

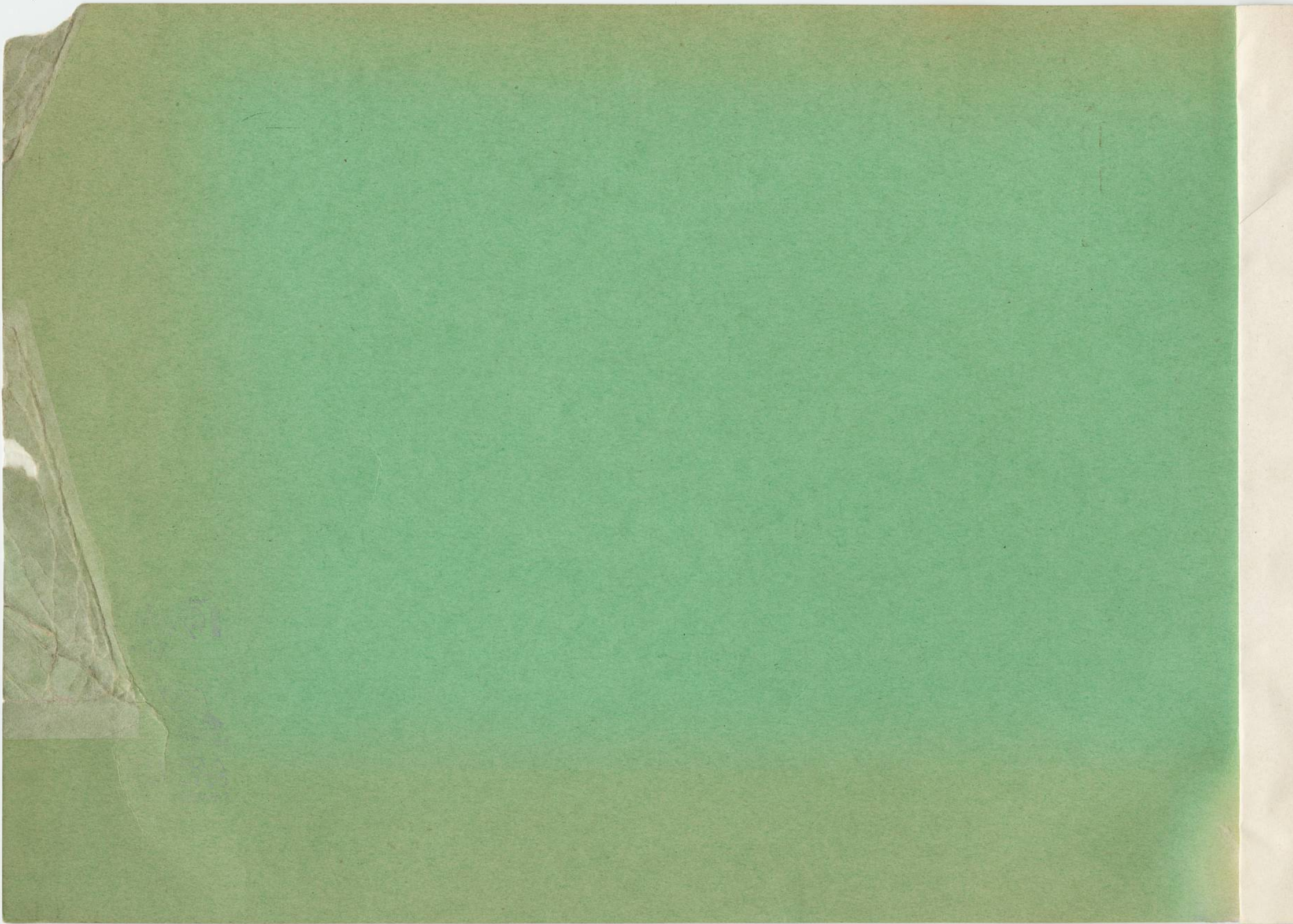


8

*Official Book of
the Flight of*

GEN. ITALO BALBO
AND HIS
ITALIAN AIR ARMADA
TO
A CENTURY OF PROGRESS
CHICAGO - 1933





Official Story of the

ITALIAN AIR CRUISE

ROME TO CHICAGO—NEW YORK TO ROME

JULY-1933

*Bringing Royal Greetings of Friendship
from the People of Italy to the People of the
United States of America on the Occasion of*

A CENTURY OF PROGRESS
INTERNATIONAL EXPOSITION
CHICAGO—1933



PREMIER BENITO MUSSOLINI

BENITO MUSSOLINI

Less than twenty years ago when the world seemed to be in danger of being burned to ashes by the flames of Bolshevism, and while other nations were surprised, astonished, unable to understand and discriminate, Benito Mussolini stood and spoke.

He showed the Italians the right path to follow, the way to progress, order and civilization.

* * *

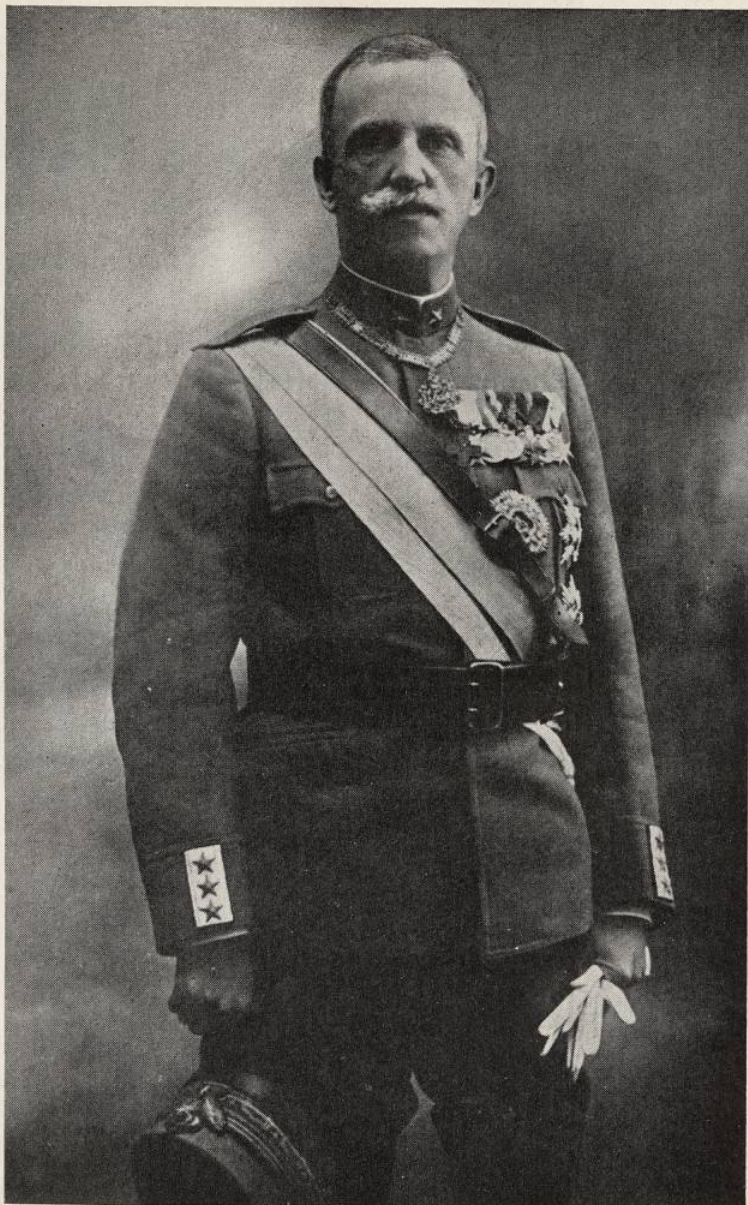
Benito Mussolini directed the March on Rome, October 28, 1922. At that time the Government of Italy was so weak and uncertain about what to do that they were lenient with the Bolsheviks and stern with the Fascists.

* * *

The Prime Minister of that time, a few weeks before the March on Rome was to be started, went to the King of Italy and asked him to sign a martial law, so that the Government could use the army to repel the black shirts of Mussolini.

But the King of Italy knew what to do. He knew that Mussolini was a brave war veteran, who had fought for his country, and was wounded 42 times. He knew that the black shirts were students, veterans, all good men whose motto was "To Give All and To Demand Nothing."

On that historical occasion, the King of Italy refused to sign a martial law which would have been unfavorable to Mussolini. On the contrary, he requested Mussolini to come to Rome and take care of the Government.



VICTOR EMMANUEL III
by grace of God and will of the people—*King of Italy.*



R. CONSOLATO GENERALE D'ITALIA
201 N WELLS ST . SUITE 1614
CHICAGO, ILL.

*The official Book of the flight
of General Italo Balbo and
his Italian air Armada
printed by arena Company is
approved by me. It contains true
facts -*
Chicago July 1st 1933. ^{XI}
Castuccio.



GENERAL ITALO BALBO

GENERAL ITALO BALBO

The Commander of this epoch making flight from Italy to the United States is General Italo Balbo. In addition to being one of the most popular chiefs of Fascism, and one of the outstanding leaders of the Fascist Revolution, General Balbo is the Air Minister of Italy and its special representative to A Century of Progress International Exposition.

From the very beginning General Balbo was interested in aviation. When only sixteen years of age he wrote the life story of one of the Italian pioneers of aviation, the young Ferrarese Roberto Fabbri. General Balbo has also published other books, among which may be mentioned "DIARIO, 1922," which describes the most striking episodes of the Fascist Revolution in the Po Valley on the eve of the march on Rome; "Da Roma a Odessa," which tells the story of the cruise in the Eastern Mediterranean and the Black Sea; also "Stormi in volo sull' Oceano," which describes the first great mass flight over the South Atlantic.

General Balbo's tremendous interest in aviation and his methodical sense of organization brought new life to Italian aviation. He has succeeded in bringing it to a high degree of perfection in all its branches. Among other things he developed the idea of mass flying, enabling large groups to achieve feats which had hitherto been possible only to single aviators. It was he who conceived and led many remarkable cruises of this character, in both the Western and Eastern Mediterranean, across Europe, and finally across the Atlantic Ocean.

The successful completion of the present flight from Italy to A Century of Progress marks his supreme achievement.

Italo Balbo is now but 37 years of age. Born in Ferrara June 5, 1896; he graduated in social science and then became a newspaper man. During the war he served among the famous Alpine troops and was decorated with several medals for bravery. He was one of the first men to organize the Fasci in Ferrara and his cooperation toward the success of Benito Mussolini is invaluable.

Italo Balbo is one of the four men who, with Il Duce, led the March on Rome, October 28, 1922.

After the March on Rome, Italo Balbo was appointed Commander-in-Chief of the Militia. On October 25, 1925, he was appointed Secretary of State for National Economy, and in November, 1926, Under-secretary for the Air force. On August 19, 1928 he was appointed General of an Air fleet, and on September 12, 1929 he became Air Minister.

The service rendered by Italo Balbo to the Italian air forces is almost incredible. Before his appointment, the Italian air force was a national disgrace. The heroes who flew and fought in the war were dead. Others had been discharged from the service or forgotten. Planes were rusting in open fields. It was not only the question of rebuilding planes, but far more, it was necessary to re-establish an aeronautic conscience among the people.

The plans which General Balbo adopted are typical of the man. At that time General Balbo was not even a pilot, but he had always led where he desired others to go, and so he decided that in order to succeed as Minister of the Air he should first become a real chief, a master of flying, a living example, and an inspiration to other fliers.

With unlimited energy he took up the study of all kinds of planes, and in a short time he became an artist flyer. He created the "Mass Flight." In 1929 with 65 planes he flew at the head

of the Western Cruise as far as Spain and other ports of western Mediterranean. He founded the famous speed school at Desenzano on Lake Garda, where pilots are trained for high speed flights, and from that school came the aviators who now hold for Italy the world speed record for seaplanes.

Last April, Francesco Agello drove his seaplane to the world's record of 426 miles per hour. Italo Balbo has created the famous "squadriglie d' alta quota" (high quota fliers) and in 1930 lieutenant Donati broke the altitude record.

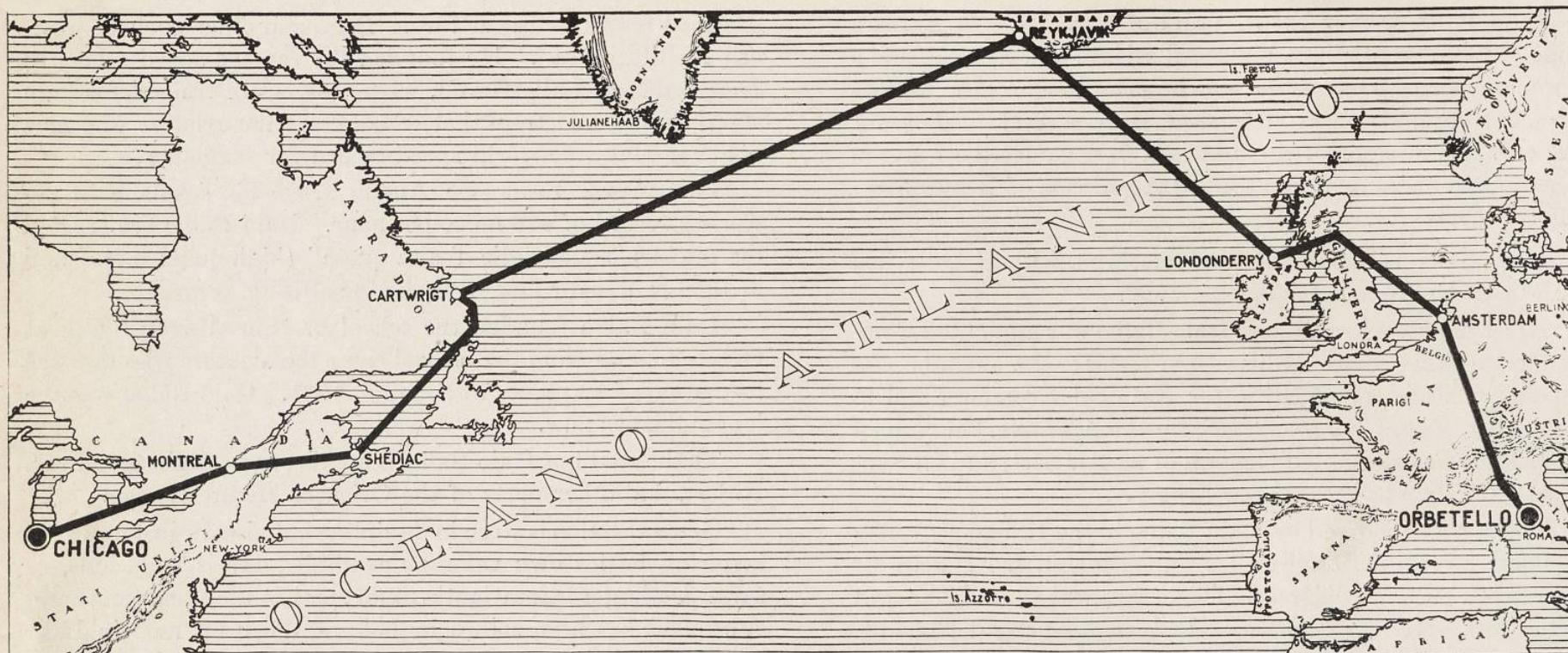
Italo Balbo founded the school of transatlantic flying at Orbetello, and from that school came the aviators who flew the formation of 12 planes to Brazil in 1931. Italo Balbo was the leader then as now.

To the credit of Italo Balbo is another mass flight to Odessa, Russia, and other ports of the Oriental Mediterranean.

General Balbo is stern in discipline but always just and very inspiring by his own valorous example. He is audacious, as far as leading a transatlantic flight; and at the same time careful. This has been shown by holding down his men in Lake Orbetello for three weeks when the weather was not favorable, because he understands the responsibility of his command. He cares more for the human lives that are entrusted to him than for fame.

General Balbo is a student, yet an indefatigable worker; a dreamer, yet a man of such a will-to-do that his dreams inevitably come true. Lightning in thought and action and always in the fore when death is to be faced; a stern man, yet possessing so charming a personality and so gracious a manner that all the people who meet him fall instantly captive to his spell.

His men will follow him to the end of the world, into the jaws of death itself without fear, because he goes first wherever he asks others to go.



PERCORSO DELLA CROCIERA AEREA DEL DECENNALE NELL'ANDATA
TABLE OF STOPPING PLACES AND DISTANCES

COURSE	DISTANCES	
ORBETELLO to AMSTERDAM.....	1400 Km.	870 Miles
AMSTERDAM to LONDONDERRY.....	1000 "	630 "
LONDONDERRY to REYKJAVIK.....	1500 "	930 "
REYKJAVIK to CARTWRIGHT.....	2400 "	1500 "
CARTWRIGHT to SHEDIAC.....	1200 "	800 "
SHEDIAC to MONTREAL.....	800 "	500 "
MONTREAL to CHICAGO.....	1400 "	870 "
CHICAGO to NEW YORK.....	1600 "	1000 "
	11300 Km.	7100 Miles

THE HISTORIC DECENNIAL AIR CRUISE OF GENERAL BALBO

The arrival in Chicago at A Century of Progress International Exposition of General Italo Balbo and his squadron of Italian hydroplanes, establishes a new record in aviation and adds a new star in its firmament. The flight started at Orbetello, Italy. From there the route led to Amsterdam, Holland; Londonderry, Ireland; Reykjavik, Iceland; Cartwright, Labrador; Shediac, Newfoundland; Montreal, Canada; and finally Chicago. The return trip will be made via New York, Shoal Harbor, Newfoundland; Valencia, Ireland; and thence to Italy.

At each one of these points was established an important base, and in case the flight was made by the southern route, bases were also prepared at the Azore Islands and at Lisbon, and although the planes were not scheduled to stop in Greenland, an emergency station had been established at Julianehaab. Around each base was woven the romantic story of the years of effort and scientific experiment which has gone into the cause of aviation and made this historic flight possible.

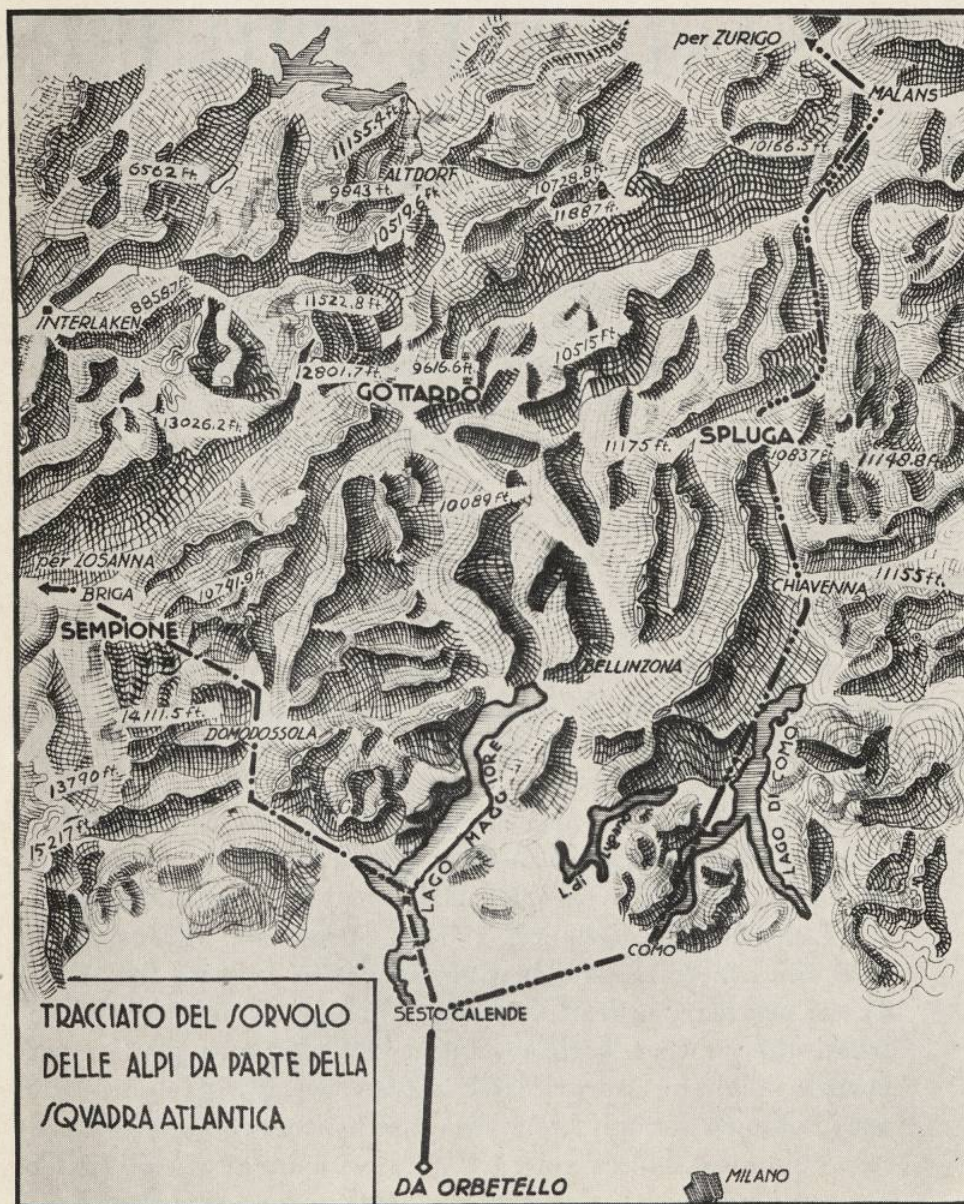
The distances between bases had to be carefully calculated, and each base had to be ready to serve not only every need of the flyers, no matter what the emergency, but it must also be equipped to act as a radio-meteorological station, keeping in constant touch with the flyers as they progressed on their trip. In other words, these were the beacon lights which served to guide these mariners of the air.

Each base, therefore, must correspond to a well-equipped modern flying field. In addition to the staff of Italian scientists

who watch meteorological conditions there must be radio operators to transmit the necessary information to the flyers as they wing their way onward across continents and oceans. To these must be added a large corps of mechanics and other assistants to give such aid as will be necessary when the flyers make a brief pause at each station.

For the successful completion of this remarkable flight it was necessary to know the temperature and pressure of the air at various levels, the temperature of the sea water as it might affect air conditions, wind speed at various levels, the movements of clouds, visibility, barometer readings, the general tendency of the weather, and other phenomena which affect air conditions that mean life or death, success or failure to the aviator.

To give you some idea of the conditions which confronted General Balbo and his squadron, follow the route outlined on the map. As will be seen, the cruise had three main divisions: the European, the Atlantic, and the American. Tremendous difficulties faced the Flight Commander in crossing the Alps. It was necessary to reach and maintain high altitudes in a place where the weather is always uncertain. As each plane must carry a weight of approximately eleven tons, it will be seen that the pilot must not only know the exact weather conditions which he would meet, but exercise the greatest amount of skill under the most unfavorable conditions. Again there was the possibility of encountering the dense fogs which rise on the east coast



MAP OF ROUTE ACROSS THE ALPS

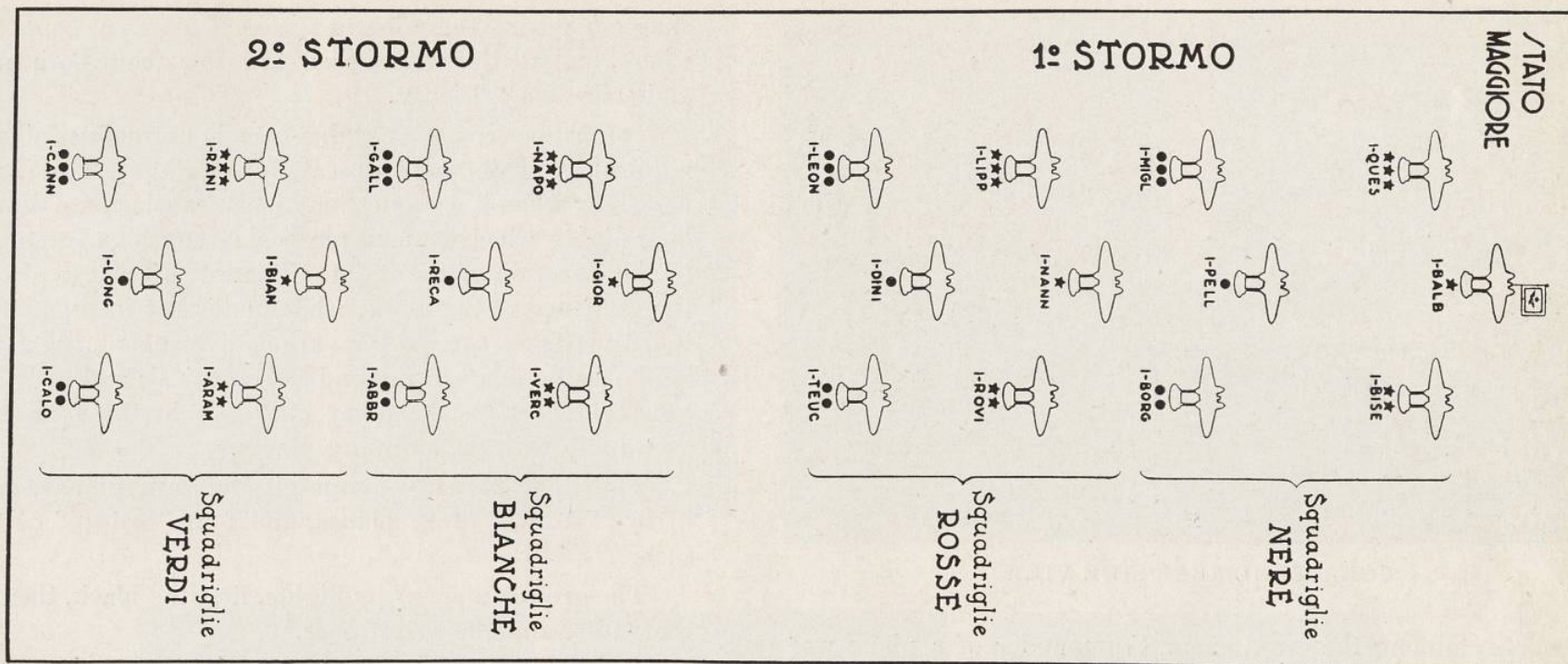
of England and in the North Channel. And still again there are the sudden atmospheric disturbances and dense fogs which occur over Iceland, Greenland and Labrador. For this reason while a stop was not planned at Greenland one of the most important bases had to be established there to watch such conditions, and immediately inform the Flight Commander of any sudden changes which might menace his trip.

To the confident, alert and determined General Balbo fell the planning and arrangement of these various bases. Certain of them, notably those in Labrador and Greenland, presented great difficulties in preparation. The Flight Commander was assisted in the work of establishing and equipping the bases by a small motor ship named the *Alice*, which belongs to the Royal Italian Air Force. This is the same ship which gave such notable assistance in the flight from Italy to Brazil, South America. The little ship is now in America and has been giving special aid to the bases in Newfoundland and Labrador, and has also acted as a floating base at Cartwright. It has been of especial use in supplying information to the squadron regarding meteorological conditions along the coast of this locality, which is particularly subject to sudden and extreme changes of weather.

The personnel for this cruise had to be selected with a critical eye. Only a few of the pilots of the cruise took part in the previous flight from Italy to Brazil in 1931. The pilots of this Decennial Cruise are mostly young men; seven of them have graduated from the first courses of the Aeronautical School of Caserta, namely, "*Aquila*," "*Borea*" and "*Centauro*" courses.

To secure the greatest possible cooperation and

FORMAZIONE IN VOLO
DELLA /QVADRA ATLANTICA

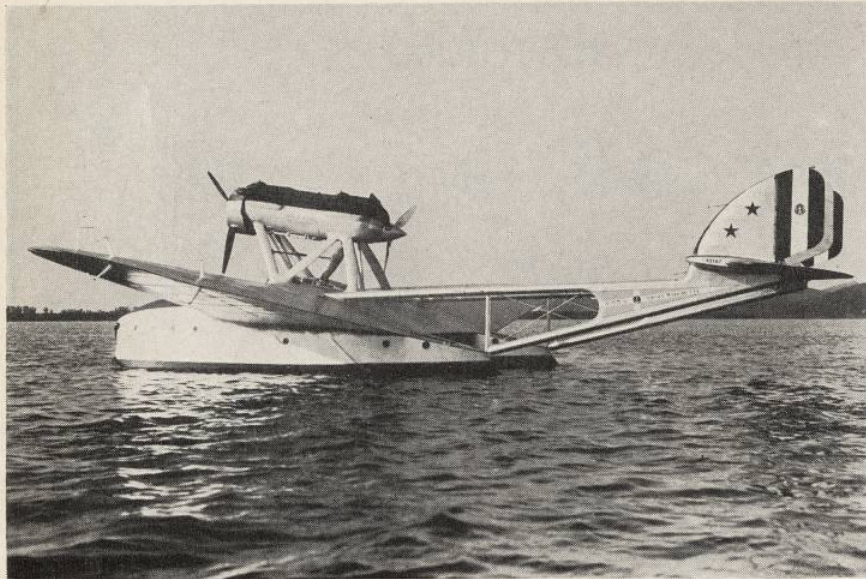


FLIGHTS COMPOSING THE FORMATION AND SPECIAL MARKINGS ON EACH PLANE

The W. T. Signal—Names of the Personnel

<p>First flight—Marked with a black star</p> <p>I-BALB ★ H. E. BALBO LT. COLONEL CAGNA Major CHARLES PEZZANI Ing. Lieutenant CAPPANNINI—Mechanic Sergeant W. T. BERTI</p> <p>★★★ I-QUES I-BISE ★★ CAP. QUESTA CAP. BISEO LIEUT. MARRAMA CAP. CUPINI Corp. Mech. ANTONANTE Serg. Mech. PARIZZI Corporal W. T. ZOPPI Serg. W. T. GIULINI</p> <p>Second flight—Marked with a black ring</p> <p>I-PELL O GEN. PELLEGRINI CAP. BONINI Serg. Mech. ALBERI W. O. W. T. PIFFERI</p> <p>000 I-MIGL I-BORG OO CAP. MIGLIA CAP. BORGHETTI LIEUT. FISICARO CAP. FRAILI Serg. Mech. LETTINI Corporal Mech. LEONE Corp. W. T. CUBEDDU Corp. W. T. BALESTRI</p>	<p>Third flight—Marked with a red star</p> <p>I-NANN ★ CAP. NANNINI CAP. ACCARDO Corporal Mech. FILIPPONI Sergeant W. T. VASCHETTO</p> <p>★★★ I-LIPP I-ROVI ★★ CAP. LIPPI CAP. ROVIS CAP. CECCOTTI LIEUT. AINI Corp. Mech. MASTRONARDO Serg. Mech. CIPOLLINI Corporal W. T. BISOL Corp. W. T. MARTINELLI</p> <p>Fourth flight—Marked with a red ring</p> <p>I-DINO CAP. BALDINI LIEUT. NOVELLI Sergeant Mech. QUINTAVALLE† Sergeant W. T. JORJA</p> <p>000 I-LEON I-TEUC OO CAP. LEONE CAP. TEUCCI LIEUT. REVETRIA CAP. LEO Corp. Mech. FABBRINI Corp. Mech. ROMEO Serg. W. T. D'AMORA Corp. W. T. GASPERINI</p>	<p>Fifth flight—Marked with a white star</p> <p>I-GIOR ★ CAP. GIORDANO CAP. FIORI Corporal Mech. NEGRO Sergeant W. T. VIOTTI</p> <p>★★★ I-NAPO I-VERC ★★ CAP. NAPOLI CAP. VERCELLONI LIEUT. SARLO CAP. FRABETTI Serg. Mech. DE DONNO Corp. Mech. MANSANI Serg. W. T. VIRILIO Corp. W. T. MUROLO</p> <p>Sixth flight—Marked with a white ring</p> <p>I-RECA O CAP. RECA CAP. CADRINGHERI Corporal Mech. MUZI Corporal W. T. CHIARAMONTI</p> <p>000 I-GALL I-ABBR OO CAP. GALLO CAP. ABBRIATA CAP. CLINGHERI LIEUT. NICOLETTI Serg. Mech. BARTILINI Corp. Mech. D'AMURI Corp. W. T. PELOSI Serg. W. T. ARCANGELI</p>	<p>Seventh flight—Marked with green star</p> <p>I-BIAN ★ CAP. BIANI W. O. MORETTI Corporal Mech. MANARA Sergeant W. T. SURIANI</p> <p>★★★ I-RANI I-ARAM ★★ CAP. RANIERI CAP. ARAMU LIEUT. SQUAGLIA LIEUT. ORSOLAN Serg. Mech. CREMASCHI Serg. Mech. BONACCINI Serg. W. T. BOVERI Corp. W. T. FRUSCIANTE</p> <p>Eighth flight—Marked with green ring</p> <p>I-LONG O LIEUT. COLONEL LONGO CAP. DE VITTEMBESCHI Sergeant Mech. OMETTO Sergeant W. T. BERNAZZANI</p> <p>000 I-CANN I-CALO OO CAP. CANISTRACCI CAP. CALO CAP. ROSSI LIEUT. PALMIOTTI Serg. Mech. TIRABOSCHI Corp. Mech. PINELLI Serg. W. T. SIMONETTI Serg. W. T. MASCIOLI</p>
--	--	--	--

†Sergt. Mech. Quintavalle was killed when plane crashed in Amsterdam.



GRACEFUL REAR-SIDE VIEW

efficiency among the crew, every Commander of a plane was authorized to choose the second pilot and experienced assistants. Every seaplane crew is composed of four persons as follows:

- a Commander Pilot,
- a Second Pilot, all of whom are Officers (except one who is a non-commissioned Officer),
- a wireless operator, who is a non-commissioned Officer or licensed operator,
- an engineer, either non-commissioned Officer or Corporal.

In certain planes there is a fifth person with special duties. The crew had been selected for more than a year in order that they might become acquainted, and thus make for a greater

efficiency during the training period of flights at home and elsewhere, and all this with a view to bring about both individual and collective efficiency.

It must be remembered that even in normal use all machines require two pilots and two seats for pilotage. This is far more necessary when it is a question of planes which are destined for long flights, which demand physical strength and accurate sense of the direction of the flight. These two Officers alternate in the guidance of the plane, while one is not in command, he at that time takes care of the various instruments: reckoning by land observation, bearing and astronomical; and seeks to maintain contact with the other machines in the formation and eventually with the stopping places.

The flights actually composing the formation are organized in two "stormi" of 12 planes, and four "gruppi" of 6 planes each.

The groups take off by flights, first the black, then the red, the white, and the green ones.

The formation flies in column with its flights in V's. Gaps not to be wider than 1500 feet.

Formation flying over given places or on alighting is closer, the whole formation dividing itself in two groups in column with flights arranged in V's.

At each base the planes moor at the buoys, each buoy bearing the colours and the marks distinguishing the plane.

After mooring the national colours are hoisted upon the flying boats.

One of the most interesting studies in connection with General Italo Balbo's flight of twenty-four mass planes, is the formation which was decided upon for the most effective results. The diagram shows the formation in which the twenty-four Italian planes made their epoch-making flight across the At-



FLIGHT LIEUT. COL. STEFANO CAGNA

He was born at Ormea (Cuneo) on December 25, 1901. He received in 1920 the license of a sea captain, first in the merchant Navy service; then, having received the degree of a midshipman in the Royal Naval Academy, he embarked on submarines.

He accompanied the late Commander Maddalena in his flights, when searching for the victims of the airship Italia.

Thereafter he was granted the Silver Medal for Aeronautical Services; and later on he was promoted to the rank of Captain for distinguished services.

He took part in the Transatlantic Cruise, flew across the South Atlantic on the 6th of January, 1931, and was appointed Major for distinguished Services.

He is, since March, 1933, Lieut.-Colonel; and since 1928 he occupies the post of a Flight Aide-de Camp to General Balbo.



GENERAL ALDO PELLEGRINI

General Aldo Pellegrini was born in Bologna, on August 28, 1888. He was from 1906 to 1910 at the Royal Naval Academy where he took the degree of a midshipman. He took part with the Navy in the Italian-Turkish War.

As the great War broke out, he received his flying pilot certificate, and served in this capacity throughout the War. Was in Command of Seaplane Sections of the R. Navy. In March, 1924, he was, as Captain, transferred to the R. A. F. Made Lieut.-Colonel in March, 1924; Colonel in July, 1927; and Brigadier General in September, 1929.

He holds two silver medals and a bronze medal "for Gallantry" and the Silver Military Medal for Aeronautical Services.

Cabinet Chief of Air Minister from August, 1926, to October, 1929. Since May, 1931, he holds the Command of the High Sea Flying School.



LIEUT. COL. ULISSE LONGO

Lieut. Col. Ulisse Longo was born in Brescia on January 1, 1894.

Navy Officer during the War, he embarked on destroyers, in the Adriatic and Aegean Sea; at the end of 1917, he received a pilot Certificate. He was granted a Commission as Navy lieutenant.

Since the end of the War, up to 1921, he acted as instructor at the Flying School of the Navy; then, up to 1925, as a pilot in the Spanish Navy Air-Service, took part in the Morocco Campaign. He was one of the Founders of the *Fascio* of Barcelona.

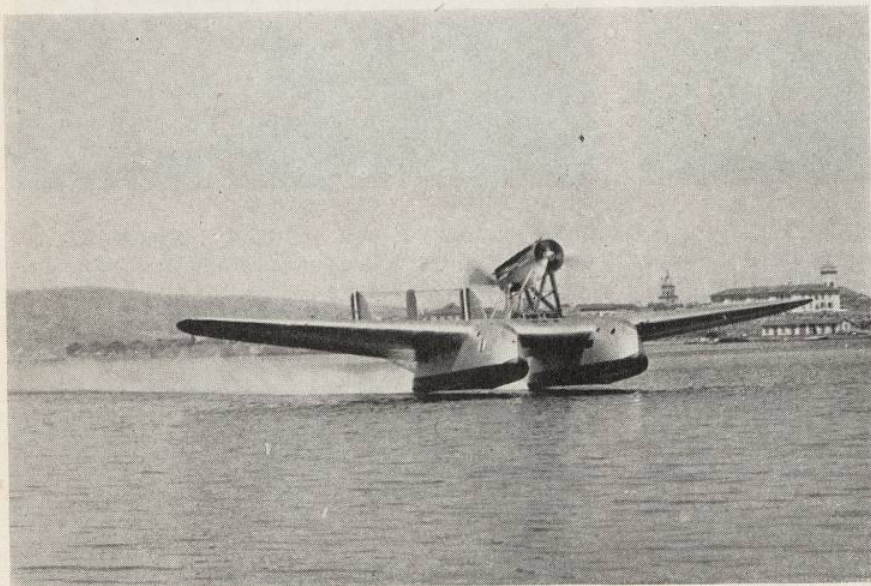
He was awarded a bronze medal for Navy Merit, the War Cross, and the Military Medal for the Morocco Campaign.

Lieut. Col. Longo kept the post of an assistant Commander at the High Sea Flying School, even during the preparation of the forthcoming Cruise across the Northern Atlantic, in the Tenth Year of the Fascist Era.

lantic. The 24 planes are divided into two units called in Italian "Stormo." Each "Stormo" is composed of 2 "gruppi" and each "gruppo" of 2 "Squadriglie" and each "Squadriglia" is composed of three planes.

The first stormo is composed of the black and red squadriglie; the second is composed of the white and green squadriglie. The black represents Fascism. The colors are those of the Italian flag. (Red, White and Green.)

In flight each plane is slightly raised over the following plane so that on looking back the commander has a complete view of his entire squadron. To distinguish the various Flights each is marked with a special sign in a distinctive color. For example, four Flights are marked with stars, and four with circles. Two Flights in black, two in red, two in white, and two in green. In addition each plane is distinctively marked with its



GRADUALLY LIFTING FROM THE WATER

own name and a telegraphic name for identification purposes, consisting of the letter I, which is the international mark of Italy and the first four letters of the commander's name. For example, the first flight is marked with a black star and the letters I-Balb. These distinguishing signs are painted under the wings, and the special sign such as a star or circle, on the rudder.

What a thrill it would have been to sit in General Balbo's flying boat, gazing ahead into space and uncertainty, or back at the twenty-three other huge planes which looked much like the steps of a stairway in their formation as each dropped slightly below the other, according to the plan of flight. What a thrill General Balbo must have felt when he realized that this was the successful culmination of two years of planning and preparation, for it was two years ago that the Duce, right after the successful cruise to Brazil, announced that the present Atlantic cruise from Rome to Chicago—from New York to Rome—would take place.

For days and weeks General Balbo and the officers and men making up his flight crew of one hundred men had waited to undertake their flight across the Atlantic Ocean. Day by day the meteorological service reported unfavorable weather conditions, especially over the Alps. As the Swiss authorities will not permit passage of airplanes over the St. Gotthard Pass, General Balbo had decided that his "Stormo" must cross the Alps by way of the Simplon Pass or the Splügen Pass. The choice depended entirely upon which offered the most satisfactory atmospheric conditions. Whichever pass was used, the altitude could not be less than 12,000 feet. This was to be the first time that such a large squadron of hydroplanes had attempted a formation flight over such mountainous regions.

But at last the day came. The meteorological reports satisfied General Balbo. He gave the word to start. There was a



CAPTAIN ENEA SILVIO RECAGNO

Born at Cogoleto Ligure in 1900, he entered in his early youth the Merchant Navy, reaching the rank of foreign-trade Captain.

He enlisted in 1920 and after training at the Royal Naval Academy was sent with the rank of a midshipman to the Aviation School of the Royal Navy, where a year later he was granted a certificate.

Having retired from active service he had some thrilling adventures traveling with the merchant service which in the meantime he had again entered, until, on the formation of the Regia Aeronautica he was granted a commission as Pilot Officer. He is very skilful in piloting all types of aircraft and was amongst the first to experiment in catapult launching.

He took part in the Formation Flight to Brazil and was fortunate enough to escape a very grave accident.



MAJOR G. A. R. I. PEZZANI

Born in La Spezia, October 26, 1899.

He took an engineer degree in December, 1921, after having been in the War as Artillery sub-lieutenant. In 1923 he won the degree of a lieutenant in the Engineering Air Corps.

In 1924, he took the civilian Pilot certificate at the "Breda" School. During three years he acted as approver for types of aircraft and flight trials, performing of his own accord parachute experiences, in the early period of parachuting practice.

He constructed a compass of his own, which won the prize of excellency among many national and foreign types, and was adopted by the Regia Aeronautica.

He has played a role in the preparation of the Air Cruise Italy-Brazil, as regards engine and aircraft overhauling.

During the North Atlantic Cruise, he shall be responsible for the technical organization and materials.



FLIGHT CAPTAIN MARIO
BALDINI

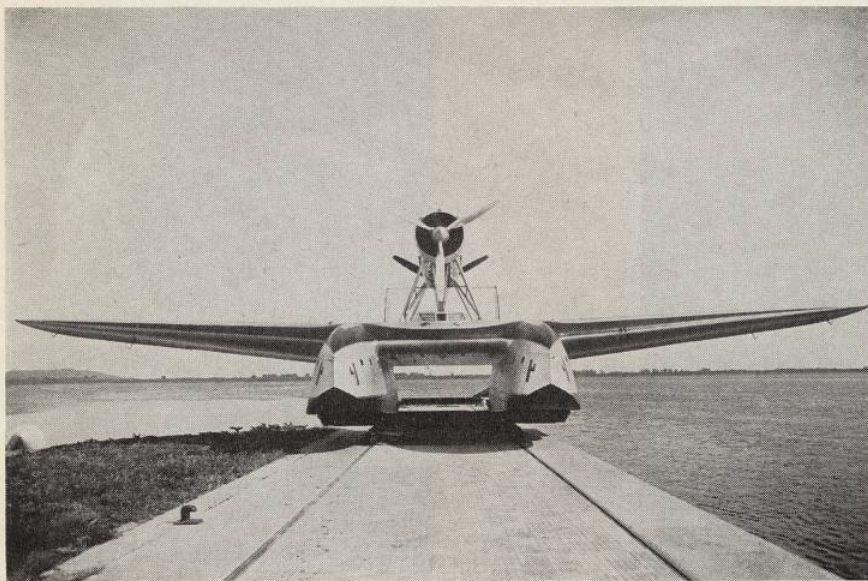
Born at S. Margherita Ligure (Genoa) on August 4, 1897. Took the degree of a foreign-trade captain, and specialized in nautical and geographical matters.

In July, 1917, being called to service in the Navy with the rank of a midshipman, he received a pilot certificate, and served in this capacity throughout the War. For his bravery and for having brought down several enemy aircraft, he was awarded three medals for Gallantry, and the War Cross.

In 1923 he passed finally from the Navy to the ranks of the Regia Aeronautica. Having already distinguished himself for his professional qualities, he was sent in 1928 to search for Amundsen and Guilbaud's "Latham 47," lost in Barents Sea during the campaign in quest of the victims of the Airship *Italia*.

For his skill and selfdenial on this occasion, he was granted a bronze medal for Gallantry in Aeronautical Services.

He holds also the Silver Medal of the Carnegie Foundation for Gallantry.



LIKE A HUGE TWO-HEADED BUG

roar like many machine guns and General Balbo's plane shot forward and lifted from the water. The others followed and immediately fell into the prearranged formation. In order not to strain the motors at the very beginning of the long flight of over 7,000 miles, the ascent was made gradually with the motors operating at a speed about equivalent to normal cruising speed.

The climb over the Alps proceeded with the mechanical precision which was expected after the long months of intensive preparation. Nature at last had decided to cooperate with the daring General Balbo. The general himself described the weather as "glorious," although he admitted that at times great cloud masses gave the effect of dense fog and forced the intrepid airmen to depend solely upon their instruments. The fact that the great air armada maintained its formation and proceeded on the prescribed course is ample proof of the accuracy and per-

fection of the various instruments which shall be briefly described. The well-equipped flyer of today can proceed as unerringly upon his way in the great air ocean as the captain of a mighty steamship can forge ahead on the fog-bound sea surrounded only by watery wastes.

From time to time the towering Alpine peaks disclosed themselves, but the visibility was really poor for a large part of the distance, because after leaving Coblenz the planes encountered a thick haze which continued until they reached Amsterdam. The haze, however, did not hamper the flight to the slightest degree, and General Balbo stated, after reaching Amsterdam, that his men had retained their keen enthusiasm during this first lap of history-making air cruise.

As planned, the course was directed first to Basle. From Basle it followed the great river Rhine of history, legend and romance, passing over Mainz and Dusseldorf, and then along the southern coast of the Zuyder Zee to the first base at Amsterdam. The meteorological conditions along this route differ widely and are inclined to rapid variation. There are frequent rainstorms and the winds have many eddies caused by the mountains. The distance is about 872 miles, and it was estimated that about six hours would be required for the trip.

Through no fault of the plane, or in the arrangements, the hydroplane commanded by Captain Baldini, and designated as the I-Dini (see explanation of plane markings), met with a mishap during the landing at Amsterdam. Though Captain Baldini was a flyer of wide experience, and a veteran of the successful cruise to Brazil, he allowed his plane to land too quickly and heavily upon the water. This, General Balbo attributed to an error of judgment in manipulating the controls. There was a startling crash of rending wood, the plane turned over and plunged its nose into the shallow water. Buried under two



CAPTAIN VINCENT BIANI

Born at Perugia in 1901, he was educated in his native town and subsequently graduated Bachelor of Rural Sciences.

Having partaken in all the raids accomplished by the Black Shirts in Umbria, Tuscany, Latium, and in the March on Rome, he may well be regarded as one of the founders of Fascist Fighting Units of Perugia.

In October, 1923, he was granted a commission and subsequently in 1924 licensed as a military pilot; a year later he was sent on his own request to Tripolitania where during the military operations against disturbing tribes he achieved nearly one thousand flying hours. He served as Commander of the flight operating in the Syrte and Staff Officer of the Aviation Headquarters.

He was awarded one silver medal and three bronze medals for gallantry and promoted to the rank of Captain for Distinguished Services in War.

In 1929 the "Premio Baracca" was conferred upon him and finally in 1931 he was posted to the High Sea Flying School.



CAPTAIN GENNARO GIORDANO

Born at Isola Capo Ricciuto, May, 1899. During the War he served in the Artillery Corps and in 1923 was transferred to the Regia Aeronautica as a pilot. He has taken part in every aerial display and in 1928 flew to Mogadiscio (Red Sea) where his flight was to take up station. In 1932 he won the first "Bibesco Cup." He holds the bronze medal for seniority in active service.



CAPTAIN UMBERTO NANNINI

Was born in Modena on November 1, 1900.

In 1917 he served during the War as a volunteer. Later on was sent to the Montecelio School of Aviation where he was granted a license as military pilot and promoted to the rank of officer.

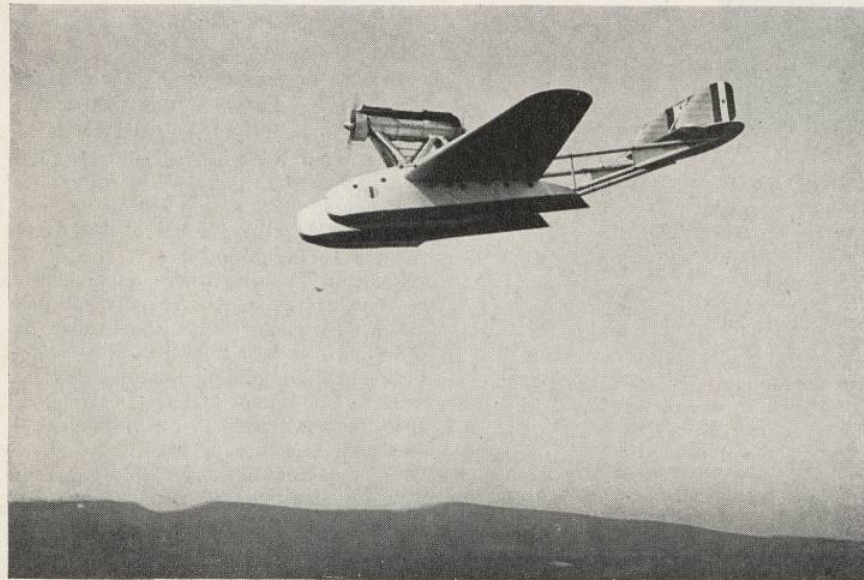
In July, 1927, as a Captain, he was appointed by the Ministero dell'Aeronautica to organize the first School of gliding in Pavullo, where subsequently he remained during the years '28-'29 and '30 as Instructor and Commander in Chief. He is well known as a keen experimenter in gliding and soaring as well as in towed flying. In October, 1930, he was posted to the Aeronautical Research Institute of Monticelio where he remained until May, 1931, when he was appointed to the High Sea Flying School of Orbetello.

He holds the Silver Medal for seniority in active service and is a Fascist of the early times.

loosened motors, one man, Sergeant-Mechanic Quintavalle, was smothered in the mud and water. Captain Baldini and the other members of the crew were injured.

Hundreds of waiting boats, including one containing Dutch cadets of the Naval Training Corps, were at hand to witness the landing and receive the flyers. These boats immediately rushed to the rescue, and two Dutch cadets boldly dived into the water to assist in the rescue work. Sergeant Quintavalle's body was recovered and taken to a mortuary, while the injured were promptly removed to hospitals.

In spite of the fact that General Balbo had had little sleep for several nights, and had arisen at dawn to lead his squadron on the journey to America, he solicitously visited and looked after the welfare of his injured comrades. General Balbo thus proved himself to be the ideal commander—exercising strict



FULL SPEED ACROSS THE MOUNTAINS

discipline in time of success, but caring for his men like a father for his sons in time of trial.

General Balbo expressed sorrow at the accident which had occurred at the very start of his journey. But he did not consider it in any way an ill omen. Such things, though effort and forethought be given to preventing them, were almost to be expected in such a stupendous pioneering venture. Every great cause in history has had its martyrs who cheerfully gave up their lives that their comrades might achieve ultimate success.

It was a most impressive ceremony when the Dutch Minister of Defense L. N. Decemers greeted General Balbo with words of cheer and good-will. Said the Minister:

"We congratulate you and yours on your heroic flight over the Alps. We wish you all good luck on the long and difficult route ahead of you. May God be with you and your men and may they all safely land in America. Whereafter we wish you a speedy and glorious return to your fatherland."

Such scenes of welcome and well-wishing were enacted all along the many thousands of miles of the cruise, varying in impressiveness with the size and importance of the bases or landing places.

General Balbo's air fleet reached Amsterdam on July 1, 1933. Reducing his stay in Amsterdam to the minimum, he set off for Londonderry, Ireland, arriving there on the morning of July 2nd. While the crossing of the Alps presented great difficulties it could well be said that his arrival at and departure from Londonderry marked the actual beginning of his momentous voyage. From Londonderry his planes flew straight out over the ocean in the direction of his base at Reykjavik, Iceland.

It was for the next lap to Cartwright that the special base in



CAPTAIN CALO CARDUCCI



CAPTAIN FIORI



CAPTAIN VERCELLONI



CAPTAIN TEUCCI



CAPTAIN QUESTA



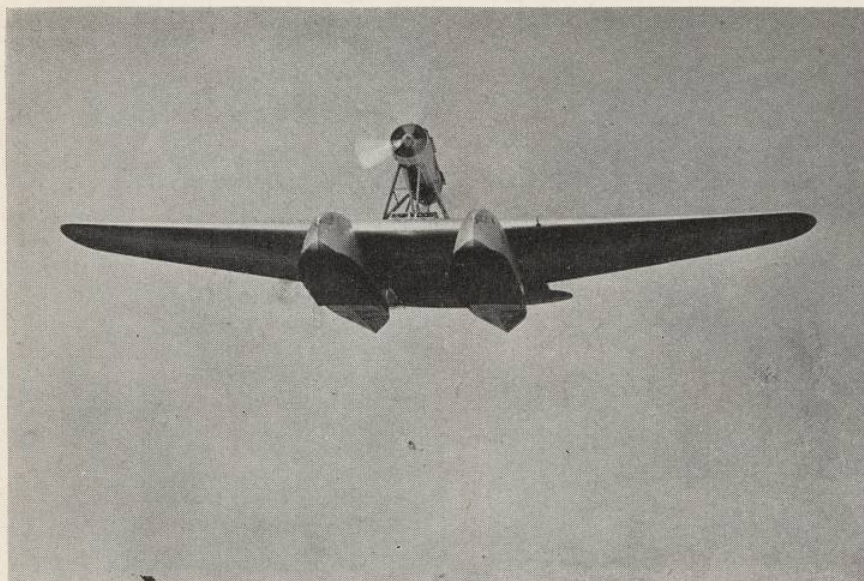
CAPTAIN CECCOTTI



CAPTAIN NICOLETTI



CAPTAIN CLINGHERI



SOARING LIKE A BIRD

Greenland was planned. Here the Gulf Stream emptying its warm waters into the colder waters from the Arctic, the drifting icebergs, and constant atmospheric disturbances, cause frequent and dense fogs, while the changeable weather brings on frequent storms and heavy seas. Against these dangers the meteorological and radio service must warn the flyers.

From Greenland to Labrador, and all down the Labrador coast the same conditions prevailed. Remember that these were hydroplanes, and a landing amidst drifting ice floes and bergs, and in heavy seas would be dangerous if not impossible.

The flight across the North Atlantic Ocean is known to be most difficult on account of the atmospheric conditions there prevalent. Only the most perfect technical and meteorological paraphernalia would permit the Air Force to attempt this hazardous zone. If it is difficult for one plane alone to make this

heroic effort, how much more so for the successful issue of twenty-four planes!

Over this tract of Ocean, from East to West, only four individual flights have been successful to date: one by the German airmen Kohl and Heunefeld, and the other three by von Gronau. Besides we might mention the famous trip made in 1924 by four American planes, a trip which lasted more than two months, meeting with manifold adventures, and assisted by 19 warships of the U. S. Navy.

Special orders had been given about the separation and distribution of the planes during this period of the flight, but even at this the danger was only slightly minimized, because a faint deviation in position, or in the speed of the motors, might alter the entire formation. In this part of the course, which is one of the most treacherous of the world, very severe storms could be encountered, especially near Cape Farewell in Greenland.

On the American tract especially along the Coast of Labrador and in the St. Lawrence Gulf the air flight is not easy on account of the frequent fog formations, which during the summer time are of long duration.

On the return trip between Newfoundland and Ireland the meteorological conditions are expected to be more favorable, because the winds are in favor and the fog is decreasing as the trip to the coast of Ireland is made.

In both of the Atlantic crossings the planes must carry a weight of 11 tons, which of itself requires extreme caution on the part of the aviator and imposes great strain on the engine and plane.

Weather reports covering the complete area of the North Atlantic are not available, so General Balbo and the Italian authorities had to arrange their bases and stations to give complete reports from the entire area. In addition to the various bases and stations Italian submarines and two especially char-



CAPTAIN RANIERI



CAPTAIN ACCARDO



CAPTAIN ROSSI



CAPTAIN GALLO



CAPTAIN DE VITTEMBESCHI



CAPTAIN LIPPI



CAPTAIN CADRINGHERI



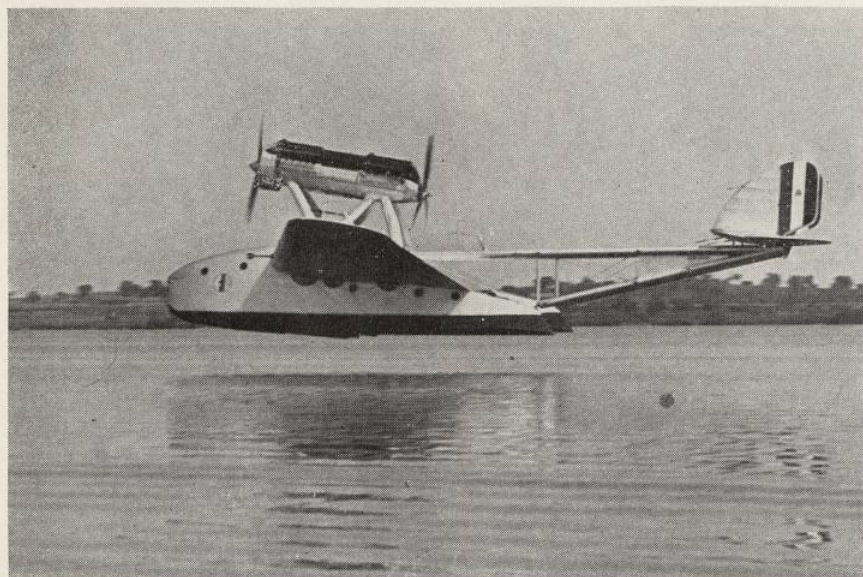
CAPTAIN NAPOLI

tered British trawlers were employed to gather weather information and radio regular reports to the Flying Squadron.

The squadron also planned to take advantage of all reports broadcast by the stations of that international organization which had agreed to assist with their service until the flight would be over. Stations and Offices would also act as wireless stations for providing contact between the various units of the formation.

Wireless messages would be broadcast on wave lengths chosen among the wave ranges available for the special requirements of the formation.

The International Telegraph and Telephone Co. of New York, whose valuable organization has kindly been put at the disposal of the Italian Authorities, has been instrumental in



A PERFECT LIGHTING ON THE WATER

making easy, all wireless communications to and from the American Continent.

This gives some idea of the tremendous amount of preparation necessary before the flight could be attempted.

However, the success of the remaining trip to Newfoundland, across Canada and finally to Chicago, proved that these preparations had been well made.

Imposing as were the ceremonies at Amsterdam, including the dinner given to his men by General Balbo, at the end of this first perilous lap, the ultimate goal of this epochal flight, Chicago, was not to be outdone in according almost royal honors to the hero of the air and his brave associates. Major Reed Landis, world war ace and head of the Illinois Aeronautics Commission, headed the welcoming party which included Rufus Dawes, president of A Century of Progress, Governor Henry Horner of Illinois, Mr. Harry S. New of the Federal Government, Rear-Admiral Watt T. Cluverius from the Great Lakes Naval Training Station, Major General F. Parker of the Sixth Corps Area, Mayor Edward J. Kelly of Chicago, and many other notable figures. Among the latter were Prince Potenzi, Italian Commissioner to the World's Fair, Princess Myriam Potenzi and Count Elia, and the Italian Consul-General Giuseppe Castruccio.

The welcoming addresses and reception were given in the vast arena of Soldier Field before an enthusiastic multitude in which all nationalities gave homage to the air hero of the century. General Balbo made a most appropriate reply, expressing his appreciation of his reception, and the important part the United States had taken in assuring his success by ordering all naval vessels to lend their utmost cooperation.

Why did the Italian government make such an enormous investment in money, time, men and airplanes? Not for the



CAPTAIN ROVIS



CAPTAIN BORGHETTI



CAPTAIN BONINO



CAPTAIN ABBRIATA



CAPTAIN LEONE



CAPTAIN CANNISTRACCI



CAPTAIN MIGLIA



CAPTAIN CUPINI

glory of Italy—though Italy now will forever stand in the very forefront of progress in aviation. Not for the glory of General Balbo—though history will ring with his great achievement. This was done in the interest of all the peoples of the world—to secure facts, data, and experience that would make international communication by airplane easier and better and more certain of ultimate success in regular flights.

Yet every Italian—wherever he may be—may well be proud of this stupendous achievement by a fellow countryman. General Italo Balbo's name will go down in the history of aviation as one of its greatest aids to genuine progress. It is fitting that his great flight should have been made to that great World's Fair commemorating A Century of Progress throughout the world as well as in the second city of the United States—Chicago.



BEAUTIFUL STREAMLINES

RECEPTION AND CEREMONIES IN CHICAGO

The Day of Landing

The Italian Air Armada landed on Lake Michigan, facing Grant Park north of the World's Fair grounds, at about noon.

The U. S. S. Willmette, after firing a salute, received General Balbo and his officers on board to be greeted by the authorities and the reception committee.

Motor boats escorted General Balbo and his men to the north lagoon at the World's Fair where they disembarked at the Administration Building.

Upon their arrival at Soldier Field Stadium they were cheered by 100,000 people of Chicago.

Reception, tendered by the Dante Alighieri Society of Chicago, at the Drake Hotel.

Dinner Dance, at the Saddle and Cycle Club.

First Day in Chicago

Thanksgiving Mass at the Holy Name Cathedral, officiated by His Eminence Cardinal Mundelein.

Visits to Mr. Harry S. New, at the Federal Building and Gov. Henry Horner, at the Illinois Host Building in the World's Fair, to Mayor Edward F. Kelly, in the City Hall and to Mr. Rufus C. Dawes, at the Administration Building.

Luncheon, tendered by Mr. and Mrs. Rufus C. Dawes.

Visit at the Italian Pavilion and the Italian Scientific Exhibits at the Hall of Science in the World's Fair grounds.

Dinner, tendered by the Italian Community of Chicago, at the Stevens Hotel.

Second Day in Chicago

Visit at the Municipal Airport.

Visit at Lake Geneva.

Dinner, tendered by Mr. Harry S. New, at the Congress Hotel.

Grand Ball, tendered by Prince Potenziani, Royal Italian Commissioner to the World's Fair, and by the Italy-America Society, at the Casino of the World's Fair.

Third Day in Chicago

Visit at A Century of Progress and the Air Show.

Luncheon, tendered by Admiral Cluverius, at the Congress Hotel.

Visit to Major General Frank Parker at Fort Sheridan.

Dinner Dance, at the Tavern Club.



CAPTAIN FRABETTI



CAPTAIN FRAILI



CAPTAIN LEO



CAPTAIN BISEO



NON-COMM. OFFICER MORETTI



CAPTAIN ARAMU



LIEUT. REVETRIA



THE POWERFUL ISOTTA FRASCHINI MOTOR

THE HIGH SEA FLYING SCHOOL

Undoubtedly one of the most peculiar organizations of Italian Aviation is the Orbetello School, founded three years ago. This school, called "the High Sea Flying School," aims at training pilots for long range formation flights over oceans and continents, as well as studying and solving all questions connected therewith.

Its program of teaching is very wide. Besides theoretical courses of mathematics, physics, aerodynamics, engines, and so on, the pupils practise continually in individual and collective flying, and become thoroughly familiar with the chief technical and professional problems, such as landing and take-off with heavy load, in the most varied sea and air conditions, in night, blind and compass flying, astronomical flying, radio direction, and so on.

The School was opened on the 1st of January, 1930, and a year later its pupils took part in the great Cruise across the South Atlantic.

That famous raid gave not only an evidence of the excellent training given at Orbetello, but it caused the school to start studying other technical problems directly connected with the carrying out of the Air Cruise of the Decennial.

The problems dealt with, and solved in two years' time, have been as follows: modification of less resistant parts of the machines; further refinement of machines; higher power and safety of engines; greater economy of fuel; increased safety of planes; necessity of safer and better communications between planes and ground stations; better control on flight and navigation.

On the 2nd of May, 1931, the second training course began, and day by day the pupils saw the above mentioned problems in progress of solution, and collaborated practically thereto.



LIEUT. PALMIOTTI



LIEUT. SQUAGLIA



LIEUT. ORSOLAN



LIEUT. NOVELLI



LIEUT. AINI



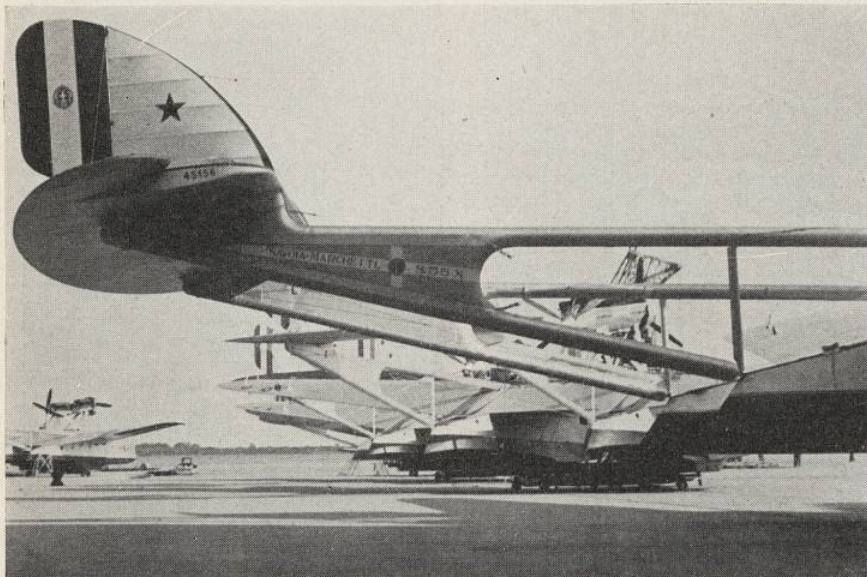
LIEUT. FISICARO



LIEUT. SARLO



LIEUT. MARRAMA



GEN. BALBO'S SHIP SHOWING FLIGHT INSIGNIA

The forthcoming Cruise of the Decennial, while guaranteed against difficulties in take-offs, because of the higher speed, has to face other difficulties, such as flying over the Alps, and navigation in regions where meteorological conditions are generally known to be unfavorable, and ground stations totally absent.

Quite a particular stress had to be put, during the preparation of men and machines, upon the problem of instrumental flying, implying the trim of the aircraft without outward visibility and yet holding the course, also with regard to the necessity of utmost fuel economy.

As regards the preparation for instrumental flying, it could scarcely have been more accurate. Not a device could be found, but had been carefully examined by the pilots, and thoroughly checked, as regards its practical value. Some pupils have also been dispatched to study the different practises in such foreign

countries where meteorological conditions are generally less favorable, in order to get them acquainted with methods and devices locally employed.

All flying training done at Orbetello, both individual and collective, has largely been instrumental flying; and care was taken, whenever meteorological conditions looked too good, to shut out all outward visibility by means of appropriate curtains.

Several stages in the forthcoming Cruise would be flown in localities hindering the working of instruments and making it very difficult to hold the course. For instance, in regions nearer the magnetic Pole, the Compass will become very unreliable.

These circumstances, as well as the lack of ground radio organization, made it necessary to supply all machines with radiogoniometric plants.

The latter have proved so much the more necessary, as each machine should be enabled to find at any moment the direction, irrespective of the wireless apparatus, which should be used for other purposes than getting the direction from the ground stations.

For this purpose, a good deal of radiogoniometric flying has been performed at Orbetello.

Operations connected with instrumental flying have of course rendered more difficult the task of the pilots; and it became clear that on large, long range aircraft, one of the two pilots should be specially responsible for all calculations of bearings, during the course, being what is called a navigator, while the other pilot should concentrate his attention on the manoeuvre, on keeping the course, and controlling engines.

The Air Cruise of the Decennial is a striking evidence of the progress made in machines and installations, progress that is chiefly due to the raids and cruises, that Italian Aviation, most unique in the world, has dared to perform, and actually carried out.

THE NORTH ATLANTIC FLIGHT

BY THE ITALIAN AIR ARMADA OF 24 HYDROPLANES

The "Savoia Marchetti S. 55 X". The Motor "Asso 750 Isotta Fraschini"

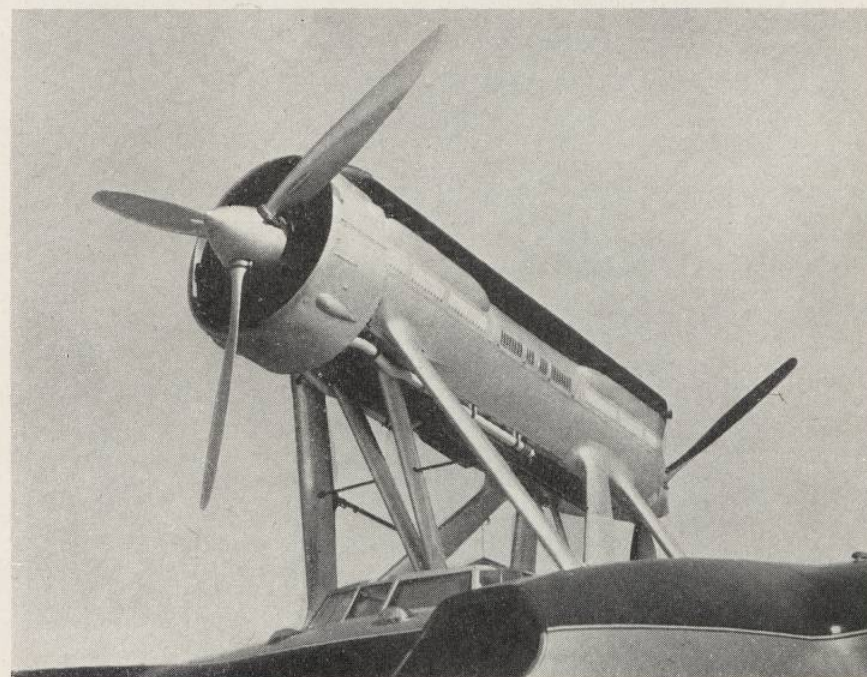
"S. 55. X" HYDROPLANE

The enormous difficulty confronting the flight across the North Atlantic—whether it be for the great distance existing between the nearest points of the opposite coasts of Europe and America—whether it be on account of the atmospheric conditions which are constantly adverse and the existence of the air currents generally contrary, required a new study of air crafts and motors; it was necessary to better the aero-dynamic qualities for the crafts and to increase the power of the motors preserving, however, almost unchanged, the consumption of fuel and oil.

Moreover, it was necessary to increase the autonomy of the air crafts and consequently the load was more than ever essential; also the selection of motors capable of keeping absolutely constant power, at least during the first hours, and especially during the very delicate phase of taking the air during which time the power is entirely used. If there is the least irregularity in the functioning, causing any slight reduction of power, grave accidents may occur.

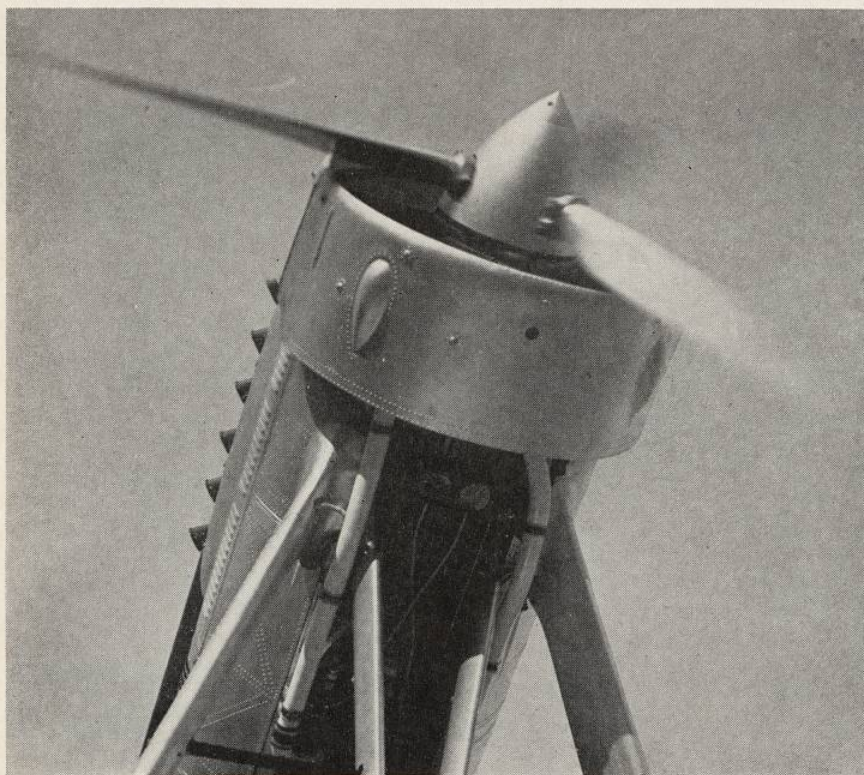
The aircraft which has been chosen is the very famous "Savoia-Marchetti-S. 55X." This is the glorious airship of the first Atlantic flights, the faithful machine with which His Excellency Balbo accomplished all his mass flights, and with which he made the famous flight from Bolama to Port Natal in 1931, the powerful war instrument which forms the sturdiness of Italian aviation for large sea bombing planes.

It is a machine whose prototype dates back to 1923, and is the result of continuous experiments and technical studies pursued by its genial builder, Engineer Alessandro Marchetti, Administrator of the Societa Idrovolanti Alta Italia (North Italy Seaplane Company).



THE MOTOR, SHOWING PILOT CABIN AND ENGINE MOUNTING

The present model is the fruit of long experience which has enabled the Italian engineers to produce the most perfect seaplane in existence today. Its characteristic shape is different from all other types of hydroplanes in service today—for the double cross beam in the tail, for the two floating cabins, the pilot's cabin in the center of the wings and the motor propulsion group placed above. A faster, stronger, more streamlined plane, with a greater cruising range than its predecessors has been obtained.



DETAIL OF FRONT ENGINE

At that time considered "not interesting and not worthy of reproduction over its first machine," it was again taken into consideration in 1926 under the auspices of the Fascist Government. What followed upheld its genial constructor and denied the statements of its over-zealous detractors.

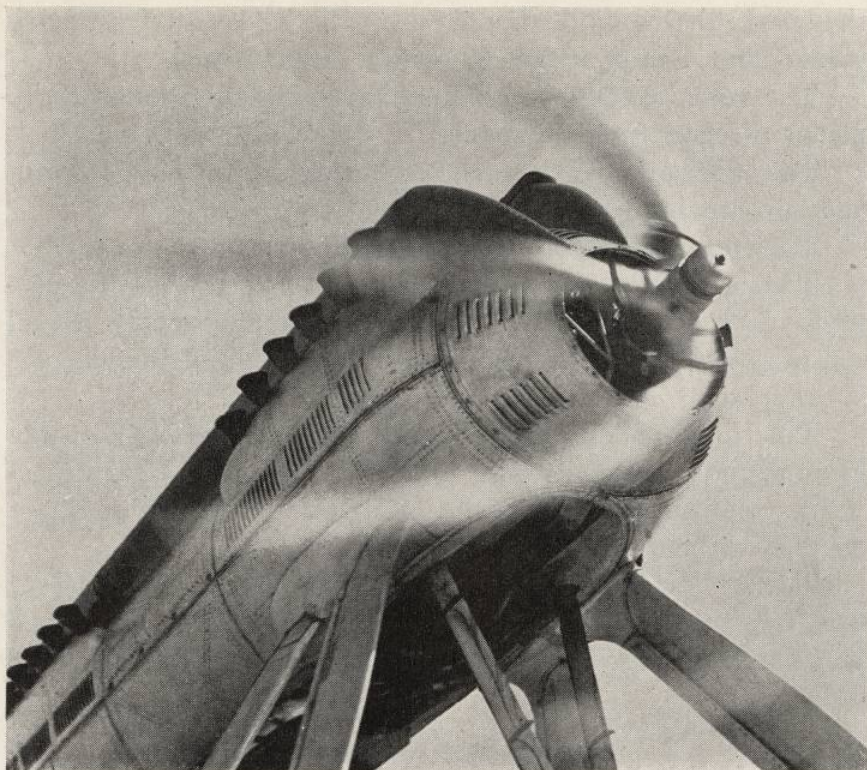
Equipped with two motors of the "Asso 500 Isotta Fraschini" type the magnificent ship conquered, in 1926, 14 world records of height, carrying capacity, and speed.

General De Pinedo in 1927 used this type of hydroplane in his double crossing of the Atlantic, and his flight over the "Green Desert," the fearful equatorial forest of Brazil. It was used by the Brazilian DeBarros in 1928 when he flew from Italy to Brazil; and in 1929 the late Commander Maddalena brought this type of machine to the ice-banks of the Pole and with it found the "Red Tent" where stood, in agony, the survivors of the airship "Italia."

Then followed the first mass flights under the leadership of His Excellency Balbo during which time the plane gained definite approval. When the planes, flying over open sea, met a storm of 80 miles per hour velocity and won, it demonstrated not only the extraordinary ability of the pilots, but also the exceptional quality of the machines and their motors.

The latest improvements have been obtained after long methodical labors which required thousands of experimental flights. The increased difficulties of the North Atlantic cruise in comparison with the South Atlantic cruise of 1931 required rigid trials and works for every piece of mechanism, propellers, motors, radiators, tanks, and the various other instruments.

The propellers which were finally selected after experiments with 88 different models, are of metal, with three blades. Eighteen types of radiators were tried both in actual flight and in bench tests, mounted before the motor and likewise on the pontoons.



DETAIL OF REAR ENGINE

Oval and cylindrical gas tanks with great capacity and strength have been chosen in place of the octagonal ones used in previous planes.

The "S-55" of the Decennial of Fascism appears even to the layman as the most modern development of beauty and streamlining in airplane construction. Besides the cowls of the motors, many other modifications have been introduced to secure a minimum of resistance. Among the most important is the construction of the superstructure of the pontoons which forms the central section of the wing and contains the controls

and navigation instruments. The wings and pontoons lean back. The windshield of the control room has been enlarged and curved.

The instrument boards have been so equipped as to leave nothing to desire for a long cruise. Among the special navigating instruments which have been installed, the following are of special interest:

— The Nistri-Biseo Control Board, which contains speedometer, compass, altimeter and turn indicator. These instruments are viewed by the pilot through a magnifying panel which enables him to observe the slightest variations in direction with ease and precision. Thus accuracy is obtained without the imperfection of mechanical countershafts and with the elimination of mass inertia.

— The Sperry Artificial Horizon which through a gyroscopic indicator shows variation from the flying plane either longitudinally or transversally.

— The Sperry Direction Indicator which permits the controls to be set for any desired direction.

Each pontoon contains one 400 gallon tank, two 100 gallon tanks and a third one of 40 gallons. Therefore, each pontoon holds 640 gallons and the capacity gasoline load is 1280 gallons. Besides these gasoline tanks, in each pontoon there is a reserve water tank with a 15 gallon capacity and another one of equal size for oil.

In the Polar climate water and oil will be heated before the motors are started by means of catalytic heaters.

General Characteristics

The dimensions of the S-55 of the Decennial are the same as those of the earlier model; wingspread 79 feet; length 52 feet; height 16 feet; depth of wing 16 feet, 3 inches; area covered 130 sq. ft. Weight without load 12650 pounds.

Flight Characteristics

Maximum speed	175 m. p. h.
Cruising speed	145 m. p. h.
Useful load capacity.....	11000 pounds
Consumption	Kg. Km. 1
Maximum cruising range.....	2800 miles
Ordinary cruising range, with cruising load of gasoline, oil and crew.....	2250 miles
Climbing speed 1000 meters (3280) ft.)	4 min. 24 sec.
“ “ 2000 “ (6500 “)	9 “ 9 “
“ “ 3000 “ 9840 “	16 “ 17 “
“ “ 4000 “ 13000 “	26 “ 18 “
“ “ 5000 “ 16400 “	50 “ — “

* * *

THE MOTOR “ASSO 750”

In the present Cruise another powerful Italian engine, the “Asso 750,” constructed by the Isotta Fraschini Works, is used.

The “Asso 750” is watercooled, has 18 Cylinders in three rows, disposed at an angle of convergence of 40°.

The engine bed is of “electron”; the cylinders are of carbon steel with the water and cooling jackets, babbitted and welded.

The pistons are of special aluminum alloy, with 4 piston rings.

The crankshaft is of Chrome nickel steel with eight supports and six crank arms, and is bored in order to allow the perfect lubrication of the connecting rod bigs; those are made of special steel of very high resistance.

The ignition is given by means of two high tension magnets situated on the engine’s anterior part. Each magnet gives

the spark to 18 cylinders, and each cylinder is fitted with two spark plugs, acting separately with a different magnet.

The water cooling is obtained with forced circulation by means of centrifugal pumps.

The lubrication is done through gear pumps, one sending and two regaining.

The engine is fitted with six carburetors.

The carburetor type which has been selected gives the possibility of having a poor carburetion, with real economy of fuel consumption, but providing a rapid lubrication of the mixture in order to attain a prompt and perfect return.

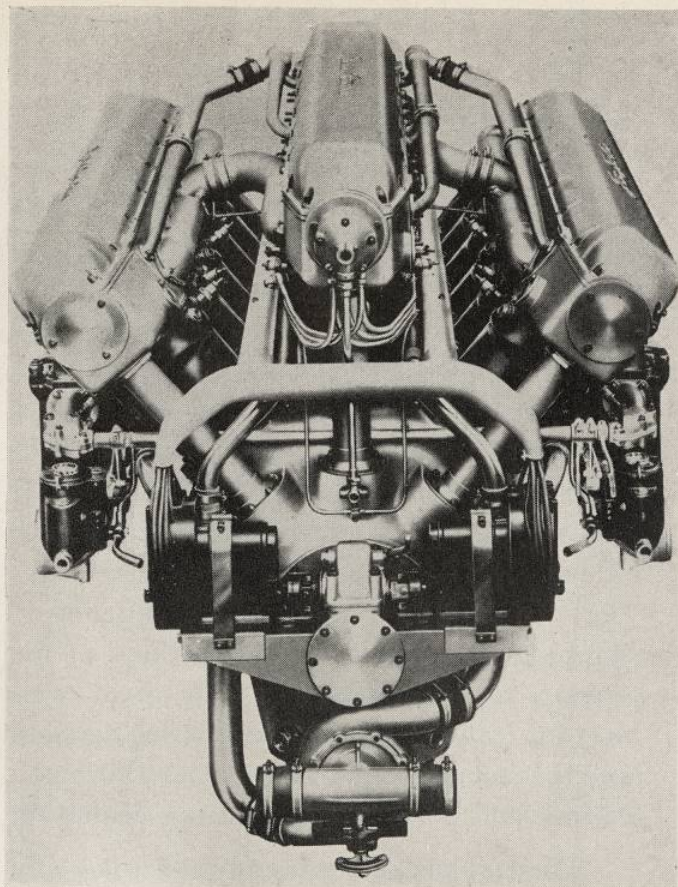
The three blade metal propeller, has variable pitch on the ground, and is especially built to resist to the exceptional atmospheric conditions of the North Countries. They turn on direct contact, without reduction gear.

The cooling radiator is composed of two parts, independent one from the other, so that if anything happens, the damaged part can be changed, without being compelled to dismount the radiator.

* * *

This is the most perfect combination of material; Italian hydroplanes, Italian motors, Italian instruments for navigation; the whole animated by the inflexible will to risk and to succeed which today constitutes the essence of the new soul of Fascist Italy which, in the glorious tradition of Rome of the Caesars, conquered its place in the world in the name of the Soldier King under the auspices of the Duce.

Living eagles equipped with beaks and claws; the machines of the Atlantic Fleet are tracing new roads for the conquering of human progress, thrown on all skies and on all the seas of the world, by the daring of the Italian flyers transported under the leadership of Italo Balbo, who makes out of every goal reached the starting point for new and more hazardous darings.

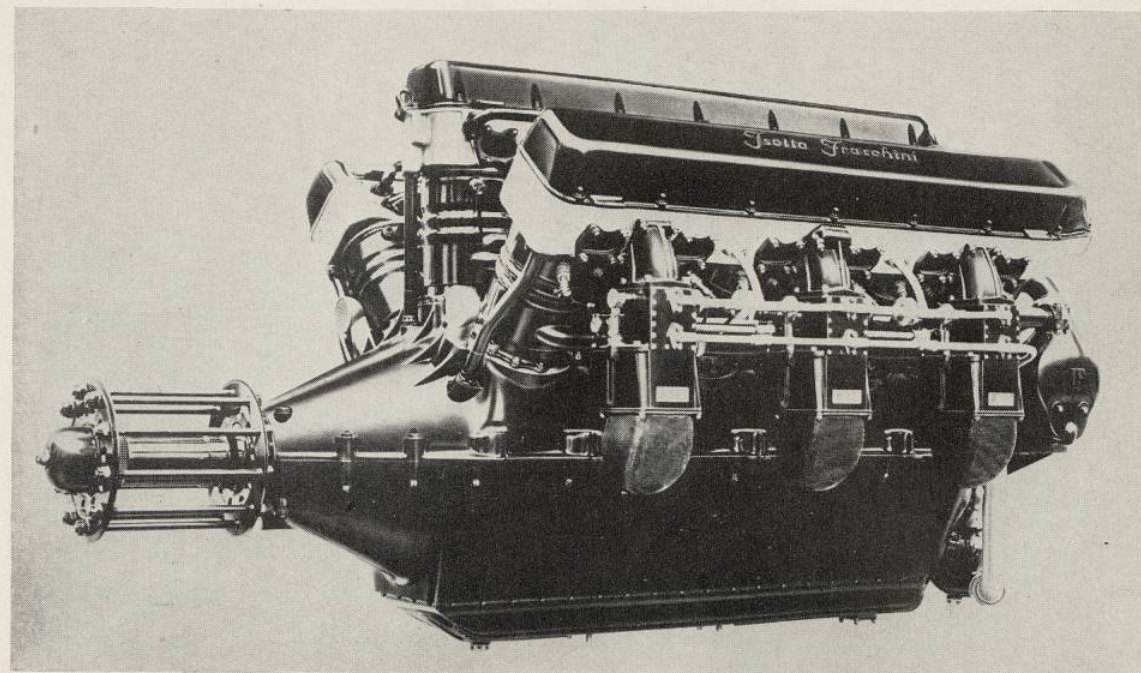


END VIEW

Details

Cylinder bore	mm. 140
Suction	" 170
Number of cylinder.....	18 in W position
Total stroke volume	l. 47,07
Compression degree	5,7
Speed range	1.750

Maximum speed range of the crankshaft	1.900
Real efficiency of the propeller axis by normal range	HP. 880
Real efficiency to the highest range.....	HP. 940
Fuel consumption with normal power.....	gr. HP/h. 215
Oil consumption with normal power.....	gr. h. 10
Weight of the engine without fuel and airscrew hub.....	Kg. 663
Weight per HP.	gr. 750
Water contained in the motor.....	l. 42



SIDE VIEW



ITALIAN PAVILION

ITALIAN PAVILION AT A CENTURY OF PROGRESS

Proudly Representing a Country Which Has
Contributed So Much to the Progress of Aviation.

Symbolically representing the flight of 24 Italian planes, under command of General Balbo, Italy's building stands at the extreme southern end of the Avenue of Flags in the shape of a giant airplane. It displays attractive drawings and views showing the beauties of Italy. In the north wing of the Hall of Science, Italy has presented 450 exhibits that tell a dramatic story of her remarkable achievements in engineering, physics, medicine, geography, astronomy, agriculture, shipping and aviation from the times of the Caesars to the present day. The great engineering feat of draining the Pontine marshes and the reclamation of valuable land for agriculture and port development are displayed.

The Italian exhibits occupy space not only in the national pavilion, but have spread themselves into the upper and lower north wing of the Hall of Science, into the Adler Planetarium, and even extend into the Museum of Science and Industry in Jackson Park. After the conclusion of the Exposition the Italian government has generously donated the entire scientific display to the Rosenwald Museum of Science and Industry.