

Siai Marchetti

UFFICIO TECNICO

LEADING PARTICULARS

OF THE

AMPHIBIAN

S I A I - M A R C H E T T I

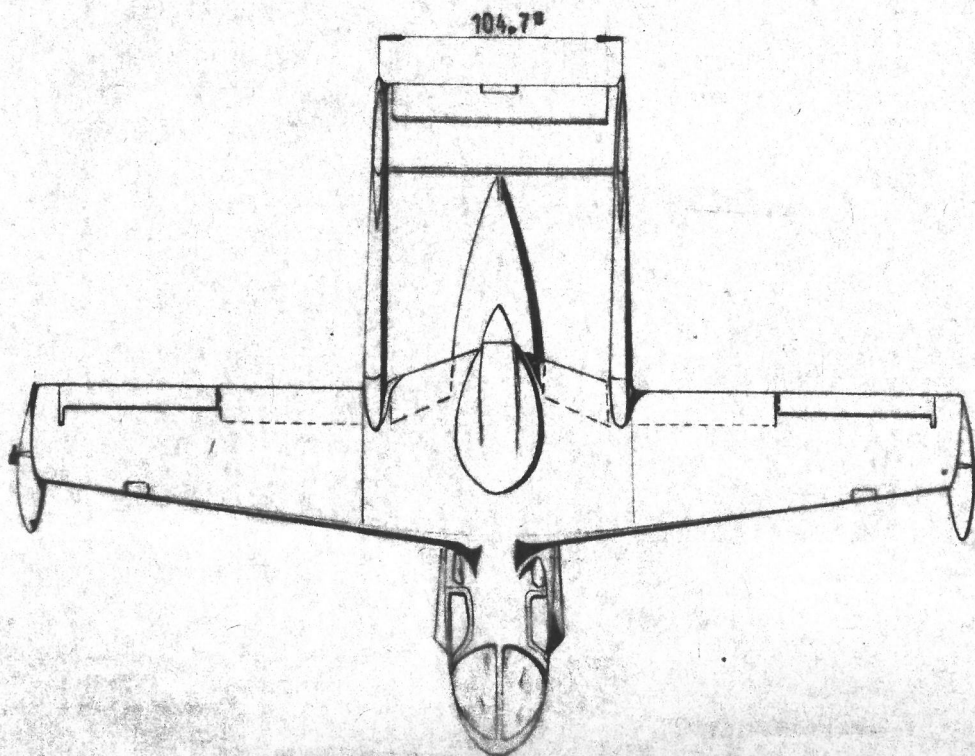
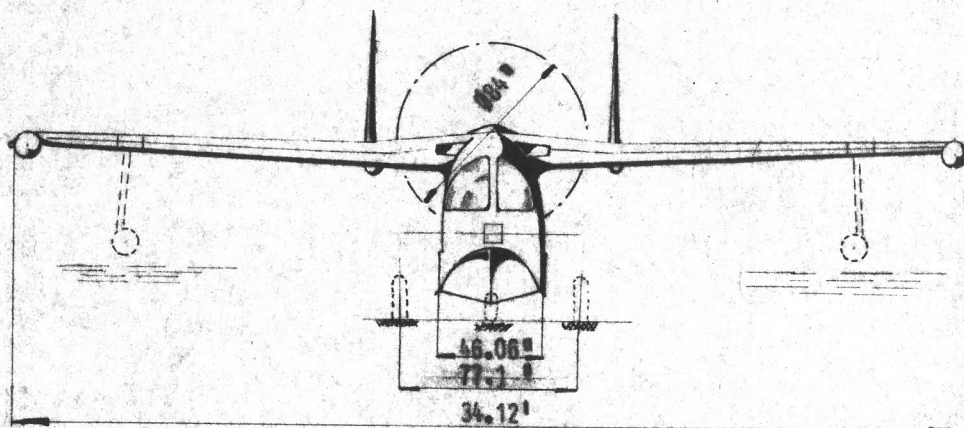
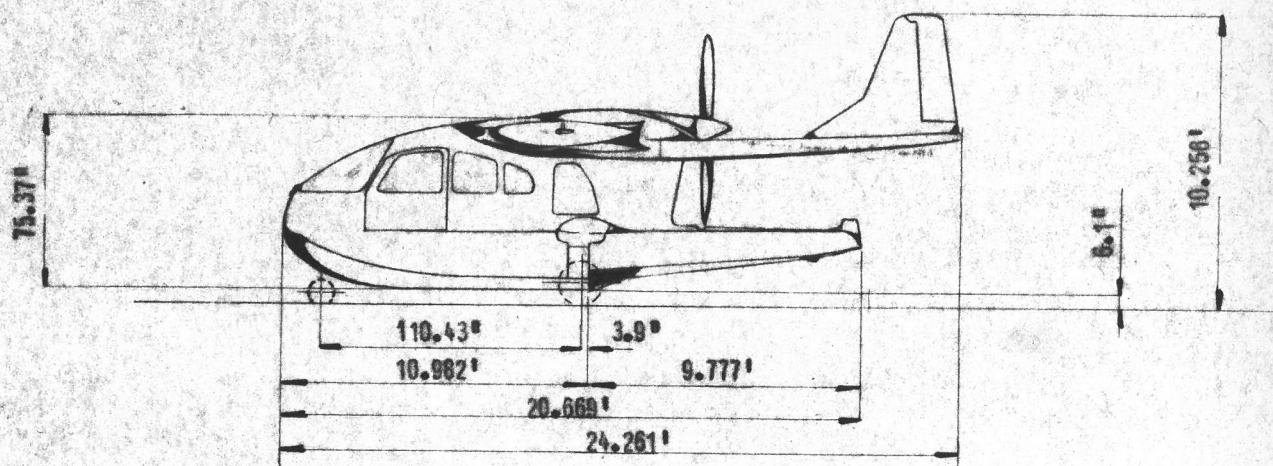
FN-333 " R I V I E R A "

1961

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FM-333 "RIVIERA"

UFFICIO TECNICO



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FN-333 "RIVIERA"

The FN-333 is an all-metal four seater amphibian driven by propeller.- Its general layout, specially studied to obtain the best efficiency both as a land plane and a seaplane, is of the high wing type with tail booms. In addition to the very good, well known performances offered by the high wing, the principal advantages of this solution consist in the possibility to obtain a high efficiency of the pusher propeller, in the distance of the tail units from the water surface, which avoids water spray, and in the rational arrangement of the vertical tail surface assuring a very good stability and handling to the aircraft.

The cabin is roomy and its eight windows offer an excellent visibility in all directions, specially forward (due to the absence of the usual obstacle of the engine and propeller), and downward, thanks to the high wing arrangement.

Another important characteristic of the FN-333 is its configuration as a land craft and a seaplane.

In fact, both landing gear and wing floats are retractable: the first in the hull, the others in the wings. During flight, the aircraft has therefore an excellent cleanness due to the complete disappearance of the landing gears (which is unusual for the light amphibians) and to the wing floats retraction at the wing tips, which not only removes at all the notable drag; but also increases the wing efficiency, thanks to the well

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Known effect of the tip stores.

In conclusion, the very careful aerodynamic study of this aircraft led, for the first time, to the production of an amphibian having the same flight qualities of an excellent landplane.

Another very useful device is the retractable water rudder, which has been studied in such a manner to permit a perfect handling in water, without causing any inconvenience during flight, being it retracted in the hull stern.

The water rudder has therefore large dimensions and, in the lowered position, it is deeply immersed, out of the hull wake, so that the FW-333 can be easily maneuvered in water as a normal speedboat, thanks to the reversible propeller.

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LEADING PARTICULARSCabin dimension

Cabin height	3.93	ft.
Cabin length	9.50	ft.
Cabin width	3.51	ft.
Door dimensions	2.84 x 2.95	ft.
Luggage space	15	cu.ft.
Luggage compartment max.loading	330	lbs.

Engine

- Continental 6 cylinder 10-470-P engine, with Continental fuel injection system. Take-off power: 250 HP at 2600 RPM. Max. cont. power: 250 HP at 2600 RPM.

Equipment

Electrical starter

Generators: 24 Volt - 25 Amp.

Voltage regulator

Engine driven oil pump

Electrically driven fuel booster pump

Stainless steel exhaust pipes

Air intake

Electrical and Radio Equipment

Battery: 24 Volt - 25 Amp/h

VHF (optional) of various types -

VOR (optional) of various types -

ADF (optional) of various types -

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Hydraulic System

The following systems are actuated by the hydraulic system:

- Landing gear
- Flaps
- Water rudder
- Wing floats

A Stratopower Pump Mod. 67B025 is driven by the engine.

Standard Flight Instruments

- Air speed indicator
- Electrical turn and slip indicator
- R/C indicator
- Sensitive altimeter
- Outside air temperature gauge
- Magnetic compass
- Clock
- Optical and aural stall warning

Standard Engine Instruments.

- RPM indicator
- Manifold pressure gauge
- Metered fuel pressure gauge
- Panel including: oil thermometer, cylinder head temperature gauge, oil pressure gauge, fuel quantity indicator for two tanks, ammeter, hydraulic pressure gauge.

Optional Equipment.

Several optional equipments can be installed promptly, without any plane modification, on the FN-333 amphibian. The following paragraphs illustrate the leading equipments likely to be installed, thanks to the existing arrangements.

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a) Rotating Beacon Light

A provision is available on the engine fairing for the installation of a red light rotating beacon, as prescribed by the F.A.A. for all aircraft to be used for the IFR flying. The beacon is lighted through a switch located on the instrument panel.

b) Radio Equipment

Provisions are available for the installation of two VHF apparatus: LEAR and NARCO.

These apparatus have been chosen as conforming to the requirements of the majority of pilots.

In addition to the above, a VOR-ILS system or a normal ADF, or both, can also be installed.

c) Additional Flight Instruments

The FN-333 has provisions for installing a gyro horizon and a directional gyro on the instrument panel and an engine driven vacuum pump required for the operation of these instruments.

d) Auxiliary Fuel Tanks

Two 13 Gls. auxiliary tanks can be installed in the leading edge of outer panels.

The connection to the main tanks is prompt, through one fitting and one vent tube for each tank. The installation needs only few work hours and no other modification is required except the replacement of the fuel quantity indicator dial.

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1 ENGINE - CONTINENTAL - 10-470-P

LEADING PARTICULARS

Normal rated power at sea level.....	HP.	250
Take-off power.....	"	250
Wing Span.....	ft.	34,1
Length.....	"	24,3
Height.....	"	10,6
Wing Area.....	Sq.feet	163
Normal fuel capacity.....	USA GALS	37
Maximum fuel capacity.....	" "	63
EMPTY WEIGHT.....	Lbs.	2115
Useful loaded WEIGHT.....	"	1025
Total WEIGHT.....	"	3140
Wing loading.....	Lbs/sq.ft.	19,3
POWER Loading.....	Lbs/HP	12,6
LANDING GEAR Retractable tricycle type.		
CONSTANT-SPEED Pusher propeller with reverse pitch feature.		

PERFORMANCES

<u>MAX SPEED AT SEA LEVEL</u>	MPH	177
<u>MAX RECOMMENDED CRUISE</u>		
70% RATED POWER AT 8000 FEET.....	MPH	164
Fuel consumption;.....	GAL/Hr.	12,9
<u>NORMAL RECOMMENDED CRUISE</u>		
60% RATED POWER AT 8000 FEET.....	MPH	152
Fuel consumption.....	GAL/Hr	11,1
CLIMB AT 3000 FEET.....	2' 15"	
" 6000 "	5'	
" 9000 "	8' 27"	
" 12000 "	13' 11"	
" 15000 "	19' 54"	
SERVICE Ceiling	feet	19.000

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Take-off run (ground)	ft.	860
Take-off run (water).....	"	1685
Landing Roll (ground).....	"	625
Landing Run (water).....	"	590

DISTRIBUTION OF USEFUL LOAD AND CORRESPONDING RANGE

Passengers.....	N°	4
Useful load.....	Lbs	1025
Cruising speed		
60% Rated Power at 8000 ft.,,.....	MPH	152
Range.....	Miles	509

LOAD DISTRIBUTION

Pilot and one Passenger.	Lbs.	330
Two Passengers, rear seat	"	330
Baggage.....	"	120

TOTAL PAYLOAD	Lbs.	780
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FUEL (37 Gals).....	"	223
OIL.....	"	22

TOTAL USEFUL LOAD "	1025
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INTERNATIONAL RECORDS ESTABLISHED BY THE
AMPHIBIAN SINGLE-ENGINE AIRCRAFT FN-333
"RIVIERA"

Carrying on the trials for the international records for C3c Class amphibious aircraft, and C2c seaplane Class, the Commander GIUSEPPE ALESINI, Siai-Marchetti Chief Test Pilot, flying the amphibious FN-333 RIVIERA achieved the following records (under Official Homologation) :

Class C3c Amphibian Aircraft - weight from 2,646 to 4,630 lbs)

- 21 July 1960 - Vergiate Airfield :

- Height Record (take-off weight 2,710 lbs) 23,570 ft
(7,189 mt.)
- Speed Record on 100 Km. (62 miles) range
(closed circuit) (take-off weight 2,821 lbs) 167,974 mph
(270,270 Km/h)
- Speed Record on 500 Km. (310 miles) range
(closed circuit of 100 Km.) (take-off weight 2,821 lbs) 167,130 mph
(268,913 Km/h)

Class C2c Seaplanes - Weight from 2,646 to 4,630 lbs

- 22 July 1960 - Lake Maggiore

- Speed Record on 100 Km (62 miles) range
(closed circuit) (take-off weight 2,832 lbs) 168,912 mph
(271,780 Km/h)
- Previous record held by a CESSNA-180 (USA)
- Speed: 131,336 mph
- Speed Record on 500 Km. (310 miles) range
(closed circuit) (take-off weight 2,832 lbs) 167,155 mph
(268,953 Km/h)
- Height Record (take-off weight 2,695 lbs)
- 23 July 1960 - Lake Maggiore 22,789 ft
(6,950 mt.)
- Previous record held by a CESSNA-180 (USA)
- Engine: 225 HP - Height: 20,500 ft

ABOVE RECORDS have been achieved using normal series aircraft. Therefore no special features, modifications or devices have been introduced on the aircraft that accomplish the mentioned records. Said aircraft had already flown about 100 hours.

Such performances have to be considered, therefore, absolutely normal for the amphibious series aircraft.

The aircraft performing the records had installed one engine CONTINENTAL O-470-HP 240 and the two-blade HARTZELL Propeller, Type L8433H.-