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AIRCRAFT CIRCULARS
NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

No. 41

"METEORE 63" COMMERCIAL SEAPLANE

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To be returned to
the files of the National
Advisory Committee
for Aeronautics.

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NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS.

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"METEORE 63" COMMERCIAL SEAPLANE.*

The "Meteore 63" constructed by the S.P.C.A. ("Société Provençale de Constructions Aéronautiques"), is a three-engine seaplane complying with the specifications for commercial seaplanes and the first seaplane satisfying the conditions for the seaworthiness certificate of the first class. It is a biplane with wings of unequal span and a central hull. It is equipped with three Hispano-Suiza engines of 180 HP. each, transversally arranged between the wings. This arrangement of the engine mountings eliminates all vibrations at the normal revolution speeds of the engines. The hull is divided into water-tight compartments, two of which may be fitted for carrying passengers, light freight, packages and mail.

The "Meteore 63" is built especially for long-distance traffic. It is equipped with radio receiving and broadcasting apparatus for use both during flight and on the water; fire extinguishers, and dual control. Electric light and heat for the passengers are supplied by a generator. Portholes provide good visibility and illumination by day. The cabins are equipped with comfortable chairs designed to receive the shoulder parachutes.

One of the principal advantages of this seaplane is its ability to fly with one of the engines stopped, which enables

*From a circular published by the S.P.C.A. with supplementary data from "Les Ailes," July 29, 1926.

it to return to its starting point or continue to its destination. This characteristic, combined with its large strong hull suitable for alighting on the high seas, gives this seaplane the maximum of safety. Its normal cruising speed is 140 km (87 miles) per hour with full load. It can carry sufficient fuel for a flight of 7 hours at the normal power of the engines.

In the 1926 commercial-seaplane contest, organized by the Department of Aeronautics and the Aero Club of France, the "Meteore 63" passed all the tests, including four consecutive flights of 561 km (349 miles) each, without alighting, nor failure, nor repairs. These tests, made under full load, demonstrated the perfect flight regularity of the "Meteore 63," its quick take-off, its rapid climb to 2000 m (6562 ft.), its small landing speed, its maneuverability in the air and on the water, and its mooring facilities. The "Meteore 63" was awarded the first prize.

The "Meteore 63" is now making practical test flights on the non-stop Marseilles-Algiers line with a view to the establishment of a regular line between France and Northern Africa. On one flight it made a record of 4 hr. 8 min. These flights, some of which were made under very unfavorable atmospheric conditions, confirm the value of the "Meteore 63," which is the first long-distance seaplane acquired by the French Government.

The seaplane "Meteore 63" is the first product of the "Société Provençale de Constructions Aéronautiques." This company has workshops at Marseilles and Ciotat. It must not be confused with the "Chantiers de Provence-Aviation," which also builds seaplanes and is situated in the same region.

Cell.— It is a biplane with non-staggered wings and a wide gap (3.2 m = 10.5 ft.). The upper wing is horizontal and of medium thickness, with a span of 21.2 m (69.55 ft.), and a chord of 3.1 m (10.17 ft.). The two ailerons are attached to the upper wing. They are very long and narrow and are well balanced. The lower wings are very different from the upper. They have a slight dihedral, a span of 18.2 m (59.7 ft.) and a chord of 2.7 m (8.86 ft.). Their tips are tapered and rounded. There is a single pair of struts for each half-cell, with steel brace-wires. The lower wings are imbedded in the hull and the central part of the upper wing is joined to them by the structure which supports the three engines. The wing structure is wood and is covered with fabric. A perfectly streamlined float is suspended under each lateral pair of struts.

Hull.— This is also made of wood. It has three coverings: one of teak, one of cedar and the third of birch plywood. Its total length is 12 m (39.37 ft.) and its maximum width is 2.2 m (7.22 ft.). It has only one step. In front there is a cockpit with two seats abreast, one for the pilot and one for the

mechanic or navigator. From this cockpit a door opens into the passenger cabin and, from the latter, another door affords access to a baggage room with a capacity of 2.35 m² (25.3 sq.ft.).

Tail.-- The vertical empennage consists of a large fin, continuous with the hull, and a balanced rudder. The horizontal empennage consists of a rectangular stabilizer and a balanced elevator in two parts. The under side of the stabilizer is braced against the hull by two small oblique struts. On the upper side, it is attached to the fin by two cables.

Power Plant.-- The three engine-propeller groups are installed in front with their propellers practically plumb with the leading edge of the cell and the axis of traction at the middle of the gap. Each engine nacelle is equipped with a Hispano-Suiza engine of 180 HP., driving a two-blade tractor propeller of wood. The three engine nacelles are supported and bound to the cell by a system of triangulated struts. The engines are cooled by means of frontal radiators above and behind each engine nacelle.

The electric current, required on board and particularly for supplying the radio station, is furnished by two alternators mounted on the leading edge of the upper wings.

General Characteristics

Span	20.00 m	65.62 ft.
Height	5.21 "	17.09 "
Length	13.00 "	42.65 "
Wing area	103.00 m ²	1108.68 sq.ft.
Weight empty	3400.00 kg	7496.00 lb.
Useful load including fuel, oil and instruments	1830.00 "	4034.00 "
Full load	5230.00 "	11530.00 "
Wing loading	50.77 kg/m ²	10.40 lb./sq.ft.
Power "	9.68 kg/HP	21.05 lb./HP.
Safety factor	6	

Performances

Maximum speed	167 km/h	103.77 mi./hr.
Minimum "	80 "	49.71 "
Practical ceiling	4000 m	13123.00 ft.
Flight duration	7 hr. 30 min.	

Translation by Dwight M. Miner,
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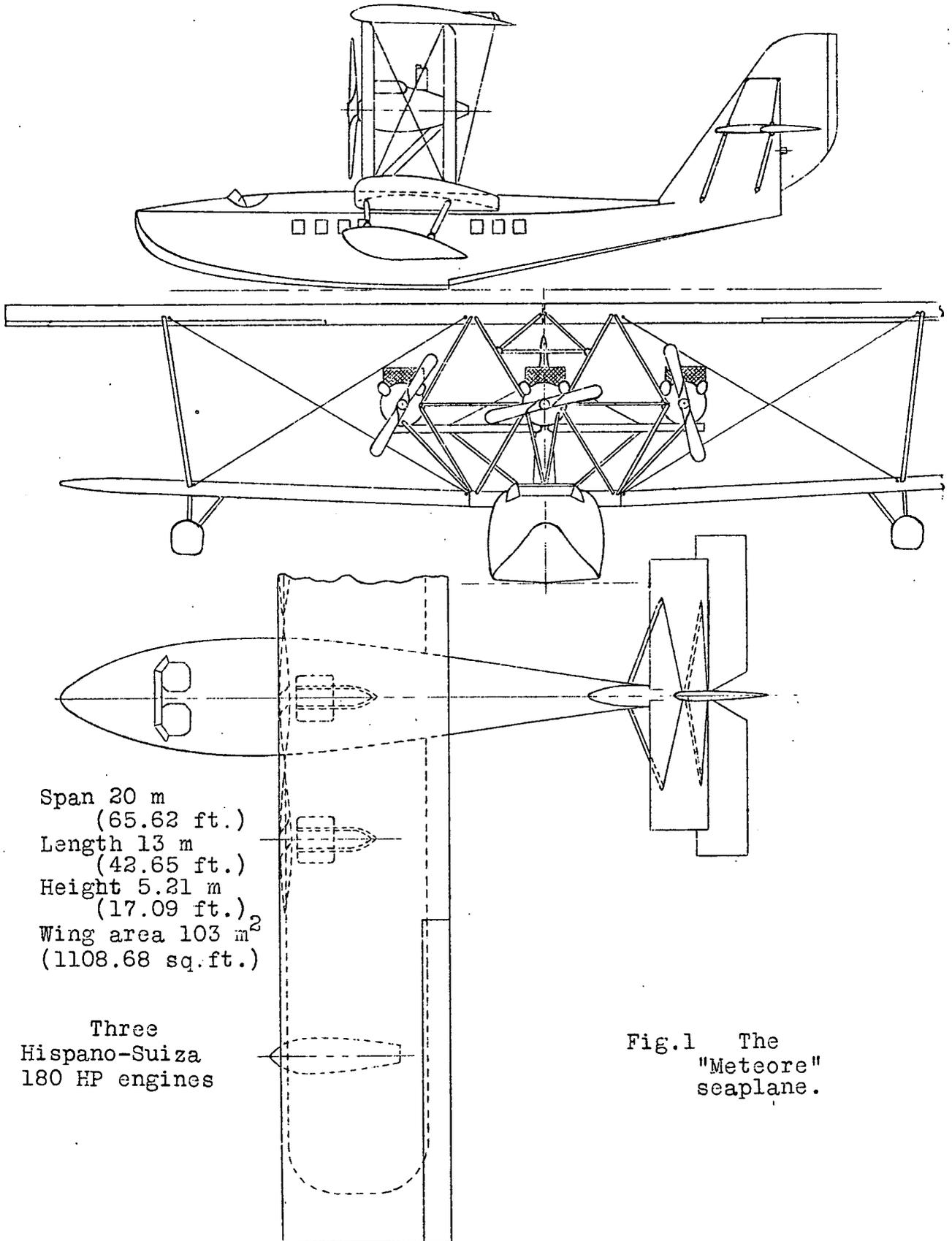
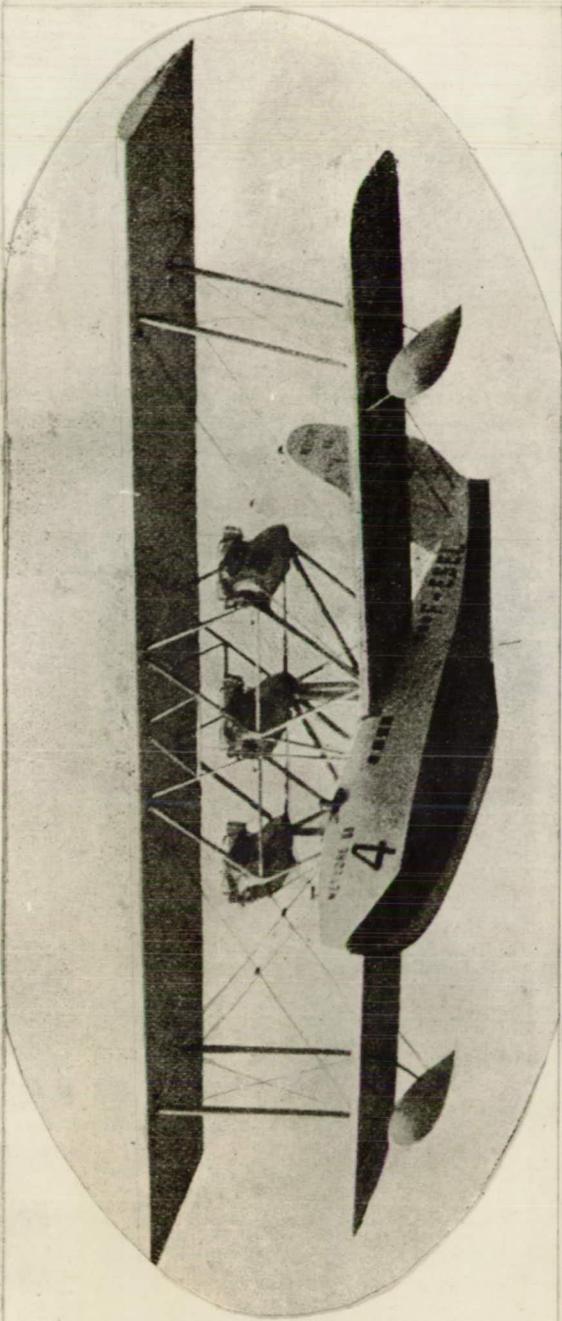


Fig.1 The
"Meteore"
seaplane.



The
"Meteor"
Seaplane

