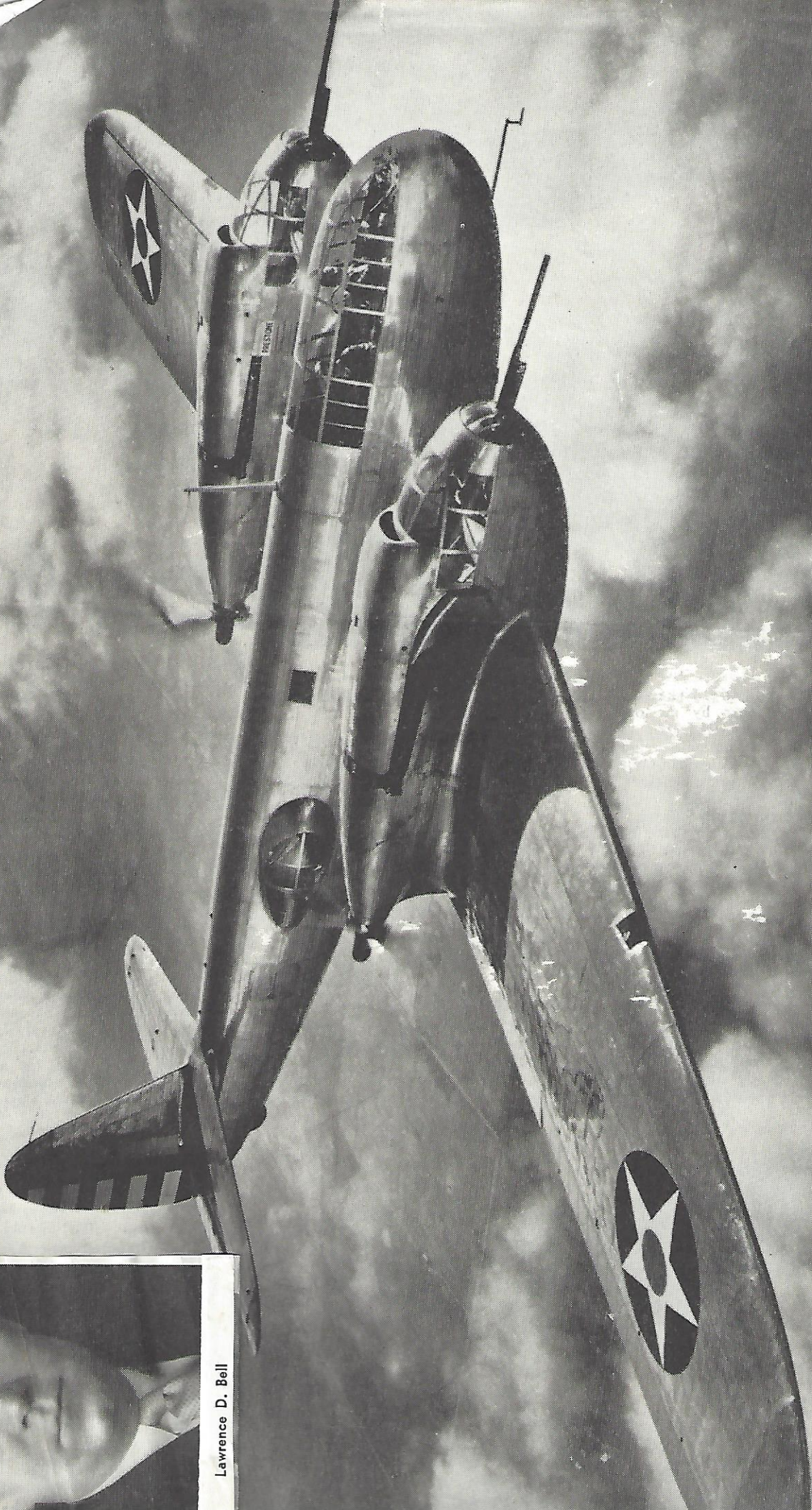
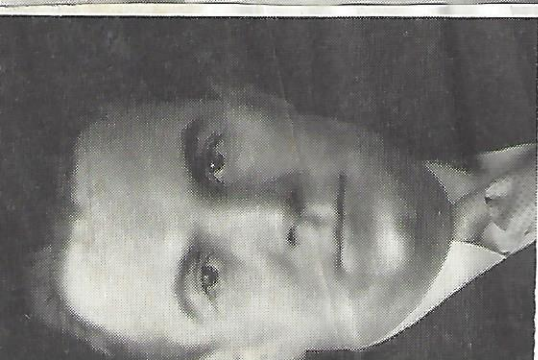


*Bell Aircraft*



BELL "AIRACUDA"



Lawrence D. Bell





"Cub" for Canada

# This Export

By MORTON B. KELMAN

**W**HILE undertaking a world tour by air one easily perceives that almost without exception foreign airlines utilize American-built aircraft and aircraft engines. Only of late have these foreign airlines recognized the efficiency of transport planes that have been constructed in the United States. Foreign interest was stimulated when several major European airways imported a number of American-manufactured transport planes to fly their routes.

Passenger planes of European design and manufacture were not purchased by the Continental importers owing to the fact that no such types of craft were available over there due to the concentration of the aircraft industry on the development and construction of military aircraft.

The export of passenger planes has risen tremendously since the first American transport was shipped overseas. Hardly

**No country on earth is so remote that American aircraft have not operated there. Here is the story of Yankee aviation salesmanship abroad.**

a week has passed within the last year that at least one transport plane has not been exported for use on airlines overseas. Today the United States possesses the distinction of exporting the greatest number of passenger planes in the world.

Aircraft produced by the Douglas Aircraft Company has greatly aided the United States in obtaining its eminence in the export field. The Douglas DC-2 and DC-3 airliners are flown the world over, being used by airlines in Austria, Alaska, China, Czechoslovakia, Belgium, Poland, Holland, Spain, Russia, Switzerland, Sweden and Japan. The latter has secured the rights to construct the DC-2. The

14-passenger DC-2 and 24-passenger DC-3 are not the only commercial products exported by the Douglas company. Several 32-place Douglas DF flying boats have been built for Japan and the Soviet. Many of the new four-engined DC-4 skyliners

will also fly foreign air routes in the near future, as foreign importers are always on the lookout for things bigger and better.

The Lockheed Aircraft Corporation is another large exporter of passenger craft, having shipped many 10-place *Electra* transports to Alaska, Argentine, Canada, Australia, Brazil, Cuba, Yugoslavia, Great Britain, Sweden, Roumania, Venezuela, New Guinea, Poland, Mexico and New Zealand. Lockheed has also received orders from the Royal Dutch Airlines (KLM) and the newly organized Trans-Canadian Air Line for a total of ten new Lockheed "14" skyliners. Six of these 14-place ships will be shipped to Holland,

American amphibians play an important role in Norwegian airline operations. This Sikorsky S-43 is one of a fleet now flying in Norway.





# Those Parachuting Russians

By LUCIEN ZACHAROFF

Parachutes and guns are as common to Russia as ice cream cones to Americans.

**I**MAGINE a town of several hundred inhabitants each of whom is either a student of or an instructor in parachute leaping!

If this is too much of a strain on your imagination, relax and accept such a municipality as a fact. For The Parachutists' Center is a full-fledged reality near Zvenigorod, some 35 miles north of Moscow. With the courses lasting for a full year, the students, in addition to parachute jumping and parachute folding, receive general educational instruction including at least one foreign language.

The idea of the parachute originated with that brilliant Italian jack-of-all trades and master of most of them, Leonardo da Vinci. The first actual leap was made in 1617 by the Venetian Vernazzio, who descended with the aid of a cupola of his own construction from a tower about 10 meters high.

But it remained for the 20th century Soviet Russians to advance the art and science of parachuting to its present heights, and it is the same Russians who during the past few years have been tenaciously holding on to and breaking anew their own world records in various classifications of the sport.

Soviet sportsmen have jumped from the greatest altitude ever attempted, negotiated the most complex delayed-opening jumps, jumps at night, jumps into bodies of water, jumps of a few thousand participants simultaneously, etc.

Although the early parachute jumps in the U. S. S. R. were made during the 1919-1921 period of the bitterest fratricidal strife, parachuting did not come into its own as a mass pastime until about 1930, the year when the well-known pilot L. G. Minoff made the first exhibition jump.

About the same time Minoff visited the United States to choose the most suitable type of parachute for conditions prevailing in his country. He also pioneered in early instruction of the uninitiated.

It was not until 1933 that the *Osoaviakhim*, the all-union society for popularizing aviation and anti-chemical defense, had established its first parachute circle which toward the end of the same year graduated 1,200 men and women. The *Osoaviakhim* today has nearly 8,000,000 members.

Thus, parachuting got off to a flying start. About 4,500 men and women



These are a few of Stalin's parachuting warriors. Whole battalions of these men have been dropped from the skies, each armed with a machine gun.

leaped from the aircraft in 1934, while countless thousands in all parts of the country jumped from specially built towers where captive parachutes are employed, descending at a reduced tempo.

Parachuting has taken the Soviet Union by storm, winning a multitude of fans not only in large cities but on hundreds of collective farms. In 1935 nearly 1,000,000 persons jumped from towers, the number of which is nearing 1,500. On their days off many a Soviet family repairs to the nearest Park of Culture and Rest there to climb a tower and a few minutes later to float languidly down to earth.

With parachute stations springing up like mushrooms, during the first six months of 1936, 10,500 jumped from airplanes. Moscow's All-Union Parachute Center is busily turning out instructors of first category.

Why this unparalleled and unprecedented enthusiasm for parachuting? It appears that a firm conviction prevails that the sport develops alert and healthy citizens, endows them with courage and ability to think fast. In addition to the peacetime diversion it offers, parachuting is regarded as of great military value and officials of the Defense Commissariat take pains to stimulate interest in it. It must be noted, however, that in other countries military authorities do not necessarily lean to utilizing parachute jumping for their purposes. Whether this is due to their low opinion of its usefulness or technical obstacles is difficult to say.

What part the parachute has played in making the U. S. S. R. the world's most air-minded nation and strongest air power is for the historians of the future to determine precisely. Today the fact stands out that neither normal peacetime sports program nor the Red Army's annual ma-

neuvres are conceivable without parachute jumping.

Chief M. Zabelin of the All-Union Parachute Center described for us the part his institution had in last fall's war games of the Moscow Military District. Immediately after the alarm was received, the parachutists were summoned, the parachutes and other equipment packed, and the same evening a train was carrying 120 instructors of first category to the "front."

"When we arrived, our fighting assignment was given to us. Our detachment was to land in the section occupied by the aviation units of the "Blues," to "annihilate" their aircraft, personnel and airdrome.

"It was decided to land 15 kilometers away from the airdrome. After landing we intended to hike to the airdrome, cut it off from the populated points en route by depriving them of communication means, and then to seize the airdrome itself."

In a few hours Chief Zabelin and his jumpers, fully armed, were gliding through the air, aboard heavy transport planes. It was about 450 kilometers to the "enemy" lines. Darkness enveloped the planes when their navigator finally signalled that they were near their destination.

The parachutists from Moscow began to creep out on the wings and fuselages of the planes. A large field dissected by a highway loomed beneath them.

Another signal command and from all five of the giant ships the parachutists hurtled down like a bunch of beans, none of them in a hurry to pull the cord. All separated from the aircraft with exceptional speed.

In a few minutes all participants of the unusual expeditionary force were on the



ground and carrying the parachutes to a spot where they were promptly followed by two folders who jumped right after them and were fast packing the 'chutes on the carts. But let Chief Zabelin resume his story:

"Sent out ahead, a reconnoitering group under Captain Belousoff had cut off both roads leading to the village, 'liquidated' the telephone lines and made it thus impossible for the enemy to communicate the news of our landing. We met some collective farmers to whom we explained the nature of our operation. They promised not to tell anyone about our arrival and had kept their promise so well that when our folders, upon completing their job, attempted to rejoin us, they were unable to learn which way we went.

"Our subsequent progress was not easy. We went through the forest, sending scouts ahead and on the flanks, lest we be caught unawares. At times the darkness was so thick that we could not see the people immediately in front of us.

"About four or five kilometers away from the airdrome we broke up into three groups. Two of these were assigned to cut off the roads to the airdrome, while the latter was being 'raided' by the third one.

"Lack of self-control on the part of one of our men had somewhat disrupted our plan. We were all intolerably thirsty. And so, one of the parachutists approached a cottage to ask for a drink. In response to his knocking it was not the owner who came out but a detachment of 'Blue' aviation mechanics.

"In order not to be discovered and liquidated in the very beginning of the operation, we were compelled to take 'prisoners' the technical personnel of that group. In the meantime, somebody's automobile approached. We had to capture that too. Next, to nip in the bud any opportunity of informing the 'Blues' of our landing, we had 'liquidated' the telephone station, seized the garage with all the autos in it, in this manner 'knocking' them out of service.

"It was deep night. At a signal our detachments advanced on the 'enemy'. Unexpectedly invading the settlement, the parachutist group captured the staff of the aviation detachment. The flyers had already been seized on the way to the airdrome.

"Airdrome guards were 'liquidated' swiftly and silently. It only remained to 'settle' with sentries posted directly at the airplanes. Thanks to our parachutists' clever disguise, they were permitted to come along and the planes had been seized and conditionally disabled.

"By 5 a. m. our task was completed. Two hours later we were peacefully seated in the dining room, breakfasting next to our 'adversaries.'"

Expert opinion on the Soviet application of parachuting for military objectives was voiced by General Loiazot, head of the French delegation which attended the Kiev Military District maneuvers in 1935:

"The parachute expeditionary force  
(Concluded on page 80)

# the NATIONAL AIR BOARD

Dr. Alexander Klemin, Chairman

## Jays...

AT ITS 19th meeting, the Air Board made the experiment of discussing fewer topics and dealing with them somewhat more exhaustively. The experiment was satisfactory but it is not certain that the same plan will always be followed. The guests welcomed at the lunch were Leslie Cizek, one of the best informed men in the country on aviation insurance, and George and William Bessler and John W. Hession, Jr., who have pioneered so successfully in the development of light steam power plants.

### A Serious Situation

There is not the slightest doubt that a very serious situation has arisen in the matter of airports, in so many cases rendered obsolete by the development of the huge, modern airliners which require longer and more rugged runways and better approaches. It is a terrible thing for the citizens of a municipality, when after spending of their resources and energies to the utmost for many years, they are suddenly told that their efforts have been useless, that their airport has lost the highest rating, that it is in fact obsolete.

Alfred MacDonald, the manager of the Wichita Municipal Airport, at the recent Chicago Conference of the Municipal Association gave a striking example of such mishaps. Ten years ago this city of 115,000 people, with limited financial resources, undertook the development of what was intended to be a first-class airport. It bought an entire section of land, 640 acres, leveled, graded, planted grass, constructed a fine hangar, lighted the field, built a splendid administration building, and did everything required for an A-1 airport. In the development and subsequent maintenance and improvement of its airport the Municipality of Wichita was constantly in touch with Federal authorities, and every step was taken with full approval of the Department of Commerce.

Mr. MacDonald pictured the grievous situation of Wichita in the following words: "But now, having spent our money, we are told that our splendid airport will not be suitable for the new type of transport and Army planes which are expected to be put into service next year. We are told further that in order for the airport to qualify as a suitable airport at which these new heavy planes may land it will be necessary for us to spend an additional \$300,000 for hard surfaced runways. After having spent an amount of \$480,000 on the airport, I do not believe the people of this city will approve an additional expenditure of city money amounting to \$300,000."

We believe that this situation is typ-

ical of many centers, even of such a big city as Newark, New Jersey, with the burden, of course, falling more heavily on the smaller cities.

### Airports Just Grewed

Lieutenant Richard Aldworth who introduced and led the discussion on the airport problem, attributed this sad situation to the fact that our airports had "just grewed like Topsy", without any coordinated plan, or national policy. The forthcoming airport conference in Washington would probably end in just talk yet, said Lieutenant Aldworth, airports of first class rating were not important just to commercial aviation, but were vital in national defense. Was it not necessary to have a number of airports suitable for the largest Army planes on the Eastern seaboard, between Boston and Charleston, where lay a territory offering every temptation to foreign attack? The Department of Commerce had at most one or two men concerned with airports. The WPA was an emergency organization soon doomed to disappear. The municipalities were tired of being solely responsible for airport work, and moreover airports were a matter of interstate flying, and much more than a local matter.

Lieutenant Aldworth finished with an eloquent plea, for a national policy and for the cooperation of Federal, State and Municipal authorities in formulating and executing this policy, with the Federal government carrying at least part of the burden.

### Difficulties in Municipal Operation

From a heated discussion, there appeared to be other difficulties associated with Municipal Airport operation. Newark might spend \$200,000 a year on its airport, but the return in rents or dues was infinitesimal. Rules for traffic control vary from municipality to municipality while flight operations extend from coast to coast. The Commissioner of Pittsburgh County has threatened to kick TWA off the landing field because their operations supposedly impeded the placing of some gasoline tanks by the WPA. In Detroit, political considerations have forced the use of the inefficient, ill-equipped dangerous city airport, whereas the Wayne County airport is splendidly adapted for all flying operations.

### Limiting U. S. Intervention

On the other hand some cogent arguments were made against Federal intervention into the situation. The argument that municipalities cannot build and maintain airports, and that it costs

(Continued on page 92)