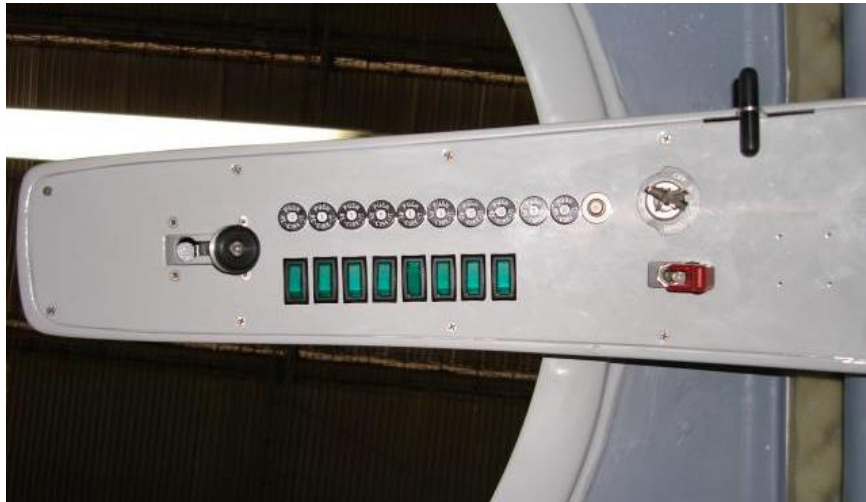
## **8.7 Special Instruments and Avionics**

Special instruments and avionics, as a radio, transponder, GPS, glass instruments, gyro, autopilot, etc, should follow special instruction described on the manufacturer manual that is supplied with the airplane.

## 9 Electrical System

The wiring supplies electrical energy across the airplane inside a conduit tubing. This system, starting from the battery which is placed behind right seat. The wires run to the rear fuselage section to feed electric landing gear, electric flap, fuel pump and voltage regulator. One bilge pump, on the lower part of the hull has its own wiring.

A wiring enclosed in a conduit runs to the tail to feed electric trim and lights.



The basic electric panel is located on an upper console with switches and circuit breakers. The ignition key and master switch are also located on this console in the top between the seats.

Another electrical cable goes to the instrument panel where the electrical connection terminals for avionics and instruments are placed.

Inside, the engine cowling electric cables are protected with a fire sleeve.



## 9.1 Tools Required

Cutter pliers

6mm wrench

8 mm wrench

Philips screwdriver

## 9.2 Materials Required

plastic clamps

## 9.3 Type of Maintenance

Heavy

## 9.4 Level of Certification

Manufacturer/MMA/RS

Light Sport Aircraft Repairman Maintenance Airplane (LSRMA)

## 9.5 General

Remove the cockpit fairings to easily access the electrical cables. If necessary, remove any desirable inspection windows.

The top central panel can be removed by unscrewing bolts.

Disconnect the battery terminal if the airplane will be parked or stored in the hangar for a long period of time.

## 9.6 Inspection

Check the general condition of wires and cables.

Check the proper cables fixation to avoid contact with moving parts or sharp edges.

Check the electrical connection on studs, nuts, and bolts.

Perform a visual check for corrosion or damage on insulation points.

## 9.7 Battery Replacement

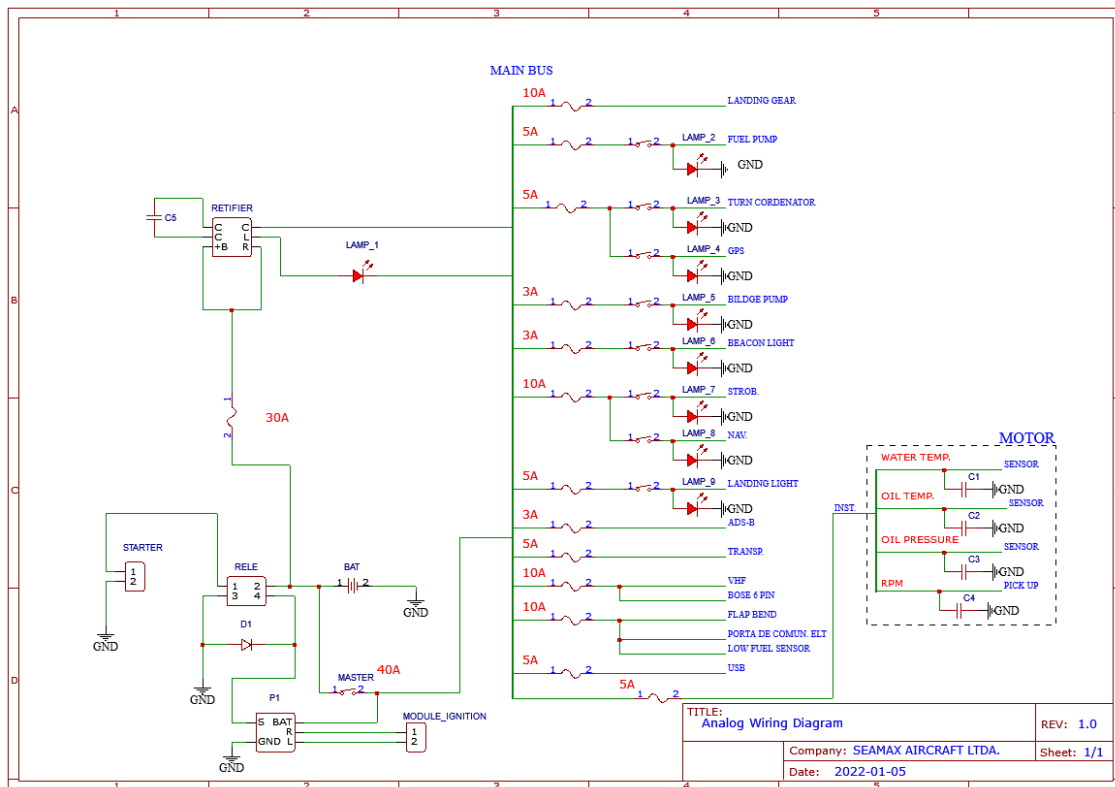
Remove the right seat to easily access the battery, open the battery case, disconnect the terminals, and replace the old battery with a new one.

Use only sealed batteries, which can fit inside the battery case.

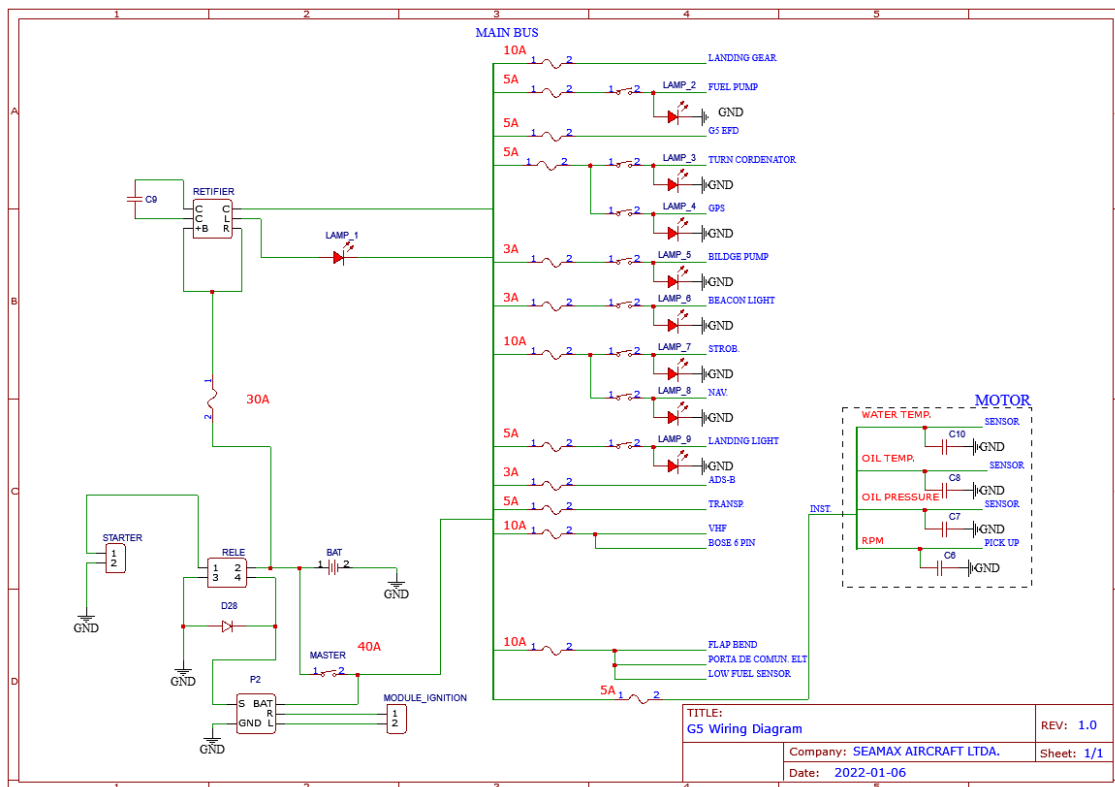
Before replacing with a different type of battery, first consult SEAMAX or dealers for technical information.



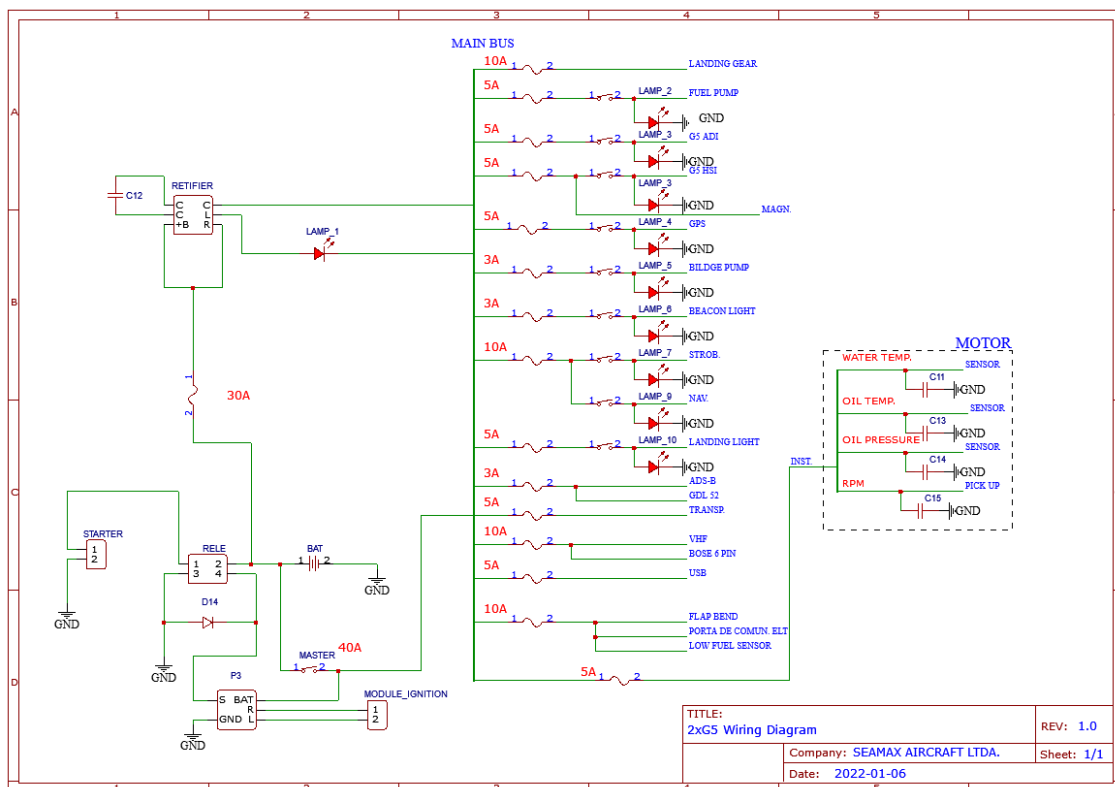
## 9.8 Wiring diagram



Analog Wiring Diagram



1 garmin Wiring Diagram



## 2 garmin Wiring Diagram

# 10 Structural Repairs

## 10.1 Type of Maintenance

Heavy

## 10.2 Level of Certification

Task can be completed only by a responsible individual who holds an FAA Repairman Certificate and who has gone through a structural repairing course by SEAMAX AIRCRAFT LTDA.

Otherwise all structural repairs must be done at Seamax authorized service centers.

# 11 Painting and Coating

The Seamax M-22 uses polyurethane base paint and primer. Both are UV resistant and protect fiberglass and fabric against UV rays.

Scratches or others defects on the paint over fiberglass parts, should be sanded up to the fiberglass. If the fiberglass is also damaged, refer to structural repairs.

Parts covered with fabric including the wings, ailerons and flaps can be repaired with paint only if the fabric is not damaged.

## 11.1 Tools Required

Spray gun

## 11.2 Materials Required

Sand paper 320, 400, 600 and 1200

Putting PPG 1800

Primer PPG D830 FL

Primer catalyze PPG DF 863

Paint PPG Delfleet PE1AERM060

Paint catalyze PPG F 361

Solvent PPG 372

Polishing paste

### 11.3 Type of Maintenance

Heavy.

### 11.4 Level of Certification

Tasks can be completed only by a responsible individual who holds an FAA Repairman Certificate and has received a painting training course by **SEAMAX AIRCRAFT LTDA.**

### 11.5 Putting

The surface must be prepared with sand paper grade 320 or up, on the area being repaired. Do not use sand paper to exposed fiberglass.

Use putting PPG 1800, use mixture 100 to 1 up to 100 to 3, depending of the cure time desired.

Let putting dry at least 30 to 50 minutes at 20 degrees C.

Use sand paper to smooth the surface, starting with 320 and finishing with 600.

### 11.6 Priming

After preparation, be sure that the surface is free of oil or dirty prior to primer application.

Apply one coat of primer PPG D8390 FL and catalyze with D 863. Let it dry at least 20 minutes. If another coat is needed, apply it after 20 minutes.

Let it dry for 3 hours before starting with sand paper. Use sand paper up to 600, and make the surface as smooth as possible.

### 11.7 Painting

After preparation, be sure that surface is free of oil or dirt, prior to paint application.

Use F 361 catlyser at ratio 1 to 3 with paint. Use 10% of solvent 372.

Apply a fine coat, and let it dry for 30 minutes, and apply another coat.

Let it dry for 4 hours before starting to polish. Use a 1200 sand paper if necessary before polishing.

## 11.8 Polishing

Use a polishing paste to get a nice finished surface. A polishing machine can be used.

## 11.9 Final Verification

The surface must be smooth with no orange peel appearance, scratched, or peeling.


Perform a visual check from different positions and angles.

You must get the same shiny result from adjacent areas.

## 12. Major Modification

All important modifications must be made at Seamax authorized service centers.

See the list below:

		NOTICES OF CORRECTIVE ACTION INDEX					SMX_NCAI Revision n°01	
PLEASE FIND LISTED BELOW ALL NOTIFICATIONS, SAFETY ALERTS AND SERVICE BULLETINS RELEVANT FOR THE SEAMAX M-22 QUALIFIED TO THE LSA REQUIREMENTS								
Document Type	Document Code	Subject	Revision	Issue Date	Model	S/N of Affected Aircraft	Compliance	Status
1. SAFETY ALERTS								
2. SERVICE BULLETINS	SB-001-08	Nicopress inspection	0	03/12/08	Seamax M-22	038 to 055	MANDATORY	RELEASED
	SB-001-09	Wingstrut bolt	0	03/02/09	Seamax M-22	01 to 025	MANDATORY	RELEASED
	SB-001-20	Visual Inspection on Bottom Wing Strut fitting ends	0	05/14/2020	Seamax M-22	All aircraft folding wing	MANDATORY	RELEASED
3. NOTIFICATION	NT-001-08	Engine thrust line	0	06/22/08	Seamax M-22	All	RECOMMENDED	RELEASED
	NT-002-08	New vortex generator size and position	0	06/23/08	Seamax M-22	All	RECOMMENDED	RELEASED
	NT-003-09	Instructions for fins installation	0	02/03/09	Seamax M-22	All	RECOMMENDED	RELEASED
	NT-003-11	Bilge pumps and water inside hull	0	03/05/11	Seamax M-22	All	RECOMMENDED	RELEASED
	NT-004-09	travel adjustments on stabilator	0	01/10/10	Seamax M-22	All	RECOMMENDED	RELEASED
	NT-005-15	Installation of plug in wing tips	0	03/02/15	Seamax M-22	All	RECOMMENDED	RELEASED
	NT-006-17	Folding wing instructions	0	05/18/17	Seamax M-22	All aircraft folding wing	RECOMMENDED	RELEASED
	NT-001-18	Continued Operational Safety Program	0	10/23/18	Seamax M-22	All	NOTIFICATION	RELEASED

This list is available and updated on the website link:

<http://www.seamaxaircraft.com/ownership.html>

All major repairs and / or alterations require an approved SEAMAX MRA (Major Repair and / or Alteration) form. Requests for an MRA can be made to Customer Support at SEAMAX, or through a form on the company website.

Seamax does not authorize additional modifications to the Seamax M-22 aircraft.

## 13. Controlled Components

Seamax Aircraft has developed a list of serial number controlled components in some aircraft sets.

This list must be delivered to the customer and kept in the cell passbook.

Any failure that occurs with listed components must be notified immediately to the aircraft manufacturer.

Below the list of controlled components:

Cód. Tec.	Conjunto	PN	Componente
60-64	GMP	6AMW001	Engine mount
20-23	Fuselage	2AMW001	Cabane
10-11	Wing	1ADT001	Right Wing Stringer
10-12	Wing	1ADT001	Left Wing Stringer
10-11	Wing	1AMW001	T wing fixing
30-33	Empenage	5AMW001	Axis articulation of elevator
10-13	Wing	1AXW003	upper fixation of wingstrut
10-13	Wing	1AXW004	Lower fixation of wingstrut
10-13	Wing	1ADT003	Right Wingstrut
10-13	Wing	1ADT003	Left Wingstrut