



REPUBLIC AVIATION CORPORATION

FARMINGDALE, LONG ISLAND, NEW YORK

Telephone Farmingdale 1100

March 28, 1945

BULLETIN IV

CUSTOMER SALES PRIORITIES

Many of you have hesitated to accept advance orders for "Seabees" because of uncertainties of delivery dates, final price or incomplete details of one sort or another. Others of you have gone ahead with active sales campaigns that in some cases have actually resulted in taking orders for your entire year's quota.

Let me try in this bulletin to tell you something of our ideas here at Republic, something of how certain distributors are proceeding and finally, to ask each of you how many planes you have sold to dealers and direct to customers and for details of your plan of sale.

Last Fall, before we had appointed any distributors, we tested out interest in the Amphibian by accepting orders from some twenty to thirty insistent buyers taking a \$300 deposit on promise to make delivery from the first 100 or 200 planes produced, directly or through any distributor appointed later. Actually, we made commitments for only one in five reserving four in each five for later commitments. We gave the buyer right to return of his deposit at any time prior to his acceptance of delivery and we reserved the right to return it ourselves if we did not put the plane into production.

We figured that if a man put up \$300 knowing that it would be a year or more before he could hope for delivery, he was really interested and deserved priority. Then, Bill Turgeon, Wes Marden, Joe Garside, Everett Anderson and others took up the same idea, some taking smaller deposits but most a full \$30.

With Joe Garside's permission I am sending you attached a sample of the form used by E.W. Wiggins Airways in New England. If you like it you can reprint it substituting your own name wherever Wiggin's is used. They use three copies, one for their own files, one for the customer and one for Republic. They use an interesting clause to protect dealers not yet appointed and servicemen not yet home. It reads:

"It is understood and agreed that for each airplane sold on priority given in return for a deposit of 'earnest money', one plane of the same make may be sold to a buyer who, because of war service, was not in a position to place a deposit during the war period; also, that Wiggins Airways, Inc., may, at its discretion, assign a part of early deliveries for use as demonstrators by authorized agents in its territory."

This is eminently fair as to sell out all the planes that can be expected in a distributor's market to the few dealers not appointed, or still worse to sell all of them direct to customers now in funds would be ruinous later on. On the other hand, there is no advertising so potent as the man who can tell the world that he has bought an airplane or that he has secured a desirable agency. Even if he can have his deposit back he is not likely to lose face with his friends by changing his mind. He is more likely to sell them on following his example.

Later when actual demonstration can be made and delivery is in early prospect, these conditional orders can be made firm and the down payment increased to 25%. Republic is not asking that customer deposits be sent on to Farmingdale although later when notice of production is sent you will be asked for your own firm orders accompanied by a deposit of 15%.

That we may know the status of sales to date we do ask each of you to fill out the enclosed form as of April 1st and to send it to us as promptly as possible. If you have made no sales, feel no embarrassment in reporting this fact as, of course, we have not asked you to start selling.

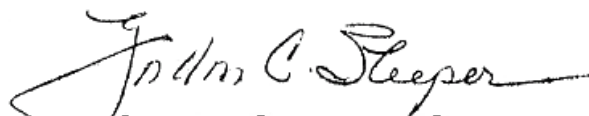
Most of you having had no formal dealer sales agreement from Republic have made only tentative commitments to dealers, but please report any you have made and any deposits accepted from them.

Your own Distributor Sales Agreement is about ready for execution and drafts of our Authorized Dealer Agreement will follow promptly.

Without waiting for the next bulletin in which dealer discounts will be discussed, let me say that it will recommend general adoption of a progressive scale of:

| | |
|---------------------------------|-----------------|
| 15% for the first five planes) | |
| 17½% for the next five) | Not retroactive |
| 20% for all over ten) | |

Your report on sales to date as well as your comment and advice on the entire question of sales and discounts will be much appreciated.


Gordon C. Sleeper, Sales Manager
Personal Plane Division

SPECIAL REPORT

DISTRIBUTORS' SALES
to April 1, 1945

SALES TO INDIVIDUALS:

| <u>Date</u> | <u>Name</u> | <u>Address</u> | <u>Amt. Of Deposit</u> | <u>What Priority</u> |
|-------------|-------------|----------------|------------------------|----------------------|
|-------------|-------------|----------------|------------------------|----------------------|

SALES TO DEALERS:

Signed _____
(Distributor)

by _____

E. W. WIGGINS AIRWAYS, INC.
NORWOOD, MASS.

DEALER

THIS IS TO ACKNOWLEDGE RECIEPT of Dollars

“earnest money” as a token payment made by

.....

hereinafter called the Buyer, to apply on the purchase of

.....

to be delivered after production of civilian aircraft is resumed.

This deposit is made by the buyer and acknowledged by the E. W. Wiggins Airways, Inc. with the definite understanding that at the present time it is impossible to provide accurate prices or delivery dates for new aircraft, and that no obligation or commitment has been made with regard to such definite prices or delivery dates. E.W. Wiggins Airways, Inc. further acknowledges that this token deposit is returnable to the Buyer immediately upon his demand, and the Buyer acknowledges that it is returnable at the option of E.W. Wiggins Airways, Inc., and that after the return of said deposit, any and all commitments and obligations relative to the aforementioned airplane(s) between the Buyer, or his successors or assigns, and the E.W. Wiggins Airways, Inc., either expressed or implied, are therewith terminated forthwith and of no further effect.

The E.W. Wiggins Airways, Inc. agrees that this token deposit entitles the Buyer to the following priority of delivery:

and that this priority right may be transferred at the option of the Buyer provided that the Buyer has made no demand for return of the said token deposit and provided also that it has not been returned or proffered to the Buyer at the option of and by the E.W. Wiggins Airways, Inc.

It is understood that when production of the type of aircraft above named is begun, E.W. Wiggins Airways, Inc. will request from the Buyer, or his successors or assigns, the usual twenty-five per cent (25%) purchase deposit, less the amount herein acknowledged as a token deposit, and at that time will enter into a formal contract or purchase agreement covering the details of equipment, the price, and the delivery of the said airplane(s).

It is understood and agreed between E.W. Wiggins Airways, Inc. and the Buyer that the deposit herein acknowledged is to bear no interest, regardless of the time interval which may elapse between the date of deposit and the date of delivery of the said aircraft.

E.W. WIGGINS AIRWAYS, INC.
Norwood, Mass.

By:

Accepted:

Date:

.....

Argentine Railroads
System Needs \$1 Billion
Mont. British

What's New

and Finance

Rising Farm Wages

Business Bulletin

Background Report

Low-Priced Planes

Republic Tests Idea for Paring Small Craft Cost By Use of Fewer Parts

Engineers Cut Wing Pieces
From 134 to 21; Stabilizer
Reduced From 42 to 10

Orders for 2,500 Four-Seaters

BY RICHARD P. COOKE

Staff Correspondent of THE WALL STREET JOURNAL
FARMINGDALE, N. Y.—Here at Republic Aviation Corp.'s Long Island plant may be seen two parts of a plane, a wing and a stabilizer, that could hold the key to production of small aircraft after the war for sale in the auto price field.

Alfred Marchev, Republic president, has such confidence in his engineering idea that he already has taken orders for more than 2,500 four-passenger amphibian planes. They will be delivered "when possible" after the war at a retail price of \$3,500.

Republic hopes eventually to develop a full line of private aircraft, probably down into the lowest-priced two-person group, at about \$1,200 to \$1,500, or the cost of a medium priced pre-war auto.

If that proves possible, America's aviation enthusiasts will get better-engineered, all-metal planes after the war for as little money as the least expensive pre-war models—despite tremendous rises in labor and material costs.

The final decision will depend on Republic's experience with its amphibian, the company's first venture into this small airplane field. Right now it is head over heels in production of the P-47 Thunderbolt.

Fewer Pieces Save Money

Before the Government clamped down last December on post-war activities of all aircraft companies, however, Republic had gone a long way, Mr. Marchev believes, toward development of a production process which would sharply pare costs. The key to it is fewer parts, therefore less labor.

The history of aviation, including aircraft production, has so far included four clearly defined phases, says Mr. Marchev. They are:

1. Construction of the first plane that would fly, accomplished by the Wright Brothers at Kitty Hawk in 1903.

The building of wood and fabric

planes, mostly by hand but later in elementary "production lines."

3. Transition to metal construction. This required a wholesale redesigning, with all weight and strength factors changed. But the planes still were hand-made.

4. Designing of machines to replace much of the hand work. Many operations can be performed simultaneously; one huge press, for example, can drill a dozen or more holes on a piece of metal at one time.

Through this production evolution, however, the fundamental structure of the airframes had never been radically altered for production efficiency. The remarkable aircraft of today, while being constantly improved aerodynamically, are still a complex combination of thousands upon thousands of parts. Emphasis during the war period, which has seen most of the real advance in the airplane, has been on faster, higher-climbing, longer-range craft. Cost has been in the background.

Proposes Simplified Structure

But now, Mr. Marchev proposes a fifth phase:

Designs drawn specifically to make planes of much fewer parts and therefore involving fewer production steps.

With this in mind, Republic technicians started with a stabilizer (the fixed horizontal tail surface). By doing away with conventional cross ribs and using, instead, a horizontal spar, they cut down sharply on the number of parts and work involved in assembling them.

The surface of the stabilizer was crimped (ridges put into it) to provide greater firmness than a flat piece of metal. The result of this alteration in the stabilizer was the reduction of the number of parts from 42 to 10.

The engineers did much the same thing with a wing designed for Republic's amphibian. They pared the number of parts from 134 to 21.

Cut Cost to Under \$1 a Pound

Careful cost-accounting of these operations shows that materials, labor and overhead in the production of these two parts have dropped to less than one dollar a pound. How radical a reduction this represents is seen in the fact that before the war most airframe production costs ranged from \$3 to \$10 or more a pound.

Simple planes with fabric-covered wings and metal or wood framing before the war achieved the lowest costs. Some of these models may have been produced, without the engines and instruments, for a little less than \$3 a pound. But for designs at all comparable with the all-metal Republic amphibian, costs have often been well over \$3 a pound, although there is great divergence in apparent costs of different designs. Military airframe cost often amounts to \$10 a pound.

Although the cost saving on the amphibian's 1,775-pound empty weight (without

passengers is considerable, this weight also includes the 185 h.p. engine and instruments and accessories. The engine, which weighs between one and two pounds per horsepower, today cannot be purchased for anything like \$1 a pound. In fact most manufacturers agree that engines will cost \$5 or more a horsepower after the war. Mr. Marchev is aiming at a goal of \$3 a horsepower for his purchased engine, and believes good power plants can be built for that amount if principles similar to those used in his own airframe are employed.

Instruments, too, are a costly item, but Mr. Marchev feels that changed designs could radically reduce prices. The ammeter in an automobile, for example, probably costs the car manufacturer less than 50 cents, whereas an airplane ammeter may cost \$10 or more. The main reason for this difference is that the auto ammeter is really only a useful indicator to show charge or discharge of the battery while the airplane ammeter is a genuine precision instrument. The Republic Aviation head feels that a simple ammeter of this type would serve the purpose of the private plane quite adequately and that the highly developed plane ammeter is superfluous. Airplane tires, radios and other accessories in the past also have been too expensive, and have not been produced in sufficient quantity to bring prices down, he argues.

This emphasis on low-cost must not be confused with "tinniness" or shoddiness, Mr. Marchev insists. The stabilizer and wing sections were static tested and met full stress requirements with 15% to 25% to spare.

Relatively Cheap Method

Pre-war low-cost planes mostly were built by the use of welded steel tubing and fabric. This method proved relatively cheap and efficient as long as only a handful of planes of each model were being built, but there is very little saving per plane in larger-scale production. In fact some engineers will even argue that cost goes up with volume. This may be contested, but it is apparently true that mass production means little to this type of plane in regard to costs.

Most post-war private planes, whether made by Republic or other manufacturers, will be all-metal if values comparable with those of automobiles are to be achieved. In this regard, Republic estimates that for certain sections of the private plane steel may be used to achieve even lower cost than aluminum, without sacrifice of light weight.

Mr. Marchev believes that ultimately, when the pressure of war is relaxed, military planes can be redesigned along simpler construction lines which will save the taxpayer millions of dollars. Military ships are built of thousands on thousands of separate parts riveted or welded together. Many of these parts could be eliminated with time, and the total number of operations sharply reduced, according to the Marchev theory.