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AIRCRAFT CIRCULARS
NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

No. 51

CAPRONI AIRPLANE Ca 73 (COMMERCIAL)
and
Ca 73 ter (MILITARY)

Washington
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Advisory Committee
for Aeronautics
Washington, D. C.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS.

AIRCRAFT CIRCULAR No. 51.

CAPRONI AIRPLANE Ca 73 (COMMERCIAL) AND C 73 ter (MILITARY).*

The passenger airplane, Caproni 73, is a biplane with medium thick wings, with a rigid central section, and with each lateral extension forming a single cell.

The power plant consists of two 500 HP. Isotta Fraschini "Asso" engines mounted in tandem in a strong and simple central structure. The oil tank is situated between the two engines. The fuel tanks are installed in the lower wing. The fuel is delivered by two windmill pumps to two gravity tanks in the upper wing from which it flows to both engines.

The fuselage is entirely below the lower wing. This position renders any landing accident almost impossible and enables the airplane to float for a long time, in case of a forced descent on water. The bottom of the fuselage was strongly reinforced for this purpose.

The interior of the fuselage is intercommunicating and contains two seats abreast for the pilots and ten passenger seats in two rows with a central aisle between.

The airplane is easily operated and is very responsive to the controls, which are rendered light by suitable balancing of the ailerons and rudder. The centering of the airplane is per-

*From a circular issued by the Caproni Company, of Milan, Italy.

fect and is not affected in flight by the stopping of either engine. With full load, the airplane attains an altitude of 4000 m (13,100 ft.) in 60 minutes and becomes tangent at 5000 m (16,400 ft.). With only one engine running and with a useful load of 1500 kg (3307 lb.), the airplane easily maintains an altitude of 1000 m (3280 ft.).

The Caproni military airplane Ca 73 ter is like the commercial airplane, except the equipment of the fuselage, which contains the military armament in place of the passenger equipment.

The armament consists of three machine guns, one mounted in the bow, one behind the cell, and one underneath the cell for firing downward. The firing fields of the three guns overlap, so as to cover every point of the space around the airplane. A load of 1000 kg (2205 lb.) of bombs can also be carried in the fuselage at the center of gravity of the airplane.

With only one engine running and 1300 kg (2866 lb.) useful load, it easily holds an altitude of 1000 m (3280 ft.) and has a slight tendency to climb.

Its climbing properties are remarkably good. The following climbing records were made in the acceptance tests with a useful load of 2300 kg (5070 lb.): 1000 m in 7 minutes; 2000 m in 14 minutes and 30 seconds; 3000 m in 23 minutes; 4000 m in 37 minutes; 5000 m in 66 minutes.

Characteristics of Caproni Airplanes Ca 73 and Ca 73 ter

Commercial and Military

Span	25.00 m	(82.0 ft.)
Length	15.10 "	(49.5 ")
Height	5.60 "	(18.4 ")
Upper chord	3.25 "	(10.7 ")
Lower "	3.70 "	(12.1 ")
Gap	3.30-2.90 m	(10.8-9.5 ft.)
Overhang of upper wing	2.40 m	(7.9 ft.)
" " lower "	3.10 "	(10.2 ")
Dihedral of upper wing	0°	
" " lower "	3° 20'	
Area of wings	143 m ²	(1539.2 sq.ft.)
" " ailerons	13 m ²	(139.9 ")
" " stabilizer	9.85 m ²	(106.0 ")
" " elevator	7.75 m ²	(83.4 ")
" " fin	6.50 m ²	(70.0 ")
" " rudder	3.10 m ²	(33.4 ")
Engines - 2 "Asso" I.F.		
Power of each engine	500 HP.	
Number of cylinders	12 in V	
R.P.M.	1850	
Weight empty	3400 kg	(7495.7 lb.)

Characteristics (Cont.)

	<u>Commercial</u>	<u>Military</u>
Useful load	2000 kg (4409.2 lb.)	2300 kg (5070.6 lb.)
Full "	5400 kg (11904.9 lb.)	5700 kg (12566.3 lb.)
Power loading	5.40 kg/HP (11.74 lb./HP.)	5.70 kg/HP (12.39 lb./HP.)
Wing "	37.76 kg/m ² (7.73 lb./sq.ft.)	39.86 kg/m ² (8.16 lb./sq.ft.)
Maximum speed	180 km/h (111.8 M.P.H.)	196 km/h (121.8 M.P.H.)
Minimum "	70 km/h (43.5 M.P.H.)	80 km/h (49.7 M.P.H.)
Flight duration	3 hours	6 hours

Division of Useful Load

Commercial

Passengers	10 persons
Crew	2 "
Fuel and oil	800 kg (1763.7 lb.)
Mail and baggage	300 kg (661.4 lb.)

Military

Crew	225 kg (496.0 lb.)
Arms and Munitions	75 kg (165.3 lb.)
Fuel and Oil	1000 kg (2204.6 lb.)
Bombs	1000 kg (2204.6 lb.)

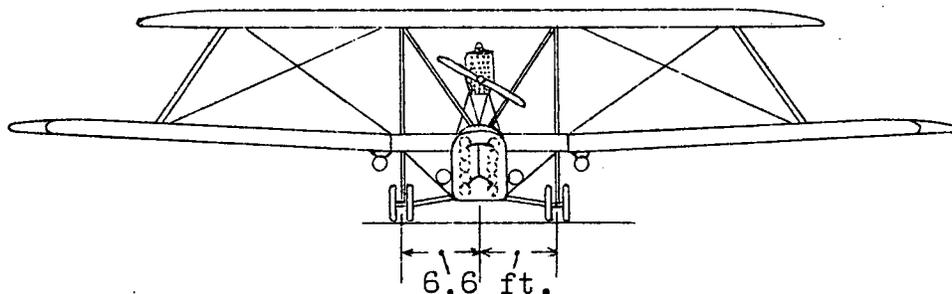
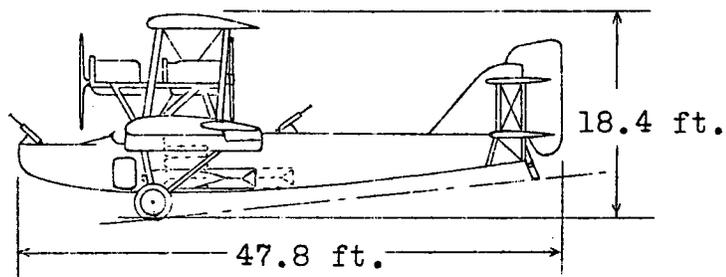
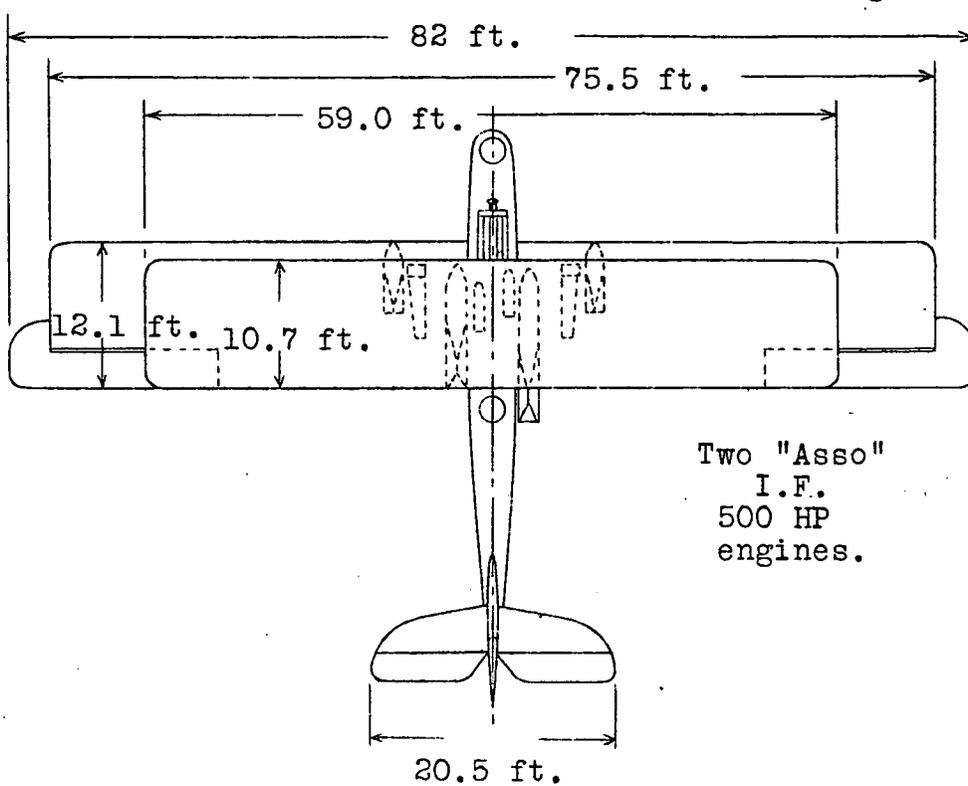
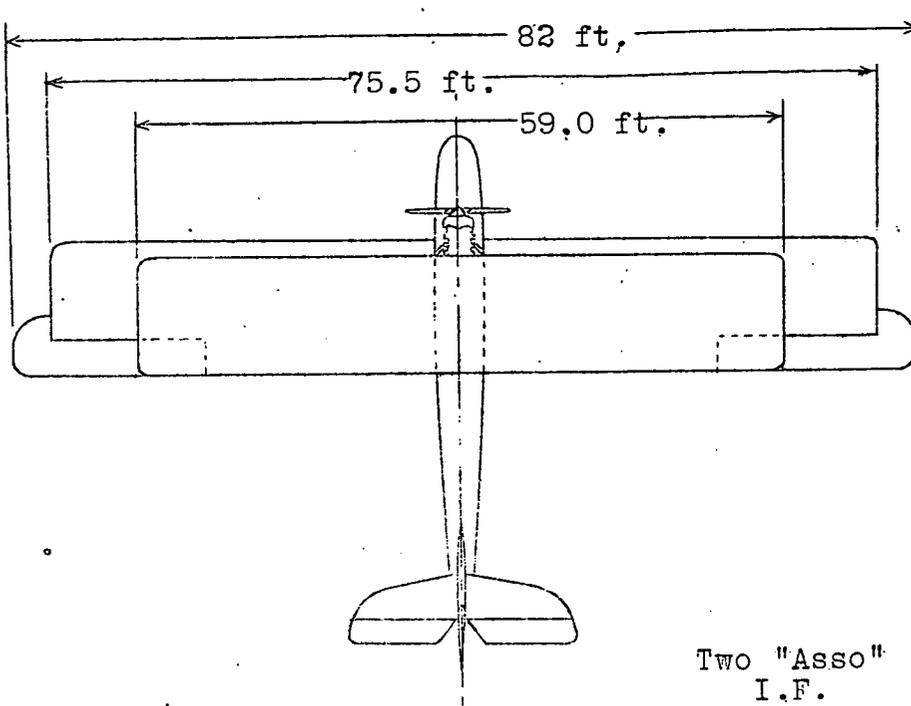


Fig.1 Caproni Ca 73 ter military airplane.



Two "Asso"
I.F.
500 HP
engines

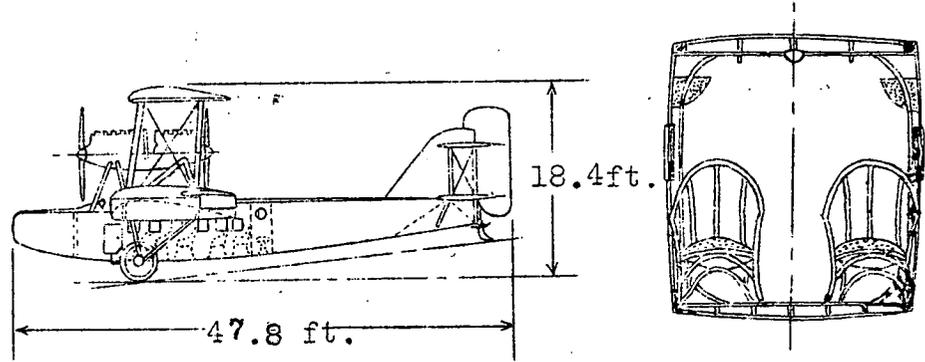
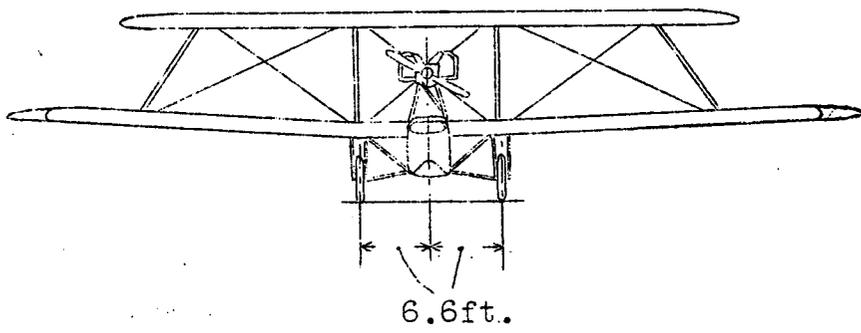


Fig.2 Caproni Ca 73 commercial airplane.



Caproni
Ca 73
Military
airplane.
Two I.F.
"Asso"
500 HP
engines.



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Commercial
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