DIARY

Book 174

French Mission (Planes) – Part III
<table>
<thead>
<tr>
<th>Book</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>174</td>
<td>1,7</td>
</tr>
<tr>
<td>11</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

French Mission (Planes) - Part III

Collins' resume reports - 2/11/39, 2/13/39

Collins' memorandum returning proposed contracts of
Douglas Aircraft and United Aircraft - 2/13/39
   a) Navy letter of approval for Martin contract
   b) Army letter of approval for Martin contract

Contract of United Aircraft Corporation as of 2/14/39
Contract of Douglas Aircraft Company as of 2/15/39
Agreement with North American Aviation, Incorporated
Hopkins confers with HWJr concerning shipment of some planes on other than French ships - 2/15/39

Hearings to be reopened:
   a) Collins tells HWJr Leahy and Kraus have been
      summoned - 2/13/39
      1) HWJr asks Edison for Leahy and Kraus testimony
      2) Leahy offers to come to HWJr's home to give
         resumes - 2/15/39
      3) Actual testimony by Johnson, Leahy, Arnold, and Kraus
         a) Outline of policy of War and Navy Departments of aircraft, aircraft equipment, et cetera
      4) Kraus discusses with HWJr and McReynolds appearance before Military Affairs Committee
         - 2/15/39
         a) At last confronted with outright question, "Were you ever present at any discussion in which decision was finally reached on clearance of Douglas airplane?" (only time was at White House)
         b) Successfully evaded revealing knowledge of French mission prior to 12/17/38
   b) Louis Johnson summoned; Early asks that letter to Sheppard in reply to demand for copy of FDR's authorization be read to him - 2/15/39
   c) Ticker announcement: HWJr and Woodring are to be called again before Committee
      1) Sheppard 'phones HWJr; HWJr asks that Johnson as well as Woodring be present; asks also that
         Woodring precede him - 2/16/39
      2) HWJr asks Peoples and Collins to accompany him
      3) HWJr tells FDR he is to testify again
      4) HWJr asks Johnson to be present also
      5) Johnson tells HWJr immediately after testimony Woodring told FDR, McIntyre, and Early "how terribly HWJr had acted and what terrible advice he had been giving FDR" - 2/16/39
         d) Gaston returns testimony to Sheppard - a/13/39

Regraded Unclassified
<table>
<thead>
<tr>
<th>French Mission (Planes) – (Continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monnet &quot;exposed&quot; in letter to Arthur Krock from Harrison Reeves – 2/21/39</td>
</tr>
<tr>
<td>Peoples informed connection of Procurement Division with French mission is now ended – 2/23/39</td>
</tr>
<tr>
<td>Contract with Fairchild Aerial Camera Corporation for purchase of cameras and accessory equipment – 2/27/39</td>
</tr>
<tr>
<td>Kraus letter of commendation from HUJr to Secretary of Navy – 2/28/39</td>
</tr>
<tr>
<td>a) Letter of acknowledgment from Navy – 3/3/39</td>
</tr>
<tr>
<td>Resume memorandum on contracts supplied by Collins – 3/9/39</td>
</tr>
<tr>
<td>Monnet calls on HUJr – 3/23/39</td>
</tr>
</tbody>
</table>
February 11, 1939, 9:20 a.m.

HM Jr: Hello.
Captain Collins: Good morning, Mr. Secretary.
HM Jr: I haven't heard from you for about a week, I think.
C: Why, I sent a memorandum yesterday, sir, with all the news that was up-to-date.
HM Jr: Who did you send it to?
C: I sent it over -- delivered it to Mac. You'll probably have it today, sir.
HM Jr: Oh.
C: The night before last -- yesterday morning at four o'clock to be exact -- we finished up the Martin contract.
HM Jr: Yesterday when?
C: Yesterday morning at four a.m.
HM Jr: For gosh sakes!
C: And that was submitted to -- that was submitted over yesterday. I took it by hand to Assistant Secretary Johnson.
HM Jr: Oh, is he back?
C: Oh, yes, he was there. Very much so.
HM Jr: Yeah.
C: And I told him that while I realized he might want to have more than a cursory glance at the contract taken, why we were very anxious to get it, and we had a release on it yesterday by phone at 2 o'clock and I asked Colonel Burns to confirm that, which he said he would do.
HM Jr: Uh-huh.
C: So I'm rather expecting it today. This morning the contracts are to be signed over here at ten o'clock.
HM Jr: Now what is there -- what does that include?
C: That -- that's a hundred and fifteen.
HM Jr: Oh, yes.
C: Structures only.
HM Jr: Structures only?
C: That's right, no motors.
HM Jr: Oh, they get the motors separate?
C: The motors are on a separate contract. Now, if they had any luck last night, why the Douglas contract ought to be in pretty good shape this morning.
HM Jr: How many did they propose to purchase?
C: One hundred.
HM Jr: One hundred.
C: And then on -- by Monday probably, we will have the Wright contract.
HM Jr: I see.
C: Not -- not the Wright. The P. & W. contract. That's about eleven hundred and thirty-six all told, including the motors and spare.
HM Jr: What do they pay for the Martins?
C: About one thirty-two in the final analysis.
HM Jr: A hundred and thirty-two thousand?
C: Yeah, against one seventeen for the Douglas.
HM Jr: And -- that's with or without motors?
C: That's without.
HM Jr: One hundred and thirty-two for the Martins.
C: That's it.
HM Jr: How much for the Douglas?
C: About one seventeen.
HM Jr: Cheaper, huh?
C: Yes, sir.
HM Jr: Well, what do you know about that?
C: Yeah, well, we've all up and down, sir. Captain Krause and I went into that pretty thoroughly, and I think they're justified -- the Martin crowd are justified in that price.

HMJr: They give more for the money?

C: Well, I think probably a little, but, of course, you can't compare the two firms exactly because Douglas did not put on any expedited schedule. He wouldn't. Martin is doing just exactly that. They are putting on some fine extensions and of course there must be a premium for all of the sub-work that's done outside when it's done under high pressure and with short-time deliveries.

HMJr: Oh, Douglas wouldn't speed it up?

C: Well, he speeded it up some, but not a great deal. You can't shake Douglas, you know, out of his plant. Douglas isn't building any more buildings and Martin contemplates doing that. He contemplates putting in about two hundred thousand feet.

HMJr: Oh, does he? And would -- did Douglas' contracts still lap over to '40?

C: No, sir.

HMJr: I mean, will they complete them this year?

C: '39.

HMJr: What?

C: '39.

HMJr: They will--

C: '39.

HMJr: They will complete it?

C: Yes, sir. They have an option in there -- they are going to have an option in both contracts. Whether that's exercised or not remains to be seen.

HMJr: I see.

C: Two of our friends are contemplating sailing on Wednesday. I suppose after they get home and talk it all over, why, they may decide to take some more.
HMJr: You mean two Frenchmen?
C: Yes, sir.
HMJr: Uh-huh.

C: I see. Well, that brings me up-to-date.
HMJr: Well, now, Mr. Secretary, I haven't bothered you in the meantime because it -- there was nothing to tell you except we have been having a lot of grand "talk fests" and arguments, and fights, and rows. I didn't think you'd be interested in that until we could show you something productive.

HMJr: That's right, but the Assistant Secretary of War has been cooperative?
C: Yes, but I've only seen him once, and that was yesterday, sir, and he asked a lot of questions to which I didn't know the answer.

HMJr: I see.
C: I wouldn't tell him the time of the day any more. It would be used against you.

HMJr: Pardon me?
C: I say I wouldn't tell him the time of the day unless it was on the front page of the paper or else he would use it against you.

HMJr: Uh-huh.
C: He started me over the jumps yesterday and wanted to know first of all he said, "Do you think the Senate Committee is going to release those hearings?" I told him I had no way of knowing that, and then he -- he sort of intimated, although he didn't say so, he sort of intimated that he had a very difficult time now trying to get the National Defense Program back after that Senate hearing; so I told him of course that was another matter of which I knew nothing.

HMJr: Well--
C: He was very nice. He even offered to send me home in his own automobile.

HMJr: I see.
C: So I guess he's gotten over his high-hat.

HJI Jr: Good. O. K. Thank you.

C: You're welcome, sir. Good bye.
February 11, 1939.
9:38 a.m.

HMJr: Mr. Morgenthau speaking.
Senator Sheppard: Yes, Mr. Secretary.

HMJr: My testimony, at least the text -- the copies of the five sections of the testimony you sent down to me -- hello?

S: Yes?

HMJr: They are on their way up to the Hill now.

S: Oh, all right.

HMJr: They may be a few minutes late, but I just wanted you to know I've -- Mr. Gaston is bringing them up there himself.

S: Oh yes, well, thank you, Mr. Secretary.

HMJr: I just wanted to let you know.
February 13, 1939
4:50 p.m.

HJr: Hello.

Operator: Captain Collins. Go ahead.

HJr: Hello.

Captain Collins: Good afternoon, Mr. Secretary. This is Collins.

HJr: Yeah.

C: Mr. Secretary, I thought you might be interested in knowing that Captain Kraus had a telephone call from the Chairman of the Military Affairs Committee this afternoon requesting him to be up at the Military Affairs Committee at two thirty on Wednesday.

HJr: Yeah.

C: And he stated that at that time Admiral Leahy would be there also.

HJr: Yeah. Well, somebody told me -- Gaston told me a little while ago they expected to start all over again.

C: That will be all right, won't it, sir?

HJr: What?

C: That'll make it all right if they do that, won't it?

HJr: Well, I'm getting awful fed up on it.

C: I don't -- I have no reason to doubt that, sir.

HJr: And, you know they voted eleven to five not to make the testimony public.

C: Yes, sir.

HJr: And now they are going to start all over again, see? Gaston told me that they -- they're calling somebody from the Douglas Company.

C: Well--

HJr: But, I don't know what they're trying to drive at, do you?

C: No, sir, but I will know, and I'll let you know just as soon as I hear from Captain Kraus.

HJr: Well, he won't know until Wednesday, will he?
C: No, sir, he won't until after he comes out of there.
HMJr: But --
C: I've heard nothing more than that, sir, at all about it.
HMJr: Yeah. Well, I've got notice -- they say they voted
eleven to five not to make it public, and Austin voted
with the Democrats. Now where are you on the French --
on the French order?
C: Well, the Douglas contract was approved this morning.
HMJr: The Douglas contract was approved?
C: Yes, sir.
HMJr: Is it signed?
C: Signed? No, sir. It was just approved. They had the
Army approve it this afternoon and the Navy early this
morning. Now I conveyed that to the French and they
will probably sign that tomorrow. The--
HMJr: Is the Martin--
C: What?
HMJr: Is the Martin signed?
C: The Martin is signed, sir. That was signed Saturday.
HMJr: Oh, I didn't know that.
C: Well, I sent a memorandum about it, sir.
HMJr: Yeah, that was signed.
C: Yes, sir.
HMJr: The Martin is signed and they expect to sign the
Douglas when?
C: They expect to sign the Douglas tomorrow, sir.
HMJr: I see.
C: And I'm hoping that we may have from the War Department,
as well as the Navy, their approval of the Pratt and
Whitney, which may be the controversial one inasmuch
as that has some restricted parts on the motor.
HMJr: Yeah.
C: And, if we get that tomorrow morning, I see no reason why they shouldn't sign them up and that's the end of it.

Mr.: Well, when are they going to make it public?

C: Well, I don't know, sir. I think that's a matter that Monnet will have to discuss with you.

Mr.: Yeah. Well, I don't -- I thought he was going to make it public the minute they'd signed.

C: Well, I didn't understand that, sir. I don't know what arrangements he had on that. I -- I think that he probably had best talk that over with you before he does anything though.

Mr.: Uh-huh.

C: Now, it may -- it may crack from the other side. It may be publicized in Paris before it's broken here.

Mr.: O.K., but they're -- they're going to have Kraus up there. He doesn't know what it's about.

C: No, sir, he has no idea.

Mr.: Kraus and Leshy, huh?

C: That's right, sir.

Mr.: Well, they seem to be want to keep digging, don't they?

C: They certainly do, sir.

Mr.: Alright.

C: All right, now. There are two other contracts, sir, in the -- in the offing here. This contract for Curtis, they gave a letter of command on that, on which Curtis is proceeding with the work. The contract itself has not yet been drawn. It will be in the course of the next day or so.

Mr.: How many planes does that call for?

C: That's one hundred, sir.

Mr.: I see.

C: And that is only, to all intentional purposes, it's an extension of the original contract that they had with Curtis.
HJr: Does the Army fellow ever show up?
C: Over here?
HJr: Yess, the detailed.
C: Oh, no, sir.
HJr: What?
C: No, sir. We have -- I could have him over tomorrow for the signing. I haven't worried with him.
HJr: All right. O. K.
C: There's one other contract for two hundred trainers with -- no, two hundred and fifty trainers it is, with North American Aviation.
HJr: I see.
C: And those are right off the shelf. Those have all been cleared for export -- haven't been sold out of the country so there's nothing about that.
HJr: That's for the French?
C: That's for the French, yes, sir. On both of those, why we talked it over and decided that the only thing that would be required would be to send a copy of those contracts to the Assistant Secretary for his information. There's no question of clearances in either one of them.
HJr: O.K. Thank you.
C: You are entirely welcome, sir.
Supplementing my memorandum of February 10th, there are transmitted herewith copies of memoranda forwarded today to the Assistant Secretary of War concerning proposed contracts with the Douglas Aircraft Company, Inc., and the United Aircraft Corporation, together with copy of the proposed contract with the United Aircraft Corporation.

A copy of the proposed contract with the Douglas Aircraft Company, Inc., will be transmitted as soon as made available.

With reference to memorandum to you of February 10th, there was received this morning from the Assistant Secretary of War a letter concerning the proposed contract with the Glenn L. Martin Company of Baltimore, Maryland, copy of which is enclosed and which is self-explanatory. This contract was signed Saturday, February 11, on the strength of telephonic advices received from Colonel J. H. Burns, aide to Assistant Secretary Johnson. A copy of letter from Assistant Secretary Edison is also attached.
February 11, 1939

The Honorable,

The Secretary of the Navy

My dear Mr. Secretary:

There is attached hereto copy of a proposed contract between the French Government and the Douglas Aircraft Company, Inc., for airplanes to be delivered in accordance with the terms thereof.

Clearance for export of any restricted items will be separately requested.

It is respectfully requested that a clearance be given on this contract at the earliest practicable date.

Very respectfully,

H. E. Collins
Assistant Director of Procurement
February 15, 1939

The Honorable,

The Assistant Secretary of War

My dear Mr. Secretary:

In accordance with our understanding of January 19, 1939, there is transmitted herewith a proposed contract between the French Government and the United Aircraft Corporation of Hartford, Connecticut, covering the purchase and delivery of engines mentioned therein.

Attention is respectfully invited to pages 21, 22, 23 and 24 and to the graphs following page 33 embodying restricted items for which a clearance is requested.

It is respectfully requested that the approval of the War Department be given at the earliest practicable date.

A similar clearance is being requested of the Navy Department.

Very respectfully,

R. E. Collins
Assistant Director of Procurement
Dear Sirs,

Receipt of your letter of 10 February 1939 forwarding a copy of a proposed contract between the French Government and the Glenn L. Martin Company for airplanes is acknowledged. The Department has examined the proposed contract with a view to determining whether its provisions afford adequate means for insuring that its fulfilment may not at any time constitute an interference with the Department's freedom to meet its own requirements for aircraft. The provisions of the proposed contract appear to be satisfactory in this respect and the Department does not object to its execution.

Sincerely yours,

(Signed) Charles Edison

Mr. H. E. Collins,
Assistant Director of Procurement,
Procurement Division,
Treasury Department,
Washington, D. C.
February 10, 1939

Captain H. E. Collins,
Assistant Director of Procurement,
Procurement Division,
Treasury Department,
Washington, D. C.

My dear Captain Collins:

In response to your letter of February 10, 1939, with reference to the proposed contract between the French Government and the Glenn L. Martin Company of Baltimore covering the purchase of planes, and in confirmation of telephonic conversation with respect thereto, you are informed that the proposed contract has the approval of the War Department, with the understanding that clearance for export of the planes and any restricted items thereof will be separately requested and processed through the Government in the normal way, and further, that no secret items are involved.

Sincerely yours,

(Signed) LOUIS JOHNSON

LOUIS JOHNSON,
The Assistant Secretary of War.
CONTRACT

(as of)

FEBRUARY 14, 1939

between

THE FRENCH STATE

and

UNITED AIRCRAFT CORPORATION
TABLE OF CONTENTS.

<table>
<thead>
<tr>
<th>Article</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Scope of the Contract</td>
<td>1</td>
</tr>
<tr>
<td>II.</td>
<td>Extras and Modifications</td>
<td>1</td>
</tr>
<tr>
<td>III.</td>
<td>Inspection and Test</td>
<td>2</td>
</tr>
<tr>
<td>IV.</td>
<td>Responsibility for Supplies Tendered</td>
<td>3</td>
</tr>
<tr>
<td>V.</td>
<td>Covenant against Contingent Fees</td>
<td>3</td>
</tr>
<tr>
<td>VI.</td>
<td>Disputes</td>
<td>5</td>
</tr>
<tr>
<td>VII.</td>
<td>Definitions</td>
<td>6</td>
</tr>
<tr>
<td>VIII.</td>
<td>Articles and Supplies Called For</td>
<td>6</td>
</tr>
<tr>
<td>IX.</td>
<td>Delivery</td>
<td>9</td>
</tr>
<tr>
<td>X.</td>
<td>Force Majeure</td>
<td>11</td>
</tr>
<tr>
<td>XI.</td>
<td>Neutrality Resolution</td>
<td>12</td>
</tr>
<tr>
<td>XII.</td>
<td>Payments and Methods Thereof</td>
<td>12</td>
</tr>
<tr>
<td>XIII.</td>
<td>Option for Additional Engines</td>
<td>14</td>
</tr>
<tr>
<td>XIV.</td>
<td>Default</td>
<td>16</td>
</tr>
<tr>
<td>XV.</td>
<td>Guarantees and Warranties</td>
<td>16</td>
</tr>
<tr>
<td>XVI.</td>
<td>Patents</td>
<td>17</td>
</tr>
<tr>
<td>XVII.</td>
<td>Replacements and Repairs</td>
<td>18</td>
</tr>
<tr>
<td>XVIII.</td>
<td>Spare Parts and Accessories</td>
<td>18</td>
</tr>
<tr>
<td>XIX.</td>
<td>Liquidated Damages for Delay</td>
<td>18</td>
</tr>
<tr>
<td>XX.</td>
<td>Surety Bond</td>
<td>19</td>
</tr>
<tr>
<td>XXI.</td>
<td>Miscellaneous</td>
<td>20</td>
</tr>
<tr>
<td>Specification PW 5053-B</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Specification PW 5053-C</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Specification PWA-252F</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Specification PWA-254</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Appendix A</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>
THIS CONTRACT entered into as of the 14th day of February, 1939, by The French State, hereinafter called the “Government”, represented by René P. G. Weiser, Air Attaché to the French Embassy of the Republic of France in the United States, and R. Hoppenot, Inspector of Finance, Chargé de Mission, representing the Air Minister of the Government executing this contract, and United Aircraft Corporation, a corporation organized and existing under the laws of the State of Delaware, United States of America, with its office in the Town of East Hartford in the State of Connecticut, hereinafter called the “Contractor”,

WITNESSETH:

The parties hereto do mutually agree as follows:

**ARTICLE I.**

**SCOPE OF THE CONTRACT.**

The Contractor shall furnish and deliver to the Government all of the engines and equipment and data more particularly described in Article VIII hereof for the consideration stated and payable as set forth more particularly in Article XII hereof in strict accordance with the specifications, all of which are made a part hereof as set forth more particularly in Article VIII hereof.

Deliveries shall be made as set forth more particularly in Article IX hereof.

**ARTICLE II.**

**EXTRAS AND MODIFICATIONS.**

Except as otherwise herein provided no charge for extras shall be allowed unless the same shall have been ordered in writing by the representative of the Government and the price thereof stated in such order.

Modifications, changes or substitutions in the attached specifications (except as a result of minor engineering changes and improvements which do not increase the price thereof) or in the equipment as set forth in such specifications where such modifications, changes or substitutions shall appear to be requisite or desirable may be made at any time during the course of this contract if agreed to by the representative of the Government and the Contractor, which agreement shall
THIS CONTRACT entered into as of the 14th day of February, 1939, by The French State, hereinafter called the "Government", represented by Réné P. G. Weiser, Air Attaché to the French Embassy of the Republic of France in the United States, and R. Hoppenot, Inspector of Finance, Chargé de Mission, representing the Air Minister of the Government executing this contract, and United Aircraft Corporation, a corporation organized and existing under the laws of the State of Delaware, United States of America, with its office in the Town of East Hartford in the State of Connecticut, hereinafter called the "Contractor",

WITNESSETH:

The parties hereto do mutually agree as follows:

ARTICLE I.

Scope of the Contract.

The Contractor shall furnish and deliver to the Government all of the engines and equipment and data more particularly described in Article VIII hereof for the consideration stated and payable as set forth more particularly in Article XII hereof in strict accordance with the specifications, all of which are made a part hereof as set forth more particularly in Article VIII hereof.

Deliveries shall be made as set forth more particularly in Article IX hereof.

ARTICLE II.

Extras and Modifications.

Except as otherwise herein provided no charge for extras shall be allowed unless the same shall have been ordered in writing by the representative of the Government and the price thereof stated in such order.

Modifications, changes or substitutions in the attached specifications (except as a result of minor engineering changes and improvements which do not increase the price thereof) or in the equipment as set forth in such specifications where such modifications, changes or substitutions shall appear to be requisite or desirable may be made at any time during the course of this contract if agreed to by the representative of the Government and the Contractor, which agreement shall
cover the necessary adjustment in price, date of completion, and any and all other matters affected by any such modifications, changes or substitutions. Provided that there shall be no objection thereto by the Government of the United States such agreement shall be reduced to writing and signed by the parties to this contract and shall thereupon be annexed hereto and made a part hereof subject to all the terms and provisions of this contract. Minor engineering changes and improvements which do not increase the price may be made at any time at the option of the Contractor unless objection is made promptly by the representative of the Government or his delegate in East Hartford, Connecticut.

ARTICLE III.

INSPECTION AND TEST.

1. Before delivery of any engine, it shall be accepted on the conditions indicated in Paragraph 3 of this Article III. When these conditions shall have been complied with, the Contractor shall make out in duplicate a certificate of inspection and shall present the same in East Hartford, Connecticut, to the representative of the Government or his delegate for approval.

2. The acceptance transactions will be effected by the representative of the Government, or his delegate, in East Hartford, Connecticut. Subject to the authorization of the Government of the United States of America, persons designated by the representative of the Government shall have access to the manufacturing plants as well as to the upkeep and repair shops of the equipment which is the object of the present contract, for the purpose of following the progress in manufacturing. However, the number of persons so designated to be allowed to enter the manufacturing plants will be limited to five, and only four of them at a time. The number of such persons so designated to be allowed to enter the upkeep and repair shops shall not exceed ten, and only five at a time.

3. After assembly each engine shall be submitted to tests in accordance with Pratt & Whitney Aircraft Specification 252F dated January 25, 1939 and Pratt & Whitney Aircraft Specification 254 dated February 2, 1939, and hereto attached and made a part hereof, to properly run in the engine and to establish its fitness for rated power operation. Rated power is that shown in the performance specifications attached hereto and is as follows:
Take-off power ......................... 1065 CV metric at 2700 rpm.
Normal rated power ........ 910 CV at 2550 rpm. at 3660 meters.

The corresponding manifold pressures for the above horsepowers will be derived from a calibration of an SC3-G Twin Wasp engine made under the direction of a Government representative.

During the tests run in accordance with Pratt & Whitney Aircraft Specifications 262F and 254, compliance with the following characteristics will be established subject to the tolerances herein specified:

(a) Characteristics under standard atmosphere conditions.

The lowest specific fuel consumption for cruising with the mixture control set in the automatic lean position shall be 230 gr. per c.v.h.

The specific oil consumption for cruising shall not exceed 6.7 gr. per c.v.h.

The specific oil consumption at normal rated speed shall not exceed 11.2 gr. per c.v.h.

Note: The horsepowers used for computing specific fuel and oil consumption shall be derived from the calibration data referred to herein and the methods of power correction referred to in Pratt & Whitney Aircraft Specification 254. These horsepowers will be subject to the tolerance given below.

(b) Tolerance.

Power ................................ plus minus 4 per cent
Oil consumption .............. not to exceed above specification
Fuel consumption .............. plus minus 4 per cent
Average manifold pressure ...... plus minus 12.5 mm. Hg.

The fuel shall conform to the current U. S. Army Air Corps fuel specifications for 92 octane (87 A.S.T.M. motor method).

The lubricating oil shall conform to current Pratt & Whitney Aircraft specifications.

Upon completion of the said tests the engine shall be operated for one-half hour with special leadless fuel to permit a prolonged storage of the engine.

Provided that it be permitted by the United States Government, the representative of the Government or his delegates may be present at these tests, and when any engine shall have successfully passed the said two tests, he or one of them shall sign the certificate of inspection referred to in Paragraph 1 hereof, signifying his approval within twenty-four (24) hours after such certificate shall have been submitted.
to him or them. The Contractor will supply in suitable time to the representative of the Government or his delegate in East Hartford, a written schedule indicating the approximate dates which the Contractor proposes for the tests in question, and agrees to give him reasonable notice (in writing, if practicable) of all changes which it may make in such schedule. In case the said tests have been effected on a date indicated to the technical representative of the Government or his delegate in East Hartford by the Contractor without the technical representative of the Government or his delegate or delegates being present, the result of such tests as shown in the Contractor’s records thereof must be accepted by the technical representative of the Government in East Hartford and the certificate of inspection, if found to show compliance, shall be signed by him or his delegate within the time so limited.

4. The Contractor shall have no liability whatever for negligence or otherwise in connection with any salary, wages, living or other expenses of any representatives or inspectors of the Government, or for injury to or death of said Government personnel, and the Government shall indemnify the Contractor against any liability of the Contractor for injury to or death of such representatives not covered by insurance, for which the Contractor may be held liable.

ARTICLE IV.

RESPONSIBILITY FOR SUPPLIES TENDERED.

The Contractor shall be responsible for the engines and materials covered by this contract until they are accepted and paid for by the Government. Each engine will become the property of the Government at the factory of the Contractor in East Hartford upon such payment.

ARTICLE V.

COVENANT AGAINST CONTINGENT FEES.

1. The Contractor declares and guarantees that this contract embodies the entire agreement between it and the Government, and that there is no extrinsic agreement or understanding connected therewith, except for the memorandum addressed by the Contractor to Colonel René P. G. Weiser, Air Attaché to the French Embassy, and B. Hoppenot, Inspector of Finances, Chargé de Mission, under date of February 9th, 1939.

The Contractor declares and guarantees that in connection with this contract it has not paid and will not pay, directly or indirectly,
Memorandum to Colonel Rene P. O. Weiser, Air Attache, French Embassy, and R. Hoppenot, Inspector of Finance, Charge de Mission -

In regard to the covenant against contingent fees to be inserted in our proposed contract with the French State, you have asked us to include the form which you supplied us as that in the Martin contract. We cannot comply with this request and are compelled to insist on the form in our other contract now in force with you. The differences between the two clauses are plain and our position is explained by the following facts:

We have regularly in force a contract with Mr. Thomas P. Hamilton which has some years to run, by the terms of which contract Mr. Hamilton is employed to act as our representative for the sale of our product in Europe as well as in other territory, maintaining his own organization for that purpose. The price that has been fixed in our proposed contract with the French State does not include any item for a commission, but nevertheless, one must be paid to him under his contract. We do not believe that this is in violation of the clause which you have inserted in the Martin contract but since someone later might place another construction on this clause we cannot consent to its inclusion. We have therefore taken this stand and furnish this memorandum in order that all the surrounding facts relating to this situation may be absolutely clear.

UNITED AIRCRAFT CORPORATION

February 9, 1939

Copy to Captain Kraus
Copy to Captain Collins

J. Carlton Ward, Jr.
Vice President
In regard to the covenant against contingent fees to be inserted in our proposed contract with the French State, you have asked us to include the form which you supplied us as that in the Martin contract. We cannot comply with this request and are compelled to insist on the form in our other contract now in force with you. The differences between the two clauses are plain and our position is explained by the following facts:

We have regularly in force a contract with Mr. Thomas F. Hamilton which has some years to run, by the terms of which contract Mr. Hamilton is employed to act as our representative for the sale of our product in Europe as well as in other territory, maintaining his own organization for that purpose. The price that has been fixed in our proposed contract with the French State does not include any item for a commission, but nevertheless, one must be paid to him under his contract. We do not believe that this is in violation of the clause which you have inserted in the Martin contract but since someone later might place another construction on this clause we cannot consent to its inclusion. We have therefore taken this stand and furnish this memorandum in order that all the surrounding facts relating to this situation may be absolutely clear.

February 9, 1929

Copy to Captain Krause
Copy to Captain Collins
any gratuity, commission, bribe or emolument to any officer, agent, or representative, temporary or permanent, of the Government or to any other person as an inducement for the Government to enter into this agreement. Any breach of the undertakings contained in this Article shall be ground for cancellation of this contract. Such cancellation, however, can only take place upon decision rendered by a competent court in the State of Connecticut. The execution of this contract shall be suspended thirty (30) days from the day on which the Contractor shall have received from the Government notice by registered letter of its intention to sue for this cancellation and until the decision of the competent court has become final and not liable to appeal, either ordinary or extraordinary.

2. In the event that the contract is cancelled in accordance with the terms of the present Article, a statement will be made with regard to this contract, showing the amounts due by the parties to one another.

3. In case of contestation, such statement will be submitted for decision to the competent court in the State of Connecticut.

4. In any event, the cancellation will have no effect on the contract in respect of such part thereof as shall have been executed at the date provided hereinabove and up to the thirty (30) days from receipt of the notice.

5. In the event that the judicial decision is to the effect that there is no reason for cancellation of the contract, the Contractor will have the right, when this decision has become final, to take proceedings before a competent court for damages caused by the suspension of the contract.

ARTICLE VI.

DISPUTES.

Disputes concerning the meaning or performance of any part of this contract concerning the rights or liabilities of the parties under this contract shall be referred for discussion to a committee consisting of a representative of the Government, an official of the Contractor and a third party mutually acceptable to the other two members of the Committee. During such discussions, the Contractor shall diligently proceed with the performance of the terms of the contract. Such discussions shall be conducted for the purpose of attempting to eliminate differences and misunderstandings and shall not bar or delay either side from its remedies at law.

This contract shall be interpreted in accordance with the plain English meaning of its terms, and the construction thereof shall be
governed by the laws of the State of Connecticut, United States of America, and the courts in said State shall have jurisdiction.

ARTICLE VII.

DEFINITIONS.

1. The term "Government Representative" or "Representative of the Government" as used herein shall mean any person who shall be appointed and accredited by the Government acting through the Air Attaché of the French Republic in the United States to act on its behalf for the purposes of this contract. One or more representatives may be so appointed provided the Contractor shall be notified of each appointment in writing by the Government. One representative designated as the Financial Representative shall be in charge of and shall approve invoices, certificates for monthly payments and final payments, orders for shipment and similar documents. The same or another representative designated as the technical representative may be in charge of inspection and test as provided in Article III hereof and final inspection and acceptance of the engines and material covered by this contract and shall approve the certificate of inspection and test. The Contractor is hereby authorized to rely and act upon any written approval, direction, consent or notice signed by the principal Government Representative or his delegate or delegates appointed in writing and to the extent therein indicated.

2. All notices or communications to the Contractor shall be addressed to the Contractor at East Hartford, Connecticut.

3. All notices and communications to the Government shall be addressed to the appropriate Government Representative at the offices of the Contractor at East Hartford, Connecticut.

ARTICLE VIII.

ARTICLES AND SUPPLIES CALLED FOR.

The Contractor shall furnish and deliver to the Government at the plant of the Contractor in East Hartford all of the following listed aeronautical engines, equipment and technical data, to wit:

Item 1. (a) 100 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-C dated January 25, 1939 packed for inland transportation.

(b) 200 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-B dated January
25, 1939 packed in overseas boxes and prepared for overseas transportation, except for the first four (4) engines which shall be prepared for inland transportation in overseas boxes.

(c) 230 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-B dated January 25, 1939 equipped with special flexible engine mount pedestals and packed in overseas boxes but prepared for inland transportation.

Item 2. (a) 50 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-C dated January 25, 1939 packed in overseas boxes and prepared for overseas transportation.

(b) 100 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-B dated January 25, 1939 packed in overseas boxes and prepared for overseas transportation.

(c) 115 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-B dated January 25, 1939 packed in overseas boxes and prepared for overseas transportation.

Item 3. Equipment Accessories. The accessories listed hereafter will be supplied with each engine:

(a) Ignition Circuit
   2 Scintilla magnetos SF14L-3
   1 set of spark plugs
   1 Radio shielded ignition wire manifold

(b) Miscellaneous
   Oil Pumps
   1 drive for starter (3 tooth jaw)
   1 connection for manifold pressure gauge
   1 oil pressure connection
   1 generator drive
   1 set of propeller hub attachment parts
   2 tachometer drives
   2 auxiliary drives (internal 12 tooth spline)
   1 drive for Vacuum pump (internal 12 tooth spline)
   1 drive for Constant speed or Hydromatic governor for Hamilton Standard propeller
   1 deflector assembly complete
   Covers for unused accessory drives
   1 engine tool kit

NOTE: all drives and connections are in conformity with American standards.
(c) **Fuel supply system**

(i) For the engines described in Item 1(a) and Item 2(a) hereof:
- 1 fuel pump drive (internal 11 tooth spline)
- 1 carburetor Stromberg NAC12D-2

(ii) For the engines listed in Item 1(b) and Item 2(b) hereof:
- 1 fuel pump drive (internal 11 tooth spline)
- 1 carburetor Stromberg PD12B-6, with the option to be exercised in writing within fifteen days from date of this contract to substitute Chandler Evans CE1375-DB-1 carburetor at a reduction in price of Two Hundred Forty Dollars ($240) per engine.

(iii) For the engines listed in Item 1(c) and Item 2(c) hereof:
- 1 fuel pump drive (internal 11 tooth spline)
- 1 carburetor Stromberg PD12B-6.

**Item 4. Technical Data.** There will be supplied to the Government at the French Consulate in New York for the whole of the order:

(a) within sixty (60) days from the date of this contract or as soon thereafter as practicable

(i) 1 standard set of Van Dykes, or other drawings suitable for reproduction, of the engine SC3G, and the different units and accessories of the engine, with a list covering such set. Said set will include the general plan and the longitudinal and transversal cuts of the engine. A corresponding set in blueprint form shall be delivered to the technical Government Representative at the Contractor's plant in East Hartford at approximately the same time.

(ii) 1 standard set of Van Dykes, or other drawings suitable for reproduction, of the equipment for handling, lifting and emergency repairs.

(iii) 1 standard set of Van Dykes or other drawings suitable for reproduction, of the tool kit and tools necessary for assembling and disassembling, and for the upkeep of the engine and units.

It is understood that the Contractor will not be obligated to furnish details of construction of units or accessories not manufactured to the Contractor's designs if the Contractor itself has no such details of construction available.
(b) Before completion of this contract, the Contractor will supply to the Government in addition to the foregoing, the following:

(i) 20 catalogues of replacement parts (numbers and photographs of parts).

(ii) Log books and handbooks for each engine and the technical data for the use of the engine (description, upkeep, assembling, disassembling) in the French language.

**ARTICLE IX.**

**DELIVERY.**

(a) All of the aeronautical engines called for under the terms of this contract shall be delivered at the factory of the Contractor at East Hartford, Connecticut, United States of America. Each engine will become the property of the Government at the factory of the Contractor upon total payment of the price agreed upon for such engine in Article XII hereof. Partial deliveries will take place in the following months; provided, however, that so long as the Contractor shall maintain a sufficient number of engines at the respective plants of the airplane manufacturing companies mentioned in paragraph (b) (1) of this Article to keep one month ahead of the complete assembly of the corresponding airplanes in which the engines will be installed, no penalties for delay in delivery shall be incurred by the Contractor:

<table>
<thead>
<tr>
<th>Month</th>
<th>Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 1939</td>
<td>1</td>
</tr>
<tr>
<td>May</td>
<td>92</td>
</tr>
<tr>
<td>June</td>
<td>101</td>
</tr>
<tr>
<td>July</td>
<td>111</td>
</tr>
<tr>
<td>August</td>
<td>125</td>
</tr>
<tr>
<td>September</td>
<td>50</td>
</tr>
<tr>
<td>October</td>
<td>55</td>
</tr>
<tr>
<td>November</td>
<td>48</td>
</tr>
<tr>
<td>December</td>
<td>58</td>
</tr>
<tr>
<td>January 1940</td>
<td>10</td>
</tr>
<tr>
<td>February</td>
<td>12</td>
</tr>
<tr>
<td>March</td>
<td>25</td>
</tr>
<tr>
<td>April</td>
<td>25</td>
</tr>
<tr>
<td>May</td>
<td>25</td>
</tr>
<tr>
<td>June</td>
<td>25</td>
</tr>
<tr>
<td>July</td>
<td>32</td>
</tr>
</tbody>
</table>

795

It is understood that, since the foregoing schedule of deliveries is predicated on this contract being fully executed and a copy delivered to
the Contractor on or before February 14, 1939, if such execution and delivery of this contract is delayed, a like number of days shall be added to each date for delivery in the above schedule.

If the Contractor is able to make deliveries in advance of the above schedule the Government agrees to accept the engines so offered in accordance with Article III hereof whenever the same shall have complied with the tests therein referred to.

(b) (1) The Contractor agrees to act as agent for the Government with regard to the transportation of the material listed in Article VIII, Item 1, together with the appropriate equipment for the account of the Government in accordance with the following indications:

(i) For the engines described in Article VIII, Item 1(a):
Send same insured immediately after acceptance, packing and payment to the Curtiss Airplane Division of the Curtiss-Wright Corporation at its factory in Buffalo, State of New York, United States of America.

(ii) For the four (4) engines described in Article VIII, Item 1(b) as prepared for inland transportation:
Send same insured immediately after acceptance, packing and payment to the El Segundo Division of Douglas Aircraft Company, Inc. at its factory in El Segundo, State of California, United States of America.

(iii) For the engines described in Article VIII, Item 1(c):
Send same insured immediately after acceptance, packing and payment to the Glenn L. Martin Company at its factory in Middle River, Baltimore, Maryland, United States of America.

(2) The Contractor also agrees to act as agent for the Government with regard to the transportation of the engines described in Article VIII, Item 2 hereof and the engines described in Article VIII, Item 1(b) hereof other than those referred to in Article IX(b) (1) (ii) hereof, for the account of the Government in accordance with the following indications:

Send same insured after acceptance, packing and payment alongside ship, New York, New York, the ships to be indicated by the Government's Representative within three (3) days after such acceptance and in each case at least five (5) days before the scheduled sailing of the ship indicated, in default of which indication such material may be warehoused by the Contractor either in New York, New York, or in Hartford or in East Hartford, Connecticut, at the option of the Con-
tractor for the account and in the name of the Government and the storage receipts sent to the Government's Representative.

(3) The Contractor acting for the account of the Government shall be reimbursed for expenses of transportation and insurance on presentation of the receipts of the carriers and insurers to the Government's Representative.

(4) After acceptance of and payment for any material the Contractor will, as agent for the Government, take out the necessary insurance pending shipment and shall be reimbursed for this expense on presentation of the receipts of the insurers to the Government's Representative.

ARTICLE X.

FORCE MAJEURE.

1. The Contractor will not be deemed in default in its undertakings in the present contract if the carrying out of the contract has been prevented or delayed by a case of force majeure, but the Contractor must prove that it was unable to avoid the consequences thereof. Such prevention or delay is herein referred to as excusable delay.

Force majeure is defined as follows:

(a) War between the United States and any foreign country;
(b) Civil war, riots or insurrections in the United States;
(c) Any law, proclamation, ordinance or regulation of the Government of the United States or of the State of Connecticut, or any subdivision of either authority or representative thereof. Any such law, proclamation, ordinance or regulation shall be deemed to have been passed, made or promulgated with due authority and power;
(d) Floods, fires, explosions or other catastrophe or serious accident;
(e) Epidemics or quarantine restrictions;
(f) Any labor trouble causing cessation or interruption of work;
(g) Without limitation by enumeration of the foregoing, any other cause duly established emanating either from the Government or its representatives, or from events which cannot be foreseen and independent of the will of the Contractor, and which cause would result either in delaying or in preventing execution by the Contractor of its obligations.
2. Excusable delay as such term is used in this contract shall mean any and all delays for which the Contractor is not responsible as provided herein.

The Contractor shall within seven (7) days from the beginning of any excusable delay notify the Government Representative in writing of its claim of such delay and the extent or anticipated extent thereof. Within seven (7) days after its receipt of such notice the Government Representative shall notify the Contractor in writing, either that the Government concurs in such notice given by the Contractor or the extent, if any, to which, in the opinion of the Government, other events and circumstances have rendered immaterial the delay claimed by the Contractor. In the event the Government shall not concur in such claim by the Contractor the parties shall confer, and if possible, reach an agreement as to the extent of any excusable delay and the adjusted delivery dates which agreement shall be reduced to writing and approved by the parties. If the parties shall not agree, each shall make a written statement concerning such claimed excusable delay, which statements shall be exchanged and preserved for use in arbitration of the dispute. Similar procedure with similar intent shall be followed in any case where the Contractor shall claim to be prevented or delayed in fulfilling any of its undertakings under this contract other than deliveries.

ARTICLE XI.

NEUTRALITY RESOLUTION.

The Government declares that it has taken cognizance of the Joint Resolution of the Congress of the United States of America, approved August 31, 1935, commonly known as "Neutrality Resolution", and of any later amendments thereto, and of any and all proclamations, regulations, rules and orders made and in force thereunder; and the Government agrees to observe any and all such provisions, as well as any others which may be decreed later, in so far as they may apply to it.

ARTICLE XII.

PAYMENTS AND METHODS THEREOF.

1. The total amount which the Government agrees to pay to the Contractor for all of the items covered by Article VIII of this contract shall be the sum of Ten Million Six Hundred Eighty-One Thousand One Hundred and Fifty American Dollars ($10,681,150.00) in New York funds. Payment of the foregoing amount will be made as follows:
(a) For each of the 100 engines listed in Article VIII, Item 1(a) hereof ........................................ $13,110.00
(b) For each of the 200 engines listed in Article VIII, Item 1(b) hereof ........................................ $13,430.00
(c) For each of the 230 engines listed in Article VIII, Item 1(c) hereof ........................................ $13,640.00
(d) For each of the 50 engines listed in Article VIII, Item 2(a) hereof ........................................ $13,190.00
(e) For each of the 100 engines listed in Article VIII, Item 2(b) hereof ........................................ $13,430.00
(f) For each of the 115 engines listed in Article VIII, Item 2(c) hereof ........................................ $13,430.00

2. Partial Payments. Partial payments will be made by the Government to the Contractor for the Contractor's estimate of expenditures to be made by the Contractor for materials, both raw and finished, and for labor and overhead in connection with the manufacture of the materials specified in Article VIII hereof during the period not more than one month subsequent to the date of such estimate but not to exceed in the aggregate sixty per cent (60%) of the total purchase price as set forth in Paragraph 1 of this Article XII. Before the first final payment for an engine as provided hereinafter in Paragraph (3) of this Article XII, the Contractor will notify the Financial Attaché of the exact percentage of the total contract price, within the foregoing limitation, which the Contractor will draw in partial payments. On or before the tenth day of each month the Contractor will submit to the financial representative of the Government in East Hartford, Connecticut an invoice for such estimates, together with the bond or bonds described in Article XX(1) hereof if any be required by the terms thereof and such invoice shall be paid by the Government within five (5) days after the presentation of said invoice by the Contractor. The first such estimate submitted shall include the Contractor's expenditures under this contract to the date of such estimate as well as such estimate of expenditures for the succeeding month.

3. Final Payment. Upon delivery of invoice and certificate of inspection covering engines accepted as provided in Article III hereof approved by the representatives of the Government authorized to approve such documents respectively and the bond or bonds described in Article XX(2) hereof, if any be required by the terms thereof, the
Government shall pay to the Contractor the balance of the full purchase price of each engine as set forth in Article XII(1) hereof amounting to forty per cent (40%) or more thereof.

4. Methods of Payment. After each invoice shall have been approved by the financial representative of the Government, whether for partial or final payment, such invoice shall be presented either by the financial representative of the Government or by the Contractor to the Financial Attaché of the French Embassy, who shall stamp such invoice and either return the same to the Contractor or present the same on behalf of the Contractor to the Federal Reserve Bank of New York, through which bank payment will be made of the net amount of such invoice for the account of the Contractor to The National City Bank of New York, New York. Payments of invoices to reimburse the Contractor for insurance premiums, shipping charges and other like matters, as set forth in Article IX, paragraphs (3) and (4) hereof, shall be made in like manner.

5. All payments to be made hereunder or by any other provision of this contract shall be in American dollars, New York funds, and shall be free from all French taxes and any other taxes whatsoever. If the Government exacts any tax in respect to this contract it undertakes to increase the above payments by an amount equal to the amount of the tax in question plus the amount of any tax on such increased payments.

All dues, taxes and other payments (excluding exportation taxes) which may be claimed by the Government of the United States of America or any subdivision thereof shall be borne by the Contractor.

ARTICLE XIII.

OPTION FOR ADDITIONAL ENGINES.

(a) Subject always to each and every provision of Article X hereof, the Contractor will after receipt of written notice from the Government on or before March 31, 1939, enter into a new and separate contract with the Government for the sale to it of 300 additional engines described in Article VIII Item (1) hereof at the appropriate price for such engines provided in Article XII (1) hereof, said engines to be delivered (subject to the reservation as to the date of the execution of this contract contained in Article IX (a) hereof) during the following months:
Said written notice shall specify whether engines described in Item 1 (a), Item 1 (b) or Item 1 (c) of Article VIII will be required.

Said contract shall contain provisions identical to the provisions herein contained except with the variations and changes to be made contained in or implied by this Article XIII and with the exception of this Article XIII.

(b) If the foregoing option is exercised by the Government, the contract embodying the same shall contain the following provisions to be numbered Article XIII therein, viz: "Subject always to each and every provision of Article X hereof and subject further to a mutually satisfactory agreement between the parties as to the price to be paid as hereinafter set forth, the Contractor will after receipt of written notice from the Government received on or before July 1, 1939, enter into a new and separate contract with the Government as of July 1, 1939, for the sale to it of 300 additional engines as described in Article VIII Item (1) of the contract between the parties dated as of February 14, 1939, to be delivered during the following months:

<table>
<thead>
<tr>
<th>Month</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>December, 1939</td>
<td>20</td>
</tr>
<tr>
<td>January, 1940</td>
<td>50</td>
</tr>
<tr>
<td>February</td>
<td>55</td>
</tr>
<tr>
<td>March</td>
<td>62</td>
</tr>
<tr>
<td>April</td>
<td>42</td>
</tr>
<tr>
<td>May</td>
<td>13</td>
</tr>
<tr>
<td>June</td>
<td>8</td>
</tr>
<tr>
<td>July</td>
<td>12</td>
</tr>
<tr>
<td>August</td>
<td>13</td>
</tr>
<tr>
<td>September</td>
<td>12</td>
</tr>
<tr>
<td>October</td>
<td>13</td>
</tr>
</tbody>
</table>

Said written notice shall specify whether engines described in Item 1 (a), Item 1 (b) or Item 1 (c) of Article XII of said contract be-
between the parties dated as of February 14, 1939, will be required. The contract to be executed pursuant to the provisions of this option shall contain provisions identical to the provisions herein contained except for the variations and changes to be made contained in or implied by this Article XIII and with the exception of this Article XIII. The price to be paid by the Government for said engines shall be determined within ten days after July 1, 1939, by negotiation between the parties in the same manner that the price was arrived at for the present contract."

ARTICLE XIV.

DEBT.

(1) If delays not due to one of the circumstances of force majeure described in Article X extend for three months, the Government shall have the right to cancel, without claiming any indemnity or penalty from the Contractor, the order for the particular engines delayed by notice by registered mail, and in that event the Contractor shall repay to the Government within three months thereafter the total sums received on account by it for such delayed engines.

(2) Without derogating from the full effect of Paragraph (1) of this Article XIV, in the event that a Receiver is appointed over substantially all the assets of the Contractor by any Court having jurisdiction and shall not be discharged within 90 days thereafter, the Government shall have a like right to cancel this contract as to any engines or engines then undelivered without claiming any indemnity or penalty, and thereafter shall be entitled to file its claim for the total sums received on account by the Contractor, under this contract, for any engines then undelivered.

ARTICLE XV.

GUARANTEES AND WARRANTIES.

1. The Contractor warrants that each engine shall be free from defect in material and workmanship if installed in a manner to meet the requirements of Appendix A hereunto attached and hereby made a part hereof, and if used in accordance with the operating instructions of the Contractor, which warranty is limited to the first two hundred hours of operation thereof (including operation on the ground) and will not extend more than six months after the date of delivery. This warranty is limited to replacing or repairing at the factory of the Contractor any parts which may have been returned to said factory and which are defective, provided the cost of transportation both of such
defective parts and the parts supplied in replacement will be borne by the Government. This warranty does not cover any labor charges whatsoever for replacement of parts, adjustments, repairs or any other work done on said engines. The warranties contained in this Article XV are expressly in lieu of all other warranties, expressed or implied, and of all other obligations or liabilities on the part of the Contractor except as elsewhere in this Contract provided, and the Contractor neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale or use of the engines.

2. This warranty shall not apply to any engine which has been repaired or modified outside of the Contractor's factory in such a way that in the Contractor's justified opinion its working has been affected or which has been misused, neglected or damaged or which has been used at speeds or loads higher than those provided for in the technical specifications. The said warranty shall not apply to any engine if any part not manufactured or supplied by the Contractor for use in such engine shall have been substituted in place of a part manufactured or supplied by it for such use.

3. The Contractor makes no warranty whatsoever with respect to ignition apparatus, carburetors, instruments or other trade accessories not manufactured by it but will undertake, except where it proves impossible so to do, to procure for the Government the usual warranties with respect to the foregoing from the respective manufacturers thereof.

ARTICLE XVI.

PATENTS.

Upon notice promptly given to the Contractor by the Government the Contractor will take over all claims made in the United States of America in respect of materials sold under this contract by all owners of United States patents against the Government or the Contractor for infringement thereof and will take proceedings, at its own expense, in such manner that the Government will be saved harmless therefrom.

The present contract being made, executed and paid for in the United States of America, the final delivery of the supplies to the Government taking place at the factories of the Contractor in the United States of America, all law suits being submitted to the legislation of the United States by a clause giving jurisdiction to the competent courts in the State of Connecticut, the Contractor refuses to have anything to do with bringing any part of the said material, the subject of this contract, into French territory.
Consequently, the Government will assume the entire and exclusive responsibility for all risks which might be incurred in connection with taking such supplies into French territory, and particularly in view of French internal legislation concerning patents.

**ARTICLE XVII.**

**Replacements and Repairs.**

The Government reserves to itself the absolute right to repair or have repaired the material purchased by it in its best interests, but if the Government should manufacture or have manufactured by third persons any spare parts required for such repairs it will pay to the Contractor in United States currency five per cent (5%) of the Contractor's price of such parts according to the list given to the Government as aforesaid. It is stipulated, however, that this royalty will not be added to the royalties provided for in the agreement of November 30, 1937.

**ARTICLE XVIII.**

**Spare Parts and Accessories.**

In order to facilitate replacements and repairs when required, the Contractor will furnish to the Government as soon as possible a numbered list of the spare parts connected with the material supplied. The Contractor agrees to supply thereafter and during the normal period of the utilization of the material as rapidly as possible the spare parts asked for by the Government at the prices indicated on this list, except in the event that it becomes necessary to modify such prices.

The Government's initial requirements for spare parts and accessories and the prices that the Government shall pay therefor shall be the subject of a separate contract, such prices to be determined by negotiation between the parties in the same manner that the price was arrived at for the present contract.

**ARTICLE XIX.**

**Liquidated Damages for Delay.**

If the Contractor refuses or fails to make deliveries of the materials or supplies in accordance with Article IX hereof, for reasons other than those set forth in Article X hereof, the Contractor will pay for delay as follows:

0.5 per cent of the contract price of the delayed material, for each week not including any fractions of a week, for the first four weeks of delay;
1 per cent thereof for each week not including any fractions of a week; from the 5th to the 8th week of delay;

2 per cent thereof for each week not including any fractions of a week; from the 9th week of delay.

These liquidated damages will apply only to the particular engines the delivery of which is delayed and will be calculated only on the price of such delayed partial deliveries, and will not be more than 10 per cent of the price of the delayed engines. Whenever any engines shall be delayed the next deliveries made shall be considered on account of such delayed engines.

ARTICLE XX.

SURETY BOND.

The Contractor shall furnish to the Government at the times indicated herein:

1. One or several bonds issued by one or several American surety companies on the list issued by the United States Treasury Department of those approved as sureties on bonds to the United States Government in a form acceptable to the Government Representative, guaranteeing to the Government the repayment in the amount due of the sums paid by it under the provisions of Article XII (2) hereof in the event that the engines described in Article VIII hereof are not in fact manufactured and delivered according to the conditions stipulated in the present contract. One or more of these bonds shall be delivered to the representative of the Government with or prior to and in the amount of each or several or all the invoices for partial payments described in Article XII (2) hereof. The aggregate liability of the principal and the sureties upon such bond or bonds shall in no event exceed the actual advances paid on account to the Contractor by the Government provided, however that the liability thereunder shall be reduced or extinguished by the percentage of the full price (fixed in Article XII (1) hereof) for each delivery hereunder which will then have been established under Article XII (2) hereof as being the exact percentage of the total contract price which the Contractor may draw in partial payments.

2. One or several bonds issued by one or more American surety companies on the list issued by the United States Treasury Department of those approved as sureties on bonds to the United States Government in a form acceptable to the Government representative for ten per cent (10%) of the total amount of each delivery, guaranteeing to the Government payment of the liquidated damages for delays in deliv-
ory as stipulated in Article XVIII hereof and the carrying out of the warranty in Article XV hereof. Such bond or bonds may be furnished to the representative of the Government at the time each invoice is delivered to the representative of the Government as set forth in Article XII (3) hereof and in that event shall apply to the engines included in such invoice, and no other engines whatsoever. The Contractor may furnish to the representative of the Government before the first delivery of an engine hereunder a bond for ten per cent (10%) of the total contract price as set forth in Article XII (1) hereof in lieu of the foregoing.

ARTICLE XXI.

MISCELLANEOUS.

This contract shall inure to the benefit of and be binding upon the parties hereto, their successors and assigns, but it shall not be assignable wholly or in part by either party without the prior written consent of the other party; provided, however, that a merger, consolidation or voluntary sale or transfer of substantially all of the Contractor's assets unaccompanied by change in the essential management of the Contractor's plant shall not be deemed to be an assignment within the terms of this Article.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed in quadruplicate (all of which shall be assumed originals), the day and year first above written.

THE FRENCH STATE,

By........................................
Air Attaché of the French Embassy

And........................................
Chargé de Mission

UNITED AIRCRAFT CORPORATION,

By........................................
Its Vice-President

ATTEST:

........................................
Assistant Secretary.
GUARANTEED DYNAMOMETER PERFORMANCE

**Metric**

<table>
<thead>
<tr>
<th>RPM</th>
<th>ALT. meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>See Curve</td>
</tr>
<tr>
<td>2500</td>
<td>3660</td>
</tr>
<tr>
<td>3000</td>
<td>4660</td>
</tr>
<tr>
<td>3500</td>
<td>650</td>
</tr>
<tr>
<td>4000</td>
<td>900</td>
</tr>
<tr>
<td>4500</td>
<td>1200</td>
</tr>
<tr>
<td>5000</td>
<td>15300</td>
</tr>
<tr>
<td>5500</td>
<td>18500</td>
</tr>
</tbody>
</table>

**English**

<table>
<thead>
<tr>
<th>BHP</th>
<th>RPM</th>
<th>ALT. feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1050</td>
<td>2700</td>
<td>See Curve</td>
</tr>
<tr>
<td>900</td>
<td>2550</td>
<td>12000</td>
</tr>
<tr>
<td>650</td>
<td>2250</td>
<td>13300</td>
</tr>
<tr>
<td>1000</td>
<td>2600</td>
<td>3050</td>
</tr>
</tbody>
</table>

For military operation, see power curve for climb and military high speed level flight performance.

Notes: Critical altitudes are within 1000 feet (305 meters) with standard altitude conditions at best power mixture and are attainable under altitude chamber test conditions.

<table>
<thead>
<tr>
<th></th>
<th>CFR 87 octane</th>
<th>.025 lb/BHP/hr</th>
<th>.015 lb/BHP/hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1050 BHP/hr</td>
<td>5.50 inches</td>
<td>5.50 inches</td>
<td>1850 cu. inches</td>
</tr>
<tr>
<td>7.15:1</td>
<td>6.7:1</td>
<td>5625</td>
<td>Clockwise</td>
</tr>
<tr>
<td>48.0 inches</td>
<td>12.36 inches</td>
<td>14 inches</td>
<td>61.50 inches</td>
</tr>
</tbody>
</table>

DESCRIPTION AND DIMENSIONS

(Installation Drawing No. R-38709)

Type—14 Cylinder Air-Cooled Radial

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore</td>
<td>5.50 inches</td>
<td>Stroke</td>
<td>5.50 inches</td>
</tr>
<tr>
<td>Total Displacement</td>
<td>1850 cu. inches</td>
<td>Compression Ratio</td>
<td>6.7:1</td>
</tr>
<tr>
<td>Blower Ratio</td>
<td>7.15:1</td>
<td>Propeller Gear Ratio</td>
<td>5625</td>
</tr>
<tr>
<td>Prop. Shaft: Rotation (viewed from rear)</td>
<td>Clockwise</td>
<td>Bore</td>
<td>12.36 inches</td>
</tr>
<tr>
<td>Spline SAE No.</td>
<td>50</td>
<td>Overall Diameter</td>
<td>14 inches</td>
</tr>
<tr>
<td>Overall Length</td>
<td>48.0 inches</td>
<td>Overall Length</td>
<td>61.50 inches</td>
</tr>
</tbody>
</table>

APPROX. CENTER OF GRAVITY

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>forward of mounting flange</td>
<td>14 inches</td>
</tr>
<tr>
<td>below crankshaft Center Line</td>
<td>14 inches</td>
</tr>
</tbody>
</table>

DRY WEIGHT

<table>
<thead>
<tr>
<th></th>
<th>1463 lb.</th>
</tr>
</thead>
</table>

(ovens)
# STANDARD EQUIPMENT
(Included in Engine Dry Weight)

Automatic Valve Gear Lubrication  
Stromberg PD-12B6 Carburetor and Air Screen  
Two Scintilla SF14L-3 Magnetois, Ignition Wiring, and Spark Plugs  
(Ignition System Completely Shielded)  
Pressure Type Cooling Baffles  
Oil Pumps  
Propeller Hub Attaching Parts  
Primer Tubing and Fittings  
Provision for Hamilton Standard "Hydromatic" Feathering Propeller

<table>
<thead>
<tr>
<th>Accessory Drives</th>
<th>Type</th>
<th>Ratio to Crankshaft</th>
<th>Rotation Drive End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator or Starter—</td>
<td>Int. 16 Spline</td>
<td>1.400:1</td>
<td>Clockwise</td>
</tr>
<tr>
<td>Remote Accessory Gear Box (Round Pad)</td>
<td>3 Jaw</td>
<td>1.000:1</td>
<td>Clockwise</td>
</tr>
<tr>
<td>Fuel Pump (2&quot; Square Pad)—</td>
<td>Int. 11 Spline</td>
<td>.875:1</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td>Dual Tachometer—</td>
<td>Air Corps (L. H.)</td>
<td>.500:1</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td>Dual Angular Aux. (Square Pad)—</td>
<td>Air Corps (R. H.)</td>
<td>.500:1</td>
<td>Clockwise</td>
</tr>
<tr>
<td>Vacuum Pump (Square Pad)—</td>
<td>Int. 12 Spline</td>
<td>1.000:1</td>
<td>Clockwise</td>
</tr>
<tr>
<td>Constant Speed Prop. Governor—</td>
<td>Int. 12 Spline</td>
<td>1.400:1</td>
<td>Clockwise</td>
</tr>
</tbody>
</table>

Accessory Drive Covers

Note: For details of drives, refer to Installation Drawing No. R-33708.
For torque limitations, refer to Accessory Drives Drawing No. D-36900.

# ADDITIONAL EQUIPMENT FURNISHED WITH ENGINE  
(Not included in Engine Dry Weight)

<table>
<thead>
<tr>
<th>Extra wt. kg.</th>
<th>Extra wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>.18</td>
<td>.10</td>
</tr>
<tr>
<td>6.82</td>
<td>15.00</td>
</tr>
<tr>
<td>.68</td>
<td>1.50</td>
</tr>
</tbody>
</table>

- Two Engine Oil Connection Blank Flanges—Operator's Manual—Tool Kit—Engine, Plane and Pilot Log Books—Shipping Box

Regraded Unclassified
### GUARANTEED DYNAMOMETER PERFORMANCE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td>RPM</td>
<td>ALT. meters</td>
<td>BHP</td>
</tr>
<tr>
<td>5</td>
<td>2700</td>
<td>See Curve</td>
<td>1050</td>
</tr>
<tr>
<td>6</td>
<td>2550</td>
<td>3660</td>
<td>900</td>
</tr>
<tr>
<td>8</td>
<td>2250</td>
<td>4660</td>
<td>650</td>
</tr>
<tr>
<td>6</td>
<td>2600</td>
<td>3050</td>
<td>1000</td>
</tr>
<tr>
<td>6</td>
<td>3050</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**(not for high speed performance or military operation)**

*For military operation, see power curve for climb and military high speed level flight performance.*

**Normal Take-off Rating**

**Normal or Max. Climb Rating**

**Max. Power and RPM for Cruising**

**Maximum Power for Continuous Emergency Operation**

**Limiting Dividing Speed**

*Norm: Critical altitudes are within 1000 feet (305 meters) with standard altitude conditions at best power mixture and are attainable under altitude chamber test conditions.*

Cruising Fuel Consumption—See Power Curve

—Fuel—(PWA Spec. No. 511)—

—Oil Consumption (Max.)—at Rated Power—

—at Cruising—

Oil Specification—See P&W Approved List

### DESCRIPTION AND DIMENSIONS

(Installation Drawing No. R-32700)

Type—14 Cylinder Air-Cooled Radial

—Bore— 5.50 inches

—Stroke— 5.50 inches

—Total Displacement— 1830 cu. inches

—Compression Ratio— 6.7:1

—Blower Ratio— 7.15:1

—Propeller Gear Ratio— .5625

—Clockwise— 60

—Prop. Shaft; Rotation (viewed from rear)— 48.0 inches

—Spline SAE No.— 61.50 inches

—Overall Diameter— 12.36 inches

—Overall Length— .14 inches

—Approx. Center of Gravity—

—forward of mounting flange—

—below crankshaft Center Line—

### DRY WEIGHT

—Including Standard Accessory Equipment—

---

1450 lb.
STANDARD EQUIPMENT
(Included in Engine Dry Weight)

Automatic Valve Gear Lubrication
Stromberg NA-C12D2 Carburetor and Air Screen
Two Scintilla SF14L-3 Magneto\s, Ignition Wiring, and Spark Plugs
(\Ignition System Completely Radio Shielded)
Pressure Type Cooling Baffles
Oil Pumps
Propeller Hub Attaching Parts
Primer Tubing and Fittings
Provision for Hamilton Standard "Hydromatic" Feathering Propeller

Accessory Drives:

<table>
<thead>
<tr>
<th>Type</th>
<th>Ratio to Crankshaft</th>
<th>Rotation Drive End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator or Starter</td>
<td>1.400:1</td>
<td>Clockwise</td>
</tr>
<tr>
<td>Remote Accessory Gear Box</td>
<td>1.000:1</td>
<td>Clockwise</td>
</tr>
<tr>
<td>(Round Pad)</td>
<td>3 Jaw</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td>Fuel Pump (2&quot; Square Pad)</td>
<td>Int. 11 Spline</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td>Dual Tachometer</td>
<td>Air Corps (L. H.)</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td></td>
<td>Air Corps (R. H.)</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td>Gun Synchronizer (Round Pad)</td>
<td>Ext. 16 Spline</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td>Vacuum Pump (Square Pad)</td>
<td>Int. 12 Spline</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td>Constant Speed Prop. Governor</td>
<td>Int. 12 Spline</td>
<td>Counterclockwise</td>
</tr>
</tbody>
</table>

Accessory Drive Covers

Note: For details of drives, refer to Installation Drawing No. R-38768.
For torque limitations, refer to Accessory Drives Drawing No. D-39680.

ADDITIONAL EQUIPMENT FURNISHED WITH ENGINE
(Not included in Engine Dry Weight)

Extra wt. kg.

<table>
<thead>
<tr>
<th>Extra wt. kg.</th>
<th></th>
<th>Extra wt. kg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>.18</td>
<td></td>
<td>.15</td>
</tr>
<tr>
<td>8.82</td>
<td></td>
<td>1.58</td>
</tr>
</tbody>
</table>
ALTERNATE "A."

The engine shall be operated by external power at approximately 300 r.p.m. for a period sufficient to make sure that the oil is circulating through the engine properly and that no oil is leaking to the outside. The fuel pump shall be installed during this run and shall be piped to and from the oil reservoir so that oil is circulated through it.

Running IN Under Power.

The engine shall be tested on propeller load as defined herein according to the following schedule of running.

(a) Four hours at 1000 r.p.m.
(b) One hour at approximately 1000 r.p.m. to 90% rated speed.
(c) Two hours at 90% rated speed.
(d) One and one-half hours at 90% normal rated manifold pressure.
(e) One-half hour at normal rated manifold pressure and normal rated speed.
(f) One hour at 90% normal rated speed.
(g) One-fourth hour of running at takeoff manifold pressure in not less than five minute increments.
(h) For engines equipped with multispeed supercharger drives or equipped with multistage superchargers in which the auxiliary stage is driven by a controllable clutch, a minimum of ten clutch shift cycles or speed change cycles at intervals of not less than two minutes shall be made. During this run the crankshaft speed may vary between 70 and 100% of normal rated speed, and the manifold pressure may vary between 60 and 100% of normal rated manifold pressure.
(i) The loss of r.p.m. at 85% speed on propeller load of the engine when running on each magneto separately shall be determined and recorded. When a constant speed propeller is used the pitch must be fixed before the magneto check is taken. The idling and accelerating characteristics of the engine shall be checked. On all engines equipped with a controllable propell-
ler valve, oil pressure readings shall be taken in both the open and closed positions. Notation of any malfunctioning of the engine shall be made on the log sheets.

**Specific Requirements.**

1. During the hour of increasing speed from 1000 r.p.m. to 90% of rated speed, fuel consumption readings shall be taken in increments of 100 rpm. The mixture control position shall be designated in the test instruction sheets. Fuel shall be weighed over a period of not less than 60 seconds, and any measurement not consistent with the preceding ones shall be repeated. At other times during the test, readings shall be taken at not more than 15-minute intervals. Oil flow shall be measured using a quantity of not less than 25 pounds of oil at least once during the one and one-half hour run at 90% normal rated manifold pressure and at least once during the one-half hour run at normal rated manifold pressure and normal rated speed. Oil temperatures must be stabilized during these readings.

2. During the last hour of operation at 90% rated speed, the oil consumption of the engine shall be measured without adding oil to the tank or permitting the oil inlet temperature to vary more than plus or minus five degrees F. from that specified on the test instruction sheet.

3. Horsepowers shall be computed according to current methods, and actual horsepower used to calculate specific oil and fuel consumptions. Fuel and oil pressures, oil temperatures, carburetor air temperature, cylinder temperatures and manifold pressures shall be recorded at all speeds. Fuel-air ratios shall be calculated when required. The barometer corrected for brass scale and humidity shall be used to figure absolute manifold pressure. No oil shall be added to the tank during any oil consumption run.

4. Specific oil and fuel consumptions, oil inlet temperature, oil temperature rise, oil flow, oil and fuel pressures and other test measurements shall conform to the requirements of the contract and the Test Instruction Sheet.

5. The hot-spot shall be installed when called for on the bill of material, and shall be in operation when the outside air temperature is below 50 degrees F. The engine shall be run with the type of baffles with which the torque stand constant or the engine calibration was originally obtained. Unless authorization is obtained from the inspection department to do otherwise, the carburetor and magnetos with which the engine will be shipped shall be used.

**Penalty Runs.**

1. In case of failure of the engine to meet any of its requirements on test, corrections shall be made at disassembly to overcome the trouble.
2. When required by the Inspection Department, the engine shall be subjected to a penalty run prior to its final acceptance test. The standard penalty run shall consist of three hours of running in up to 90% of rated manifold pressure, one and one-half hours at 90% of normal rated manifold pressure, and one-half hour at normal rated manifold pressure, all on propeller load. Modification of the penalty run according to the particular circumstances involved will be permitted.

ALTERNATE "B."

COLD RUNNING.

The engine shall be operated by external power in accordance with the following schedule of running:

(a) One-half hour at approximately 600 r.p.m.
(b) Three and one-half hours at approximately 900 r.p.m.
(c) One hour at approximately 1200 r.p.m.
(d) One hour at approximately 1800 r.p.m.

RUNNING IN UNDER POWER.

The engine shall be tested on propeller load as defined herein according to the following schedule of running:

(a) One hour at approximately 1000 r.p.m. to 90% rated speed.
(b) One and one-half hours at 90% normal rated manifold pressure.
(c) One-half hour at normal rated manifold pressure and normal rated speed.
(d) One hour at 90% normal rated speed.
(e) One-fourth hour at takeoff manifold pressure in not less than five minute increments.
(f) For engines equipped with multispeed supercharger drives or equipped with multistage supercharges in which the auxiliary stage is driven by a controllable clutch, a minimum of ten clutch shift cycles or speed change cycles at intervals of not less than two minutes shall be made. During this run the crankshaft speed may vary between 70 and 100% of normal rated speed, and the manifold pressure may vary between 60 and 100% of normal rated manifold pressure.
(g) The loss of r.p.m. at 85% speed on propeller load of the engine when running on each magneto separately shall be determined and recorded. When a constant speed propeller is used the pitch must be fixed before the magneto check is
taken. The idling and accelerating characteristics of the engine shall be checked. On all engines equipped with a controllable propeller valve, oil pressure readings shall be taken in both the open and closed positions. Notation of any malfunctioning of the engine shall be made on the log sheets.

Specific Requirements.

1. During the cold run the fuel pump shall be installed and shall be piped to and from the oil reservoir so that oil is circulated through it. A special breaking in oil may be used during this running.

2. Oil pressure adjustments and oil flow determinations with the temperature of the oil regulated by external means to that required by the contract and the test instruction sheet shall be made during the cold run. Any external oil leaks shall be corrected at this time.

3. The reduction gear and nose section with which the engine will be finally built will not be installed on the engine during the cold running. The reduction gearing will be run for at least an equivalent length of time and with tooth loadings at least as great as those corresponding to the cold running conditions described herein on a separate cold running stand provided for this purpose.

4. During the hour of increasing speed from 1000 r.p.m. to 90% of rated speed, fuel consumption readings shall be taken in increments of 100 r.p.m. The mixture control position shall be designated in the test instruction sheets. Fuels shall be weighed over a period of not less than 60 seconds and any measurement not consistent with the preceding ones shall be repeated. At all other times during the running, readings shall be taken at not more than 15-minute intervals. Oil flow shall be measured using a quantity of not less than 25 pounds of oil at least once during the one and one-half hour run at 90% normal rated manifold pressure and at least once during the one-half hour run at normal rated manifold pressure and normal rated speed. Oil temperatures must be stabilized during these readings.

5. During the last hour of operation at 90% of rated speed, the oil consumption of the engine shall be measured without adding oil to the tank or permitting the oil inlet temperature to vary more than plus or minus five degrees F. from that specified on the test instruction sheet.

6. Horsepowers shall be computed according to current methods, and actual horsepower used to calculated specific oil and fuel consumptions. Fuel and oil pressures, oil temperatures, carburetor air temperature, cylinder temperatures and manifold pressures shall be recorded at all speeds. Fuel-air ratios shall be calculated when required. The barometer corrected for brass scale and humidity shall be used to figure absolute manifold pressure. No oil shall be added to the tank during any oil consumption run.
7. Specific oil and fuel consumptions, oil inlet temperature, oil temperature rise, oil flow, oil and fuel pressures and other test measurements shall conform to the requirements of the contract and the Test Instruction Sheet.

8. The hot-spot shall be installed when called for on the bill of material, and shall be in operation when the outside air temperature is below 50 degrees F. The engine shall be run with the type of baffles with which the torque stand constant or the engine calibration was originally obtained. Unless authorization is obtained from the Inspection Department to do otherwise, the carburetor and magnetos with which the engine will be shipped shall be used.

Penalty Runs.

1. In case of failure of the engine to meet any of its requirements on test, corrections shall be made at disassembly to overcome the trouble.

2. When required by the Inspection Department, the engine shall be subjected to a penalty run prior to its final acceptance test. The standard penalty run shall consist of three hours of running in up to 90% of rated manifold pressure, one and one-half hours at 90% of normal rated manifold pressure, and one-half hour at normal rated manifold pressure, all on propeller load. Modification of the penalty run according to the particular circumstances involved will be permitted.

Definitions.

1. Rated Speed is defined as the maximum r.p.m. for which the engine is designed for extended periods of operation.

2. Normal Rated Manifold Pressure is defined as the absolute manifold pressure obtained with full throttle at rated speed at rated altitude under standard altitude conditions.

3. Propeller Load is defined as the loading given by an assumed correct propeller that will give normal rated manifold pressure at rated speed.

Revised May 8, 1934
" Oct. 23, 1934
" Feb. 18, 1936
" July 23, 1936
" Feb. 16, 1937
" July 22, 1937
" Sept. 15, 1937
" Jan. 25, 1939
Before an engine is submitted for acceptance, it must have successfully passed the tests required by Specification PWA-252 and must have been torn down for examination of the component parts. All parts must have passed inspection before being reassembled and before being submitted for acceptance.

**Run-In.**

The minimum amount of run-in of any engine after re-assembly and prior to final acceptance test shall be as follows:

1. One hour at speeds varying from 1000 r.p.m. to 90% of rated speed. During this period fuel consumption measurements shall be taken at speeds above 1200 r.p.m. in increments of not more than 150 r.p.m. Mixture control position to be designated in test instruction sheet.

2. One hour at 90% speed on propeller load during which time fuel and oil consumption shall be measured.

3. Continue fuel curve up to normal rated manifold pressure.

4. If the engine is equipped with a carburetor having automatic mixture control, fuel consumption readings shall be taken in the automatic positions.

5. For engines equipped with multispeed supercharger drives or equipped with multistage superchargers in which the auxiliary stage is driven by a controllable clutch, a single cycle of clutch shifts shall be made. During this run, the crankshaft speed may vary between 70 and 100% of normal rated speed, and the manifold pressure may vary between 60 and 100% of normal rated manifold pressure. For engines equipped with multistage superchargers, the auxiliary stages shall be loaded by a weight of air approximating that consumed by the engine at the particular operating condition. A suitable orifice or other restriction shall be installed at the auxiliary stage inlet to give a weight of air not less than that consumed by the engine at the condition of maximum speed and power for which use of such auxiliary stage is specified. The orifice or restriction shall be used unchanged for all other engine operating conditions. The air from the auxiliary stage may be wasted to the atmosphere and the installation of an intercooler will not be required.
This minimum run-in time may be increased at the discretion of the Assembly Department or the Engineering Department.

**Acceptance Test.**

The engine shall be run for one hour at normal rated manifold pressure. Fuel and oil consumptions and oil flow measurements shall be taken.

Following the test, the engine shall be run at its rated take-off manifold pressure or BMEP for a length of time sufficient to obtain a proper reading.

The loss of r.p.m. at 85% speed on propeller load of the engine when running on each magneto separately shall be determined and recorded. The idling and accelerating characteristics and the proper functioning of the controllable propeller valve shall be checked. The mixture control and the idle cut-off shall be tried to make sure that they will cut the engine both in the cruising range and at idle speed.

The engine shall be carefully inspected for fuel and oil leaks prior to its removal from the stand, and check runs for correction of leaks shall be made when necessary.

**General Requirements.**

During the hour of acceptance test, readings shall be taken at five-minute intervals. Fuel consumption shall be weighed over a period of not less than 60 seconds, and any measurement not consistent with the preceding ones shall be repeated. Oil flow shall be measured, using a quantity of not less than 25 pounds of oil, at least once during the hour of acceptance running. Oil temperature must be stabilized during this reading. Horsepowers shall be computed according to current practice, and actual horsepower used to calculate specific oil and fuel consumptions. Fuel and oil pressures, oil temperatures, carburetor air temperature, cylinder temperatures and manifold pressures shall be recorded at all speeds.

Fuel-air ratios will be calculated when required. The barometer corrected for brass scale and humidity shall be used to figure absolute manifold pressure. The mixture control position shall be designated in the Test Instruction Sheet.

During the hour of operation at 90% rated speed, the oil consumption of the engine shall be measured without adding oil to the tank or permitting the oil inlet temperature to vary more than plus or minus five degrees F. from that specified on the Test Instruction Sheet. The specific oil consumption computed from the actual horsepower developed and the gross consumption during this hour of running shall not exceed that specified for cruising in the contract and on the Test Instruction Sheet.

**Specific Requirements.**

The specific oil consumption shall conform to the requirements laid down by the contract and Test Instruction Sheet. No oil shall be added
to the tank during any oil consumption run. If an engine fails to meet its oil consumption requirements on final test and is given additional running thereafter, this extra running shall not exceed three hours, including a second oil consumption check. If, at the end of this time, the engine fails to meet its requirements, it shall be removed from test for repair.

Oil inlet temperature, oil temperature rise, oil flow, oil pressures, fuel pressure, fuel consumption and other test results shall conform to the requirements of the contract and Test Instruction Sheet.

The loss in engine speed between operation on two and one magnetos shall be checked with stopwatch and revolution counter at approximately 85% speed on propeller load. A loss in r.p.m., which is considered by the inspector to be excessive for the particular model, shall be cause for rejection of the engine. When a constant speed propeller is used, the pitch must be fixed before the magneto check is made.

The hot-spot shall be installed when called for on the bill of material and shall be in operation when the outside air temperature is below 50 degrees F. The engine shall be run with the type of baffles with which the torque stand constant or engine calibration was originally obtained.

Pre-oiling of the engines, when required, shall be done prior to their being mounted on the test stand for final test. Such pre-oiling shall consist of pumping engine oil under pressure through the oil passages of the engine until all pressure oil passages are filled. Engines using a separate lubricating pump for rocker-arm lubrication shall have the rocker lubrication system separately pre-oiled in the same manner in order to make sure that all rocker lubrication passages are open.

Definitions.

For the purpose of this specification:

1. Rated Speed is defined as the maximum r.p.m. for which the engine is designed for extended periods of operation.

2. Normal Rated Horsepower is defined as the maximum allowable horsepower to be developed by the engine at rated speed for continuous operation.

3. Normal Rated Manifold Pressure is defined as the absolute manifold pressure obtained with full throttle at rated speed at rated altitude under standard altitude conditions.

4. Propeller Load is defined as the loading given by an assumed correct propeller that will give normal rated manifold pressure at rated speed.

Note: Wherever Specification PWA-252 applies it is understood that PWA 252-F applies.
Revised May 8, 1934
  " Oct. 23, 1934
  " Feb. 26, 1936
  " July 23, 1936
  " Feb. 16, 1937
  " June 11, 1937
  " Sept. 15, 1937
  " Oct. 27, 1937
  " Jan. 25, 1938
  " Feb. 2, 1939
**Maximum Power Limits**

- **Take-off**: 1065 HP at 2700 RPM
- **Normal or Climb**: 910 HP at 2550 RPM
- **Continuous Emergency Operation** (Multi-engine aircraft - not for high speed performance or military operation): 1015 HP at 2600 RPM
- **Cruising**: 660 HP at 2250 RPM

**Cruising Fuel Consumption**

- Within 3%
APPENDIX A.

INSTALLATION OF ENGINE.

An engine installation is considered satisfactory if provision is made to insure satisfactory engine cooling under all conditions of running which will be encountered during the operation of the airplane in which the engine is installed. As trouble-free operation is dependent upon freedom from abuse, there are prescribed herewith certain temperature limits which should not be exceeded under any conditions, and the installation should be such as to provide for satisfactory cooling within these limits.

**Temperature Limits.**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Oil Inlet Temp.</th>
<th>Head Temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For take-off and climb at maximum power rating Cowl flaps open</td>
<td>100° C. max.</td>
<td>250° C. max.</td>
</tr>
<tr>
<td>Level flight military rating 15 minutes duration Cowl flaps in minimum drag position</td>
<td>100° C. max.</td>
<td>260° C. max.</td>
</tr>
<tr>
<td>Level flight normal power rating (continuous) Cowl flaps in minimum drag position, stabilized temperatures</td>
<td>85° C. max.</td>
<td>260° C. max.</td>
</tr>
<tr>
<td>Level flight cruise at 650 h.p. or less Cowl flaps in minimum drag position</td>
<td>85° C. max.</td>
<td>230° desired max.</td>
</tr>
<tr>
<td>Level flight cruise above 650 h.p. Cowl flaps in minimum drag position</td>
<td>85° C. max.</td>
<td>260° C. max.</td>
</tr>
<tr>
<td>For single engine continuous emergency operation Cowl flaps open, stabilized temperatures</td>
<td>100° C. max.</td>
<td>260° C. max.</td>
</tr>
<tr>
<td>Ground running Cowl flaps open, for power output corresponding to 16° Hg. manifold pressure and 1200 r.p.m., stabilized temperatures</td>
<td>95° C. max.</td>
<td>260° C. max.</td>
</tr>
</tbody>
</table>

For installation performance tests it is desired that head temperatures be measured on seven cylinders. It is not considered necessary to measure cylinder barrel temperatures.

Where carburetors are fitted with cruise valves, the installation tests should be conducted with the carburetor set in the "cruise" position only for level flight cruising below 650 h.p. For all other operation, including ground running, the carburetor should be set in the "automatic rich" position.
MEMORANDUM FOR FILE

February 14, 1939

A meeting was held in the Secretary's office this morning at which were present, in addition to the Secretary, Mr. Momnet, Mr. Hoppenot, Mr. Blanchet, Colonel Jacquin, Mr. Beauleu (the French Financial Attaché) Admiral Peoples, Captain Kraus and Captain Collins.

Mr. Momnet expressed to the Secretary his appreciation of the assistance that had been given to the French Mission.

The Secretary acknowledged his remarks and stated that inasmuch as practically all of the contracts had been completed, he would suggest the advisability of the French Mission's publicizing such fact upon their departure for France.

Mr. Hoppenot also expressed the appreciation of the French Government and the members of the Mission for the assistance that had been given them in connection with the execution of the contracts for airplanes and engines.

After an exchange of farewells the meeting was adjourned.
February 14, 1939

MEMORANDUM FOR FILE

A meeting was held in the Secretary’s office this morning at which were present, in addition to the Secretary, Mr. Memmet, Mr. Hoppenot, Mr. Blanchet, Colonel Jaquein, Mr. Fusilieu (the French Financial Attaché), Admiral Peeples, Captain Kraus and Captain Collins.

Mr. Memmet expressed to the Secretary his appreciation of the assistance that had been given to the French Mission.

The Secretary acknowledged his remarks and stated that inasmuch as practically all of the contracts had been completed, he would suggest the advisability of the French Mission’s publicising such fact upon their departure for France.

Mr. Hoppenot also expressed the appreciation of the French Government and the members of the Mission for the assistance that had been given them in connection with the execution of the contracts for airplane and engines.

After an exchange of farewells the meeting was adjourned.
MEMORANDUM FOR THE SECRETARY

This afternoon a contract was signed by the French Mission with the Douglas Aircraft Company, Inc., for 100 light bombing airplanes, Model 7-B, without engines.

A contract was also signed with the United Aircraft Corporation for 795 Pratt & Whitney twin wasp engines, all equipment of a restricted nature in connection with which was released by telephonic advice of Colonel Burns, aide to Assistant Secretary of War Johnson, and by letter from the Navy Department.

A copy of the Douglas contract, as well as the United Aircraft contract, is enclosed herewith.
February 14, 1939

MEMORANDUM FOR THE SECRETARY

This afternoon a contract was signed by the French Mission with the Douglas Aircraft Company, Inc., for 100 light bombing airplanes, Model V-E, without engines.

A contract was also signed with the United Aircraft Corporation for 795 Pratt & Whitney twin wasp engines, all equipment of a restricted nature in connection with which was released by telephonic advice of Colonel Burns, aide to Assistant Secretary of War Johnson, and by letter from the Navy Department.

A copy of the Douglas contract, as well as the United Aircraft contract, is enclosed herewith.
CONTRACT
(as of)
FEBRUARY 15, 1939
between
THE FRENCH STATE
and
DOUGLAS AIRCRAFT COMPANY, Inc.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Articles</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Scope of the Contract</td>
<td>1</td>
</tr>
<tr>
<td>II. Extra</td>
<td>1</td>
</tr>
<tr>
<td>III. Inspection and Test</td>
<td>1</td>
</tr>
<tr>
<td>(1) Inspection of Manufacturing</td>
<td>2</td>
</tr>
<tr>
<td>(2) Flight Tests</td>
<td>4</td>
</tr>
<tr>
<td>(3) Ground Testing</td>
<td>4</td>
</tr>
<tr>
<td>(4) Weighing</td>
<td>4</td>
</tr>
<tr>
<td>(5) Static Test</td>
<td>5</td>
</tr>
<tr>
<td>(6) Fixed Gun Installation Test</td>
<td>5</td>
</tr>
<tr>
<td>(7) Government Check Flights</td>
<td>6</td>
</tr>
<tr>
<td>(8) Weather, etc., Delaying Flight Tests</td>
<td>6</td>
</tr>
<tr>
<td>(9) Certificates of Inspection and Test</td>
<td>6</td>
</tr>
<tr>
<td>(10) Effect of Final Inspection</td>
<td>7</td>
</tr>
<tr>
<td>(11) Parties' Non-responsibility for Each Other's Personnel</td>
<td>7</td>
</tr>
<tr>
<td>IV. Responsibility for Supplies Tendered</td>
<td>7</td>
</tr>
<tr>
<td>V. Covenant against Contingent Fees</td>
<td>8</td>
</tr>
<tr>
<td>VI. Arbitration of Disputes</td>
<td>8</td>
</tr>
<tr>
<td>VII. Definitions and Notices</td>
<td>9</td>
</tr>
<tr>
<td>VIII. Articles and Supplies Called For</td>
<td>12</td>
</tr>
<tr>
<td>(1), (2), (3), (4), (5), (6) Airplanes, Data and Spare Parts</td>
<td>12, 13</td>
</tr>
<tr>
<td>(7) Cases and Boxes</td>
<td>13</td>
</tr>
<tr>
<td>(8) Force Majeure</td>
<td>13</td>
</tr>
<tr>
<td>(9) Contractor's Excusable Delay</td>
<td>14</td>
</tr>
<tr>
<td>(10) Liquidated Damages for Contractor's Unexcused Delay</td>
<td>15</td>
</tr>
<tr>
<td>(11) As to Contractor's Deliveries before Flight Test</td>
<td>16</td>
</tr>
<tr>
<td>X. Payments and Security</td>
<td>16</td>
</tr>
<tr>
<td>(1) Payments and Methods Thereof</td>
<td>17</td>
</tr>
<tr>
<td>(2) Partial Payments, and Fire Insurance</td>
<td>17</td>
</tr>
<tr>
<td>(3) Prices Include Taxes, etc.</td>
<td>18</td>
</tr>
<tr>
<td>(4) Final Payment</td>
<td>18</td>
</tr>
<tr>
<td>(5) Methods of Payment</td>
<td>18</td>
</tr>
<tr>
<td>XI. Additional Purchases</td>
<td>18</td>
</tr>
<tr>
<td>(1) Options to Purchase</td>
<td>18</td>
</tr>
<tr>
<td>(2) Additional Purchases Not Under Option</td>
<td>20</td>
</tr>
<tr>
<td>XII. Contractor's Liability for Breach (Exclusive of Failures in Delivery)</td>
<td>20</td>
</tr>
<tr>
<td>XIII. Guaranties and Warranties</td>
<td>21</td>
</tr>
<tr>
<td>(1) Guaranty of Weight and Performance</td>
<td>21</td>
</tr>
<tr>
<td>(2) Guaranties by Contractor</td>
<td>22</td>
</tr>
<tr>
<td>XIV. Patents</td>
<td>22</td>
</tr>
<tr>
<td>XV. Liability for Government Property</td>
<td>23</td>
</tr>
<tr>
<td>XVI. Sub-Contracts</td>
<td>23</td>
</tr>
<tr>
<td>XVII. Reproduction Rights</td>
<td>23</td>
</tr>
<tr>
<td>XVIII. Reassembly and Check Flight in France</td>
<td>24</td>
</tr>
<tr>
<td>XIX. Surety Bonds</td>
<td>26</td>
</tr>
<tr>
<td>XX. Non-Assignability, Effect of Receivership, etc.</td>
<td>26</td>
</tr>
</tbody>
</table>

(This page does not constitute part of the Contract)
THIS CONTRACT entered into as of this 15th day of February, 1939, by THE FRENCH STATE, hereinafter called "Government, represented by René P. G. Weise, Air Attaché to the French Embassy of the Republic of France in the United States, and R. Hoppenot, Inspector of Finance, Chargé de Mission, representing the Air Minister of the Government, executing this contract, and;

DOUGLAS AIRCRAFT COMPANY, INC., a Delaware Corporation with principal offices in Santa Monica, California, hereinafter called the "Contractor".

WITNESSETH THAT:

ARTICLE I.

Scope of the Contract.

The Contractor shall furnish and deliver to the Government all of the airplanes, aeronautical equipment, spare parts and data, as set forth more particularly in Article VIII hereof, for the consideration stated and payable as set forth more particularly in ARTICLE X hereof, in strict accordance with the specifications, schedules and drawings described in ARTICLE VIII hereof. Delivery shall be made as more particularly set forth in ARTICLE IX hereof.

ARTICLE II.

Extras.

Except as otherwise herein provided, no charge for extras will be allowed unless the same shall have been ordered in writing by the representative of the Government and the price thereof stated in such order.

ARTICLE III.

Inspection and Test.

(1) Inspection of Manufacturing. The Contractor shall provide a complete system covering the inspection of all material, fabrication methods and finished parts. This system shall conform to the same standard of inspection employed and used by the Contractor in connection with the manufacture and assembly of similar equipment for the United States Army Air Corps. Records of all such inspection
work shall be kept complete and shall be available to a representative of the Government at all times. The work of construction shall at all times be open to four (4) duly authorized representatives of the Government for the purpose of observing the manufacturing processes and inspection by the Contractor, and all reasonable facilities and assistance shall be afforded such representatives for the prosecution of their work. The representative of the Government shall have the right to require replacement of parts not in accordance with the approved drawings and specifications or showing inferior workmanship or material, or which are unsuited for the purpose intended or are overweight. The Contractor shall inform the representative of the Government when materials or parts are ready for final inspection. The Contractor shall, in the manufacture of the articles to be supplied under this contract, be required to use jigs, fixtures and/or other devices or appliances in all processes where such use is conducive to interchangeability and conformity of the product, of such character as will reduce the necessity for selected assembly to the least practical minimum, and whenever any jig, fixture, device or other appliance is incorrect, worn, damaged or defective to such an extent as adversely to affect basic interchangeability of the article manufactured, the Contractor shall not thereafter use said jig, fixture or appliance in its incorrect, worn, damaged or defective form in the manufacture of articles intended for delivery under this contract. The passing as satisfactory of any part or piece by the Government's representative does not relieve the Contractor from any responsibility regarding faulty workmanship or material which may be subsequently discovered prior to final acceptance. All inspection and test by the representative of the Government, and observation by the representative of the Government of inspections and tests by the Contractor, shall be performed in such a manner as not to unduly delay the work. The Contractor, to the extent permitted by the United States, or its agencies, shall make available to the representatives of the Government the specifications most currently used by the United States Army Air Corps to govern inspection of the articles to be manufactured.

(2) Flight Tests.

(a) Performance tests. In order to demonstrate compliance with the performance guarantees set forth in Article XIII hereof, the Contractor shall conduct with its own pilot and at its own risk and expense, flight test of the first airplane to be manufactured hereunder. Such flight test for the demonstration of performance shall be conducted in accordance with the procedure described and under the con-
ditions set forth under "Performance" in the Specifications. The performance of the airplane during such test flights shall be measured by instruments supplied and calibrated by the Contractor. The representative of the Government shall be afforded full opportunity, at his option, whether before, during or after such tests, to check instruments for their accuracy of calibration. All flight tests may be observed by a representative of the Government by actual presence in the airplane during such flight and observation of instruments during the performance, or from the ground, for the purpose of observing compliance of the airplane and equipment to be supplied hereunder with such performance guarantees. The Contractor shall, with the assistance and participation of and checking by the Government representative, reduce the readings of the instruments or other indications of the performance to standard conditions as provided in the Specification and the Contractor shall submit to the representative of the Government the results of such reduction to standard conditions. Such report shall be signed by the Contractor and a representative of the Government.

(b) Stability and Maneuverability tests. In order to check compliance with the stability and maneuverability guarantees set forth in Article XIII hereof, the Government shall be entitled to have its own pilot fly the said airplane at its own risk but at the expense of the Contractor. Such flight test for the demonstration of stability and maneuverability shall be conducted in accordance with the procedure described and under the conditions set forth under "Stability and Maneuverability" in the Specifications.

(c) Such performance of said airplanes, tested as provided above, shall, unless the Government should exercise its optional right to a second flight test as hereinafter provided, be conclusive and controlling in the determination of whether all the airplanes covered by this contract comply with such performance and stability guarantees.

In the event the airplane to be flight tested shall fail to meet one or more of the guaranteed performance requirements or stability requirements the Contractor shall have the right, at its expense, to make changes and improvements in or to such airplane and to repeat in the same manner as provided above the test of such airplane as to performance or stability effected by such changes and improvements, and the Contractor shall at its expense include such changes and improvements in all other airplanes delivered hereunder in order to obtain from all such airplanes the performances guaranteed.

At the option of the Government it may designate for flight tests an additional airplane, at its own discretion as to the identity of such
airplane, and the time of its designation, out of the first series of 25 airplanes manufactured hereunder; and thereupon such airplane shall be tested for compliance with the performance and stability guarantees set forth in ARTICLE XIII hereof, in the same manner and under the same conditions as are provided with reference to the flight test for performance of the first airplane manufactured hereunder. The performance of the airplane under such second test shall also be conclusive and controlling in the determination of whether all the airplanes covered by this contract comply with such performances and stability guarantees. In the event that it fails to meet one or more of the guaranteed performance requirements, the Contractor shall have the right, at its expense, to make changes and improvements in or to such airplane and to repeat the test of such airplane as to performance effected by such changes and improvements, and the Contractor shall, at its expense, include such changes and improvements in all other airplanes delivered hereunder in order to obtain from all such airplanes the performance guaranteed. Upon the exercise of such option the Government shall pay to the Contractor the sum of $4,000 to cover the cost of such second flight test.

(3) Ground Testing. All airplanes covered by this Contract shall be ground tested by the Contractor. At the option of the Contractor, and to expedite delivery of the airplanes purchased such ground test may be conducted in France. The Government may, however, by written notice to the Contractor, require that such ground test shall be made at the Contractor's factory prior to delivery upon every tenth airplane.

(4) Weighing. The Contractor shall, in the presence of the Government representative, and for the purpose of demonstrating compliance with the requirements of ARTICLE XIII hereof as to weight, weigh the first, fifth, tenth, twentieth, and each succeeding twentieth airplane to be delivered hereunder. The airplanes which are thus weighed and all other airplanes delivered hereunder shall be deemed to comply with such Specifications as to weight if variation from the weight stated in the Specifications shall not exceed plus or minus 3 per cent. A similar variation of 1.0 per cent of mean aerodynamic chord of wing shall be allowable with respect to the center of gravity.

(5) Static Test. At and for a consideration of $60,000 to be paid promptly upon request of the Contractor, the Contractor shall provide the skeleton structure of an airplane consisting of fuselage, left or right wing assembly, landing gear and tail assembly, and conforming to the Specifications, and shall conduct on said skeleton airplane static tests
for the purpose of demonstrating the structural strength of the airplanes to be delivered hereunder. Such static tests shall be conducted in accordance with U. S. Army standard practice, and under the observation of the representatives of the Government, and shall be completed within five (5) months from the date of this contract. These static tests shall not interfere with production, and delivery of airplanes hereunder shall proceed in accordance with this contract, provided, however, should such static test demonstrate that the airplane or any part thereof does not conform to the Specifications as to structural strength requirements, then the Contractor shall correct such failure so as to make the airplane or part thereof comply with the Specifications as to structural strength and so as to correct all airplanes thereafter to be delivered and all airplanes theretofore delivered.

(6) Fixed Gun Installation Test. The Contractor shall install in the first airplane to be flight tested, as provided above, fixed guns, and conduct, in the presence of the Government representative, a firing test of such guns in order to demonstrate proper provision for installation of such guns and the functioning of control of such guns. Such tests shall at the option of the Contractor be conducted either on the ground or in the air with not to exceed 100 rounds of ammunition for each gun. Such guns and ammunition shall be supplied by the Government to the Contractor.

(7) Government Check Flights. After the flight tests and gun installation tests, provided for above, shall have been completed and the airplane or airplanes so tested shall have been accepted by the Government, the Government may, at its option, conduct, with either or both such tested airplanes, check flights with its own pilot under the following terms and conditions:—(a) the Government shall assume all risk of loss and/or damage to such airplane or airplanes and death of or injury to its pilot and all liability for damage to any third persons except Contractor's employees, and for these purposes the airplane shall be deemed the property of the Government; (b) the airplane shall be flown only within a radius of the Contractor's air field as is permitted by regulation of the United States Civil Aeronautics Authority; (c) the Government shall pay the Contractor at the Contractor's regular rates, not to exceed seventy-five dollars ($75.00) per hour of flight, for gasoline, oil, ground crew and other services rendered by the Contractor in connection with such flights; (d) the Government shall also pay the Contractor at the Contractor's regular rates for installation of any and all instruments or equipment not called for by the Specifications which the Government may wish installed in such airplane or airplanes; (e)
for the purpose of Article XI hereof, such airplane or airplanes shall be deemed to be delivered when accepted by the Government prior to such check flights; (f) such check flights by the Government, and/or any performance or stability of the airplane or airplanes indicated thereby, shall in no manner or way affect the provisions of paragraph (2) of this Article III providing that the test flights conducted by the Contractor shall be conclusive and controlling in the determination of whether all airplanes covered by this contract comply with the performance and stability guarantees contained in paragraph 1 of Article XIII.

(8) Any and all delay in the delivery of said airplane hereunder caused by weather making flight tests as provided in Paragraph (2) above impracticable, shall extend the dates upon which delivery of such airplanes shall be made, as provided in Article IX, Paragraph (1) hereof, if and to the extent that delay in such tests shall be shown by the Contractor to have actually delayed production of other planes hereunder. Any and all delay in the delivery of airplanes hereunder caused by failure of engines and equipment supplied by the Government hereunder during flight or ground tests, which failure shall not have been caused by the Contractor, shall in the same manner and method extend the dates upon which delivery of such airplanes shall be made, as provided in Article IX, Paragraph (1) hereof.

The foregoing provisions in this Paragraph (8) and their appearance in this Article III shall in no way derogate or limit the construction of Paragraph (8) of Article IX.

(9) The inspection of manufacture and assembly provided for in paragraph (1) of this Article III, and compliance with performance and stability guarantee as provided for in Paragraph (2), shall be attested to each airplane by a certificate of inspection and test jointly signed by the Chief of the Inspection Department and a Vice-President or President of the Contractor. The representative of the Government shall sign such certificate of inspection and test as to each airplane if it shall conform to the Specifications of this contract, and if the performance of the airplanes, as provided in Article III, Paragraph (2) thereof, shall have conformed to and met with the provisions of this contract.

(10) Final inspection of manufacture shall be conclusive, except as regards latent defects, fraud or such gross mistakes as amount to fraud. Final inspection and acceptance or rejection of the materials and supplies shall be made as quickly as practicable, but failure to inspect and either accept or reject materials or supplies, before or during manufac-
ture or assembly shall not impose liability upon the Government for such materials and supplies as are not in accordance with the Specifications. Final inspection on behalf of the Government, except for possible damage in transit to the Contractor's plant, of equipment, accessories or instruments, furnished by the Government, not manufactured by the Contractor, as shown by the Specifications, shall be made at the factory of the manufacturer thereof.

(11) The Contractor shall have no liability whatever, for negligence or otherwise, in connection with any salary, wages, living or other expenses of any representatives, inspectors of manufacture or pilots of the Government or for injury to or death of such Government personnel and the Government shall indemnify the Contractor for any injury or death to such representatives for which the Contractor may be held liable. The Government shall not be liable whether for negligence or otherwise for any injury to or death of any employee of the Contractor in connection with check flights as provided in Paragraph (7) of this ARTICLE III or ARTICLE XVIII hereof and the Contractor shall indemnify the Government for death or injury to any employee of the Contractor for which the Government may be held liable.

ARTICLE IV.

RESPONSIBILITY FOR SUPPLIES TENDERED.

The Contractor shall be responsible for the articles and materials covered by this contract until they are delivered at the designated point and the Contractor shall bear all risk on rejected articles or materials after notice of rejection. Where final inspection is at the point of origin, but delivery by the Contractor at some other point, the Contractor's responsibility shall continue until delivery is accomplished.

ARTICLE V.

COVENANT AGAINST CONTINGENT FEES.

The Contractor warrants that it has not employed any person to solicit or secure this contract upon any agreement for a commission, percentage, brokerage, or contingent fee. Breach of this warranty shall give the Government the right to annul this contract, or, in its discretion, to deduct from the contract prices or consideration the amount of such commission, percentage, brokerage, or contingent fee. This warranty shall not apply to commissions payable by the Contractor upon contracts or sales secured or made through bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. The Contractor further warrants
that no cost of advertising or allowance for any commission, percentage, brokerage or contingent fee payable to any third party has been included in the contract price.

ARTICLE VI.

DISPUTES.

Except as otherwise specifically provided in this contract, disputes concerning the meaning or performance of any part of this contract or concerning the rights or liabilities of the parties under this contract shall be referred for discussion to a Committee consisting of a representative of the Government, an official of the Contractor, and a third party mutually acceptable to the other two members of the Committee. During such discussions the Contractor shall diligently proceed with the performance of the terms of the contract. If during such discussion no agreement is reached, either party may appoint an arbitrator and shall immediately give written notice thereof to the other. Thereupon, within ten days after the giving of such notice, the other party shall appoint a second arbitrator, and give written notice of such appointment to the first party, and in default of such second appointment within said time, the arbitrator first appointed shall be sole arbitrator. When any two arbitrators have been appointed, as aforesaid, they shall, if possible, agree upon a third arbitrator, giving notice thereof to both parties; but if ten days shall elapse after the appointment of the second arbitrator without notice of appointment of a third arbitrator being given as aforesaid, then either party hereto may, in writing, request the appointment of the third arbitrator by the Senior United States District Judge for the District in which the Contractor’s head office is located in California. The three arbitrators shall meet within one week after the appointment of the third arbitrator, and shall give opportunities to each party to present its case and witnesses, if any, in the presence of the other, and the decision of the majority of the arbitrators shall be binding upon the parties hereto and shall be a condition precedent to any right of court action. Such decision of the arbitrators shall include fixing of the expenses of the arbitration and the assessment of the same against either or both of the parties hereto.

ARTICLE VII.

DEFINITIONS.

(1) The term “Government representative” or “representative of the Government”, as used herein, shall mean any person who shall be appointed and accredited by the Government, acting through the Air Attaché of the Embassy of the French Republic in the United
States, to act in its behalf for the purpose of this contract. One or more representatives may be so appointed, provided the Contractor shall be notified of each appointment in writing by the Government. One designated representative shall be in charge of and shall approve invoices, certificates for monthly payments, and final payments, orders for shipment and similar documents. The same or another designated representative shall be in charge of inspection and test as provided in ARTICLE III and final inspection and acceptance of the airplanes and material covered by this contract and shall approve the certificate of inspection and test. The Contractor is hereby authorized to rely and act upon any written approval, direction, consent or notice signed by either principal Government representative.

(2) The term "Specifications" as used elsewhere herein shall mean and refer to the provisional specifications attached hereto and marked Exhibit A, and, when applicable, the appendices attached thereto as such specifications and appendices may be modified, amended or completed hereafter as may be made necessary by additions, modifications or substitutions in the airplanes or equipment or accessories requested by the Government and agreed to by the Contractor or as may be mutually agreed to between them, it being understood and agreed that the provisional specifications attached hereto shall be modified, amended and completed and that definitive specifications shall be agreed upon between the parties and a copy thereof properly marked for identification shall be attached hereto in substitution for said provisional specifications as soon as reasonably possible.

(3) All notices or communications to the Contractor shall be addressed to the Contractor at Santa Monica, California.

(4) All notices and communications to the Government shall be addressed to the appropriate Government representative at the plant of the Contractor at Santa Monica or El Segundo, California.

ARTICLE VIII
ARTICLES AND SUPPLIES CALLED FOR

(1) The Contractor shall furnish and deliver to the Government all of the following airplanes, aeronautical equipment, spare parts and technical data, to wit:

Item I. One hundred (100) airplanes and the complete installation of engines of the type designated as Pratt & Whitney Twin Wasp Model R-1830-SC3-G, including the installation of all items of equipment listed in the Specifications, and therein designated
as to be furnished by the Contractor, and with space and provisions for installation of accessories and equipment listed and described in such Specifications, not to be furnished by the Contractor, such airplanes and equipment being ground tested (either at the Contractor’s factory, or in France, as above provided), and the first airplane, and at the option of the Government one other airplane, being flight tested, as provided in Article III (Par. 2) hereof, and ready for delivery and acceptance by the Government at Contractor’s factory, El Segundo, California.

Item II. Each and every article, accessory and item of equipment listed and described in the Specifications, and therein designated as to be furnished by the Contractor, which articles, accessories and equipment shall be completely installed in the airplane.

Item III. One set of Van Dyke prints on durable material from which blueprints may be made and three (3) blueprint copies of the Contractor’s complete detail and assembly drawings of the airplanes covered by Item I above and three (3) blueprint copies of the group parts list for the airplane covered by Item I above.

Item IV. Three (3) blueprint copies of the Contractor’s standard performance calculations for the airplanes covered by Item I hereof.

Item V. Three (3) blueprint copies of Stress Analysis and strength calculations for the airplanes covered by Item I above.

Item VI. Twenty (20) blueprint copies in the French language of the Contractor’s ejection manual for the airplanes covered by Item I hereof.

Item VII. One hundred and thirty (130) copies in the French language of the Contractor’s handbook of Maintenance Instructions for the airplanes covered by Item I hereof.

Item VIII. One hundred (100) copies in the French language of the Contractor’s pilot’s manual for the airplanes covered by Item I hereof.

Item IX. One hundred (100) copies of operation and maintenance instructions for all instruments and accessories not manufactured by the Contractor if and to the extent and in the form such are supplied by the Manufacturer thereof.

Item X. All material and services required to assemble one hundred (100) airplanes covered by Item I, subsequent to ground testing; the packing in adequate and proper overseas shipping boxes, including all fastenings and wrappings, together with complete packing lists of the airplanes covered by Item I above; the loading of boxes upon railroad cars secured and placed for rail shipment or delivered F. A. S. at San Pedro, California; one hundred (100) sets of weatherproof overseas type shipping boxes.
**Item XI.** Spare parts for the airplanes and equipment called for under Items I and II above to the aggregate dollar value of 15 per cent of the contract price of such airplanes and equipment boxed for export. A list of major assemblies and principal units of such spare parts shall be furnished to the Government's representative at Contractor's factory within 45 days from the signature of the contract, such list showing the percentage of value which each such assembly or part bears to the total airplane. Within twenty-five days from receipt of said list, the representative of the Government shall notify the Contractor of the value of such spare parts by major assemblies the Government wishes to order. Within sixty days after date of contract, the Contractor shall supply to the Government a breakdown of the list of such spare parts comprising such major assemblies, and within twenty-five days thereafter the Government shall advise the Contractor in writing which of the spare parts are to be delivered as major assemblies and which of the spare parts are to be delivered as detailed parts.

(2) All the airplanes called for under the terms of Item I hereof shall be serially numbered by the Contractor, as designated by the representative of the Government.

(3) The Government shall furnish the Contractor at its plant at El Segundo, California, the drawings, information and material listed and described in the Schedule annexed hereto and made a part hereof and marked Exhibit B, on or before the dates indicated opposite each item in said Schedule. Such drawings, information and equipment are necessary and essential to the Contractor in order that the Contractor may design and plan the production of the airplanes covered by this contract, and any delay in the delivery of any of such drawings, information and material shall automatically and conclusively extend the time within which all airplanes shall be delivered hereunder, by the amount of time that any such drawings information or material in final and accurate form and condition are delayed after the date specified in said Schedule.

(4) The Government shall also furnish to the Contractor at El Segundo, California, the equipment listed and described in the Schedule annexed hereto and made a part hereof and marked Exhibit C, on or before the date indicated opposite each item in said Schedule in order that the Contractor may at its option use such equipment and material for testing the adequacy of space and installation provisions for such equipment in each airplane.

(5) Any failure of the Government to deliver the drawings, information, material and equipment to be furnished by the Government...
hereunder shall be deemed to have caused delay in the planning and production of the airplanes and equipment hereunder unless and to the extent that such failure of the Government shall be rendered immaterial by delay caused by other events or circumstances.

ARTICLE IX.
DELIVERIES.

The airplanes and equipment covered by Items I and II of paragraph (1) of Article VIII of this contract shall be delivered on or before the following dates:

1 airplane on or before June 30, 1939
2 airplanes on or before July 31, 1939
7 airplanes on or before August 31, 1939
15 airplanes on or before September 30, 1939
15 airplanes on or before October 31, 1939
20 airplanes on or before November 30, 1939
25 airplanes on or before December 31, 1939
15 airplanes on or before January 31, 1940

Said airplanes shall be deemed to be delivered for purposes of this Article IX when said airplanes have passed final inspection and test and a duplicate of the shop record of such inspection and test is presented to the Government’s representative. The certificate of inspection and test provided for in Article III, paragraph (9) shall be presented to the representative of the Government for approval and signature within forty-eight hours after presentation of such shop record.

(2) The material and data covered by Item III of paragraph (1) of Article VIII shall be delivered to the representative of Government at the plant of the Contractor on or before sixty days after delivery of the last airplane to be delivered hereunder.

(3) The material and data covered by Items IV and V of paragraph (1) of Article VIII shall be delivered to the representative of the Government at the plant of the Contractor on or before sixty days after delivery of the first airplane to be delivered hereunder.

(4) The material and data covered by Items VII, VIII and IX of paragraph (1) of Article VIII shall be delivered to the representative of Government at the plant of Contractor within sixty days after delivery of the first airplane hereunder.

(5) The material and data covered by Item VI of paragraph (1) of Article VIII shall be delivered to the representative of the Government within sixty days after delivery of the first airplane to be delivered hereunder.
(6) Spare parts called for under the terms of Item XI of paragraph (1) of Article VIII shall be delivered F. A. S. San Pedro or free on board railroad cars at the plant of the Contractor at El Segundo, California, properly and securely packed in overseas shipping boxes, as follows:

Ten per cent of the total value of such spare parts on or before the date for delivery of the sixtieth airplane; ten per cent of such total value on or before the date for delivery of the last airplane; and the balance within sixty days after delivery of the last airplane.

(7) All cases and packing boxes containing material covered by this contract shall be marked and consigned and bills of lading shall be issued therefor in accordance with instructions from the representative of the Government.

(8) The Contractor will not be deemed defaulted in its undertakings in the present contract if the carrying out of the contract has been prevented or delayed by a case of force majeure, but the Contractor must prove that it was unable to avoid the consequences thereof. Such prevention or delay is herein referred to as excusable delay. Force majeure is defined as follows:

(a) War between the United States and any foreign country;
(b) Civil War, riots or insurrections in the United States;
(c) Any law, proclamation, ordinance or regulation of the Government of the United States or of the State of California, or any sub-division of either, authority or representative thereof. Any such law, proclamation, ordinance or regulation shall be deemed to have been passed, made or promulgated with due authority and power;
(d) Floods, fires, explosions or other catastrophe or serious accidents;
(e) Epidemics or quarantine restrictions;
(f) Any labor trouble causing cessation or interruption of work;
(g) Without limitations by enumeration of the foregoing, any other cause duly established emanating either from the Government or its representatives, or from events which cannot be foreseen and independent of the will of the Contractor, and which cause would result either in delaying or in preventing execution by the Contractor of its obligations.

(9) Excusable delay as such term is used in this contract shall mean any and all delay for which the Contractor is not responsible as
provided in Paragraph (8) of Article IX, Paragraph (8) of Article III and Paragraphs (3) and (4) of Article VIII. Any excusable delay in production or production planning shall be conclusively presumed to create a corresponding excusable delay in the delivery of airplanes hereunder.

The Contractor shall within three days from the beginning of any excusable delay (except that provided for in Paragraphs (3) and (4) of Article VIII) notify the Government representative in writing of its claim of such delay and the extent of anticipated extent thereof. Within three days after receipt of such notice the Government representative shall notify the Contractor in writing, either that the Government concurs in such notice given by the Contractor or the extent if any, to which, in the opinion of the Government, other events and circumstances have rendered immaterial the delay claimed by the Contractor. In the event the Government shall not concur in such claim by the Contractor the parties shall confer, and, if possible, reach an agreement as to the extent of any excusable delay and the adjusted delivery dates, which agreement shall be reduced to writing and approved by the parties. If the parties shall not agree, each shall make a written statement concerning such claimed excusable delay, which statements shall be exchanged and preserved for use in arbitration of the dispute.

Similar procedure with similar intent shall be followed in any case where the Contractor shall claim to have been prevented or delayed in fulfilling any of its undertakings under this contract other than deliveries.

(10) If the Contractor fails or refuses to make delivery of the airplanes and equipment specified in Items I and II of Article VIII hereof within the time or times specified in this Article as such time may be extended by excusable delay, as in this Article provided, there shall be deducted as liquidated damages from the contract price of each airplane, as to which there has been such failure or refusal to deliver, the sum of thirty (30) dollars per day for each day by which the delivery of such airplanes and equipment shall have been delayed after the date upon which such airplane should have been delivered. No such penalty or liquidated damages shall however be payable with respect to the first three airplanes unless the Contractor shall have failed or refused to deliver them on or before August 15th, 1939, and with respect to said first three airplanes such penalty or liquidated damages shall be payable only from and after said date. If the Contractor is using reasonable diligence to make deliveries as in this Article provided, then such right of the Government to deduct such sum or sums from the contract.
price shall be in lieu and in place of any right of the Government to cancel or terminate this contract for failure of the Contractor to make deliveries at the times as provided therein; provided however, that should the Contractor fail or refuse to deliver any of said one hundred airplanes and equipment covered by Items I and II of Article VIII of this contract (other than the first three airplanes), before sixty (60) days after the dates on which said airplanes should be delivered as above provided, as such date may be extended by excusable delay (such extended date hereinafter sometimes called "adjusted delivery date"), then the Government shall have the right to cancel and terminate this contract as to all or any airplanes then undelivered, and to recover from the Contractor such portion of the payments made by the Government under Paragraph (2) (a) of Article X below as shall bear the same proportion to the total of such payments as the number of airplanes as to which this contract is cancelled bears to the total of the airplanes called for by this contract. Such right of cancellation shall be exercised by the Government by notice in writing delivered to the Contractor on or not more than seven days before the earliest day on which the Government claims or contends that such right of cancellation shall accrue or has accrued. Such notice shall state the number of airplanes to which such claimed right of cancellation shall apply and it shall also state such claimed date of cancellation. If the Contractor shall not concur in such claimed date of cancellation it shall so advise the representative of the Government in writing, and if the parties shall be unable to agree upon the adjusted delivery date hereunder such date shall be as finally determined by arbitration, and all rights of either party as to any airplanes effected by such claimed right of cancellation shall depend upon such final determination.

(11) The Contractor is hereby expressly authorized and permitted to make delivery of airplanes ready for delivery and the Government hereby agrees to accept such airplanes and make final payments thereon even though the flight test on the first airplane to be manufactured hereunder and on a second airplane pursuant to the Government's option, as provided in Article III, Paragraph (2), shall not have been completed. In the event the Contractor shall be unable to make the airplane meet its performance guaranties and the Government shall as a result thereof cancel and terminate this contract, all the airplanes delivered to the Government pursuant to this paragraph shall be returned to the Contractor (all transportation charges to be for the account of the Contractor) and this contract shall be deemed to be cancelled as to such airplanes. Any change and improvements made by the Contractor
in order to cause such airplanes to meet one or more of the guaranteed performance requirements, as provided in Paragraph (2) of Article III, shall, at the expense of the Contractor be incorporated in and made to any airplane delivered pursuant to this paragraph. If any airplanes should be so delivered prior to flight testing of the first airplane and/or of the second airplane, and if any planes so delivered prior to the flight tests should be recalled by the Contractor for receiving such changes and improvements, then such planes shall notwithstanding the privilege to the Contractor under this paragraph, be fully subject to the provisions of Article IX as to delivery dates; and the delivery or deliveries of such planes after such changes and improvements shall be deemed to be the first delivery thereof for purposes of applying liquidated damages, for delay of fixing the Government’s right of cancellation and of any other consequences under this contract.

(12) Forty-five (45) days before the date fixed in this contract for the delivery of any airplane, spare parts or equipment called for by this contract, the Government representatives shall notify the Contractor in writing as to the method of shipment desired by the Government and if such method of shipment shall involve on the part of the Contractor any action other than the placing of the airplanes, spare parts, or equipment (properly boxed as above provided) F. A. S., San Pedro, or on railroad cars at El Segundo, California, the Contractor shall be bound to take such action only if provision shall be made by the Government thirty days before the delivery date in question to reimburse the Contractor for such extra expenses, if any, as may be involved on its part in taking such action.

ARTICLE X.

Payments and Security.

(1) Payments and Methods thereof. The total amount which the Government agrees to pay to the Contractor for the manufacture and delivery of all of the items covered by Article VIII of this contract shall be the sum ten million nine hundred sixteen thousand two hundred sixty dollars ($10,916,260.00). Payment of the foregoing amount shall be made as follows:

(a) For the airplanes and furnishing and/or installation of engines, accessories and equipment called for under the terms of Item I of Paragraph (1) of Article VIII of this contract and for equipment and accessories and installation called for under the terms of Item II of Paragraph (1) of Article VIII of this contract the sum of $94,924 per airplane, or a total of ........................................ $9,492,400
(b) For the spare parts called for under the terms of Item XI of Paragraph (1) of Article VIII of this contract at unit prices equal to the percentage of the total price of airplanes hereunder as shown under Item (a) of this paragraph indicated opposite each unit of spare parts shown in the list thereof to be furnished, as above provided, to a total of $1,423,260.

(2) Partial Payments. Subject to the provisions of Article XIX below, partial payments will be made by the Government to the Contractor each month as the work progresses, which payments shall equal the amount expended, disbursed, charged or incurred by the Contractor, provided, however, that such partial payments shall not exceed in the aggregate 50 per cent of the total amounts stated in sub-paragraphs (a) and (b) of Paragraph (1) of this Article X. The Contractor shall, on or before the 10th day of each month, furnish the Government with a schedule of anticipated partial payment requirements under this contract for that month. On or before the 10th day of each month, the Contractor shall submit to the representative of the Government an invoice or bill for the partial payment due on account of the preceding month, and such invoice or bill shall be paid by the Government on or before five days after presentation of such invoice or bill by the Contractor. No such partial payment shall be made after the date upon which the first final payment shall have been made.

(b) Fire Insurance. The Contractor agrees to insure against fire all property in its possession upon which a partial payment has been made or is about to be made, such insurance to be in a sum at least equal to the amount of such payment plus all other partial payments, if any, theretofore made thereon, and further agrees to keep such property so insured, free of cost to the Government, until the same is delivered to and accepted by the Government. Such insurance policy or policies shall be taken out with a company or companies normally used by the Contractor for similar insurance for the United States Government, and shall provide that loss, if any, shall be payable to the Contractor and the Government, as their respective interests may appear. All such policies shall be filed with the Contractor but subject to examination at any time by the representative of the Government and shall be in standard American form for such insurance.

(3) It is expressly understood and agreed that the prices herein stipulated include all United States, State and local taxes which are applicable to the material called for under the terms of this contract. All taxes, duties, imposts, charges or assessments levied or imposed by the
Government or any of its agencies or departments with respect to this contract or the importation, receipt or purchase by the Government of the airplanes and equipment or material covered by this contract shall be borne by the Government.

(4) **Final Payment.** Upon delivery of invoices, certificates of inspection, bills of lading and packing lists approved by the representatives of the Government, authorized to approve such documents respectively, representing covering and describing airplanes or material delivered as herein provided, the Government shall pay to the Contractor the contract price of the airplanes and material covered by such invoice, certificate of inspection, bills of lading and packing lists less an amount bearing the same proportion to the total of the partial payments theretofore made as the contract price of the airplanes or material covered by the invoices presented bears to the total contract price for the airplanes and materials called for by Article VIII hereof.

(5) **Method of payment.** After invoices or bills shall have been approved by the representative of the Government, whether for partial or final payments, such invoices or bills shall be presented either by the Contractor or by the representative of the Government to the Financial Attaché of the French Embassy, who shall stamp such invoices or bills and either return the same to the Contractor or present the same on behalf of the Contractor to the Federal Reserve Bank of New York through which bank payment shall (subject to the provisions of Article XIX below), be made of the net amount of such invoices or bills, for the account of the Contractor to the Chase National Bank of New York.

**ARTICLE XI.**

**Options.**

(1) The Contractor hereby grants to the Government the right and option, to be exercised only once, to purchase up to one hundred (100) airplanes in addition to those to be furnished under the terms of Item I of Article VIII, under the conditions, however, as set forth below:

(a) This option may be exercised in whole or in part at any time (but only at one time) on or before March 27, 1939, and if not then exercised it shall lapse and be of no further effect.

(b) The airplanes called for by the exercise of the option shall be delivered in accordance with the following schedule:

<table>
<thead>
<tr>
<th>Airplanes</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>January 31, 1940</td>
</tr>
<tr>
<td>30</td>
<td>February 29, 1940</td>
</tr>
<tr>
<td>30</td>
<td>March 31, 1940</td>
</tr>
<tr>
<td>25</td>
<td>April 30, 1940</td>
</tr>
</tbody>
</table>
(c) The Contractor shall supply and/or install the same engines and the same equipment and accessories in each airplane called for by the exercise of the option as are supplied and/or installed by the Contractor on the airplanes called for by this contract.

(d) The price to be paid by the Government for each airplane called for by the exercise of the option shall be the same as the price stipulated under sub-paragraph (a) of Paragraph 1 of Article X above, less 6 per cent of such stipulated price in case 25 airplanes, or 8 per cent in case 50 airplanes, or 10 per cent in case 75 airplanes, or 12 per cent in case 100 airplanes are ordered by the exercise of said option, and plus any increases in actual cost to the Contractor of equipment and accessories (which are not manufactured by the Contractor) put into effect by the vendors thereof after the date of this contract and in effect prior to 5 days after notice to the Contractor of the exercise of said option by the Government.

(e) If said option is exercised, in whole or in part, the partial payments as provided in Paragraph 2 of Article X shall include amounts expended, disbursed, charged or incurred as in said Paragraph 2 provided with respect to the airplanes and equipment covered by the exercise of said option, and shall be made as provided above, provided however, that the total of such partial payments shall not exceed 50 per cent of the total price of the airplanes, spare parts and material called for by the exercise of said option.

(f) The Government shall be required, at the time such option is exercised, and as a part of such option, to order spare parts to an aggregate amount of dollar value of not less than fifteen (15%) per cent of the total contract price of airplanes and equipment covered by the exercise of such option. The price of such spare parts shall be the price of spare parts as indicated in sub-paragraph (c) of Paragraph 1 of Article X hereof, reduced in the same respective proportions as the price of the airplanes shall be reduced, as above provided. Such spare parts shall be delivered by the Contractor securely packed for export and loaded on board railroad cars at the Contractor's plant, or F. A. S. San Pedro, as follows: twenty-five (25%) per cent in dollar value of such spare parts on or before the delivery of fifty (50%) per cent of the airplanes and equipment covered by the exercise of the option; twenty-five (25%) per cent in dollar value of such spare parts on or before the delivery of one hundred (100%) per cent of the airplanes and equipment covered by the exercise of the option, and the balance
of such spare parts within sixty days after delivery of the last airplane covered by the exercise of such option. At the time the option for additional airplanes and equipment given by this Article is exercised, the Government shall advise the Contractor which of said spare parts by major assemblies and principal units the Government wishes to order. The Government shall advise the Contractor which of said spare parts shall be delivered by major assemblies and which of said spare parts shall be delivered as detailed parts at the same time that the Government advises the Contractor in this respect as to the spare parts covered by Item XI of Paragraph (1) of Article VIII hereof.

(2) In the event the Government shall exercise the option above provided for, the respective undertakings, rights and obligations of the parties hereto shall be set forth in a separate and distinct agreement which shall be drawn up and duly executed by the respective parties as promptly as possible after the exercise of said option, and shall contain provisions identical to the provisions herein contained, except for the variations and changes to be made, contained in or implied by this Article XI, and excluding this Article XI. For the purposes of the application of the provisions of Article XIX below regarding surety bonds, the undertakings of the contractor under this Article XI and its obligations resulting from the exercise of the option shall be deemed to be separate and distinct from those of the contractor and surety under said Article XIX in connection with this contract, and shall not be covered by the bond or bonds to be given by them in connection with this contract.

(3) In the event the Government shall not exercise the option set forth in paragraph (1) above, then the Government shall have the right, for a period of thirty (30) days from the expiration of said option to purchase additional airplanes of the type covered by this contract at prices and for delivery to be agreed upon by the parties hereto.

ARTICLE XII.

CONTRACTOR'S LIABILITY FOR BREACH (EXCLUSIVE OF FAILURES IN DELIVERIES).

In the event any airplane finally offered for delivery hereunder should fail to conform to and comply with the guaranties of weight, stability and performance, as provided in Article XIII hereof, or in the event that any such airplane should, in any material respect, fail to conform to and meet with the Specifications hereto annexed, then
and in any such event the Government may terminate this contract by written notice to the Contractor, and the Contractor and his surety shall be liable to the Government for any and all payments made by the Government to the Contractor with respect to airplanes which, at the time of such cancellation have not been delivered and accepted. This Article shall not govern the right of cancellation or termination of this contract by reason of failure or refusal of the Contractor with respect to time or times of delivery as provided in Article IX hereof.

ARTICLE XIII
GUARANTEES AND WARRANTIES.

(1) Guaranty of weight and performance. The Contractor hereby guarantees that each of the airplanes called for under the terms of this contract will equal or exceed the requirements of the Specifications, as to weight empty; the requirements of said Specifications, as to center of gravity; the requirements of said Specifications, as to airplane performance, and the requirements of said Specifications as to longitudinal stability and control characteristics. With respect to said requirements tolerances (plus or minus) shall be allowed, as indicated in the Specifications. It is expressly agreed and understood that in the event the airplanes to be tested as provided in Article III, Paragraph (2) shall fail to meet the aforesaid guaranties, then no obligation shall rest upon the Government to accept and/or make payment for any airplanes hereunder; provided, however, that the Government reserves to itself the right to purchase said airplanes at a proper reduction in price to be negotiated between the parties hereto.

(2) Warranties by Contractor. It is expressly understood and agreed by and between the parties hereto that each of the airplanes called for under the terms of this contract shall meet and comply with all of the requirements of the Specifications. The Contractor warrants that all workmanship and material will be equal to the workmanship and material required and called for by the Specifications of the United States Army Air Corps, and all such airplanes are warranted by the Contractor to be free from defects in material and workmanship under normal use, service, and proper installation; Contractor's obligation under this contract being limited to replacing C. I. F. a port in France to be designated by the Government any part or parts thereof which shall, within six months from date of delivery, or within two hundred (200) hours of flying time—whichever shall first expire—be delivered to the Contractor at its factory at Santa Monica, California,
that this clause shall not prohibit the Contractor from making contracts with third parties for the furnishing of sub-assemblies, such as landing gear, control surfaces, tail surfaces, outer wings and/or parts, or the purchase of finished articles of accessories and equipment, as indicated in the Specifications. The Contractor shall notify the Government representative of such sub-contracts, except sub-contracts for the purchase of raw, finished or semi-finished articles and material normally and generally purchased by the Contractor from third parties. The Contractor will require that sub-contracts shall be performed so that the material covered thereby shall be in accordance with this contract and the Specifications. The Contractor shall exercise supervisory power over the system of inspection used in performing sub-contracts, of which notice is required. In such sub-contracts the Contractor shall wherever possible provide that the Government, through its representative, shall have the same rights of observing inspection and test, and access for that purpose, as are provided for in Article III hereof.

ARTICLE XVII.

REPRODUCTION RIGHTS.

It is understood and agreed that the Contractor does not convey to the Government any reproduction rights in or to the airplanes and/or spare parts called for herein by virtue of the terms of this contract. This clause shall not be construed to prohibit repairs by the Government.

ARTICLE XVIII.

REASSEMBLY AND CHECK FIGHT IN FRANCE.

Contractor agrees, at the request of the Government to send to France, to arrive coincident with the arrival of the first airplane to be delivered hereunder at the expense of the Contractor, a demonstration pilot and five (5) erection engineers, or such additional engineers and specialists as may be necessary, for the purpose of directing and supervising the personnel of the Government in and familiarizing it with the proper assembly, flying characteristics and approved operation standards of the airplanes covered by this contract, such demonstration pilot, erection engineers and specialists to remain in France until the last check flight shall have been made, but in no case shall they be required to remain for a period in excess of three months after delivery of the last airplane at the Contractor’s factory. Upon assembly of each airplane in France the Contractor agrees to conduct a ground
test, and at its risk (but at the expense of the Government for fuel and oil) with respect to the airplane and damage or injury to said pilot, a check flight of each airplane delivered hereunder in order to demonstrate ordinary and proper functioning in flight of each such airplane, such flight to be for not less than fifty-five (55) minutes nor more than one hour with respect to each such airplane, and to include at least thirty (30) minutes flight at normal rated power.

The Contractor shall proceed with the assembly, ground test, and check flights of the airplanes in France with all reasonable speed and diligence, and the Government shall, at appropriate times and in appropriate manner, supply to the Contractor at the place or places where such assembly, ground test and check flights are to be made, the engines and all other equipment and accessories or materials not to be furnished by the Contractor, but to be installed by the Contractor or necessary to the Contractor to assemble the airplanes and conduct the ground tests and check flights thereof, and shall provide appropriate facilities and personnel therefor. In the event the Contractor shall be delayed in assembling the airplanes or in making the ground tests and check flights thereof by reason of the Government's failure to furnish the engines and such other equipment, accessories, materials, facilities and personnel, the Government shall reimburse to the Contractor the reasonable amount of the additional expense which the Contractor shall have incurred by reason of such failure on the part of the Government.

ARTICLE XIX.

SURETY BONDS.

(1) The Contractor shall furnish a general performance bond or bonds, in substantially the form attached hereto and with such surety thereon, as would be acceptable to the United States Government, as shown on the list of approved sureties most recently published by the Treasury Department of the United States. The aggregate amount of such bond or bonds shall be at all times not more than Eight Million Dollars ($8,000,000) and not less than Two Million Five Hundred Thousand Dollars ($2,500,000), and such bond or bonds shall be delivered to the Government as promptly as possible after execution and delivery of this contract; such delivery being a condition precedent to the entrance into effect of this contract; provided, however, that, the amount of partial payments to be paid to the contractor, as provided in Paragraph (2) (a) in Article X above, shall not exceed an
amount equal to the amount of said general performance bond or bonds, less One Million Five Hundred Thousand Dollars ($1,500,000) unless the Contractor shall present or cause to be presented to the Financial Attaché of the French Government in New York simultaneously with invoices or bills with respect to which partial payments are requested, a surety bond or bonds in the amount of the payment or payments requested in excess of the amount of said general performance bond or bonds less One Million Five Hundred Thousand Dollars ($1,500,000). Such surety bond or bonds (hereinafter called Payment Bonds) shall be in a form or forms approved in writing by the Financial Attaché of the French Embassy and shall have as surety thereon one or more such companies or Banks as would be acceptable to the United States Government as sureties as shown on said list of approved sureties and shall guarantee to the Government the repayment of the amount of the partial payments with respect to which they are given in the event and to the extent that the Contractor may become liable and shall fail to make such repayment under the terms of this contract. Said Payment Bonds shall be deposited for the account of the Government in New York and the Financial Attaché of the Government shall cause to be released and returned to the Contractor upon presentation of each invoice for final payment with respect to airplanes, spare parts, or other material called for by this contract, said Payment Bonds in an amount as nearly as possible equivalent to (but not in excess of) the amount of the invoice presented.

(2) None of the bonds furnished by the Contractor as in this article above provided shall obligate the surety or sureties thereon with respect to undertakings of the Contractor provided for in Article XI above, nor shall the surety or sureties on said bonds or any of them be bound to the Government or incur any liability toward it by reason or as a result of the Contractor's failure or default in carrying out the provisions in said Article XI contained, it being understood and agreed that if the option in said Article provided for shall be exercised, in whole or in part, appropriate bond or bonds, consistent with the provisions of Article XIX of the present contract, covering the obligations of the Contractor resulting from the exercise of said option, shall be furnished.
ARTICLE XX.

Non-Assignability, Effect of Receivership, Etc.

(1) This contract shall enure to the benefit of, and be binding upon, the successors and assigns of the parties hereto, but it shall not be assignable wholly or in part by either party without the prior written consent of the other party, excepting in case, unaccompanied by change in essential management of the Contractor's plant, of merger, consolidation or voluntary sale or transfer of substantially all of the Contractor's assets.

(2) In the event that a Receiver is appointed over substantially all the assets of the Contractor by any Court having jurisdiction and shall not be discharged within ninety days thereafter, the Government shall, without derogation from any of its other rights and remedies as in this contract provided, have the right to cancel this contract with respect to any airplane or airplanes or any equipment or spare parts thereof which shall not have been delivered prior to the date of such cancellation.

The French State,

By [signature]

Air Attaché of the French Embassy.

and [signature]

Charge de Mission.

Douglas Aircraft Company, Inc.,

By [signature]

Vice-President.

Attest:

[Signature]

Seal of Douglas
FORM OF
PERFORMANCE BOND.
(See Article XIX)

KNOW ALL MEN BY THESE PRESENTS, That we, DOUGLAS
AIRCRAFT COMPANY, INC., a corporation organized and existing under
the laws of the State of Delaware, as Principal, and

as Sureties, are held and firmly bound unto the FRENCH STATE,
hereinafter called the Government, in the penal sum of

for the payment of which sum well and truly to be made, we bind our-
selves, our heirs, executors, administrators, and assigns, jointly and
severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that
whereas the principal entered into a certain contract, hereto attached,
with the Government, dated as of February 15th, 1939, by which the
Contractor has agreed to manufacture and sell, and the Government
has agreed to purchase one hundred (100) Model DB-7 twin engine air-
planes to be manufactured by the Principal.

NOW THEREFORE, if the Principal shall have well and truly
performed and fulfilled all the undertakings, covenants, terms, condi-
tions and agreements of said contract, and shall also well and truly
perform and fulfill all the undertakings, covenants, terms, conditions
and agreements of any and all duly authorized modifications of said
contract that may hereafter be made, notice of which modifications to
the Sureties being hereby waived, then, this obligation to be void;
otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have exe-
cuted this instrument under their several seals this day of
February, 1939, the name and corporate seal of each corporate party
being hereto affixed and these presents duly signed by its undersigned representatives, pursuant to authority of its governing body.

DOUGLAS AIRCRAFT COMPANY, INC., Principal,

By .........................................................

.........................................................

Surety.

Attest:

.........................................................

Assistant Secretary.

In presence of:

.........................................................

In presence of:

.........................................................

Surety.

.........................................................

Surety.

.........................................................
EXHIBIT "B."

The following drawings are to be furnished by March 5, 1939:

Fixed Machine Gun
Flexible Machine Gun
Bombs (all sizes)
Bomb Sight Installation
Telescopic Sight, OPL-31
Electrical Connection for flying suit heating unit
Color Chart for wing insignia & tail marking
Battery
Camera
Oxygen Equipment
Radio Transmitter Installation
Radio Receiver Installation

EXHIBIT "C."

The following items are to be furnished as follows:

4—Fixed Machine Guns
2—Flexible Machine Guns
1 set Ammunition Boxes for flexible gun
1—Telescopic Sight, OPL-31
4—Solenoid Assemblies
2—Case Ejection Containers
2—Link Ejection Containers
1 set Bomb Slings
3000 rounds Ammunition
1—Radio Receiver (mockup)
1—Radio Transmitter (mockup)
2—Batteries
1—Camera (mockup)
1—Oxygen Equipment (mockup)
4—Engines
4 sets of fixed and flexible gun sights
1 set of parachutes
1 Bomb sight (mockup)
AGREEMENT

between

THE FRENCH STATE

and

NORTH AMERICAN AVIATION, INC.

dated

FEBRUARY 14, 1989
TABLE OF CONTENTS.

**CONTRACT.**

<table>
<thead>
<tr>
<th>Article No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Material Ordered</td>
<td>1</td>
</tr>
<tr>
<td>II</td>
<td>Delivery</td>
<td>3</td>
</tr>
<tr>
<td>III</td>
<td>Payments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) Partial Payments</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(b) Final Payment</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>(c) Method of Payment</td>
<td>5</td>
</tr>
<tr>
<td>IV</td>
<td>Bonds</td>
<td>5</td>
</tr>
<tr>
<td>V</td>
<td>Change Orders</td>
<td>6</td>
</tr>
<tr>
<td>VI</td>
<td>Inspection</td>
<td>7</td>
</tr>
<tr>
<td>VII</td>
<td>Tests</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) In the United States</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>(b) In France</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>(c) Responsibility during Test Flights</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>(d) Engine Tests</td>
<td>8</td>
</tr>
<tr>
<td>VIII</td>
<td>Assembly in France</td>
<td>8</td>
</tr>
<tr>
<td>IX</td>
<td>Guarantee</td>
<td>9</td>
</tr>
<tr>
<td>X</td>
<td>Drawings and Technical Information</td>
<td>10</td>
</tr>
<tr>
<td>XI</td>
<td>Liability for Injury</td>
<td>11</td>
</tr>
<tr>
<td>XII</td>
<td>Fire Insurance</td>
<td>12</td>
</tr>
<tr>
<td>XIII</td>
<td>Force Majeure</td>
<td>12</td>
</tr>
<tr>
<td>XIV</td>
<td>Patents</td>
<td>13</td>
</tr>
<tr>
<td>XV</td>
<td>Duties and Taxes</td>
<td>13</td>
</tr>
<tr>
<td>XVI</td>
<td>Covenant against Contingent Fees</td>
<td>13</td>
</tr>
<tr>
<td>XVII</td>
<td>Receivership</td>
<td>14</td>
</tr>
<tr>
<td>XVIII</td>
<td>Assignability</td>
<td>14</td>
</tr>
<tr>
<td>XIX</td>
<td>Construction of Contract</td>
<td>14</td>
</tr>
<tr>
<td>XX</td>
<td>Notices</td>
<td>14</td>
</tr>
</tbody>
</table>

Schedule A—Report No. NA-130-A
Specifications

Regraded Unclassified
AGREEMENT

Between

THE FRENCH STATE
(hereinafter called the "Government")

represented by René P. G. Weiser, Air Attaché to the French Embassy of the Republic of France in the United States, and R. Hoppenot, Inspector of Finance, Chargé de Mission, representing the Air Minister of the Government, executing this contract,

and

NORTH AMERICAN AVIATION, INC.
(hereinafter called the "Contractor")
as follows:

I.

MATERIAL ORDERED. The Government agrees to purchase from the Contractor and the Contractor agrees to sell to the Government the following material at the prices set forth:

(a) 200 North American Aviation Model BT9B airplanes which shall conform in all respects to and shall include the equipment listed in Report NA-130-A, which is annexed hereto, forms a part of this contract and is marked Schedule "A", which Report is based upon the specification covering the airplanes furnished by the Contractor under the United States Army Contract No. W 535 AC 9345 amended to include the changes required by the Government as follows:

(1) The engine shall be the Wright R973-E3 in accordance with the Wright Aeronautical Corporation Specification No. 135K dated June 23, 1938.
(2) The motion of the engine control handles shall be in accordance with the standard practice of the French Air Ministry.

(3) All markings, instruction plates, instrument dials, etc., shall be in French and in the metric system.

(4) The electrical system shall operate on 24 volt current and all electrical equipment shall be suitable for this current.

The price of each of such airplanes F. O. B. carrier at the factory of the Contractor in Inglewood, California, U. S. A., shall be $24,900.00, totalling for 200 airplanes the sum of $4,980,000.00.

(b) 100 spare engines equipped as outlined in Wright Aeronautical Corporation Specification No. 125K, dated June 23, 1938. The price of each of such engines F. O. B. carrier at Paterson, New Jersey, U. S. A., shall be $4,958.00, totalling for 100 spare engines the sum of 495,800.00.

(c) Spare parts for the airplanes, spare instruments, items of equipment, spare propellers, etc., to the amount of fifteen per cent (15%) of the total value of the 200 airplanes referred to in paragraph (a) above less the value of the engines installed therein, or a total sum of 598,260.00.

(d) Crating for export of the airplanes referred to in (a) above amounting to $685.00 for each airplane, or the total sum of 137,000.00.

(e) Crating for export of the spare parts referred to in (c) above amounting to four per cent (4%) of $598,260.00, or the total sum of 23,930.40.

Total purchase price of all equipment, including export crating $6,234,990.40

The detailed prices of the spare parts hereby contracted for shall be determined in accordance with the practice followed by the United States Army, that is the total of the prices of all the component parts shall equal no more than one hundred per cent (100%) of the sale price.
of the airplane. Within ten (10) days after the execution of this contract the Contractor will furnish to the representatives of the Government in Washington a list containing a breakdown of such spare parts, which list shall specify separately the price of each major assembly or group of associated parts, all of which, if assembled would constitute one airplane of the model hereby contracted for and the sum of the prices set forth therein shall equal approximately the purchase price of one such airplane.

At the same time the Contractor will also furnish to such representative its recommendation as to the quantities of each of the various types of spare parts to be ordered, the total purchase price of which shall be within the limits set forth in paragraph (c) and (d) above. Such recommended quantities shall be based upon the practice of the United States Army in ordering spare parts for such airplane and the Contractor’s experience in providing spare parts for the maintenance of such airplanes.

Within twenty-eight (28) days after receipt of such list and recommendations, the Government will furnish the Contractor with the detailed order for the spare parts hereby contracted for, which order shall constitute an addendum to this contract.

II.

Delivery. The airplanes, spare engines and spare parts shall be completed and ready for shipment as herein set forth, not later than the dates ascertained according to the following schedule:

<table>
<thead>
<tr>
<th>Months after Date of Contract</th>
<th>Airplanes</th>
<th>Miscellaneous Spare Parts</th>
<th>Spare Engines</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>5%</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5%</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>5%</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>5%</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>25</td>
<td>5%</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>30</td>
<td>5%</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>30</td>
<td>5%</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>40</td>
<td>5%</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>40</td>
<td>5%</td>
<td>7</td>
</tr>
<tr>
<td>11</td>
<td>40</td>
<td>10%</td>
<td>7</td>
</tr>
<tr>
<td>12</td>
<td>40</td>
<td>10%</td>
<td>17</td>
</tr>
<tr>
<td>13</td>
<td>40</td>
<td>20%</td>
<td>20</td>
</tr>
<tr>
<td>14</td>
<td>40</td>
<td>20%</td>
<td>20</td>
</tr>
</tbody>
</table>

200 100% 100
The equipment covered by this contract, except engines for completed airplanes and spare engines, shall be delivered to carrier (railroad or truck) for shipment to France F.O.B. the Contractor's factory in Inglewood, California. All engines shall be delivered to carrier (railroad or truck) for shipment to France F.O.B. the engine sub-contractor's factory with the exception of the engine used in conducting the test of one airplane at the factory of the Contractor as hereinafter set forth, which shall be delivered to carrier (railroad or truck) for shipment to France F.O.B. the Contractor's factory.

All of such equipment shall be consigned by the Contractor, or the engine sub-contractor, as the case may be, to the Government directly, or to the Government through a customs broker or forwarding agent for forwarding to the Government, at such point in France, as the Government shall designate.

All of such equipment shall be crated for export upon removal from the factory, as above provided.

Notwithstanding any other provision hereof, if the shipment to France of the equipment or spare parts hereby contracted for should be prohibited by reason of an embargo or other trade restriction of the United States Government, such equipment shall be delivered to the carrier (railroad or truck) consigned to the Government for shipment F.O.B. the contractor's factory at Inglewood, California, or F.O.B. the engine sub-contractor's factory, in the case of engines, to such point outside of the State of California, but within the United States, as the Government may designate.

III.

Payments. The Government agrees to pay to the Contractor the total purchase price of the airplanes, spare engines and spare parts, and the cost of crating for export, aggregating $6,234,990.40, as follows:

(a) Partial Payments. Subject to the provisions of Article IV below, partial payments will be made by the Government to the Contractor each month as the work progresses, which payments shall equal the amount expended, disbursed, charged or incurred by the Contractor, provided, however, that such partial payments shall not exceed in the aggregate 50 per cent of the total purchase price of $6,234,990.40 stated in Article I above. The Contractor shall, on or before the 10th day of each month, furnish the Government with a schedule of anticipated partial payment requirements under this contract for that month. On or before the 10th day of each month, the Contractor shall submit to the representative of the Government at the Contractor's factory
an invoice or bill for the partial payment due on account of the preceding month, and such invoice or bill shall be paid by the Government on or before seven days after presentation of such invoice or bill by the Contractor. No such partial payment shall be made after the date upon which the final payment shall have been made on the first airplane.

(b) Final Payment. Upon delivery of invoices, certificates of inspection, bills of lading and packing lists approved by the representatives of the Government, authorized to approve such documents respectively at the Contractor’s factory, representing, covering and describing any airplanes or material as delivered as herein provided, the Government shall pay to the Contractor the purchase prices of the airplanes or material covered by such invoice, certificate of inspection, bills of lading and packing lists, including crating costs, less an amount bearing the same proportion to such prices as the total of the partial payments theretofore made bears to the total purchase prices for the airplanes and materials, including crating costs, called for by Article I hereof.

(c) Method of Payment. After invoices or bills shall have been approved by the representative of the Government at the Contractor’s factory, whether for partial or final payments, such invoices or bills shall be presented either by the Contractor or by the representative of the Government to the Financial Attaché of the French Embassy, who shall (subject to the provisions of Article IV below) stamp such invoices or bills and either return the same to the Contractor for representation to, or present the same on behalf of the Contractor to, the Federal Reserve Bank of New York through which bank payment shall be made of the net amount of such invoices or bills, for the account of the Contractor to the National City Bank of New York.

IV.

Bonds. Prior to receiving any partial payment under paragraph (a) of Article III hereof the Contractor shall furnish to the Financial Attaché of the French Embassy at his New York office a bond of a surety company or companies on the list issued by the United States Treasury Department of those approved as sureties on bonds of the United States Government, the form of which bond shall be approved by the Financial Attaché of the French Embassy, and which shall guarantee, up to fifty per cent (50%) of the total purchase price of the
materials covered by this contract, the return to the Government of payments made under said paragraph (a), in the event of the failure of the Contractor to deliver the articles hereby contracted for. Such bond shall remain in full force and effect until all of the airplanes, spare engines and spare parts shall have been delivered at the factory of the Contractor in accordance with Article II hereof, except that the amount of such bond shall be automatically reduced by the percentage which the purchase price, including crating costs, of each such delivery shall bear to the total purchase price, including crating costs, of all articles to be furnished hereunder. The parties agree that as each such delivery is made they will cause to be furnished to the surety company a certificate which shall be signed by the president or a vice president of the Contractor, countersigned by the representative of the Government at the factory of the Contractor and stamped by the Financial Attaché of the French Embassy certifying as to the amount by which such bond shall be reduced.

Prior to receiving final payment under paragraph (b) of Article III hereof the Contractor shall furnish to the Financial Attaché of the French Embassy at his New York office a bond of such a surety company in the amount of ten per cent (10%) of the total purchase price of the airplanes, or $498,000.00 guaranteeing performance by the Contractor of the terms and conditions of this contract, which bond shall remain in full force and effect until ninety (90) days after completion of the test flight in France of the last airplane to be delivered hereunder, but in no event longer than 180 days after the delivery of the last airplane at the factory of the Contractor. The parties agree that immediately after such delivery and immediately after such test flight they will cause to be furnished to the surety company a certificate which shall be signed by the president or a vice president of the Contractor and stamped by the Financial Attaché of the French Embassy certifying as to the date of such delivery and the date of completion of such test flight.

V.

CHANGE ORDERS. This contract contains all of the agreements between the parties with respect to the manufacture and sale of the articles covered hereby. In the event that after the date hereof the parties hereto desire to make any changes in this contract the same shall become effective only upon the execution by the president or a vice president of the Contractor and the representative of the Government at the factory of the Contractor of a Change Order which shall become an addendum to this contract and shall specify the nature of such changes
and all terms, conditions and agreements relating thereto and thereafter this contract shall be deemed to be amended in accordance with such Change Order.

VI.

INSPECTION. The Government will have the privilege of maintaining at the factory of the Contractor not more than five (5) representatives at any one time for the purpose of inspecting materials, parts and components used in manufacturing the airplanes and spare parts covered by this contract. Subject to the permission of the United States Government such representatives shall have access to all parts of the Contractor's factory where work under this contract is in progress. If desired by the Government the Contractor will make arrangements with the engine manufacturer and the manufacturers of other equipment to be furnished hereunder for inspection of materials, parts and components used in the manufacture of such engines and equipment. One of such representatives at the factory of the Contractor shall be designated by the Government acting through the French Attaché for Air in Washington as the representative of the Government to execute all certificates provided for in this contract, to be signed by the Government's representative at the factory, and all Change Orders which may be entered into pursuant to Article IV hereof.

The Contractor agrees to furnish to the representatives of the Government at its factory adequate facilities and office space for the purpose of enabling them to perform expeditiously the duties required of them in accordance with the terms of this contract.

The Contractor's system of inspection shall conform to the same standard of inspection employed and used by the Contractor in connection with the manufacture and assembly of similar equipment for supply to the United States. The Contractor's records of all inspection work shall be kept complete by the Contractor and shall be available to the representatives of the Government at all reasonable times.

VII.

TESTS. (a) In the United States. A test flight or flights shall be conducted by the Contractor in California on one of the first ten (10) airplanes completed hereunder to demonstrate compliance with the performance requirements specified in Report NA-130-A. A representative of the Government shall be on board the airplane in all flights carried on to demonstrate such compliance. When such compliance has been demonstrated by such flight or flights, no further test flights
will be required on this or any other airplane in the United States. Results of all tests shall be reduced to United States standard atmosphere in accordance with the standard practice of the United States Army. The Contractor will not be required to conduct such test flights with the wing tip slot installed but at the request of the Government will demonstrate, in the United States, the flying characteristics of the airplane with such wing tip slot installed.

(b) In France. Each airplane upon assembly in France shall be flown for one hour to demonstrate the operation of the power plant and general maneuverability and controllability, during half of which time the airplane may be operated at rated power. A pilot representing the Government shall accompany the Contractor's pilot on such flight and shall operate the airplane for such portion of such flight, not in excess of one-half hour, as the Government may desire. At the conclusion of this test flight the airplane shall be turned back to the Government's representative at the airdrome by the Contractor's pilot.

(c) Responsibility during Test Flights. The Contractor will assume all responsibility for injury or damage to persons or property including damage to the airplane resulting during any of the test flights in the United States or in France and the Contractor agrees to carry adequate insurance to protect itself and the Government, as their respective interests may appear, against liability on account of any such injury or damage. The Contractor assumes no responsibility for the person or property of any representative of the Government while in any of the airplanes hereby contracted for, whether as pilot, passenger or otherwise, either in the United States or in France. The responsibility of the Contractor as outlined in this paragraph (c) shall terminate with respect to each airplane immediately after the test flight in France pursuant to paragraph (b) above.

(d) Engine Tests. The engines shall be given a thorough test by the Wright Aeronautical Corporation at Paterson, New Jersey, equivalent to that required by the United States Army Air Corps. The Contractor will obtain from the engine sub-contractor a certificate showing the result of such tests and will furnish the same to the Government's representative at the Contractor's factory.

VIII.

ASSEMBLY IN FRANCE. The Contractor will provide, without cost to the Government, sufficient personnel, not less than five (5) in number, from its factory to supervise and assist in the assembly of the air-
planes after arrival in France. The Government agrees to provide, without cost to the Contractor, sufficient mechanics and laborers, not less than twenty (20) in number, to work with and aid the personnel of the Contractor in uncrating and assembling such airplanes. The Government will notify the Contractor within thirty (30) days after the date of execution of this contract of the location of the airdrome in France at which the airplanes will be assembled and test flown and will provide at such airdrome adequate hangar and shop facilities for sheltering the airplanes and assembling them on arrival.

IX.

GUARANTEE. The Contractor hereby guarantees that each of the airplanes called for under the terms of this contract will equal or exceed the performance requirements set forth in Report NA-130-A subject to the tolerances provided for herein. The Contractor further guarantees that the airplanes and spare parts to be supplied by it under this contract will be free from defects in workmanship and materials and agrees to replace any defective material at its own cost, provided the material claimed to be defective by the Government is returned to the factory of the Contractor for inspection and the Contractor concurs that such material is defective. The expenses involved in shipping such material to the Contractor's factory and in shipping replacements thereof to France shall be borne by the Government. The Contractor will not be obligated to bear any labor costs in removing from the airplanes material alleged to be defective or installing therein any materials furnished in lieu thereof. This guarantee shall continue with respect to each airplane for a period of ninety (90) days after completion of the test flight of such airplane in France and with respect to spare parts for a period of ninety (90) days after arrival thereof in France.

After expiration of the guarantee period, if any material should be returned to the factory of the Contractor as defective and if the Contractor concurs, the Contractor will replace such material at the then current market price with such reduction therein as the Contractor shall determine to be just and reasonable.

The guarantees and agreements of the Contractor contained herein shall not apply to any airplane which shall have been in an accident, or which shall have been improperly maintained, or in which parts other than those furnished by the Contractor shall have been installed, or if the airplane has been used in operations for which it has not been designed by the Contractor.
The Contractor shall not be responsible for any defects in materials and workmanship in engines or any other equipment not manufactured by it, but the Contractor will obtain from the manufacturer of engines and such other equipment the usual guarantees of the manufacturers thereof and will assign such guarantees of the manufacturers thereof and will assign such guarantees to the Government, if and when obtained; provided that if such guarantees are not assignable the Contractor will undertake to enforce the same, in the event of any breach thereof, for and on behalf of the Government.

X.

DRAWINGS AND TECHNICAL INFORMATION. The following data and information in the English language and based upon English units unless otherwise specified, and following the form in use by the United States Army, shall be furnished, properly boxed for export shipment to the representative of the Government at the plant of the Contractor within the times specified below:

(a) Within one hundred twenty (120) days after the completion of the test flight in France of the first airplane, one complete set of transparent vellum prints of the airplane herein contracted for, which drawings shall be capable of reproduction by blueprinting. Three (3) temporary sets of blueprints will be furnished with the first airplane covering the major assembly.

(b) Within thirty (30) days after the completion of the test flights in the United States, three (3) blueprint sets of the record of the performance tests and results.

(c) Within thirty (30) days after the date of this contract three (3) blueprint sets of the stress analysis of the airplane herein contracted for.

(d) Within sixty (60) days after the date of completion of the test flight in France of the first airplane, twenty (20) sets of erection instructions, in blueprint form, in French. Three (3) preliminary sets in English shall be furnished at the time of delivery of the first airplane.

(e) Within ninety (90) days after the completion of the test flight in France of the first airplane, in bound and printed form, in French three hundred (300) copies of the Pilot’s Operation Manual. One (1) copy in blueprint form shall accompany each airplane delivered before the printed manuals are available.
(f) If and when obtainable and as soon as practicable thereafter, 50 sets of maintenance instructions covering the instruments and equipment not manufactured by the Contractor. The Contractor shall use its best endeavors to obtain such data in the French language.

(g) Weight reports shall be furnished for the first, fifth, tenth, twentieth and each twentieth airplane thereafter. These reports shall be a standard weight report as furnished the United States Army and shall be for the purpose of checking the C. G. location and the weight empty of the airplane. The weight empty shall not exceed the weight empty as guaranteed by the specifications by more than two per cent (2%) and the center of gravity location shall not vary by more than one-half of one per cent (½ of 1%) of the M. A. C. after having been adjusted for the effect of the changes requested by the Government.

All of the foregoing drawings and technical information shall be furnished to the Government at the factory of the Contractor without cost to the Government.

Nothing in this Article X or in any other portion of this contract shall be construed as conferring upon the Government any right or license to manufacture or authorize any other Government, person, firm or corporation to manufacture or use the airplanes or any of the equipment or parts included therein.

XI.

LIABILITY FOR INJURY. The Government shall not be responsible for any injury or damage to the person or property of any employee of the Contractor engaged in the manufacture of the airplanes and materials hereby contracted for, the assembly thereof in France, or the flight thereof either in the United States or in France and the Contractor hereby indemnifies and holds the Government harmless from any such liability whether resulting from the negligence of the Contractor or otherwise.

The Contractor shall not be responsible for any injury or damage to the person or property of any employee or representative of the Government while present in the factory of the Contractor during the construction of the airplanes and materials hereby contracted for, the assembly thereof in France, or the flight thereof either in the United States or in France, and the Government hereby indemnifies and holds the Contractor harmless from any such liability whether resulting from
the negligence of the employees or representatives of the Government, or otherwise.

XII.

Fire Insurance. The Contractor agrees to insure against fire all property in its possession upon which any payment has been made or is about to be made by the Government. Such insurance shall be in the sum at least equal to the amount of such payments reduced by the purchase price of any article delivered hereunder. The Contractor agrees to keep such property so insured, free of cost to the Government, until the same is delivered to the Government at the Contractor's factory. Such insurance policy or policies shall be taken out with a company or companies normally used by the Contractor for this type of insurance on United States Government contracts, and shall provide that loss, if any, shall be payable to the Contractor and to the Government, as their respective interests may appear. All such policies shall be filed with the Contractor but shall be subject to examination at any time by the representatives of the Government and shall be in standard American form for such insurance.

XIII.

Force Majeure. The Contractor shall not be deemed to be in default in its obligation to make deliveries as in this contract provided when, and to the extent that, the Contractor shows that such delivery was prevented or delayed by force majeure (as hereinafter defined) and when prevention or delay could not have been escaped or avoided by the exercise of reasonable care on the part of the Contractor. Such prevention or delay is herein referred to as excusable delay. Force majeure is defined as follows:

(a) War between the United States and any foreign country;
(b) Civil war, riots or insurrections in the United States;
(c) Any law, proclamation, ordinance or regulation of the Government of the United States or of the State of California or of any other state in which performance of this contract is carried on by the Contractor, or any sub-division of either authority or representative thereof. Any such law, proclamation, ordinance or regulation shall be deemed to have been passed, made or promulgated with due authority and power;
(d) Floods, fires, explosions or other catastrophe or serious accident;
(e) Epidemics or quarantine restrictions;
(f) Any labor trouble causing cessation or interruption of work;

(g) Without limitation by enumeration of the foregoing, any other cause duly established emanating either from the Government or its representatives, or from events which cannot be foreseen and independent of the will of the Contractor, and which cause would result either in delaying or in preventing execution by the Contractor of its obligations.

XIV.

**Patents.** The Contractor agrees to protect, indemnify and hold harmless the Government against any liability or loss to the Government resulting from the infringement of any United States Letters Patent by the airplanes and equipment covered by this contract, including accessories and equipment not manufactured by the Contractor. The Contractor does not warrant or guarantee the right of the Government to own, operate, use or possess the airplanes or the engines, accessories or equipment installed therein without infringement or violation of the rights of any third parties in any country or place in the world except in the United States of America.

XV.

**Duties and Taxes.** It is expressly understood and agreed that the prices herein stipulated include all United States, State and local taxes which are applicable to the material called for under the terms of this contract. All duties, taxes, imports, charges or assessments levied or imposed by the Government or any of its agencies or departments with respect to this contract or the importation, receipt or purchase by the Government of the airplanes and equipment or material covered by this contract shall be borne by the Government.

XVI.

**Covenant Against Contingent Fees.** The Contractor warrants that it has not employed any person to solicit or secure this contract upon any agreement for a commission, percentage, brokerage, or contingent fee. Breach of this warranty shall give the Government the right to annul this contract, or, in its discretion, to deduct from the contract price or consideration the amount of such commission, percentage, brokerage, or contingent fee. This warranty shall not apply to commissions payable by the Contractor upon contracts or sales secured or made through bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business.
The Contractor further warrants that no cost of advertising or allowance for any commission, percentage, brokerage or contingent fee payable to any third party has been included in the contract price.

XVII.

RECEIVERSHIP. In the event that the Contractor should at any time before delivery of all of the airplanes and material hereby contracted for be adjudicated bankrupt or a receiver of its assets should be appointed, the Government shall, without derogating from any of its rights under this contract, have the privilege, in its discretion, of terminating this agreement as to any or all of the airplanes and material not actually constructed and ready for delivery at the time of such adjudication or appointment, or of continuing this contract in full force and effect in accordance with the terms hereof.

XVIII.

ASSIGNABILITY. This contract shall inure to and be binding upon the Contractor and its successors and assigns, but the same shall not be assigned by the Contractor unless the approval of the Government in writing shall first be obtained except that this Article XVIII shall not prevent the assignment of this contract to any corporation into which the corporation may be merged or with which it may consolidate or which may acquire by purchase all or substantially all of its assets as a going concern.

XIX.

CONSTRUCTION OF CONTRACT. This contract shall be construed and interpreted in accordance with the Laws of the State of New York.

XX.

NOTICES. Notices to either of the parties to this contract shall be sufficient if addressed as follows:

To the Contractor: North American Aviation, Inc.
Inglewood, California.

To the French State: Air Attaché to the French Embassy
2000 Connecticut Avenue, N. W.
Washington, D. C.
IN WITNESS WHEREOF, the parties hereto have caused this contract to be executed by its duly authorized representatives in the City of Washington, D. C., on this 14th day of February, 1939.

THE FRENCH STATE,

By R. Weiser,

Air Attaché to the French Embassy,

and

R. Hoppenot,

Chargé de Mission.

NORTH AMERICAN AVIATION, INC.,

By J. H. Kindelberger,

President.
SCHEDULE "A".

NORTH AMERICAN AVIATION, INC. Inglewood, Calif.

Manufacturing Division

Report No. NA-130-A

DETAIL SPECIFICATIONS

FOR

MODEL BT-9B TYPE AIRPLANE (MODIFIED)

CLASS—BASIC TRAINING

NAA MODEL NO. 57

I. GENERAL SPECIFICATIONS

1. This specification is based upon report NA-130 covering the airplanes constructed under United States Army on Contract W 535 AC 9345, known as the Model BT-9B airplane.

2. All factory processes and methods now in current use on United States Army contracts for similar airplanes shall be used on airplanes to be constructed in accordance with this specification.

3. All materials, instruments and items of equipment shall be ordered in accordance with the current applicable United States Army specification.

II. TYPE

1. This specification covers the following airplane:

   Designer's Name and Model No.: Basic Training, Model NA-57
   Number of Places: Two
   Number of Engines: One
   Manufacturer and Type of Engine: Wright Aero. Corp. Model R-975-E-3 (Direct Drive)
   Horsepower Rating: 420 at 2200 R. P. M.
   Critical Altitude: 1400 ft.
   Maximum Power for Take-off: 450 HP at 2250 R. P. M.
   Propeller: Hamilton-Standard 2 position Controllable.
III. MATERIAL AND WORKMANSHIP

1. Material and workmanship shall be in accordance with United States Army requirement except as specifically set forth herein.

IV. GENERAL REQUIREMENTS

1. The airplane covered by this specification shall be designed substantially in accordance with requirements listed in Section I—"General Specifications" and as hereinafter set forth.

2. Definitions

A. Design Useful Load

The term "Design Useful Load" as referred to hereinafter is that load which when added to the weight empty of the airplane will give the gross weight on which the design must be based.

B. High Speed

The term "High Speed" as referred to hereinafter is defined as the maximum speed obtainable in level flight at critical altitude of the airplane at normal rated engine power at that altitude.

C. Operating Speed

The term "Operating Speed" is defined as the speed obtainable in level flight at critical altitude at not more than 75 per cent of the normal rated engine power.

V. DETAIL REQUIREMENTS

1. Performance, (Design Useful Load)—Tolerance 3%

<table>
<thead>
<tr>
<th>Item</th>
<th>Guaranteed</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Speed—miles per hour</td>
<td>171</td>
</tr>
<tr>
<td>Operating Speed—miles per hour</td>
<td>147</td>
</tr>
<tr>
<td>Endurance at Operating Speed, Hrs.</td>
<td>5</td>
</tr>
<tr>
<td>Service Ceiling, Feet</td>
<td>19,250</td>
</tr>
<tr>
<td>Time to Climb to 10,000 Ft., Mins.</td>
<td>11.5</td>
</tr>
<tr>
<td>Takeoff over 50-Ft. Obstacle within, Feet</td>
<td>1050</td>
</tr>
<tr>
<td>Land over 50-Ft. Obstacle within, Feet</td>
<td>1050</td>
</tr>
</tbody>
</table>
V. DETAIL REQUIREMENTS—Continued

2. Structure and Design

A. Design Load Factors

(1) Maximum Design Flight Load Factors
   (a) Maximum Design Load Factors: Positive +8.5
       Negative −3.5
   (b) Design Gust Factors: Positive +5.2
       Negative −3.0

(2) Maximum Design Landing Factors: 6
    Design Gross Weight: 4466 lbs.

(3) Limited Design Diving Speed:
    275 M. P. H. = 160% High Speed

B. Physical Characteristics

(1) Weights

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Group</td>
<td>663</td>
</tr>
<tr>
<td>*Wings</td>
<td>604</td>
</tr>
<tr>
<td>Ailerons</td>
<td>36</td>
</tr>
<tr>
<td>Flaps</td>
<td>23</td>
</tr>
<tr>
<td>Tail Group</td>
<td>99</td>
</tr>
<tr>
<td>Stabilizer</td>
<td>37</td>
</tr>
<tr>
<td>Elevator</td>
<td>36</td>
</tr>
<tr>
<td>Fin</td>
<td>12</td>
</tr>
<tr>
<td>Rudder</td>
<td>14</td>
</tr>
<tr>
<td>Body Group</td>
<td>749</td>
</tr>
<tr>
<td>Fuselage, less Engine Section</td>
<td>419</td>
</tr>
<tr>
<td>Alighting Gear—Land Type</td>
<td>330</td>
</tr>
<tr>
<td>Main Landing Gear</td>
<td>299</td>
</tr>
<tr>
<td>Auxiliary Landing Gear</td>
<td>31</td>
</tr>
<tr>
<td>Engine Section Group</td>
<td>121</td>
</tr>
<tr>
<td>Power Plant</td>
<td>1090</td>
</tr>
<tr>
<td>Engine (as installed)</td>
<td>693</td>
</tr>
<tr>
<td>Engine Accessories</td>
<td>53</td>
</tr>
<tr>
<td>Engine Controls</td>
<td>15</td>
</tr>
<tr>
<td>Propeller &amp; Hub</td>
<td>163</td>
</tr>
<tr>
<td>Starting System</td>
<td>42</td>
</tr>
<tr>
<td>Lubricating System</td>
<td>17</td>
</tr>
<tr>
<td>Tanks</td>
<td>11</td>
</tr>
<tr>
<td>Piping, Etc.</td>
<td>6</td>
</tr>
</tbody>
</table>

*When slots are installed add +12.00 lbs.
V. DETAIL REQUIREMENTS—Continued
2. Structure and Design—Continued
B. Physical Characteristics—Continued
(1) Weights—Continued

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel System</td>
<td>107 lb</td>
</tr>
<tr>
<td>Tanks</td>
<td>70 lb</td>
</tr>
<tr>
<td>Piping, Etc.</td>
<td>37 lb</td>
</tr>
<tr>
<td>Fixed Equipment</td>
<td>616 lb</td>
</tr>
<tr>
<td>Instruments</td>
<td>72 lb</td>
</tr>
<tr>
<td>Surface Controls</td>
<td>93 lb</td>
</tr>
<tr>
<td>Furnishings</td>
<td>111 lb</td>
</tr>
<tr>
<td>Electric Equipment</td>
<td>340 lb</td>
</tr>
<tr>
<td><strong>TOTAL WEIGHT EMPTY</strong></td>
<td><strong>3338 lbs.</strong></td>
</tr>
<tr>
<td>Crew (2)</td>
<td>400 lb</td>
</tr>
<tr>
<td>Fuel (Max. 104 gal.) at 6.0#/gal.</td>
<td>624 lb</td>
</tr>
<tr>
<td>Oil (9.5 gal.) at 7.5#/gal.</td>
<td>71.5 lb</td>
</tr>
<tr>
<td>2 Aircraft Flares</td>
<td>32.5 lb</td>
</tr>
<tr>
<td><strong>TOTAL DESIGN USEFUL LOAD</strong></td>
<td><strong>1128 lbs.</strong></td>
</tr>
<tr>
<td><strong>TOTAL GROSS WEIGHT</strong></td>
<td><strong>4466 lbs.</strong></td>
</tr>
</tbody>
</table>

*Unit Weights*

- Wing group (Area 248.26) 2.67 lbs./sq. ft.
- Tail Group (Area 60.19) 1.64 lbs./sq. ft.
- Weight of oil system per gallon oil capacity of tank (9.5 gal. capacity) 1.79 lbs.
- Weight of fuel system per gallon capacity of tanks (104 gal. capacity) 1.03 lbs.

(2) Wing Group
(a) *Airfoil Section Designation:*
    Root: NACA-2215  Tip: NACA-2209

(b) *Dimensions:*

- Wing Area: 248.26 sq. ft.
- Span: 42 feet
- Root Chord: 90 in.
- Tip Chord: 48 in.
- Taper Ratio: 1.875
V. DETAIL REQUIREMENTS—Continued
2. Structure and Design—Continued
   B. Physical Characteristics—Continued
      (2) Wing Group—Continued
         (b) Dimensions—Continued
         Incidence: 2°–0°
         Dihedral (L. E.): 5°–53°
         Sweepback (L. E.): 12°–51°
         Max. Rib Spacing: Center Section 10 in.
                     Outer Panels 15 in.

         Shear Webs or Spar Locations:
         Center Section:
            Front: 15.56% of Chord
            Rear: 56.4% of Chord
         Outboard:
            30% of Chord
         Aspect Ratio: 7.105
         Mean Aerodynamic Chord, Length: 75.19 in.
         Location relative to L. B. at center section:
            Horizontal: 14.81” (aft)
         C. G. Location: (Normal Gross Weight)
            Aft L. E. Wing: 31.33” = 21.97% M. A. C.
            Below Centerline Thrust: —7.31”

         (c) Wing Construction
         a. The wing group shall consist of one (1) center section lower wing of two (2) outer panels with detachable wing tips, two (2) ailerons and trailing edge flaps between the ailerons. The wing shall be full cantilever.
         c. The wing shall be easily removed and assembled.
         d. The wing spars shall be of aluminum alloy construction.
         e. The wing ribs shall be of aluminum alloy.
         f. The wing panels shall be metal covered.
V. DETAIL REQUIREMENTS—Continued

2. Structure and Design—Continued

B. Physical Characteristics—Continued

(2) Wing Group—Continued

(c) Wing Construction—Continued

1. An approved walkway shall be provided on the center section wing on each side of and adjacent to the fuselage.

2. Jacking points shall be provided on the center section wing.

3. The wing panels shall be provided with internal supports and proper electric wiring for the installation of standard running lights, landing lights and passing light.

3) Control Surfaces

(a) Ailerons

Area: 20.70 sq. ft. including 4.62 sq. ft. balance and .16 sq. ft. Tab.

Angular Movement: Up: 30° Down: 15°

Differential Motion: 2:1

Distance from plane of symmetry to centroid 186.515"

Type of Balance: Aerodynamic slotted Frise type (22.3% Balance) dynamically balanced and partial static balance.

(b) Horizontal Tail Surfaces:

Area: 46.44 sq. ft.

Span: 13’—0"

Maximum Chord: 61.906"

Distance from Normal Gross Weight C. G. to 1/3 Maximum Chord Point: 182.06"

Stabilizer:

Area: 24.90 sq. ft. (Incl. Fuselage Area)

Normal Setting: ±1 degree with reference to longitudinal axis
V. DETAIL REQUIREMENTS—Continued
2. Structure and Design—Continued
B. Physical Characteristics—Continued
(3) Control Surfaces—Continued
(b) Horizontal Tail Surfaces—Continued

**Elevator:**
Area: 21.74 sq. ft. (Incl. Balance 3.40 sq. ft. and 1.02 sq. ft. Tab)
Angular Movement: Up: 30° Down: 20°
Type of Balance: Leading Edge Type (15.6% Balance) dynamically balanced and partial static balance.
Tabs: Adjustable from cockpit.
Control Coefficient: 50.05*

(c) Vertical Tail Surfaces
**Vertical Stabilizer:**
Area: 5.32 sq. ft.
Normal Setting: 0 Degrees

**Rudder:**
Area: 14.94 sq. ft. (Incl. Balance 2.36 sq. ft.)
Angular Movement: Right: 35° Left: 35°
Type of Balance: Leading Edge Type (15.8% Balance) dynamically balanced and partial static balance.
Tab: Adjustable on ground only (Area .08 sq. ft.)
Control Coefficient: 22.72**

(d) Construction of Control Surfaces

(1) Ailerons
Balance Type ailerons differentially controlled shall be provided.
Aileron frames shall be constructed of aluminum alloy and shall be fabric covered. A tab adjustable on ground only shall be provided on each aileron.

*Note: C. G. to centerline of elevator hinge = 200.295”
**Note: C. G. to centerline of rudder hinge = 209.295”
V. DETAIL REQUIREMENTS—Continued

2. Structure and Design—Continued

B. Physical Characteristics—Continued

(3) Control Surfaces—Continued

(d) Construction of Control Surfaces—Continued

(2) Tail Group

A. The tail surfaces frames shall be of aluminum alloy construction. Horizontal and vertical stabilizers shall be metal covered. Elevator and rudder shall be fabric covered. Quick opening inspection doors shall be provided at the tail group.

B. Horizontal Stabilizer

The horizontal stabilizer shall be full cantilever and non-adjustable.

C. Elevator

A balanced type elevator shall be used. The elevator shall be equipped with irreversible tabs for longitudinally trimming the airplane in flight.

D. Vertical Stabilizer

The vertical stabilizer shall be full cantilever and non-adjustable.

E. Rudder

A balanced type rudder shall be used. A metal tab shall be provided on the trailing edge of the rudder for directionally trimming the airplane. Tab shall be adjustable on the ground only.

(4) Control System

(a) Elevator and Ailerons

The elevator and aileron controls shall be of the stick type and shall be permanently installed in each cockpit. The surfaces shall be actuated by cables.

(b) Rudder

Rudder controls of the adjustable pedal type shall be provided in each cockpit.
V. DETAIL REQUIREMENTS—Continued

2. Structure and Design—Continued

B. Physical Characteristics—Continued

(5) Lift and Drag Increasing Devices

(a) Flaps—Trailing Edge

Flaps shall be provided inboard of the ailerons, on outer wing panel and on center section. Construction shall be of aluminum alloy.

(b) Leading Edge Slots

See Section 2, B. (2) (c) b.

(6) Body Group

(a) Fuselage

Maximum Cross Section:

Height: 74.875" (at center section wing trailing edge, including enclosure)

Width: 45.25" (at firewall)

(1) Structure

The fuselage structure shall be of chromemolybdenum steel tube construction with welded steel fittings, except the bottom portion aft of the wing which shall be semi-monocoque construction of aluminum alloy. The fuselage sides shall be fabric covered and shall be quickly detachable.

(2) Leveling Brackets

Horizontal and longitudinal leveling brackets shall be provided.

(3) Cockpit Cowling

The fuselage top cowling near the cockpits shall be aluminum alloy with a minimum gauge of .032".

(4) Jack Basts

Jacking point shall be provided at the rear of the fuselage.
V. DETAIL REQUIREMENTS—Continued
2. Structure and Design—Continued
B. Physical Characteristics—Continued
(6) Body Group—Continued
(b) Engine Mount and Cowlng
(1) Engine Mount
The engine mount shall be of chromemolybdenum steel tubing and so designed as to be a complete unit readily detachable at the firewall.

(2) Engine Cowl
Complete ring type cowl shall be provided. The cowlng for the engine section shall be assembled to provide maximum accessibility to the engine and engine accessories. Flush type fasteners shall be used for securing engine section cowlng.

(3) Firewall Material
The firewall shall be a single thickness of alumi­num alloy sheet .040" thick.

(7) Alighting Gear
(a) Landing Gear
The landing gear shall be full cantilever, single leg fork supported on the front beam of the center sec­tion. The shock absorber shall be air and oil with a total stroke of seven and one-half inches (7\(\frac{1}{2}\)\text{"}). The shock absorber shall be smooth bore with torque arm to resist torque. The oleo leg and fork shall be equipped with simple and easily detachable fairing. Wheels shall be provided to accommodate 27-inch diameter streamlined tires. Air Corps Spec. 26531.

(b) Brakes
The brakes shall be hydraulic, actuated selectively from either front or rear cockpits. The parking brake shall be locked in front cockpit only but shall be releasable from either cockpit by pressing brake pedals. The brakes shall be equipped with a leakage and temperature compensator unit which shall be an integral part of the master cylinder.
V. DETAIL REQUIREMENTS—Continued

2. Structure and Design—Continued

B. Physical Characteristics—Continued

(7) Alighting Gear—Continued

(c) Towing Rings

Towing rings shall be provided on each landing gear strut.

(d) Ski Installation

Provisions shall be made for a standard ski installation.

(e) Tail Wheel

A steerable tail wheel designed to swivel 360° with any degree of shock absorber inflation shall be provided. The shock absorber shall be air and oil with a total stroke of 8". A tail wheel knuckle of the Air Corps type shall be provided to accommodate a 10.5" diameter streamlined tire. The tail wheel shall be provided with cowl to prevent mud being thrown in fuselage by tail wheel.

(f) Oleo Units

Oleo units in accordance with Spec. #40228 shall be provided.

(g) Load Factors

The main portion of the landing gear shall be designed to an ultimate load factor of 6 with a 27 inch free drop for the design of the shock absorber. The height of free drop for the design of the tail portion of the landing gear shall be 36 inches. With the above mentioned heights of drop, the accelerations shall not exceed 5.4 g.

C. Crew

Provisions shall be made in the airplane for a crew of two, one instructor and one student pilot.

D. Arrangement of Cockpits

(1) Two tandem cockpits under one enclosure with individually operated side panels for ingress and egress of the crew shall be provided. It shall be possible for either member of the crew to enter or leave the airplane without interfering with the other. Complete dual flight and engine controls shall be provided in each cockpit.
V. DETAIL REQUIREMENTS—Continued

2. Structure and Design—Continued

D. Arrangement of Cockpits—Continued

(2) It shall be possible to open or close the enclosure freely on the ground or in flight at any airplane design speed. It shall be possible to lock the enclosure in the open, closed and at least three intermediate positions.

(3) Provisions shall be made for the instant opening of the enclosure in the event of an emergency exit of the crew.

(4) The design of the opening portion of the enclosure shall be such as to preclude its malfunctioning due to ice formation.

(5) It shall be convertible readily into an open cockpit type in the air or on the ground.

(6) The opening portion shall be made sufficiently rigid to prevent binding if an eccentric load is applied to it either in opening or closing.

E. Vision

The arrangement of the front cockpit shall be such that it is possible for the pilot to obtain a forward clearance of vision of at least six degrees from the horizontal downward. The pilot shall also be placed in such a position in this airplane that unobstructed vision is afforded forward and downward on either side of the fuselage with a minimum head movement. For purposes of formation flying, the pilot shall be able to see trailing airplanes and shall be seen by pilots of trailing airplanes of this type.

F. Maintenance and Repair.

Special attention shall be given in the design of the airplane to the ease with which the component parts of the structure may be inspected, maintained and repaired. Quick opening doors shall be provided at the tail group and all other important points for ease of inspection. The fuselage fabric sides shall be mounted on detachable panels.

G. Size of Materials, Utility Parts, Etc.

Special attention shall be given in the design of the airplane to materials and the avoiding of multiplicity of sizes and gauges of tubes, sheet stock, bolts, rivets, etc. Complexity of materials shall be considered in view of keeping the types of materials utilized to a minimum that is consistent with the demands of progress for the utilization of new materials.
V. DETAIL REQUIREMENTS—Continued

2. Structure and Design—Continued

H. Simplification of design and construction shall be special attention. The landing gear shall be interchangeable right and left. The horizontal tail surfaces shall be interchangeable right and left.

I. Removal of Fuselage and Wings

The fuselage and wings shall be designed to facilitate the removal and replacement of damaged sections in the event of an accident. The members that are the most liable to damage shall be designed in such a manner as to avoid long laborious processes in their repair. Removal wing tips shall be provided.

J. Protection in Turn-Over

In order to protect the crew, in turning over in landing or takeoff, that part of the airplane making contact with the ground shall be designed to resist a load, without crushing, equal to six times the gross weight of the airplane, 55 per cent of the load acting in a fore and aft direction, and 30 per cent of this load acting in a side direction. These loads shall be applied singly or in any combination depending on which ever is the most critical. The points of application shall be selected depending on the outline of the top of the airplane. In general only two points shall be considered as taking the above loads.

K. Ground Operation

Special attention shall be given to the design of the airplane with respect to its handling characteristics on soft ground.

3. Propeller Installation

The propeller control shall be installed in each cockpit.

<table>
<thead>
<tr>
<th>Manufacturer’s Name</th>
<th>Hamilton Standard, Model 2D30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blade Manufacturer’s Name</td>
<td>Hamilton Standard, Design #6101A-12</td>
</tr>
</tbody>
</table>

Type: Two-position Controllable

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Number of Blades</th>
</tr>
</thead>
<tbody>
<tr>
<td>90&quot;</td>
<td>Two</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting of Blades at 42&quot; Station</th>
<th>Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>13 degrees (approx.)</td>
</tr>
<tr>
<td>High</td>
<td>18 degrees (approx.)</td>
</tr>
</tbody>
</table>
V. DETAIL REQUIREMENTS—Continued

3. Propeller Installation—Continued

Minimum Clearance:

(1) In plane of propeller disk
   (A) To ground, level landing: 15"

4. Power Plant Installation

A. Engine
   The airplane shall be equipped with a Wright R-975-E3 engine, normal rated horsepower, 420 at 2200 R. P. M. at 1400 ft. using 80 Octane fuel.

B. Tanks
   Fuel tanks shall be of welded aluminum construction and shall have a capacity of 104 gallons, including reserve.

C. Fuel Pump
   The engine-driven fuel pump shall be mounted directly on the engine.

D. Fuel Lines
   The fuel lines shall be \( \frac{3}{16} \times 0.042 \) 5280 aluminum alloy. The vent lines shall be \( \frac{3}{16} \times 0.035 \) aluminum alloy. Male pipe threads of all fittings shall be brass. Triple seal fittings shall be used.

E. Fuel Tank Cover
   The design of the fuel tank cover shall be in accordance with N. A. A. Dwg. No. 19-13005.

F. Fuel Gauge
   Two fuel gauges of North American Aviation design, one for each tank, shall be installed and shall be visible from either cockpit. Metric graduations shall be used.

G. Fuel Shut-off Cock
   The fuel shut-off cock shall be operable from either cockpit.

H. Oil Tank
   Oil tank shall be welded aluminum construction and shall have a capacity of 9.5 gallons, plus ample foaming space.

I. The oil tank shall be provided with an accelerated warming up compartment.
V. DETAIL REQUIREMENTS—Continued

4. Power Plant Installation—Continued

J. Oil Drain
An oil drain "Y" fitting shall be used.

K. Oil System Arrangement
The oil system shall be so arranged as to form an integral part of the engine section unit in order that it will be removed when disconnecting the engine mount from the firewall.

L. Oil Lines
The oil lines shall be 52SO aluminum alloy. The feed and return lines shall be 1" O. D. x .049". The vent lines shall be ½" x .042".

M. Engine Controls
The throttle and mixture controls shall consist of push and pull rods and bellcranks. Ball bearing rods ends shall be used throughout the throttle linkage wherever possible. The throttle shall be "open" with the handle at the rear position; the mixture shall be rich with the throttle in the position.

N. Exhaust System
Exhaust system shall be furnished with engine.

O. Engine Air-Intake System
Carburetor air shall be taken in at top of engine cowl.

P. Starter Extension
An 18" standard fixed starter extension shaft shall be installed by the Contractor.

5. Instrument Installation
A. Instrument Board Mounting
Vibration-proof mounting of instrument boards shall be provided.

B. Lighting
The instrument board shall be indirectly illuminated. The intensity of the lighting shall be controlled by suitable rheostats.
V. DETAIL REQUIREMENTS—Continued
5. Instrument Installation—Continued

C. Arrangement

The arrangement of the instruments shall be in accordance with N. A. A. Drawing 23-51001.

D. Connections

The gyro instruments installed in both cockpits shall be driven by one vacuum pump. An alternate source of vacuum supply shall be provided by means of two venturi tubes so connected through switch-over valves that they may be used to drive the gyro instruments in either cockpit in the event of pump failure.

E. Altimeters

The Type C-7 altimeter shall be installed.

F. Fuel Pressure Gauge Line

The fuel pressure gauge line shall be connected to the carburetor with a flexible connection. A restricted fitting shall be used.

G. Instrument Piping & Connections

Triple seal fittings shall be used.

H. Fuel Pressure Warning System

A Type C-1 fuel pressure signal assembly and a Type A-1 fuel switchover signal shall be furnished and installed by the Contractor.

6. Electrical Installation

The 24 volt electrical installation shall be of the single-wire grounded system.

A. Ignition Switch

The ignition switch shall be mounted in the front cockpit. A mechanical interconnection shall be made to an indicator plate and lever in both cockpits.
V. DETAIL REQUIREMENTS—Continued
6. Electrical Installation—Continued

B. Fuses

Fuse protection shall be provided for all cables except cables of size 2 or larger, and the magneto ignition circuit. Cables of sizes 3 and including 12 shall be fused for 50 per cent overload. Cables from 12 and including 22 shall be fused for 100 per cent overload. Fuse panel or panels shall be readily accessible for replacement of fuses. 100 per cent replacement shall be provided and spare fuses shall be carried with the fuse panels or in adjacent separate containers.

C. Battery

The battery is to be furnished by the customer.

D. Radio Provision

Bonding and shielding and a suitable radio antenna and mast shall be furnished.

E. Wiring

Wiring shall be installed in metal conduit.

F. Generator Circuit

One capacitor shall be mounted in the generator terminal cover; and shall be connected to the positive terminal post. One capacitor shall be mounted with the generator control panel, Type A-1, and connected to the terminal post marked “Bat.”

G. Running Lamp (Passing)

The Type B-1A running (passing) lamp assembly shall be installed in the left wing.

H. Starter

The starter shall be controlled electrically by the operation of a foot pedal located between the rudder pedals of the front cockpit.
V. DETAIL REQUIREMENTS—Continued
7. Miscellaneous Equipment Installation

A. Flare Racks
Type A-3 flare racks shall be installed so that the M-8 flares may be loaded from the top. Removable doors shall be provided in the cowling above the rack installation so that the M-8 flares may be lowered by hand into the rack chutes and the hangwire swivel loops adjusted in the arming mechanism. Pulleys provided with anti-friction bearings shall be used in the installation of control cables required to release the aircraft parachute flares Type M-8, at all points where the change in direction of cables is greater than 45 degrees. The pull to release each flare shall not exceed 35 pounds when measured at the release handle.

B. Pilot’s Relief Tubes
A pilot’s relief tube shall be installed in each cockpit in such a manner as to not interfere with the movement of the seat.

C. Fire Extinguisher
One Type A-2, hand fire extinguisher shall be installed in the rear cockpit within easy reach of the pilot and the ground crew.

D. De-icing Equipment
There are no de-icing installation requirements applicable to this specification.

E. Rear Vision Mirror
A rear vision mirror shall be installed in front cockpit to provide means for the instructor to observe the student.

F. Ventilating System
Provision shall be made to supply the crew with an adequate amount of fresh air under normal conditions. The flow of air shall be controlled by a valve operated by the pilot’s foot. (Ref: N. A. A. Dwg. No. 23-53001)

G. Baggage Compartment
Space shall be provided back of the rear cockpit for carrying the engine cover and tool kit. The compartment shall be readily accessible and shall have a capacity of thirteen cubic feet. The minimum dimension in any direction shall be 1’ 11¾”.

H. Safety Belts
Provisions shall be made to accommodate two (2) safety belts, Type B-10.
V. DETAIL REQUIREMENTS—Continued

8. Finishes and Processes
   A. The finishes and processes in use in the Contractor’s plant on current Army contracts shall be used.
   B. The color scheme, insignia, and markings shall be specified by the customer.

9. Equipment and Furnishings
   A. The airplane shall be designed and constructed to accommodate the items listed.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PROPELLER (Weight Empty)</td>
</tr>
<tr>
<td>1</td>
<td>Propeller (Hamilton Standard, Two-position Controllable)</td>
</tr>
<tr>
<td>1</td>
<td>Hub (2D30)</td>
</tr>
<tr>
<td>2</td>
<td>Blades (6101A-12)</td>
</tr>
<tr>
<td></td>
<td>POWER PLANT (Weight Empty)</td>
</tr>
<tr>
<td>1</td>
<td>Engine—Weight R-975-E3, Spec. 125K with the following accessories furnished as standard equipment:</td>
</tr>
<tr>
<td></td>
<td>2 Scintilla Magnetos</td>
</tr>
<tr>
<td></td>
<td>1 Stromberg Carburetor</td>
</tr>
<tr>
<td></td>
<td>1 Carburetor Air Mixing Chamber with Side Cold Air Inlet</td>
</tr>
<tr>
<td></td>
<td>1 Front Carburetor Air Heater &amp; Connecting Tube</td>
</tr>
<tr>
<td></td>
<td>1 Set Spark Plugs</td>
</tr>
<tr>
<td></td>
<td>1 Cuno Oil Strainer mounted on Engine</td>
</tr>
<tr>
<td></td>
<td>1 Exhaust Collector</td>
</tr>
<tr>
<td></td>
<td>1 Set pressure Baffles</td>
</tr>
<tr>
<td></td>
<td>1 Set Propeller Hub Attaching Parts</td>
</tr>
<tr>
<td></td>
<td>1 Oil Pump</td>
</tr>
<tr>
<td></td>
<td>1 Generator Drive</td>
</tr>
<tr>
<td></td>
<td>1 Starter Drive</td>
</tr>
<tr>
<td></td>
<td>1 Vacuum Pump Drive</td>
</tr>
<tr>
<td></td>
<td>1 Fuel Pump Drive</td>
</tr>
<tr>
<td></td>
<td>1 Double Tachometer Drive</td>
</tr>
<tr>
<td></td>
<td>1 Control for Hydraulic Controllable Propeller</td>
</tr>
<tr>
<td></td>
<td>Flat Rocker Box Covers</td>
</tr>
<tr>
<td></td>
<td>Engine Hoisting Sling</td>
</tr>
<tr>
<td></td>
<td>Tool Kit</td>
</tr>
<tr>
<td></td>
<td>Engine, plane &amp; pilot’s log book</td>
</tr>
<tr>
<td></td>
<td>Instruction Book</td>
</tr>
<tr>
<td></td>
<td>Export Shipping Box</td>
</tr>
<tr>
<td></td>
<td>1 Radio shielding</td>
</tr>
<tr>
<td></td>
<td>Not in Weight Empty</td>
</tr>
<tr>
<td></td>
<td>Engine Hoisting Sling</td>
</tr>
<tr>
<td></td>
<td>Tool Kit</td>
</tr>
<tr>
<td></td>
<td>Engine, plane &amp; pilot’s log book</td>
</tr>
<tr>
<td></td>
<td>Instruction Book</td>
</tr>
<tr>
<td></td>
<td>Export Shipping Box</td>
</tr>
<tr>
<td></td>
<td>1 Radio shielding</td>
</tr>
<tr>
<td></td>
<td>Not in Weight Empty</td>
</tr>
</tbody>
</table>
### V. DETAIL REQUIREMENTS—Continued
#### 9. Equipment and Furnishings—Continued

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>POWER PLANT (Weight Empty)—Continued</strong></td>
</tr>
<tr>
<td><strong>Engine—Continued</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Pump, Vacuum, Type B-3, with oil separator &amp; suction relief valve</td>
</tr>
<tr>
<td>1</td>
<td>Control, Shutter (Marked for Carburetor Heat)</td>
</tr>
<tr>
<td>1</td>
<td>Cock, Drain, Oil</td>
</tr>
<tr>
<td>3</td>
<td>Cap and Adapter, Tank Filler</td>
</tr>
<tr>
<td>1</td>
<td>Primer, Pump, Single-engine</td>
</tr>
<tr>
<td>1</td>
<td>Cock, Fuel, Type G-2A</td>
</tr>
<tr>
<td>3</td>
<td>Screen Tank Outlet, ¾ inch tube</td>
</tr>
<tr>
<td>2</td>
<td>Driver, Fuel Cock Control Yoke</td>
</tr>
<tr>
<td>2</td>
<td>Joint, Fuel Cock Control, Universal</td>
</tr>
<tr>
<td>2</td>
<td>Dial, Fuel Cock Assembly, N. A. A.</td>
</tr>
<tr>
<td>1</td>
<td>Pump, Fuel, Type F-4A</td>
</tr>
<tr>
<td>2</td>
<td>Control Unit, Engine, Type B-21</td>
</tr>
<tr>
<td>1</td>
<td>Oil Cooler, Type B-3</td>
</tr>
<tr>
<td>1</td>
<td>Valve—Thermostatic Oil, By-pass Relief Type D-1</td>
</tr>
<tr>
<td>1</td>
<td>Coupling Assembly, Fuel Pump Drive, Type A</td>
</tr>
<tr>
<td>1</td>
<td>Wobble Pump, Type D-2</td>
</tr>
<tr>
<td>1</td>
<td>Balanced Relief Valve, Type A-2</td>
</tr>
<tr>
<td>1</td>
<td>Strainer, Fuel Line, Type C-2-A</td>
</tr>
<tr>
<td>2</td>
<td><strong>INSTRUMENTS (Weight Empty)</strong></td>
</tr>
<tr>
<td>2</td>
<td>Airspeed Indicator, Type C-4—Pioneer</td>
</tr>
<tr>
<td>1</td>
<td>Airspeed Head (Elect. Heated) Type C-1 Pioneer</td>
</tr>
<tr>
<td>1</td>
<td>Altimeter, Pioneer—Sensitive—Front</td>
</tr>
<tr>
<td>1</td>
<td>Altimeter, Pioneer—Standard—Rear</td>
</tr>
<tr>
<td>2</td>
<td>Clock, Type A-6—Pioneer</td>
</tr>
<tr>
<td>1</td>
<td>Carb. Mixture Thermometer, Type F-1—Pioneer</td>
</tr>
<tr>
<td>2</td>
<td>Indicators, Bank &amp; Trun, Type A-3—Pioneer</td>
</tr>
<tr>
<td>2</td>
<td>Indicators, Rate of Climb, Type A-5—Pioneer</td>
</tr>
<tr>
<td>2</td>
<td>Compass, Type B-15 (1 each cockpit)—Pioneer</td>
</tr>
<tr>
<td>1</td>
<td>Thermocouple Thermometer, Type B-6 (Front Cockpit)</td>
</tr>
<tr>
<td>1</td>
<td>Thermocouple Lead, Type B-6 (10' long)</td>
</tr>
<tr>
<td>1</td>
<td>Thermocouple Plug Attach., Type B-6</td>
</tr>
<tr>
<td>2</td>
<td>Tachometer, Type C-2</td>
</tr>
<tr>
<td>2</td>
<td>Tachometer Shaft, Type A-2 (one 5', One 8')</td>
</tr>
<tr>
<td>2</td>
<td>Engine Gauge Unit, Type B-1 (one 5', One 8')</td>
</tr>
<tr>
<td>2</td>
<td>Fuel Level Gauge</td>
</tr>
<tr>
<td>2</td>
<td>Flight Indicator, Type C-4</td>
</tr>
<tr>
<td>Quantity</td>
<td>Item</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Turn Indicator, Type A-2A</td>
</tr>
<tr>
<td>2</td>
<td>Gage, Suction, Type F-1</td>
</tr>
<tr>
<td>2</td>
<td>Tube, Venturi, Type B-4</td>
</tr>
<tr>
<td>1</td>
<td>Thermometer (Air), Type C-5, 15 Ft.</td>
</tr>
<tr>
<td>1</td>
<td>Signal Assembly—Fuel Pressure, Type C-1</td>
</tr>
</tbody>
</table>

**ELECTRICAL (Weight Empty)**

| 1        | Switch Assembly, Starter                                           |
| 1        | Starter—hand—electric inertia (Eclipse)                            |
| 1        | Battery, 24 volt, to be furnished by the customer                   |
| 1        | Generator, 24 volt—600 W.                                          |
| 1        | Control Panel, Generator                                           |
| 1        | Control, Foot, Switch, starter                                     |
| 1        | Voltmeter, Type A-5                                                |
| 1        | Switch (Main Line)                                                 |
| 1        | Switch, Ignition, Type A-8                                          |
| 2        | Rheostat, Type C-1                                                 |
| 2        | Rheostat, Type D-1                                                 |
| 2        | Lamp Assembly, Type A-7 (Clear) Tail                               |
| 1        | Lamp Assembly, Type A-7 (Red) Upper                                 |
| 1        | Lamp Assembly, Type A-7 (Green) Upper                               |
| 1        | Lamp Assembly, Type A-7 (Red) Lower                                 |
| 1        | Lamp Assembly, Type A-7 (Green) Lower                               |
| 1        | Switch, Utility, Type B-7A (Running Lamp)                          |
| 2        | Lamp Assembly, Landing, Type A-8                                    |
| 2        | Switch, Utility, Type B-5A (Landing Lamp)                           |
| 7        | Sleeves, Lamp Socket (7 spares)                                    |
| 21       | Sockets, Lamp (7 spares)                                           |
| 4        | Lamp Assembly, Type A-3 (Cockpit)                                   |
| 1        | Switch, Type B-5A (Pilot Tube)                                     |
| 2        | Capacitor (Generator) (If required)                                 |
| 1        | Switch, Type B-5A (Type B-1A Passing Lamp)                          |
| 1        | Lamp Assembly, Fuel System, Signal, Type A-1                        |
| 2        | Lamp Assemblies, Fuel Gauges                                       |
|          | Lamp bulbs as required                                              |
| 1        | Lamp Assembly, Running, Type B-1A (Passing)                         |
|          | Fuses as required                                                   |
| 1        | Coil Assembly—Booster                                              |
| 1        | Switch, Solenoid, Starter                                          |
| 1        | Solenoid, Meshing, Starter                                         |
| 1        | Plug Assembly, Generator                                           |
| 1        | Plug Assembly, Starter                                             |
| 1        | Socket Assembly, Starter                                           |
| 4        | Plug Assembly Connectors                                            |
| 12       | Insulators, Light Socket                                           |
| 2        | Switch, Type B-5A (Fuel Level Gauge Lights)                         |
| 12       | Sleeves, Lamp Socket                                               |
V. DETAIL REQUIREMENTS—Continued
9. Equipment and Furnishings—Continued

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MISCELLANEOUS EQUIPMENT (Weight Empty)</td>
</tr>
<tr>
<td>2</td>
<td>Map Case (1 Front, 1 Rear)</td>
</tr>
<tr>
<td>1</td>
<td>Extinguisher, Fire, Type A-2</td>
</tr>
<tr>
<td>2</td>
<td>Belt, Safety, Type B-10</td>
</tr>
<tr>
<td>2</td>
<td>Cushions, Seat Back</td>
</tr>
<tr>
<td>2</td>
<td>Pilot’s Relief Tubes</td>
</tr>
<tr>
<td>2</td>
<td>Wheel &amp; Brake Assembly (Hydraulic) Type 1</td>
</tr>
<tr>
<td>2</td>
<td>Axle</td>
</tr>
<tr>
<td>2</td>
<td>Casing</td>
</tr>
<tr>
<td>2</td>
<td>Inner Tubes</td>
</tr>
<tr>
<td>1</td>
<td>Tail Wheel</td>
</tr>
<tr>
<td>1</td>
<td>Casing, Tail Wheel</td>
</tr>
<tr>
<td>1</td>
<td>Inner Tube, Tail Wheel</td>
</tr>
<tr>
<td>2</td>
<td>Flare Rack, Type A-3 (For two Type M-8 Flares)</td>
</tr>
<tr>
<td>2</td>
<td>Release Handle, Type A-3</td>
</tr>
<tr>
<td></td>
<td>Brackets &amp; Controls Complete, for carrying &amp; Operating</td>
</tr>
<tr>
<td></td>
<td>Flare Equipment</td>
</tr>
<tr>
<td>2</td>
<td>Seat Assembly—Pilot’s</td>
</tr>
<tr>
<td>1</td>
<td>Ventilator Assembly—Cockpit</td>
</tr>
<tr>
<td>1</td>
<td>Grease Gun</td>
</tr>
</tbody>
</table>

|          | MISCELLANEOUS EQUIPMENT (Special Load)                 |
| 1        | Cover, Engine                                          |

N. A. A. 19-73003
CONTRACT

(as of)

FEBRUARY 14, 1939

between

THE FRENCH STATE

and

UNITED AIRCRAFT CORPORATION
| Article I. | Scope of the Contract | 1 |
| Article II. | Extras and Modifications | 1 |
| Article III. | Inspection and Test | 2 |
| Article IV. | Responsibility for Supplies Tendered | 3 |
| Article V. | Covenant against Contingent Fees | 3 |
| Article VI. | Disputes | 5 |
| Article VII. | Definitions | 6 |
| Article VIII. | Articles and Supplies Called For | 6 |
| Article IX. | Delivery | 9 |
| Article X. | Force Majeure | 11 |
| Article XI. | Neutrality Resolution | 12 |
| Article XII. | Payments and Methods Thereof | 12 |
| Article XIII. | Option for Additional Engines | 14 |
| Article XIV. | Default | 16 |
| Article XV. | Guarantees and Warranties | 16 |
| Article XVI. | Patents | 17 |
| Article XVII. | Replacements and Repairs | 18 |
| Article XVIII. | Spare Parts and Accessories | 18 |
| Article XIX. | Liquidated Damages for Delay | 18 |
| Article XX. | Surety Bond | 19 |
| Article XXI. | Miscellaneous | 20 |
| Specification PW 5053-B | | 21 |
| Specification PW 5053-C | | 23 |
| Specification PWA-252F | | 25 |
| Specification PWA-254 | | 30 |
| Appendix A | | 35 |
THIS CONTRACT entered into as of the 14th day of February, 1939, by The French State, hereinafter called the “Government”, represented by René P. G. Weiser, Air Attaché to the French Embassy of the Republic of France in the United States, and R. Hoppenot, Inspector of Finance, Chargé de Mission, representing the Air Minister of the Government executing this contract, and United Aircraft Corporation, a corporation organized and existing under the laws of the State of Delaware, United States of America, with its office in the Town of East Hartford in the State of Connecticut, hereinafter called the “Contractor”,

WITNESSETH:
The parties hereto do mutually agree as follows:

ARTICLE I.
Scope of the Contract.
The Contractor shall furnish and deliver to the Government all of the engines and equipment and data more particularly described in Article VIII hereof for the consideration stated and payable as set forth more particularly in Article XII hereof in strict accordance with the specifications, all of which are made a part hereof as set forth more particularly in Article VIII hereof.

Deliveries shall be made as set forth more particularly in Article IX hereof.

ARTICLE II.
Extras and Modifications.
Except as otherwise herein provided no charge for extras shall be allowed unless the same shall have been ordered in writing by the representative of the Government and the price thereof stated in such order.

Modifications, changes or substitutions in the attached specifications (except as a result of minor engineering changes and improvements which do not increase the price thereof) or in the equipment as set forth in such specifications where such modifications, changes or substitutions shall appear to be requisite or desirable may be made at any time during the course of this contract if agreed to by the representative of the Government and the Contractor, which agreement shall
cover the necessary adjustment in price, date of completion, and any and all other matters affected by any such modifications, changes or substitutions. Provided that there shall be no objection thereto by the Government of the United States such agreement shall be reduced to writing and signed by the parties to this contract and shall thereupon be annexed hereto and made a part hereof subject to all the terms and provisions of this contract. Minor engineering changes and improvements which do not increase the price may be made at any time at the option of the Contractor unless objection is made promptly by the representative of the Government or his delegate in East Hartford, Connecticut.

ARTICLE III.

INSPECTION AND TEST.

1. Before delivery of any engine, it shall be accepted on the conditions indicated in Paragraph 3 of this Article III. When these conditions shall have been complied with, the Contractor shall make out in duplicate a certificate of inspection and shall present the same in East Hartford, Connecticut, to the representative of the Government or his delegate for approval.

2. The acceptance transactions will be effected by the representative of the Government, or his delegate, in East Hartford, Connecticut. Subject to the authorization of the Government of the United States of America, persons designated by the representative of the Government shall have access to the manufacturing plants as well as to the upkeep and repair shops of the equipment which is the object of the present contract, for the purpose of following the progress in manufacturing. However, the number of persons so designated to be allowed to enter the manufacturing plants will be limited to five, and only four of them at a time. The number of such persons so designated to be allowed to enter the upkeep and repair shops shall not exceed ten, and only five at a time.

3. After assembly each engine shall be submitted to tests in accordance with Pratt & Whitney Aircraft Specification 252F dated January 25, 1939 and Pratt & Whitney Aircraft Specification 254 dated February 2, 1939, and hereunto attached and made a part hereof, to properly run in the engine and to establish its fitness for rated power operation. Rated power is that shown in the performance specifications attached hereto and is as follows:
Take-off power .................... 1065 CV metric at 2700 rpm.
Normal rated power ............. 910 CV at 2550 rpm at 3660 meters.

The corresponding manifold pressures for the above horsepowers will be derived from a calibration of an SC3-G Twin Wasp engine made under the direction of a Government representative.

During the tests run in accordance with Pratt & Whitney Aircraft Specifications 252F and 254, compliance with the following characteristics will be established subject to the tolerances herein specified:

(a) Characteristics under standard atmosphere conditions.

The lowest specific fuel consumption for cruising with the mixture control set in the automatic lean position shall be 230 gr. per c.v.h.

The specific oil consumption for cruising shall not exceed 6.7 gr. per c.v.h.

The specific oil consumption at normal rated speed shall not exceed 11.2 gr. per c.v.h.

Note: The horsepowers used for computing specific fuel and oil consumption shall be derived from the calibration data referred to herein and the methods of power correction referred to in Pratt & Whitney Aircraft Specification 254. These horsepowers will be subject to the tolerance given below.

(b) Tolerance.

Power ................................ plus minus 4 per cent
Oil consumption ........................ not to exceed above specification
Fuel consumption ...................... plus minus 4 per cent
Average manifold pressure ........... plus minus 12.5 mm. Hg.

The fuel shall conform to the current U. S. Army Air Corps fuel specifications for 92 octane (87 A. S. T. M. motor method).

The lubricating oil shall conform to current Pratt & Whitney Aircraft specifications.

Upon completion of the said tests the engine shall be operated for one-half hour with special leadless fuel to permit a prolonged storage of the engine.

Provided that it be permitted by the United States Government, the representative of the Government or his delegates may be present at these tests, and when any engine shall have successfully passed the said two tests, he or one of them shall sign the certificate of inspection referred to in Paragraph 1 hereof, signifying his approval within twenty-four (24) hours after such certificate shall have been submitted.
to him or them. The Contractor will supply in suitable time to the representative of the Government or his delegate in East Hartford, a written schedule indicating the approximate dates which the Contractor proposes for the tests in question, and agrees to give him reasonable notice (in writing, if practicable) of all changes which it may make in such schedule. In case the said tests have been effected on a date indicated to the technical representative of the Government or his delegate in East Hartford by the Contractor without the technical representative of the Government or his delegate or delegates being present, the result of such tests as shown in the Contractor’s records thereof must be accepted by the technical representative of the Government in East Hartford and the certificate of inspection, if found to show compliance, shall be signed by him or his delegate within the time so limited.

4. The Contractor shall have no liability whatever for negligence or otherwise in connection with any salary, wages, living or other expenses of any representatives or inspectors of the Government, or for injury to or death of said Government personnel, and the Government shall indemnify the Contractor against any liability of the Contractor for injury to or death of such representatives not covered by insurance, for which the Contractor may be held liable.

ARTICLE IV.
RESPONSIBILITY FOR SUPPLIES TENDERED.

The Contractor shall be responsible for the engines and materials covered by this contract until they are accepted and paid for by the Government. Each engine will become the property of the Government at the factory of the Contractor in East Hartford upon such payment.

ARTICLE V.
COVENANT AGAINST CONTINGENT FEES.

1. The Contractor declares and guarantees that this contract embodies the entire agreement between it and the Government, and that there is no extrinsic agreement or understanding connected therewith, except for the memorandum addressed by the Contractor to Colonel René P. G. Weiser, Air Attaché to the French Embassy, and R. Happenstal, Inspector of Finance, Chargé de Mission, under date of February 9th, 1939.

The Contractor declares and guarantees that in connection with this contract it has not paid and will not pay, directly or indirectly,
any gratuity, commission, bribe or emolument to any officer, agent, or representative, temporary or permanent, of the Government or to any other person as an inducement for the Government to enter into this agreement. Any breach of the undertakings contained in this Article shall be ground for cancellation of this contract. Such cancellation, however, can only take place upon decision rendered by a competent court in the State of Connecticut. The execution of this contract shall be suspended thirty (30) days from the day on which the Contractor shall have received from the Government notice by registered letter of its intention to sue for this cancellation and until the decision of the competent court has become final and not liable to appeal, either ordinary or extraordinary.

2. In the event that the contract is cancelled in accordance with the terms of the present Article, a statement will be made with regard to this contract, showing the amounts due by the parties to one another.

3. In case of contestation, such statement will be submitted for decision to the competent court in the State of Connecticut.

4. In any event, the cancellation will have no effect on the contract in respect of such part thereof as shall have been executed at the date provided hereinabove and up to the thirty (30) days from receipt of the notice.

5. In the event that the judicial decision is to the effect that there is no reason for cancellation of the contract, the Contractor will have the right, when this decision has become final, to take proceedings before a competent court for damages caused by the suspension of the contract.

ARTICLE VI.

DISPUTES.

Disputes concerning the meaning or performance of any part of this contract concerning the rights or liabilities of the parties under this contract shall be referred for discussion to a committee consisting of a representative of the Government, an official of the Contractor and a third party mutually acceptable to the other two members of the Committee. During such discussions, the Contractor shall diligently proceed with the performance of the terms of the contract. Such discussions shall be conducted for the purpose of attempting to eliminate differences and misunderstandings and shall not bar or delay either side from its remedies at law.

This contract shall be interpreted in accordance with the plain English meaning of its terms, and the construction thereof shall be
governed by the laws of the State of Connecticut, United States of America, and the courts in said State shall have jurisdiction.

ARTICLE VII.
DEFINITIONS.

1. The term "Government Representative" or "Representative of the Government" as used herein shall mean any person who shall be appointed and accredited by the Government acting through the Air Attaché of the French Republic in the United States to act on its behalf for the purposes of this contract. One or more representatives may be so appointed provided the Contractor shall be notified of each appointment in writing by the Government. One representative designated as the Financial Representative shall be in charge of and shall approve invoices, certificates for monthly payments and final payments, orders for shipment and similar documents. The same or another representative designated as the technical representative may be in charge of inspection and test as provided in Article III hereof and final inspection and acceptance of the engines and material covered by this contract and shall approve the certificate of inspection and test. The Contractor is hereby authorized to rely and act upon any written approval, direction, consent or notice signed by the principal Government Representative or his delegate or delegates appointed in writing and to the extent therein indicated.

2. All notices or communications to the Contractor shall be addressed to the Contractor at East Hartford, Connecticut.

3. All notices and communications to the Government shall be addressed to the appropriate Government Representative at the offices of the Contractor at East Hartford, Connecticut.

ARTICLE VIII.
ARTICLES AND SUPPLIES CALLED FOR.

The Contractor shall furnish and deliver to the Government at the plant of the Contractor in East Hartford all of the following listed aeronautical engines, equipment and technical data, to wit:

Item 1. (a) 100 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-C dated January 25, 1939 packed for inland transportation.

(b) 200 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-B dated January
25, 1939 packed in overseas boxes and prepared for overseas transportation, except for the first four (4) engines which shall be prepared for inland transportation in overseas boxes.

(c) 230 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-B dated January 25, 1939 equipped with special flexible engine mount pedestals and packed in overseas boxes but prepared for inland transportation.

Item 2. (a) 50 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-C dated January 25, 1939 packed in overseas boxes and prepared for overseas transportation.

(b) 100 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-B dated January 25, 1939 packed in overseas boxes and prepared for overseas transportation.

(c) 115 Pratt & Whitney Twin Wasp SC3G engines geared 16:9 according to Pratt & Whitney Specification No. 5053-B dated January 25, 1939 packed in overseas boxes and prepared for overseas transportation.

Item 3. Equipment Accessories. The accessories listed hereafter will be supplied with each engine:

(a) Ignition Circuit
2 Scintilla magnetos SF14L-3
1 set of spark plugs
1 Radio shielded ignition wire manifold

(b) Miscellaneous
Oil Pumps
1 drive for starter (3 tooth jaw)
1 connection for manifold pressure gauge
1 oil pressure connection
1 generator drive
1 set of propeller hub attachment parts
2 tachometer drives
2 auxiliary drives (internal 12 tooth spline)
1 drive for Vacuum pump (internal 12 tooth spline)
1 drive for Constant speed or Hydromatic governor for Hamilton Standard propeller
1 deflector assembly complete
Covers for unused accessory drives
1 engine tool kit

NOTE: all drives and connections are in conformity with American standards.
(c) Fuel supply system

(i) For the engines described in Item 1(a) and Item 2(a) hereof:
1 fuel pump drive (internal 11 tooth spline)
1 carburetor Stromberg NAC12D-2

(ii) For the engines listed in Item 1(b) and Item 2(b) hereof:
1 fuel pump drive (internal 11 tooth spline)
1 carburetor Stromberg PD12B-6, with the option to be exercised in writing within fifteen days from date of this contract to substitute Chandler Evans CE1375-DB-1 carburetor at a reduction in price of Two Hundred Forty Dollars ($240) per engine.

(iii) For the engines listed in Item 1(c) and Item 2(c) hereof:
1 fuel pump drive (internal 11 tooth spline)
1 carburetor Stromberg PD12B-6.

Item 4. Technical Data. There will be supplied to the Government at the French Consulate in New York for the whole of the order

(a) within sixty (60) days from the date of this contract or as soon thereafter as practicable

(i) 1 standard set of Van Dykes, or other drawings suitable for reproduction, of the engine SC30, and the different units and accessories of the engine, with a list covering such set. Said set will include the general plan and the longitudinal and transversal cuts of the engine. A corresponding set in blueprint form shall be delivered to the technical Government Representative at the Contractor’s plant in East Hartford at approximately the same time.

(ii) 1 standard set of Van Dykes, or other drawings suitable for reproduction, of the equipment for handling, lifting and emergency repairs.

(iii) 1 standard set of Van Dykes or other drawings suitable for reproduction, of the tool kit and tools necessary for assembling and disassembling, and for the upkeep of the engine and units.

It is understood that the Contractor will not be obligated to furnish details of construction of units or accessories not manufactured to the Contractor’s designs if the Contractor itself has no such details of construction available.
(b) Before completion of this contract, the Contractor will supply to the Government in addition to the foregoing, the following:

(i) 20 catalogues of replacement parts (numbers and photographs of parts).

(ii) Log books and handbooks for each engine and the technical data for the use of the engine (description, upkeep, assembling, disassembling) in the French language.

ARTICLE IX.

DELIVERY.

(a) All of the aeronautical engines called for under the terms of this contract shall be delivered at the factory of the Contractor at East Hartford, Connecticut, United States of America. Each engine will become the property of the Government at the factory of the Contractor upon total payment of the price agreed upon for such engine in Article XII hereof. Partial deliveries will take place in the following months; provided, however, that so long as the Contractor shall maintain a sufficient number of engines at the respective plants of the airplane manufacturing companies mentioned in paragraph (b) (1) of this Article to keep one month ahead of the complete assembly of the corresponding airplanes in which the engines will be installed, no penalties for delay in delivery shall be incurred by the Contractor:

<table>
<thead>
<tr>
<th>Month</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 1939</td>
<td>1</td>
</tr>
<tr>
<td>May</td>
<td>92</td>
</tr>
<tr>
<td>June</td>
<td>101</td>
</tr>
<tr>
<td>July</td>
<td>111</td>
</tr>
<tr>
<td>August</td>
<td>125</td>
</tr>
<tr>
<td>September</td>
<td>50</td>
</tr>
<tr>
<td>October</td>
<td>55</td>
</tr>
<tr>
<td>November</td>
<td>48</td>
</tr>
<tr>
<td>December</td>
<td>58</td>
</tr>
<tr>
<td>January 1940</td>
<td>10</td>
</tr>
<tr>
<td>February</td>
<td>12</td>
</tr>
<tr>
<td>March</td>
<td>25</td>
</tr>
<tr>
<td>April</td>
<td>25</td>
</tr>
<tr>
<td>May</td>
<td>25</td>
</tr>
<tr>
<td>June</td>
<td>32</td>
</tr>
<tr>
<td>July</td>
<td></td>
</tr>
<tr>
<td></td>
<td>795</td>
</tr>
</tbody>
</table>

It is understood that, since the foregoing schedule of deliveries is predicated on this contract being fully executed and a copy delivered to
the Contractor on or before February 14, 1939, if such execution and delivery of this contract is delayed, a like number of days shall be added to each date for delivery in the above schedule.

If the Contractor is able to make deliveries in advance of the above schedule the Government agrees to accept the engines so offered in accordance with Article III hereof whenever the same shall have complied with the tests therein referred to.

(b) (1) The Contractor agrees to act as agent for the Government with regard to the transportation of the material listed in Article VIII, Item 1, together with the appropriate equipment for the account of the Government in accordance with the following indications:

(i) For the engines described in Article VIII, Item 1(a):

Send same insured immediately after acceptance, packing and payment to the Curtiss Airplane Division of the Curtiss-Wright Corporation at its factory in Buffalo, State of New York, United States of America.

(ii) For the four (4) engines described in Article VIII, Item 1(b) as prepared for inland transportation:

Send same insured immediately after acceptance, packing and payment to the El Segundo Division of Douglas Aircraft Company, Inc. at its factory in El Eegundo, State of California, United States of America.

(iii) For the engines described in Article VIII, Item 1(c):

Send same insured immediately after acceptance, packing and payment to the Glenn L. Martin Company at its factory in Middle River, Baltimore, Maryland, United States of America.

(2) The Contractor also agrees to act as agent for the Government with regard to the transportation of the engines described in Article VIII, Item 2 hereof and the engines described in Article VIII, Item 1(b) hereof other than those referred to in Article IX(h) (1) (ii) hereof for the account of the Government in accordance with the following indications:

Send same insured after acceptance, packing and payment alongside ship, New York, New York, the ships to be indicated by the Government's Representative within three (3) days after such acceptance and in each case at least five (5) days before the scheduled sailing of the ship indicated, in default of which indication such material may be warehoused by the Contractor either in New York, New York, or in Hartford or in East Hartford, Connecticut, at the option of the Con-
tractor for the account and in the name of the Government and the storage receipts sent to the Government's Representative.

(3) The Contractor acting for the account of the Government shall be reimbursed for expenses of transportation and insurance on presentation of the receipts of the carriers and insurers to the Government's Representative.

(4) After acceptance of and payment for any material the Contractor will, as agent for the Government, take out the necessary insurance pending shipment and shall be reimbursed for this expense on presentation of the receipts of the insurers to the Government's Representative.

ARTICLE X.

FORCE MAJEURE.

1. The Contractor will not be deemed in default in its undertakings in the present contract if the carrying out of the contract has been prevented or delayed by a case of force majeure, but the Contractor must prove that it was unable to avoid the consequences thereof. Such prevention or delay is herein referred to as excusable delay.

Force majeure is defined as follows:

(a) War between the United States and any foreign country;
(b) Civil war, riots or insurrections in the United States;
(c) Any law, proclamation, ordinance or regulation of the Government of the United States or of the State of Connecticut, or any subdivision of either authority or representative thereof. Any such law, proclamation, ordinance or regulation shall be deemed to have been passed, made or promulgated with due authority and power;
(d) Floods, fires, explosions or other catastrophe or serious accident;
(e) Epidemics or quarantine restrictions;
(f) Any labor trouble causing cessation or interruption of work;
(g) Without limitation by enumeration of the foregoing, any other cause duly established emanating either from the Government or its representatives, or from events which cannot be foreseen and independent of the will of the Contractor, and which cause would result either in delaying or in preventing execution by the Contractor of its obligations.
2. Excusable delay as such term is used in this contract shall mean any and all delays for which the Contractor is not responsible as provided herein.

The Contractor shall within seven (7) days from the beginning of any excusable delay notify the Government Representative in writing of its claim of such delay and the extent or anticipated extent thereof. Within seven (7) days after its receipt of such notice the Government Representative shall notify the Contractor in writing, either that the Government concurs in such notice given by the Contractor or the extent, if any, to which, in the opinion of the Government, other events and circumstances have rendered immaterial the delay claimed by the Contractor. In the event the Government shall not concur in such claim by the Contractor the parties shall confer, and if possible, reach an agreement as to the extent of any excusable delay and the adjusted delivery dates which agreement shall be reduced to writing and approved by the parties. If the parties shall not agree, each shall make a written statement concerning such claimed excusable delay, which statements shall be exchanged and preserved for use in arbitration of the dispute. Similar procedure with similar intent shall be followed in any case where the Contractor shall claim to be prevented or delayed in fulfilling any of its undertakings under this contract other than deliveries.

ARTICLE XI.

NEUTRALITY RESOLUTION.

The Government declares that it has taken cognizance of the Joint Resolution of the Congress of the United States of America, approved August 31, 1935, commonly known as "Neutrality Resolution", and of any later amendments thereto, and of any and all proclamations, regulations, rules and orders made and in force thereunder; and the Government agrees to observe any and all such provisions, as well as any others which may be decreed later, in so far as they may apply to it.

ARTICLE XII.

PAYMENTS AND METHODS THEREOF.

1. The total amount which the Government agrees to pay to the Contractor for all of the items covered by Article VIII of this contract shall be the sum of Ten Million Six Hundred Eighty-One Thousand One Hundred and Fifty American Dollars ($10,681,150.00) in New York funds. Payment of the foregoing amount will be made as follows:
(a) For each of the 100 engines listed in Article VIII, Item 1(a) hereof ........................................ $13,110.00
(b) For each of the 200 engines listed in Article VIII, Item 1(b) hereof ........................................ $13,430.00
(c) For each of the 230 engines listed in Article VIII, Item 1(e) hereof ........................................ $13,640.00
(d) For each of the 50 engines listed in Article VIII, Item 2(a) hereof ........................................ $13,190.00
(e) For each of the 100 engines listed in Article VIII, Item 2(b) hereof ........................................ $13,430.00
(f) For each of the 115 engines listed in Article VIII, Item 2(c) hereof ........................................ $13,430.00

2. Partial Payments. Partial payments will be made by the Government to the Contractor for the Contractor’s estimate of expenditures to be made by the Contractor for materials, both raw and finished, and for labor and overhead in connection with the manufacture of the materials specified in Article VIII hereof during the period not more than one month subsequent to the date of such estimate but not to exceed in the aggregate sixty per cent (60%) of the total purchase price as set forth in Paragraph 1 of this Article XII. Before the first final payment for an engine as provided hereinafter in Paragraph (3) of this Article XII, the Contractor will notify the Financial Attaché of the exact percentage of the total contract price, within the foregoing limitation, which the Contractor will draw in partial payments. On or before the tenth day of each month the Contractor will submit to the financial representative of the Government in East Hartford, Connecticut an invoice for such estimates, together with the bond or bonds described in Article XX(1) hereof if any be required by the terms thereof and such invoice shall be paid by the Government within five (5) days after the presentation of said invoice by the Contractor. The first such estimate submitted shall include the Contractor’s expenditures under this contract to the date of such estimate as well as such estimate of expenditures for the succeeding month.

3. Final Payment. Upon delivery of invoice and certificate of inspection covering engines accepted as provided in Article III hereof approved by the representatives of the Government authorized to approve such documents respectively and the bond or bonds described in Article XX(2) hereof, if any be required by the terms thereof, the
Government shall pay to the Contractor the balance of the full purchase price of each engine as set forth in Article XII (1) hereof amounting to forty per cent (40%) or more thereof.

4. Methods of Payment. After each invoice shall have been approved by the financial representative of the Government, whether for partial or final payment, such invoice shall be presented either by the financial representative of the Government or by the Contractor to the Financial Attaché of the French Embassy, who shall stamp such invoice and either return the same to the Contractor or present the same on behalf of the Contractor to the Federal Reserve Bank of New York, through which bank payment will be made of the net amount of such invoice for the account of the Contractor to The National City Bank of New York, New York. Payments of invoices to reimburse the Contractor for insurance premiums, shipping charges and other like matters, as set forth in Article IX, paragraphs (3) and (4) hereof, shall be made in like manner.

5. All payments to be made hereunder or by any other provision of this contract shall be in American dollars, New York funds, and shall be free from all French taxes and any other taxes whatsoever. If the Government exacts any tax in respect to this contract it undertakes to increase the above payments by an amount equal to the amount of the tax in question plus the amount of any tax on such increased payments.

All dues, taxes and other payments (excluding exportation taxes) which may be claimed by the Government of the United States of America or any subdivision thereof shall be borne by the Contractor.

ARTICLE XIII.

OPTION FOR ADDITIONAL ENGINES.

(a) Subject always to each and every provision of Article X hereof, the Contractor will after receipt of written notice from the Government on or before March 31, 1939, enter into a new and separate contract with the Government for the sale to it of 300 additional engines described in Article VIII Item (1) hereof at the appropriate price for such engines provided in Article XII (1) hereof, said engines to be delivered (subject to the reservation as to the date of the execution of this contract contained in Article IX (a) hereof) during the following months;
Said written notice shall specify whether engines described in Item 1 (a), Item 1 (b) or Item 1 (c) of Article VIII will be required.

Said contract shall contain provisions identical to the provisions herein contained except with the variations and changes to be made contained in or implied by this Article XIII and with the exception of this Article XIII.

(b) If the foregoing option is exercised by the Government, the contract embodying the same shall contain the following provisions to be numbered Article XIII therein, viz: "Subject always to each and every provision of Article X hereof and subject further to a mutually satisfactory agreement between the parties as to the price to be paid as hereinafter set forth, the Contractor will after receipt of written notice from the Government received on or before July 1, 1939, enter into a new and separate contract with the Government as of July 1, 1939, for the sale to it of 300 additional engines as described in Article VIII Item (1) of the contract between the parties dated as of February 14, 1939, to be delivered during the following months:

<table>
<thead>
<tr>
<th>Month</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>December, 1939</td>
<td>20</td>
</tr>
<tr>
<td>January, 1940</td>
<td>50</td>
</tr>
<tr>
<td>February</td>
<td>55</td>
</tr>
<tr>
<td>March</td>
<td>62</td>
</tr>
<tr>
<td>April</td>
<td>42</td>
</tr>
<tr>
<td>May</td>
<td>13</td>
</tr>
<tr>
<td>June</td>
<td>8</td>
</tr>
<tr>
<td>July</td>
<td>12</td>
</tr>
<tr>
<td>August</td>
<td>13</td>
</tr>
<tr>
<td>September</td>
<td>12</td>
</tr>
<tr>
<td>October</td>
<td>13</td>
</tr>
</tbody>
</table>

300

Said written notice shall specify whether engines described in Item 1 (a), Item 1 (b) or Item 1 (c) of Article VIII of said contract be-
between the parties dated as of February 14, 1939, will be required. The contract to be executed pursuant to the provisions of this option shall contain provisions identical to the provisions herein contained except for the variations and changes to be made contained in or implied by this Article XIII and with the exception of this Article XIII. The price to be paid by the Government for said engines shall be determined within ten days after July 1, 1939, by negotiation between the parties in the same manner that the price was arrived at for the present contract, dated as of February 14, 1939.

ARTICLE XIV.

DEFault.

(1) If delays not due to one of the circumstances of force majeure described in Article X extend for three months, the Government shall have the right to cancel, without claiming any indemnity or penalty from the Contractor, the order for the particular engines delayed by notice by registered mail, and in that event the Contractor shall repay to the Government within three months thereafter the total sums received on account by it for such delayed engines.

(2) Without derogating from the full effect of Paragraph (1) of this Article XIV, in the event that a Receiver is appointed over substantially all the assets of the Contractor by any Court having jurisdiction and shall not be discharged within 90 days thereafter, the Government shall have a like right to cancel this contract as to any engine or engines then undelivered without claiming any indemnity or penalty, and thereafter shall be entitled to file its claim for the total sums received on account by the Contractor, under this contract, for any engines then undelivered.

ARTICLE XV.

Guarantees AND Warranties.

1. The Contractor warrants that each engine shall be free from defect in material and workmanship if installed in a manner to meet the requirements of Appendix A hereto attached and hereby made a part hereof, and if used in accordance with the operating instructions of the Contractor, which warranty is limited to the first two hundred hours of operation thereof (including operation on the ground) and will not extend more than six months after the date of delivery. This warranty is limited to replacing or repairing at the factory of the Contractor any parts which may have been returned to said factory and which are defective, provided the cost of transportation both of such
defective parts and the parts supplied in replacement will be borne by the Government. This warranty does not cover any labor charges whatsoever for replacement of parts, adjustments, repairs or any other work done on said engines. The warranties contained in this Article XV are expressly in lieu of all other warranties, expressed or implied, and of all other obligations or liabilities on the part of the Contractor except as elsewhere in this Contract provided, and the Contractor neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale or use of the engines.

2. This warranty shall not apply to any engine which has been repaired or modified outside of the Contractor's factory in such a way that in the Contractor's justified opinion its working has been affected or which has been misused, neglected or damaged or which has been used at speeds or loads higher than those provided for in the technical specifications. The said warranty shall not apply to any engine if any part not manufactured or supplied by the Contractor for use in such engine shall have been substituted in place of a part manufactured or supplied by it for such use.

3. The Contractor makes no warranty whatsoever with respect to ignition apparatus, carburetors, instruments or other trade accessories not manufactured by it but will undertake, except where it proves impossible so to do, to procure for the Government the usual warranties with respect to the foregoing from the respective manufacturers thereof.

ARTICLE XVI.

PATENTS.

Upon notice promptly given to the Contractor by the Government, the Contractor will take over all claims made in the United States of America in respect of materials sold under this contract by all owners of United States patents against the Government or the Contractor for infringement thereof and will take proceedings, at its own expense, in such manner that the Government will be saved harmless therefrom.

The present contract being made, executed and paid for in the United States of America, the final delivery of the supplies to the Government taking place at the factories of the Contractor in the United States of America, all law suits being submitted to the legislation of the United States by a clause giving jurisdiction to the competent courts in the State of Connecticut, the Contractor refuses to have anything to do with bringing any part of the said material, the subject of this contract, into French territory.
Consequently, the Government will assume the entire and exclusive responsibility for all risks which might be incurred in connection with taking such supplies into French territory, and particularly in view of French internal legislation concerning patents.

ARTICLE XVII.
REPLACEMENTS AND REPAIRS.

The Government reserves to itself the absolute right to repair or have repaired the material purchased by it in its best interests, but if the Government should manufacture or have manufactured by third persons any spare parts required for such repairs it will pay to the Contractor in United States currency five per cent (5%) of the Contractor’s price of such parts according to the list given to the Government as aforesaid. It is stipulated, however, that this royalty will not be added to the royalties provided for in the agreement of November 30, 1937.

ARTICLE XVIII.
SPARE PARTS AND ACCESSORIES.

In order to facilitate replacements and repairs when required, the Contractor will furnish to the Government as soon as possible a numbered list of the spare parts connected with the material supplied. The Contractor agrees to supply thereafter and during the normal period of the utilization of the material as rapidly as possible the spare parts asked for by the Government at the prices indicated on this list, except in the event that it becomes necessary to modify such prices.

The Government’s initial requirements for spare parts and accessories and the prices that the Government shall pay therefor shall be the subject of a separate contract, such prices to be determined by negotiation between the parties in the same manner that the price was arrived at for the present contract.

ARTICLE XIX.
LIQUIDATED DAMAGES FOR DELAY.

If the Contractor refuses or fails to make deliveries of the materials or supplies in accordance with Article IX hereof, for reasons other than those set forth in Article X hereof, the Contractor will pay for delay as follows:

0.5 per cent of the contract price of the delayed material, for each week not including any fractions of a week, for the first four weeks of delay;
1 per cent thereof for each week not including any fractions of a week, from the 5th to the 8th week of delay;
2 per cent thereof for each week not including any fractions of a week, from the 9th week of delay.

These liquidated damages will apply only to the particular engines the delivery of which is delayed and will be calculated only on the price of such delayed partial deliveries, and will not be more than 10 per cent of the price of the delayed engines. Whenever any engines shall be delayed the next deliveries made shall be considered on account of such delayed engines.

ARTICLE XX.
SURETY BOND.

The Contractor shall furnish to the Government at the times indicated herein:

1. One or several bonds issued by one or several American surety companies on the list issued by the United States Treasury Department of those approved as sureties on bonds to the United States Government in a form acceptable to the Government Representative, guaranteeing to the Government the repayment in the amount due of the sums paid by it under the provisions of Article XII (2) hereof in the event that the engines described in Article VIII hereof are not in fact manufactured and delivered according to the conditions stipulated in the present contract. One or more of these bonds shall be delivered to the representative of the Government with or prior to and in the amount of each or several or all the invoices for partial payments described in Article XII (2) hereof. The aggregate liability of the principal and the sureties upon such bond or bonds shall in no event exceed the actual advances paid on account to the Contractor by the Government provided, however that the liability thereunder shall be reduced or extinguished by the percentage of the full price (fixed in Article XII (1) hereof) for each delivery hereunder which will then have been established under Article XII (2) hereof as being the exact percentage of the total contract price which the Contractor may draw in partial payments.

2. One or several bonds issued by one or more American surety companies on the list issued by the United States Treasury Department of those approved as sureties on bonds to the United States Government in a form acceptable to the Government Representative, for ten per cent (10%) of the total amount of each delivery, guaranteeing to the Government payment of the liquidated damages for delays in deliv-
ery as stipulated in Article XIX hereof and the carrying out of the warranty in Article XV hereof. Such bond or bonds may be furnished to the representative of the Government at the time each invoice is delivered to the representative of the Government as set forth in Article XII (3) hereof and in that event shall apply to the engines included in such invoice, and no other engines whatsoever. The Contractor may furnish to the representative of the Government before the first delivery of an engine hereunder a bond for ten per cent (10%) of the total contract price as set forth in Article XII (1) hereof in lieu of the foregoing.

ARTICLE XXI.

MISCELLANEOUS.

This contract shall inure to the benefit of and be binding upon the parties hereto, their successors and assigns, but it shall not be assignable wholly or in part by either party without the prior written consent of the other party; provided, however, that a merger, consolidation or voluntary sale or transfer of substantially all of the Contractor’s assets unaccompanied by change in the essential management of the Contractor’s plant shall not be deemed to be an assignment within the terms of this Article.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed in quadruplicate (all of which shall be assumed originals), the day and year first above written.

THE FRENCH STATE,

By: Air Attaché of the French Embassy

And: Chargé de Mission

UNITED AIRCRAFT CORPORATION,

By: Its Vice-President

Attest:

Assistant Secretary.
# Guaranteed Dynamometer Performance

<table>
<thead>
<tr>
<th>Metric</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td>RPM</td>
</tr>
<tr>
<td>1005</td>
<td>2700</td>
</tr>
<tr>
<td>910</td>
<td>2550</td>
</tr>
<tr>
<td>960</td>
<td>2350</td>
</tr>
<tr>
<td>915</td>
<td>2600</td>
</tr>
</tbody>
</table>

**Normal Take-off Rating**

**Normal or Max. Climb Rating**

**Max. Power and RPM for Cruising**

**Maximum Power for**

**Continuous Emergency Operation**

**Limiting Diving Speed**

**(not for high speed performance or military operation)**

*For military operation, see power curve for climb and military high speed level flight performance. Normal: Critical altitudes are within 1000 feet (305 meters) with standard altitude conditions at heat power mixture and are attainable under altitude chamber test conditions.

Cruising Fuel Consumption—See Power Curve

**Fuel (PWA Spec. No. 511)**

— Oil Consumption (Max.)—at Rated Power—

— Oil Specification—See P&W Approved List

**CPR 87 octane**

— .025 lb/BHP/hr

— .015 lb/BHP/hr

**Description and Dimensions**

(Installation Drawing No. D-3376) Type—14 Cylinder Air-Cooled Radial

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore—</td>
<td>5.60 inches</td>
</tr>
<tr>
<td>Stroke—</td>
<td>5.50 inches</td>
</tr>
<tr>
<td>Total Displacement—</td>
<td>1800 cu. inches</td>
</tr>
<tr>
<td>Compression Ratio—</td>
<td>6.7:1</td>
</tr>
<tr>
<td>Blower Ratio—</td>
<td>7.15:1</td>
</tr>
<tr>
<td>Propeller Gear Ratio—</td>
<td>.5625</td>
</tr>
<tr>
<td>Prop. Shaft: Rotation (viewed from rear)</td>
<td>Clockwise 50</td>
</tr>
<tr>
<td>— Spline SAE No.—</td>
<td>48.0 inches</td>
</tr>
<tr>
<td>Overall Diameter—</td>
<td>61.50 inches</td>
</tr>
<tr>
<td>Overall Length—</td>
<td>12.36 inches</td>
</tr>
<tr>
<td>Approx. Center of Gravity</td>
<td>.14 inches</td>
</tr>
<tr>
<td>forward of mounting flange— below crankshaft Center Line—</td>
<td></td>
</tr>
</tbody>
</table>

**Dry Weight**

—including Standard Accessory Equipment—

1463 lb.

---

**Restriction**

E-1830 ENGINE

Model—TWIN WARB 203-G
Spec. No.—PW 203-G
ATU No.—96
Date—January 25, 1939

---

Regraded Unclassified
### STANDARD EQUIPMENT
(Included in Engine Dry Weight)

- Automatic Valve Gear Lubrication
- Stromberg PD-12BS Carburetor and Air Screen
- Two Scintilla SF14L-3 MagnetoS, Ignition Wiring, and Spark Plugs (Ignition System Completely Radio Shielded)
- Pressure Type Cooling Baffles
- Oil Pumps
- Propeller Hub Attaching Parts
- Primer Tubing and Fittings
- Provision for Hamilton Standard "Hydromatic" Feathering Propeller

#### Accessory Drives:

<table>
<thead>
<tr>
<th>Accessory Drive</th>
<th>Type</th>
<th>Ratio to Crankshaft</th>
<th>Rotation Drive End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Accessory Gear Box (Round Pad)</td>
<td>Int. 16 Spline</td>
<td>1.400:1</td>
<td>Clockwise</td>
</tr>
<tr>
<td>Starter-</td>
<td>3 Jaw</td>
<td>1.000:1</td>
<td>Clockwise</td>
</tr>
<tr>
<td>Fuel Pump (2&quot; Square Pad)</td>
<td>Int. 11 Spline</td>
<td>.875:1</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td>Dual Tachometer-</td>
<td>Air Corps (L. H.)</td>
<td>.500:1</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td>Dual Angular Aux. (Square Pad)-</td>
<td>Air Corps (R. H.)</td>
<td>.500:1</td>
<td>Clockwise</td>
</tr>
<tr>
<td>Vacuum Pump (Square Pad)-</td>
<td>Int. 12 Spline</td>
<td>1.000:1</td>
<td>Clockwise</td>
</tr>
<tr>
<td>Constant Speed Prop. Governor-</td>
<td>Int. 12 Spline</td>
<td>1.400:1</td>
<td>Clockwise</td>
</tr>
</tbody>
</table>

#### Accessory Drive Covers

*Note: For details of drives, refer to Installation Drawing No. R-33709.*
*For torque limitations, refer to Accessory Drives Drawing No. D-36000.*

### ADDITIONAL EQUIPMENT FURNISHED WITH ENGINE
(Not included in Engine Dry Weight)

- Two Engine Oil Connection Blank Flanges—Operator’s Manual—Tool Kit—
- Engine, Plane and Pilot Log Books—Shipping Box

<table>
<thead>
<tr>
<th>Extra wt. kg.</th>
<th>Extra wt.lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>.18</td>
<td>.40</td>
</tr>
<tr>
<td>6.82</td>
<td>15.00</td>
</tr>
<tr>
<td>.68</td>
<td>1.50</td>
</tr>
</tbody>
</table>
GUARANTEED DYNAMOMETER PERFORMANCE

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>P  RPM  ALT. meters</td>
<td>BHP  RPM  ALT. feet</td>
</tr>
<tr>
<td>2500</td>
<td>2700</td>
</tr>
<tr>
<td>2550</td>
<td>2550</td>
</tr>
<tr>
<td>2250</td>
<td>2250</td>
</tr>
<tr>
<td>2600</td>
<td>2600</td>
</tr>
<tr>
<td>2900</td>
<td>2900</td>
</tr>
<tr>
<td>3200</td>
<td>3200</td>
</tr>
</tbody>
</table>

- *Normal Take-off Rating*—
- Normal or Max. Climb Rating—
- Max. Power and RPM for Cruising—
- **Maximum Power for**
- Continuous Emergency Operation—
- Limiting Diving Speed—

**NOT (not for high speed performance or military operation)**
*For military operation, see power curve for climb and military high speed level flight performance.*

Note: Critical altitudes are within 1000 feet (305 meters) with standard altitude conditions at best power mixture and are attainable under altitude chamber test conditions.

Cruising Fuel Consumption—See Power Curve

- Fuel—(PWA Spec. No. 511)—
- Oil Consumption (Max.)—at Rated Power—
- at Cruising—

Oil Specification—See P&W Approved List

DESCRIPTION AND DIMENSIONS

(Installation Drawing No. R-33708)

Type—14 Cylinder Air-Cooled Radial

- Bore—5.50 inches
- Stroke—5.50 inches
- Total Displacement—1830 cu. inches
- Compression Ratio—6.7:1
- Blower Ratio—7.15:1
- Propeller Gear Ratio—5625
- Prop. Shaft: Rotation (viewed from rear)—Clockwise
- : Spline SAE No.—50
- Overall Diameter—48.0 inches
- Overall Length—61.50 inches
- Approx. Center of Gravity—12.36 inches
- forward of mounting flange—
- below crankshaft Center Line—.14 inches

DRY WEIGHT

—Including Standard Accessory Equipment—1450 lb.

Page 1
STANDARD EQUIPMENT
(Included in Engine Dry Weight)

Automatic Valve Gear Lubrication
Stromberg NA-C12D2 Carburetor and Air Screen
Two Scintilla SF14L-3 Magnets, Ignition Wiring, and Spark Plugs
(Ignition System Completely Radio Shielded)
Pressure Type Cooling Baffles
Oil Pumps
Propeller Hub Attaching Parts
Primer Tubing and Fittings
Provision for Hamilton Standard "Hydromatic" Feathering Propeller

Accessory Drives:

<table>
<thead>
<tr>
<th>Type</th>
<th>Ratio to Crankshaft</th>
<th>Rotation Drive End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator or Remote Accessory Gear Box (Round Pad)—Int. 16 Spline</td>
<td>1.400:1</td>
<td>Clockwise</td>
</tr>
<tr>
<td>Starter—</td>
<td>3 Jaw</td>
<td>1.000:1</td>
</tr>
<tr>
<td>Fuel Pump (2&quot; Square Pad)—</td>
<td>Int. 11 Spline</td>
<td>.875:1</td>
</tr>
<tr>
<td>Dual Tachometer—</td>
<td>Air Corps (L. H.)</td>
<td>.500:1</td>
</tr>
<tr>
<td>Gun Synchronizer (Round Pad)—</td>
<td>Air Corps (R. H.)</td>
<td>.500:1</td>
</tr>
<tr>
<td>Vacuum Pump (Square Pad)—</td>
<td>Ext. 16 Spline</td>
<td>.563:1</td>
</tr>
<tr>
<td>Constant Speed Prop. Governor—</td>
<td>Int. 12 Spline</td>
<td>1.400:1</td>
</tr>
<tr>
<td></td>
<td>Int. 12 Spline</td>
<td>.964:1</td>
</tr>
</tbody>
</table>

Accessory Drive Covers

Note: For details of drives, refer to Installation Drawing No. R-33708.
For torque limitations, refer to Accessory Drives Drawing No. D-26960.

ADDITIONAL EQUIPMENT FURNISHED WITH ENGINE
(Not included in Engine Dry Weight)

<table>
<thead>
<tr>
<th>Extra wt. kg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>.18</td>
</tr>
<tr>
<td>6.82</td>
</tr>
<tr>
<td>.68</td>
</tr>
</tbody>
</table>

—Two Engine Oil Connection Blank Flanges—
—Operator's Manual—
—Tool Kit—
—Engine, Plane and Pilot Log Books—
—Shipping Box—

Extra wt. lb.

.40
15.00
1.50

Regraded Unclassified
25

PRATT & WHITNEY AIRCRAFT
Division of United Aircraft Corporation.
SPECIFICATION PWA-252F.

Contractor's Test Preparatory to Tear Down Inspection.

ALTERNATE "A."

BLETING IN.

The engine shall be operated by external power at approximately 300 r.p.m. for a period sufficient to make sure that the oil is circulating through the engine properly and that no oil is leaking to the outside. The fuel pump shall be installed during this run and shall be piped to and from the oil reservoir so that oil is circulated through it.

RUNNING IN UNDER POWER.

The engine shall be tested on propeller load as defined herein according to the following schedule of running.

(a) Four hours at 1000 r.p.m.
(b) One hour at approximately 1000 r.p.m. to 90% rated speed.
(c) Two hours at 90% rated speed.
(d) One and one-half hours at 90% normal rated manifold pressure.
(e) One-half hour at normal rated manifold pressure and normal rated speed.
(f) One hour at 90% normal rated speed.
(g) One-fourth hour of running at takeoff manifold pressure in not less than five minute increments.
(h) For engines equipped with multispeed supercharger drives or equipped with multistage superchargers in which the auxiliary stage is driven by a controllable clutch, a minimum of ten clutch shift cycles or speed change cycles at intervals of not less than two minutes shall be made. During this run the crankshaft speed may vary between 70 and 100% of normal rated speed, and the manifold pressure may vary between 60 and 100% of normal rated manifold pressure.
(i) The loss of r.p.m. at 85% speed on propeller load of the engine when running on each magneto separately shall be determined and recorded. When a constant speed propeller is used the pitch must be fixed before the magneto check is taken. The idling and accelerating characteristics of the engine shall be checked. On all engines equipped with a controllable propell-
Jer valve, oil pressure readings shall be taken in both the open and closed positions. Notation of any malfunctioning of the engine shall be made on the log sheets.

**Specific Requirements.**

1. During the hour of increasing speed from 1000 r.p.m. to 90% of rated speed, fuel consumption readings shall be taken in increments of 100 rpm. The mixture control position shall be designated in the test instruction sheets. Fuel shall be weighed over a period of not less than 60 seconds, and any measurement not consistent with the preceding ones shall be repeated. At other times during the test, readings shall be taken at not more than 15-minute intervals. Oil flow shall be measured using a quantity of not less than 25 pounds of oil at least once during the one and one-half hour run at 90% normal rated manifold pressure and at least once during the one-half hour run at normal rated manifold pressure and normal rated speed. Oil temperatures must be stabilized during these readings.

2. During the last hour of operation at 90% rated speed, the oil consumption of the engine shall be measured without adding oil to the tank or permitting the oil inlet temperature to vary more than plus or minus five degrees F. from that specified on the test instruction sheet.

3. Horsepower shall be computed according to current methods, and actual horsepower used to calculate specific oil and fuel consumptions. Fuel and oil pressures, oil temperatures, carburetor air temperature, cylinder temperatures and manifold pressures shall be recorded at all speeds. Fuel-air ratios shall be calculated when required. The barometer corrected for brass scale and humidity shall be used to figure absolute manifold pressure. No oil shall be added to the tank during any oil consumption run.

4. Specific oil and fuel consumptions, oil inlet temperature, oil temperature rise, oil flow, oil and fuel pressures and other test measurements shall conform to the requirements of the contract and the Test Instruction Sheet.

5. The hot-spot shall be installed when called for on the bill of material, and shall be in operation when the outside air temperature is below 50 degrees F. The engine shall be run with the type of baffles with which the torque stand constant or the engine calibration was originally obtained. Unless authorization is obtained from the inspection department to do otherwise, the carburetor and magnetos with which the engine will be shipped shall be used.

**Penalty Runs.**

1. In case of failure of the engine to meet any of its requirements on test, corrections shall be made at disassembly to overcome the trouble.
2. When required by the Inspection Department, the engine shall be subjected to a penalty run prior to its final acceptance test. The standard penalty run shall consist of three hours of running in up to 90% of rated manifold pressure, one and one-half hours at 90% of normal rated manifold pressure, and one-half hour at normal rated manifold pressure, all on propeller load. Modification of the penalty run according to the particular circumstances involved will be permitted.

ALTERNATE "B."

Cold Running.

The engine shall be operated by external power in accordance with the following schedule of running:

(a) One-half hour at approximately 600 r.p.m.
(b) Three and one-half hours at approximately 900 r.p.m.
(c) One hour at approximately 1200 r.p.m.
(d) One hour at approximately 1800 r.p.m.

Running in Under Power.

The engine shall be tested on propeller load as defined herein according to the following schedule of running:

(a) One hour at approximately 1000 r.p.m. to 90% rated speed.
(b) One and one-half hours at 90% normal rated manifold pressure.
(c) One-half hour at normal rated manifold pressure and normal rated speed.
(d) One hour at 90% normal rated speed.
(e) One-fourth hour at takeoff manifold pressure in not less than five minute increments.
(f) For engines equipped with multispeed supercharger drives or equipped with multistage supercharges in which the auxiliary stage is driven by a controllable clutch, a minimum of ten clutch shift cycles or speed change cycles at intervals of not less than two minutes shall be made. During this run the crankshaft speed may vary between 70 and 100% of normal rated speed, and the manifold pressure may vary between 60 and 100% of normal rated manifold pressure.
(g) The loss of r.p.m. at 85% speed on propeller load of the engine when running on each magneto separately shall be determined and recorded. When a constant speed propeller is used the pitch must be fixed before the magneto check is

Regarded Unclassified
taken. The idling and accelerating characteristics of the engine shall be checked. On all engines equipped with a controllable propeller valve, oil pressure readings shall be taken in both the open and closed positions. Notation of any malfunctioning of the engine shall be made on the log sheets.

Specific Requirements.

1. During the cold run the fuel pump shall be installed and shall be piped to and from the oil reservoir so that oil is circulated through it. A special breaking in oil may be used during this running.

2. Oil pressure adjustments and oil flow determinations with the temperature of the oil regulated by external means to that required by the contract and the test instruction sheet shall be made during the cold run. Any external oil leaks shall be corrected at this time.

3. The reduction gear and nose section with which the engine will be finally built will not be installed on the engine during the cold running. The reduction gearing will be run for at least an equivalent length of time and with tooth loadings at least as great as those corresponding to the cold running conditions described herein on a separate cold running stand provided for this purpose.

4. During the hour of increasing speed from 1000 r.p.m. to 90% of rated speed, fuel consumption readings shall be taken in increments of 100 r.p.m. The mixture control position shall be designated in the test instruction sheet. Fuels shall be weighed over a period of not less than 60 seconds and any measurement not consistent with the preceding ones shall be repeated. At all other times during the running, readings shall be taken at not more than 15-minute intervals. Oil flow shall be measured using a quantity of not less than 25 pounds of oil at least once during the one and one-half hour run at 90% normal rated manifold pressure and at least once during the one-half hour run at normal rated manifold pressure and normal rated speed. Oil temperatures must be stabilized during these readings.

5. During the last hour of operation at 90% of rated speed, the oil consumption of the engine shall be measured without adding oil to the tank or permitting the oil inlet temperature to vary more than plus or minus five degrees F. from that specified on the test instruction sheet.

6. Horsepowers shall be computed according to current methods, and actual horsepower used to calculated specific oil and fuel consumptions. Fuel and oil pressures, oil temperatures, carburetor air temperature, cylinder temperatures and manifold pressures shall be recorded at all speeds. Fuel-air ratios shall be calculated when required. The barometer corrected for brass scale and humidity shall be used to figure absolute manifold pressure. No oil shall be added to the tank during any oil consumption run.
7. Specific oil and fuel consumptions, oil inlet temperature, oil temperature rise, oil flow, oil and fuel pressures and other test measurements shall conform to the requirements of the contract and the Test Instruction Sheet.

8. The hot-spot shall be installed when called for on the bill of material, and shall be in operation when the outside air temperature is below 50 degrees F. The engine shall be run with the type of baffles with which the torque stand constant, or the engine calibration was originally obtained. Unless authorization is obtained from the Inspection Department to do otherwise, the carburetor and magnetos with which the engine will be shipped shall be used.

**Penalty Runs.**

1. In case of failure of the engine to meet any of its requirements on test, corrections shall be made at disassembly to overcome the trouble.

2. When required by the Inspection Department, the engine shall be subjected to a penalty run prior to its final acceptance test. The standard penalty run shall consist of three hours of running in up to 90% of rated manifold pressure, one and one-half hours at 90% of normal rated manifold pressure, one-hour at normal rated manifold pressure, all on propeller load. Modification of the penalty run according to the particular circumstances involved will be permitted.

**Definitions.**

1. Rated Speed is defined as the maximum r.p.m. for which the engine is designed for extended periods of operation.

2. Normal Rated Manifold Pressure is defined as the absolute manifold pressure obtained with full throttle at rated speed at rated altitude under standard altitude conditions.

3. Propeller Load is defined as the loading given by an assumed correct propeller that will give normal rated manifold pressure at rated speed.

Revised May 8, 1934
- Oct. 23, 1934
- Feb. 18, 1936
- July 23, 1936
- Feb. 16, 1937
- July 22, 1937
- Sept. 15, 1937
- Jan. 25, 1939
Before an engine is submitted for acceptance, it must have successfully passed the tests required by Specification PWA-252 and must have been torn down for examination of the component parts. All parts must have passed inspection before being reassembled and before being submitted for acceptance.

**Run-In.**

The minimum amount of run-in of any engine after re-assembly and prior to final acceptance test shall be as follows:

1. One hour at speeds varying from 1000 r.p.m. to 90% of rated speed. During this period fuel consumption measurements shall be taken at speeds above 1200 r.p.m. in increments of not more than 150 r.p.m. Mixture control position to be designated in test instruction sheet.

2. One hour at 90% speed on propeller load during which time fuel and oil consumption shall be measured.

3. Continue fuel curve up to normal rated manifold pressure.

4. If the engine is equipped with a carburetor having automatic mixture control, fuel consumption readings shall be taken in the automatic positions.

5. For engines equipped with multispeed supercharger drives or equipped with multistage superchargers in which the auxiliary stage is driven by a controllable clutch, a single cycle of clutch shifts shall be made. During this run, the crankshaft speed may vary between 70 and 100% of normal rated speed, and the manifold pressure may vary between 60 and 100% of normal rated manifold pressure. For engines equipped with multistage superchargers, the auxiliary stages shall be loaded by a weight of air approximating that consumed by the engine at the particular operating condition. A suitable orifice or other restriction shall be installed at the auxiliary stage inlet to give a weight of air not less than that consumed by the engine at the condition of maximum speed and power for which use of such auxiliary stage is specified. The orifice or restriction shall be used unchanged for all other engine operating conditions. The air from the auxiliary stage may be wasted to the atmosphere and the installation of an intercooler will not be required.
This minimum run-in time may be increased at the discretion of the Assembly Department or the Engineering Department.

Acceptance Test:

The engine shall be run for one hour at normal rated manifold pressure. Fuel and oil consumptions and oil flow measurements shall be taken.

Following the test, the engine shall be run at its rated take-off manifold pressure or BMEP for a length of time sufficient to obtain a proper reading.

The loss of r.p.m. at 85% speed on propeller load of the engine when running on each magneto separately shall be determined and recorded. The idling and accelerating characteristics and the proper functioning of the controllable propeller valve shall be checked. The mixture control and the idle cut-off shall be tried to make sure that they will cut the engine both in the cruising range and at idle speed.

The engine shall be carefully inspected for fuel and oil leaks prior to its removal from the stand, and check runs for correction of leaks shall be made when necessary.

General Requirements:

During the hour of acceptance test, readings shall be taken at five-minute intervals. Fuel consumption shall be weighed over a period of not less than 60 seconds, and any measurement not consistent with the preceding ones shall be repeated. Oil flow shall be measured, using a quantity of not less than 25 pounds of oil, at least once during the hour of acceptance running. Oil temperature must be stabilized during this reading. Horsepowers shall be computed according to current practice, and actual horsepower used to calculate specific oil and fuel consumptions. Fuel and oil pressures, oil temperatures, carburetor air temperature, cylinder temperatures and manifold pressures shall be recorded at all speeds.

Fuel-air ratios will be calculated when required. The barometer corrected for brass scale and humidity shall be used to figure absolute manifold pressure. The mixture control position shall be designated in the Test Instruction Sheet.

During the hour of operation at 90% rated speed, the oil consumption of the engine shall be measured without adding oil to the tank or permitting the oil inlet temperature to vary more than plus or minus five degrees F. from that specified on the Test Instruction Sheet. The specific oil consumption computed from the actual horsepower developed and the gross consumption during this hour of running shall not exceed that specified for cruising in the contract and on the Test Instruction Sheet.

Specific Requirements:

The specific oil consumption shall conform to the requirements laid down by the contract and Test Instruction Sheet. No oil shall be added

Regraded Unclassified
to the tank during any oil consumption run. If an engine fails to meet its oil consumption requirements on final test and is given additional running thereafter, this extra running shall not exceed three hours, including a second oil consumption check. If, at the end of this time, the engine fails to meet its requirements, it shall be removed from test for repair.

Oil inlet temperature, oil temperature rise, oil flow, oil pressures, fuel pressure, fuel consumption and other test results shall conform to the requirements of the contract and Test Instruction Sheet.

The loss in engine speed between operation on two and one magnetos shall be checked with stopwatch and revolution counter at approximately 85% speed on propeller load. A loss in r.p.m., which is considered by the inspector to be excessive for the particular model, shall be cause for rejection of the engine. When a constant speed propeller is used, the pitch must be fixed before the magneto check is made.

The hot-spot shall be installed when called for on the bill of material and shall be in operation when the outside air temperature is below 50 degrees F. The engine shall be run with the type of baffles with which the torque stand constant or engine calibration was originally obtained.

Pre-oiling of the engines, when required, shall be done prior to their being mounted on the test stand for final test. Such pre-oiling shall consist of pumping engine oil under pressure through the oil passages of the engine until all pressure oil passages are filled. Engines using a separate lubricating pump for rocker-arm lubrication shall have the rocker lubrication system separately pre-oiled in the same manner in order to make sure that all rocker lubrication passages are open.

**Definitions.**

For the purpose of this specification:

1. **Rated Speed** is defined as the maximum r.p.m. for which the engine is designed for extended periods of operation.

2. **Normal Rated Horsepower** is defined as the maximum allowable horsepower to be developed by the engine at rated speed for continuous operation.

3. **Normal Rated Manifold Pressure** is defined as the absolute manifold pressure obtained with full throttle at rated speed at rated altitude under standard altitude conditions.

4. **Propeller Load** is defined as the loading given by an assumed correct propeller that will give normal rated manifold pressure at rated speed.

**Note:** Wherever Specification PWA-252 appears it is understood that PWA 252-F applies.
<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct. 23, 1934</td>
<td>Revised</td>
</tr>
<tr>
<td>Feb. 26, 1936</td>
<td>Unclassified</td>
</tr>
<tr>
<td>July 23, 1936</td>
<td>Unclassified</td>
</tr>
<tr>
<td>Feb. 16, 1937</td>
<td>Unclassified</td>
</tr>
<tr>
<td>June 11, 1937</td>
<td>Unclassified</td>
</tr>
<tr>
<td>Sept. 15, 1937</td>
<td>Unclassified</td>
</tr>
<tr>
<td>Oct. 27, 1937</td>
<td>Unclassified</td>
</tr>
<tr>
<td>Jan. 25, 1938</td>
<td>Unclassified</td>
</tr>
<tr>
<td>Feb. 2, 1939</td>
<td>Unclassified</td>
</tr>
</tbody>
</table>
P & W TWIN WASP R-1830 5C3-G ENGINE
GUARANTEED DYNAMOMETER PERFORMANCE
BLOWER 7:1 PISTONS 6:11 PROPELLER FUEL BY OCTANE
ENGINE OPERATING CURVES FOR FLIGHT TEST SUPPLIED ON REQUEST

MAXIMUM POWER LIMITS

TAKE-OFF 1065 HP AT 2700 RPM
NORMAL OR CLimb 910 HP AT 2550 RPM
CONTINUOUS EMERGENCY OPERATION (MULTI-ENGINE AIRCRAFT—NOT FOR HIGH SPEED PERFORMANCE OR MILITARY OPERATION) 1015 HP AT 2600 RPM
CRUISING 660 HP AT 2250 RPM

CRUISING FUEL CONSUMPTION WITHIN 3%

ALITUDE CHAMBER PERFORMANCE GUARANTEED WITHIN 305 METERS STANDARD AltITUDE CONDITIONS

REPRESENTS POWER ALSO AVAILABLE FOR 15 MINUTES DURATION FOR CLIMB AND MILITARY HIGH SPEED LEVEL FLIGHT PERFORMANCE.

TAKE-OFF RICH MIXTURE AND 15 MINUTES MILITARY CLIMB PERFORMANCE

METRIC BRAKE HP

CARBURETOR AIR DEVIATION FROM STANDARD TEMP °C

ALTIMETER - THOUSAND METERS

Cruising fuel consumption within 3%
APPENDIX A.

INSTALLATION OF ENGINE.

An engine installation is considered satisfactory if provision is made to insure satisfactory engine cooling under all conditions of running which will be encountered during the operation of the airplane in which the engine is installed. As trouble-free operation is dependent upon freedom from abuse, there are prescribed herewith certain temperature limits which should not be exceeded under any conditions, and the installation should be such as to provide for satisfactory cooling within these limits.

TEMPERATURE LIMITS.

For take-off and climb at maximum power rating Cowl flaps open

<table>
<thead>
<tr>
<th>Oil Inlet Temp.</th>
<th>Head Temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>100° C. max.</td>
<td>250° C. max.</td>
</tr>
</tbody>
</table>

Level flight military rating 15 minutes duration Cowl flaps in minimum drag position

<table>
<thead>
<tr>
<th>Oil Inlet Temp.</th>
<th>Head Temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>100° C. max.</td>
<td>260° C. max.</td>
</tr>
</tbody>
</table>

Level flight normal power rating (continuous) Cowl flaps in minimum drag position, stabilized temperatures

<table>
<thead>
<tr>
<th>Oil Inlet Temp.</th>
<th>Head Temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>85° C. max.</td>
<td>260° C. max.</td>
</tr>
</tbody>
</table>

Level flight cruise at 650 h.p. or less Cowl flaps in minimum drag position

<table>
<thead>
<tr>
<th>Oil Inlet Temp.</th>
<th>Head Temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>85° C. max.</td>
<td>230° desired max.</td>
</tr>
<tr>
<td>60 to 75° C.</td>
<td></td>
</tr>
</tbody>
</table>

Level flight cruise above 650 h.p. Cowl flaps in minimum drag position

<table>
<thead>
<tr>
<th>Oil Inlet Temp.</th>
<th>Head Temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>85° C. max.</td>
<td>260° C. max.</td>
</tr>
<tr>
<td>60 to 75° C.</td>
<td>230° desired max.</td>
</tr>
</tbody>
</table>

For single engine continuous emergency operation Cowl flaps open, stabilized temperatures

<table>
<thead>
<tr>
<th>Oil Inlet Temp.</th>
<th>Head Temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>100° C. max.</td>
<td>260° C. max.</td>
</tr>
</tbody>
</table>

Ground running

Cowl flaps open, for power output corresponding to 16” Hg. manifold pressure and 1200 r.p.m., stabilized temperatures

<table>
<thead>
<tr>
<th>Oil Inlet Temp.</th>
<th>Head Temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>95° C. max.</td>
<td>260° C. max.</td>
</tr>
</tbody>
</table>

For installation performance tests it is desired that head temperatures be measured on seven cylinders. It is not considered necessary to measure cylinder barrel temperatures.

Where carburetors are fitted with cruise valves, the installation tests should be conducted with the carburetor set in the “cruise” position only for level flight cruising below 650 h.p. For all other operation, including ground running, the carburetor should be set in the “automatic rich” position.
February 15, 1939.
9:50 a.m.

Operator: Go ahead.

HLJr: Hello.

Harry: Hello. This is Harry.

HLJr: How are you?

H: All right, have you got a second?

HLJr: I've got three for you.

H: All right. I got a letter here -- a private letter from the -- one of our shipping outfits, American-French Line.

HLJr: Yeah.

H: It tells me the French are going to ship all these airplanes over French boats --

HLJr: Yeah.

H: And that they probably -- not having the boats, he says, "I'm reliably informed the French Line is prepared to charter additional ships, probably with foreign flags."

HLJr: Yeah.

H: Well, I'm just wondering -- what this fellow said, -- he said, "I hope we could get our fair portion of the movement of this important traffic."

HLJr: What you'd like me to do is to say to the French that after they've loaded up their own steamers that we come next.

H: Sure and don't -- and don't go out chartering other boats.

HLJr: And that will be received very well here.

H: That's right.

HLJr: I'll take care of it.

H: All right.

HLJr: Thanks for the suggestion.
H: Good bye, Henry.

HJr: I'll take care of it.

H: Fine.

HJr: I'll be glad to.

H: Fine, old boy.
February 15, 1939

Gaston came in to the Secretary's office and reported that Steve Early had called and said, "Did you know that Louis Johnson has been called on the Hill to appear before the Senate Military Affairs this afternoon?" I said, "No, I did not know that. I had seen on the ticker that Admiral Leahy and Captain Kraus had been called". Steve Early said, "Louis Johnson is sitting at my elbow now. Can you get right away and read to me the letter which the Secretary wrote to Senator Sheppard in reply to his demand for a copy of the President's letter?" I said, "Yes, I can. Do you want to hold on?" I then went in to see Miss Chauncey and asked for a copy of the letter and she said she would have to dig it up in Mrs. Klotz's files and, in the meantime, she called you to get your approval.

Meanwhile, I returned to the telephone and told Steve that the letter was being sought out in the files and I gave him my recollection of the final paragraph and he said it agreed with his recollection and when the letter was dug out to call him. When Miss Chauncey handed me the letter I called Steve and read the letter to him and he said that that was what he wanted.

Gaston's comment was, "I suppose he is coaching Johnson what he is to say when he goes up on the Hill."
Hello.

Operator: Mr. Edison. Go ahead.

H.W.R: Hello.

Charles Edison: Hello, Mr. Secretary.

H.W.R: How are you?

E: Well, pretty good.

H.W.R: Mr. Edison, if you thought it was all right, I would appreciate your telling me what happened up there on the Hill with Admiral Leahy and Captain Kraus. Only if you feel entirely free to let me know, see?

E: Yeah, well, I'll have to find out for you, because the last time I was in his office they were still up there.

H.W.R: Well, if you, I say, feel entirely free, inasmuch as I'm part and parcel of this whole thing.

E: Yeah.

H.W.R: And when you do know, after thinking it over, what angle they're taking now, why I -- I would appreciate your letting me know.

E: You mean what angle the Military Affairs Committee is taking?

H.W.R: Yeah.

E: Yeah.

H.W.R: With Leahy and Kraus who are up there.

E: Oh, sure. We'll be able to tell you.

H.W.R: Will you?

E: I'm sure we will.

H.W.R: Well, I'd appreciate it.

E: I think so.

H.W.R: Thank you very much.

E: All right, sir.
M: Jr: You'll give me a ring when you know?
E: Yes, I will.
M: Jr: Thank you.
E: All right.
Adm:iral Leahy: Come around to your house sometime to show you. There's nothing in it, but it might be an advantage to you as a background.

HWJr: Well, the only -- I'm interested for two reasons. One, I'd like to know, and the second is that I -- they are going to have me up there tomorrow.

L: Well, I gathered from what they said today that they were going to call you and Mr. Woodring down again.

HWJr: Yeah.

L: To get it on the record. They had it before, off the record, but now they want it on the record.

HWJr: So if -- are you home tonight?

L: Yes.

HWJr: Well --

L: I have nothing to do.

HWJr: Well, would eight-thirty be all right.

L: Yes.

HWJr: What?

L: Come down to your house at eight-thirty?

HWJr: Yes.

L: That will be fine.

HWJr: You know where I live.

L: Oh, yes.

HWJr: Is that a good time?

L: Perfectly all right.

HWJr: Or would you rather make it later?

L: No, that's all right.

HWJr: Eight-thirty.
L:  I'll be down there at eight-thirty.

MUr:  Thank you so much.

L:  Thank you, sir. Good bye.
UNITED STATES SENATE
COMMITTEE ON MILITARY AFFAIRS

HEARINGS
ON
NATIONAL DEFENSE

Statements of:

HON. LOUIS JOHNSON, Assistant Secretary of War

ADMIRAL W. D. LEAHY, Chief of Naval Operations

GENERAL H. H. ARNOLD, Chief of Army Air Corps

CAPTAIN SYDNEY M. KRAUS, United States Navy

Washington, D. C.,
February 15, 1939.

VOLUME X
UNITED STATES SENATE

NATIONAL DEFENSE

United States Senate
Committee on Military Affairs,
Washington, D. C.,
February 15, 1939.

The committee met, pursuant to call, in the committee
room, Capitol, at 2 o'clock p. m., Senator Morris Sheppard
(chairman) presiding.

PRESENT: Senators Sheppard (chairman), Thomas of Utah,
Minton, Schwartz, Lundeen, Hill, Clark of Missouri, Downey,
Nye, Bridges, Gurney, and Holman.

THE CHAIRMAN: Senator Nye, if you have any questions
you wish to ask, you may proceed.

SENATOR NYE: If I may, I should like to proceed with
questions to one point.

SENATOR SCHWARTZ: May I ask a question before you come
to that?
SENATOR NYE: Yes.

SENATOR SCHWARTZ: So that the various experts may understand the circumstances under which we are holding our meeting, I might state that whatever any individual Senator may feel is of value in discussion on the floor of the Senate, he would be entitled to use it.

SENATOR NYE: I should like to go a step further in that understanding, to the effect that if any question is asked which is at all embarrassing or might be harmful to the national defense, the witness should at once indicate that it might be thus embarrassing, so that we may not get into the record anything that we are going to need to be afraid of later on.

SENATOR SCHWARTZ: And I assume the question itself would not be carried in the record.

SENATOR NYE: That is right.

THE CHAIRMAN: In other words, if you are asked a question that you think relates to matters that should be kept confidential in the interest of the Government for the national defense, you will please indicate that to be your view.

SENATOR NYE: And in such event the question will be expunged from the record so completely that there can be no indication that there was any revelation of anything that should be kept secret.
Admiral Leahy, I have before me a pamphlet prepared by the Aeronautical Board, under date of June 13, 1938, entitled, "Release Policy on Aircraft and Aircraft Equipment." The flyleaf carries, over your signature as Acting Secretary of the Navy, and over the signature of Louis Johnson as Acting Secretary of War, a promulgation under date of August 10, 1938. Are you thoroughly conversant with that release policy, Admiral?

ADMIRAL LEAHY: I think so. I am familiar with it.

SENATOR NYE: Can you tell the committee why that is dated June 13, 1938, on the cover, whereas the date of its promulgation is August 10, 1938?

ADMIRAL LEAHY: I do not know.

SENATOR NYE: In other words, that would seem to be a publication occurring before the promulgation was issued.

ADMIRAL LEAHY: It would appear from the date on the front page that it was prepared for issue prior to the date of approval. This page signed by the Acting Secretary of War and the Acting Secretary of the Navy is the formal approval.

SENATOR NYE: Could that mean that the content of the policy may have been in existence on June 13, 1938, but was not at that time approved by the Secretary of War or the Secretary of the Navy?

ADMIRAL LEAHY: That would seem to be correct, Senator.
SENATOR NYE: For the purpose of the record, Admiral, what is the Aeronautical Board?

ADMIRAL LEAHY: So far as I make contact with the Aeronautical Board, it is a board to which is referred by the Navy Department questions regarding the release of aviation equipment for sale or export.

SENATOR NYE: Who constitute the Aeronautical Board?

ADMIRAL LEAHY: I am unable to answer that question.

SENATOR NYE: Mr. Chairman, might I direct that question to the Assistant Secretary of War?

THE CHAIRMAN: He is present, and you may ask him the question.

SENATOR NYE: Who makes up the Aeronautical Board?

ASSISTANT SECRETARY JOHNSON: General Arnold can give you a detailed answer as to that.

SENATOR NYE: General Arnold, who makes up the Aeronautical Board?

GENERAL ARNOLD: The Aeronautical Board is composed of the Chief of the Bureau of Naval Aeronautics and two other Navy members, and the Chief of the Army Air Corps and two other Army members.

SENATOR NYE: Appointed by whom?

GENERAL ARNOLD: The Board is authorized by the Secretaries of War and Navy, and the members are appointed by them.
SENATOR NYE: Thank you, General.

Secretary Johnson has pointed out to me that on the first flyleaf of this published policy, under the seal of the Navy Department and the War Department, is an indication that the policy was approved by the Acting Secretary of War on July 22, 1938, and August 10, 1938, and was approved by the Acting Secretary of the Navy on July 25, 1938. Does that mean, Admiral, that the Navy Department has not formally approved it, as the War Department has?

ADVISRAL LEAHY: From indications on the flyleaf, Senator, it would appear that the Secretary of the Navy did, on July 25, 1938, approve that publication.

SENATOR NYE: Then what would be the occasion or necessity for the promulgation of August 10, 1938?

ADVISRAL LEAHY: I presume that was to call the attention of the two Departments to this paper.

SENATOR NYE: Secretary Johnson says he can answer quite correctly that question.

ASSISTANT SECRETARY JOHNSON: It came from the Aeronautical Board to the two Departments, and was approved by the two Departments, as indicated on the flyleaf, on two different dates.

SENATOR NYE: Very well.

Admiral, what was the purpose of this published policy?

ADVISRAL LEAHY: So far as it applies to naval matters,
it is the policy in regard to releasing aviation equipment, which it is the custom to refer to the Aeronautical Board, and the advice of the Aeronautical Board on such matters, so far as the Navy is concerned, has been accepted, always, in so far as I know.

SENATOR NYE: In a word, this is distributed to the industry that is engaged in the production of aircraft?

ADMIRAL LEAHY: In each case in which the industry desires to sell aviation equipment under the cognizance of the Navy, a request is made of the Navy Department and, in the event of export, of the State Department. These requests are referred to the Navy Department, which in turn receives advice from the Aeronautical Board, and then makes its decision on the matter. So far as I know, the Navy Department has in each case accepted the advice of the Aeronautical Board.

SENATOR NYE: Then this release policy for aircraft and aircraft equipment is in the possession of the aircraft industry?

ADMIRAL LEAHY: I am unable to give an accurate answer to that.

SENATOR NYE: Do you know, Mr. Johnson?

ASSISTANT SECRETARY JOHNSON: It is.

SENATOR NYE: And it is generally expected that they will pursue, as accurately as they can, the policy laid down therein?
ASSISTANT SECRETARY JOHNSON: It is not a secret document.

SENATOR NYE: I understand that. But you do wish the active cooperation of the industry along the line outlined in this expression of policy?

ASSISTANT SECRETARY JOHNSON: Yes.

SENATOR NYE: Is that your attitude, Admiral?

ADMIRAL LEAHY: That is my understanding, and further, in so far as the Navy is concerned, it has always been done.

SENATOR NYE: Mr. Chairman, do you see any need for printing in our record this entire statement of policy? I have in mind making inquiries relative to only two paragraphs.

THE CHAIRMAN: I think it might be of value to put it in the record.

SENATOR HULMAN: Can it go in by reference?

SENATOR NYE: There are not very many copies available. It is not a particularly extended document.

THE CHAIRMAN: Without objection, it will be incorporated in the record.

(The document referred to is here set forth in full, as follows:)

Regraded Unclassified
RELEASE POLICY FOR AIRCRAFT AND AIRCRAFT EQUIPMENT

Prepared by
THE AERONAUTICAL BOARD
June 13, 1938

- - -

OUTLINE OF POLICY of THE WAR AND NAVY DEPARTMENTS for THE RELEASE OF AIRCRAFT, AIRCRAFT ENGINES, AND ITEMS OF AIRCRAFT EQUIPMENT AND ACCESSORIES FOR EXPORT AND DOMESTIC SALE and FOR THE RELEASE OF INFORMATION AND DATA PERTINENT TO ARTICLES ON WHICH RELEASE IS REQUIRED

* * *

Prepared by
THE AERONAUTICAL BOARD
June 13, 1938

SEAL: UNITED STATES OF AMERICA WAR OFFICE

Approved by the Acting Secretary of War, July 22, 1938
August 10, 1938

SEAL: NAVY DEPARTMENT UNITED STATES OF AMERICA

Approved by the Acting Secretary of the Navy, July 25, 1938

UNITED STATES GOVERNMENT PRINTING OFFICE WASHINGTON: 1938

Regraded Unclassified
WAR AND NAVY DEPARTMENTS,
Washington, August 10, 1938.

The following revision of the outline of policy pertaining to the release of aircraft, aircraft engines, and items of aircraft equipment and accessories for export and domestic sale, and for the release of information and data pertinent to articles on which release is required, is approved for promulgation to submitting requests for release of articles for domestic and foreign sale and for release of information pertinent thereto. It supersedes, as of this date, all previous editions or revisions on the same subject.

LOUIS JOHNSON,
Acting Secretary of War,
WILLIAM D. LEAHY,
Acting Secretary of the Navy.

(III)
- - -

CONTENTS

Part I

Basis for release policy 1
Espionage Act of June 15, 1917 1
International traffic in arms 2
Scope of release policy 3

Part II

Definitions:
Information 4
Release 5
Military combatant aircraft 6
Experimental types 7
Military noncombatant aircraft 8
Service test types 9
Production articles 10
Second production article 11

Part III

Data to accompany requests for release specifications, drawings, etc. 12-16

Regraded Unclassified
### Part IV

<table>
<thead>
<tr>
<th>Release of articles and data for export and domestic sale</th>
<th>Paragraph</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles with changes affecting performance or mission</td>
<td>17</td>
</tr>
<tr>
<td>Delivery of released articles</td>
<td>18</td>
</tr>
<tr>
<td>Military combatant aircraft</td>
<td>19</td>
</tr>
<tr>
<td>Military noncombatant aircraft</td>
<td>20</td>
</tr>
<tr>
<td>Experimental military aircraft</td>
<td>21</td>
</tr>
<tr>
<td>Commercial aircraft</td>
<td>22</td>
</tr>
<tr>
<td>Aircraft engines</td>
<td>23</td>
</tr>
</tbody>
</table>

| Aircraft equipment and accessories peculiar to military use or of marked military value | 24-25 |
| Aircraft equipment and accessories not peculiar to military use nor or military value | 26     |
| Release of aircraft designs                              | 27     |
| Release of information incidental to license for manufacture abroad | 28     |
| Inventions of purely military use                        | 29     |
| Release for domestic commercial use                      | 30     |

### Part V

<table>
<thead>
<tr>
<th>Release of information</th>
<th>Paragraph</th>
</tr>
</thead>
<tbody>
<tr>
<td>-- general</td>
<td>31</td>
</tr>
<tr>
<td>for negotiations for foreign sale</td>
<td>32</td>
</tr>
<tr>
<td>for domestic use</td>
<td>33</td>
</tr>
<tr>
<td>incidental to release of articles for domestic use</td>
<td>34</td>
</tr>
<tr>
<td>incidental to release of articles for export sale</td>
<td>35</td>
</tr>
<tr>
<td>incidental to obtaining United States patents</td>
<td>36</td>
</tr>
<tr>
<td>incidental to obtaining foreign patents</td>
<td>37</td>
</tr>
</tbody>
</table>

### Part VI

<table>
<thead>
<tr>
<th>Miscellaneous:</th>
<th>Paragraph</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contracts with foreign purchasers</td>
<td>38</td>
</tr>
<tr>
<td>Inspection of released articles</td>
<td>39</td>
</tr>
<tr>
<td>Foreign inspection</td>
<td>40</td>
</tr>
<tr>
<td>Pilot and passenger flights by foreign representatives</td>
<td>41</td>
</tr>
</tbody>
</table>
RELEASE POLICY FOR AIRCRAFT
AND AIRCRAFT EQUIPMENT

Part I

BASIS FOR RELEASE POLICY

1. This policy takes no cognizance of the granting of export licenses, which is a function of the Department of State, but is based upon the provisions of the Espionage Act of June 17, 1917, which reads in part as follows:

"Whoever, with intent or reason to believe that it is to be used to the injury of the United States or to the advantage of a foreign nation, communicates, delivers, or transmits, or attempts to, or aids or induces another to, communicate, deliver, or transmit, to any foreign government, or to any faction or party or military or naval force within a foreign country, whether recognized or unrecognized by the United States, or to any representative, officer, agent, employee, subject, or citizen thereof, either directly or indirectly, any document, writing, code book, signal book, sketch, photograph, photographic negative, blue print, plan, map, model, note, instrument, appliance, or information relative to the national defense, shall be punished by imprisonment for not more than twenty years."

2. The following excerpt from Publication No. 1147, "International Traffic in Arms," is quoted for information:

"The Secretary of State will not issue a license authorizing the exportation of any arms, ammunition, or implements of war considered by the Secretary of War or by the Secretary of the Navy as instruments or appliances included among the articles covered by those terms as used in this act if, in their opinion, they involve military secrets of interest to the national defense."

SCOPE OF RELEASE POLICY

3. The provisions of this policy are applicable only to such articles as fall within one of the two following categories, and only such articles are considered to come within the purview of this policy:

"(a) Articles, the whole or any features of which have been or are being developed or manufactured by or for the War Department or the Navy Department or with the part-
incipiation of either of those Departments; and

"(b) Articles, the whole or any features of which have been used or are being used by the War Department or the Navy Department or which either Department has contracted to procure."

Included in articles developed by or for the War or Navy Department are those articles, the development of which has been contracted for by either of these departments or which have been developed in accordance with Army or Navy specifications and submitted to either department for evaluation for procurement.

Part II

DEFINITIONS

For purposes of clarity, certain terms and nomenclature appearing in this outline of policy are defined as follows:

4. Information. -- The term "Information," as used in this policy, shall include all information concerning an article which is restricted by the terms of the Espionage Act, by contract clauses or by regulation of the War or Navy Department.

5. Release. -- The term "Release," whether used in the concrete or the abstract form, shall, for the purposes of this policy, apply to the lifting, in whole or in part, by the War or Navy Department, of restrictions relating to the interests of National Defense imposed on the manufacturer by the Espionage Act, by contract clauses, or by regulations of the War or Navy Department. It shall, under no circumstances, be construed as relieving manufacturers or exporters from responsibilities connected with laws and regulations affecting International Traffic in Arms.

6. Military combatant aircraft, as used in this policy, will include any aircraft which is designed, adapted, and intended for aerial combat by the use of machine guns or of artillery or

for the carrying and dropping of bombs, mines, or torpedoes, or which are equipped with, or which by reason of design or construction are prepared for aerial gun mounts and frames, bomb racks, torpedo carriers, and bomb or torpedo release mechanisms.

7. Experimental types comprise articles which are under development and have not progressed to the stage where engineering tests have indicated that the articles have sufficiently satisfactory military characteristics to warrant service test or quantity production.

8. Military noncombatant aircraft are aircraft such as
training, transport, and utility aircraft, not primarily designed nor adaptable to the mission of military combatant aircraft.

9. **Service test types** comprise articles of equipment which have progressed beyond the experimental stage, which appear to possess desired military characteristics, which have operated satisfactorily in engineering tests conducted by the developing supply arm or service, and which have been approved for issue in limited quantity for service test preparatory to their classification as standard.

10. **Production articles** are those items of equipment which have been declared and adopted as standard or as service types by the Secretary of War or the Secretary of the Navy.

11. The "second production article" shall be considered that article which has been accepted after the service test article or unit, supplied under the production order, has been tested. For example, if the production contract requires the delivery of a unit of three airplanes for acceptance test, the fourth airplane produced under the contract will be the "second production article."

---

**Part III**

**DATA TO ACCOMPANY REQUESTS FOR RELEASE**

12. Manufacturers desiring (1) to obtain the release for export or for domestic sale of aircraft, aircraft engines, and items of aircraft armament, equipment, and accessories within the purview of this policy, whether or not these fall among the articles for which an export license is required, or (2) to obtain the release of information and data on such articles, or (3) to obtain permission to sell abroad the manufacturing rights for such articles, shall be guided by the following instructions.

13. All applications for release shall be presented in quadruplicate and shall contain, within the body of the request, the commercial specification number, model or type number, or name of the article, together with the corresponding Army and Navy model, type, or drawing numbers. If release for export sale is desired on an articles on which a license to export is required, the information furnished in the request for release shall correspond to that contained in the application for the license.

14. Where an article, such as an airplane or engine, embodies major accessories, appliances, instruments, etc., a classified list of such equipment, identified by commercial and Army and Navy model, type, or drawing numbers, shall accompany each copy of the request. This list and data contained therein shall be held restricted from release until the articles on the list have
complete identifying data. Complete identifying data on all features of the article subject to release is required if final, definite action is to be expected. Drawings shall be submitted in the case of installations which cannot be clearly identified by specifications or other descriptive data.

15. Articles which cannot be described except in general terms or under general specifications shall be made the subject of an application for "Release of Information for Negotiation for Foreign Sale" (par. 24) until the exact characteristics of the export article can be determined. Before closing a contract with a prospective buyer, this request for release of information shall be followed by an application for "release for export" of the article accompanied by a detailed specification containing the information set forth in paragraphs 13 and 14 above.

16. Requests for release for export received from parties other than the manufacturer of the article will be referred by the War or Navy Department to the manufacturer for definite identification of the article prior to granting the release unless such identification is clearly unnecessary.

Part IV

RELEASE OF ARTICLES AND DATA FOR EXPORT AND DOMESTIC SALE

17. The following information relative to the eligibility of various articles and data for release for export and domestic sale may be used as a guide to manufacturers in submitting applications for release.

18. Articles with changes affecting performance or use. In general, the release of an article does not include the release of that article with basic changes which affect the performance or use of the original article under which a release has been granted. Where an article has undergone such a change, a new specification, with changes indicated, should be submitted for approval.

19. Delivery of released articles. Articles which are released shall not, in general, be permitted to be delivered until after completion of delivery of similar articles to the army or navy, except where this may delay the delivery of such articles an unreasonable length of time and no delay in army or navy deliveries results.

20. Military combatant aircraft will not be released for export for at least 6 months after the delivery of the second production article of the first service test or production contract.
21. Military noncombatant aircraft may be released for export at any time after the delivery of the "second production article" of the first service test or production contract.

22. Experimental military aircraft submitted to or procured by the War or Navy Department for an evaluation competition and of which no service test or production quantity is procured will not be released for foreign sale until aircraft procured as a result of the evaluation competition (or aircraft procured in subsequent competitions in the event that no procurement results in the first competition) are considered eligible for release for export.

23. Commercial aircraft falling within either (a) or (b) of the restricted categories listed under "Scope of Release Policy," paragraph 3, may not be released for export until the military aircraft, part or all of whose features they incorporate, is considered eligible for release for export.

24. Aircraft engines rated at more than 400 horsepower at rated altitude will not be released for export until at least 6 months after the delivery of the first engine on the first production or service test contract, or until delivery of the first subsequent engine of improved performance.

25. Aircraft engines rated at less than 400 horsepower at rated altitude may be released for export at any time.

26. Aircraft equipment and accessories peculiar to military use or of marked military value. Items of aircraft equipment and accessories peculiar to military use or of sufficiently advanced design to render them of marked military value will not be subject to release for export until:

(a) They are in such general use as manifestly to make their release advisable; or
(b) Improved articles of equipment or accessories are available for production.

27. Aircraft equipment and accessories not peculiar to military use nor of military value. Items of aircraft equipment and accessories not peculiar to military use nor of sufficiently advanced design to render them of marked military value may be released for export at any time.

28. Release of aircraft designs. Designs, submitted in compliance with proposals for design competition and not accepted, may be considered for release for foreign sale, the decision in each individual case being based upon its merits.
29. Release of information incidental to license for manufacture abroad. -- Release for licensing for manufacture abroad will, in general, be withheld for 6 months after the release for export of aircraft, engines and items of aircraft equipment and accessories. Requests for release for this purpose shall be accompanied by a list of all drawings, specifications, design and manufacturing data which the manufacturer proposes to furnish the foreign licensee.

30. Inventions of purely military use. -- Release for export or public description will be withheld indefinitely on any aircraft, engines, or items of aircraft equipment or accessories containing features so novel as to constitute them new inventions of purely military use.

31. Release for domestic commercial use. -- Articles coming within the two categories (a) and (b) of paragraph 3 above may be considered for release for domestic commercial use at any time. Guiding factors considered will be the degree to which confidential information will be disclosed or the benefit to be derived by the Government in releasing the articles for commercial use.

Part V

RELEASE OF INFORMATION

32. The security that can be afforded naval and military matters involves a compromise between the ideal of positive secrecy and the many modifying factors that are involved. As a security measure information on all articles in use solely or primarily by the military services is in general initially confined to those civil and military personnel who in the interests of national defense must have this information for the manufacture or use of these articles. The manner in which this information may be released for more general dissemination is set forth in the contracts under which the articles are procured and in regulations of the War and Navy Departments. The following specific rules are applicable to the release of information involved in the release for foreign or domestic sale or license of articles within the scope of this policy.

33. Release of information -- general. -- In general information on the characteristics or performance of aircraft, engines or aircraft equipment and accessories falling within the categories under the purview of this policy is not eligible for general disclosure in any manner until the aircraft, engine, item of equipment, or accessory concerned becomes eligible for release for export.
44. Release of information for negotiation for foreign sale. Prior to the date of release of an article for export, manufacturers may, upon request, be permitted to disclose confidentially, as necessary to negotiate contracts, general information on the characteristics or performance of aircraft, engines, items of equipment and accessories (except detail design and manufacturing data) which have been approved by the War and Navy Departments for export sale at some future date provided that this information shall not be disclosed prior to the delivery of the "second production article" or first engine of the first production contract. Information so disclosed shall not be considered available for publication and manufacturers shall handle such information in a restricted status until it is specifically released for publication. A copy of the detailed information which the manufacturer desires to disclose for the purpose of negotiating contracts shall be furnished the War or Navy Department with the request for its release.

45. Release of information incidental to release of articles for domestic use. Information on an article released for domestic sale in advance of release for export sale will be maintained in a restricted status. Special restrictions may be prescribed by the War and Navy Departments at the time the release is granted and the manufacturers will be required to explain, in detail, to prospective or actual buyers the status in which the Army and Navy hold the article and the responsibilities of the buyer in maintaining this status.

46. Release of information incidental to release of articles for export sale. The release of an article for export sale carries with it the release of only such information as can be obtained from the observation, inspection, or use of the specific article itself. This release does not extend to design and manufacturing data which must be specifically released as provided in paragraph 29 of this policy.

47. Release of information incidental to obtaining United States patents. In so far as concerns the disclosure of information restricted by contract clauses or by regulations of the War and Navy Departments for the purpose of maintaining the secrecy of the subject matter of the contracts, the War and Navy Departments interpose no objection to manufacturers filing applications for domestic letters patent on any inventions incident to contract for articles within the scope of this policy. It is to be understood, however, that the consent of the War or Navy Department to the filing of the applications for letters patent in no way negatives, in whole or in part, the restrictive effect of the contractual provisions above mentioned. Therefore, action on any development growing out of the patent application and requiring or tending to require the disclosure of the subject matter in question to a third party shall be withheld until
consent for the subject disclosure has been obtained from the War or Navy Department. Furthermore, if and when the Patent Office issues a Notice of Allowance on any application in question, the contractor shall notify the contracting department within 30 days from the date of the Notice of Allowance so that the necessary steps may be taken to prevent issuance of the patent if such issuance would disclose, to the public, information which the War or Navy Department desires to retain in a restricted status for reasons of military secrecy, in which case the patent application will be placed under the provisions of United States Code, title 35, section 37 (Revised Statutes, sec. 4894).

38. Release of information incidental to obtaining foreign patents. -- In so far as concerns the disclosure of information restricted by contract clauses or by regulations of the War or Navy Department for the purpose of maintaining the secrecy of the subject matter of the contracts, the disclosure of such restricted information on articles within the scope of this policy as necessary to protect the manufacturer's or inventor's foreign patent rights on these articles will normally be permitted when the articles are released for domestic commercial use, or when the articles will become eligible for export within the ensuing 6 months.

Part VI
MISCELLANEOUS

39. Contracts with foreign purchasers. -- As soon as legally executed, a copy of each contract with a foreign purchaser, or an agent for a foreign purchaser, involving the manufacture and export of articles under the purview of this policy shall be furnished the War and Navy Departments for information. In submitting copies of these contracts, the financial consideration of the contracts may be omitted.

40. Inspection of released articles. -- Articles or data falling within the purview of this policy will be subject to inspection by representatives of the War and Navy Departments at any time prior to shipment beyond the continental limits of the United States.

41. Foreign inspection at aircraft plants manufacturing for the War or Navy Department will be permitted only when specifically authorized by the War or Navy Department and then only under special circumstances.

42. Pilot and passenger flights by foreign representatives for demonstration purposes in aircraft coming within the scope
of paragraph 3 above shall not be permitted whether or not such aircraft have been released for foreign sale.
SENATOR NYE: I should like to have printed the statement over the signatures of Mr. Johnson and Admiral Leahy, under date of August 10, 1938, appearing on the flyleaf.

THE CHAIRMAN: And also the title.

SENATOR NYE: Well, it will all be in the record.

THE CHAIRMAN: Yes.

SENATOR NYE: Paragraph 3 of this document reads as follows, under the title, "Scope of Release Policy":

"The provisions of this policy are applicable only to such articles as fall within one of the two following categories, and only such articles are considered to come within the purview of this policy:

(a) Articles, the whole or any features of which have been or are being developed or manufactured by or for the War Department or the Navy Department or with the participation of either of those Departments; and

(b) Articles, the whole or any features of which have been used or are being used by the War Department or the Navy Department or which either Department has contracted to procure.

Included in articles developed by or for the War or Navy Department are those articles, the development of which has been contracted for by either of these Departments or which have been developed in accordance with Army or Navy specifications and submitted to either Department for evaluation for
Now, Admiral, I should like to have you tell the committee just what that means.

ADMIRAL LEAHY: My understanding of it is that in any request for the sale or export of military aviation equipment, it is intended that the two Departments concerned shall refer to the Aeronautical Board aviation equipment which meets with the specifications in subparagraphs (a) and (b).

SENATOR NYE: That there shall be no release of any articles that lend themselves to those descriptions without the approval of the Aeronautical Board? Is that a fair statement?

ADMIRAL LEAHY: I would say without consultation with the Aeronautical Board.

SENATOR NYE: Meaning, of course, that you could not in some instances prevent the industry from going ahead and making sales in spite of your protest?

ADMIRAL LEAHY: I think there are means of preventing the sale by industry of any naval equipment which we believe should not be so disposed of.

SENATOR NYE: Did the Navy have any interest in the light bomber built by the Douglas people, which was involved in the crash out in California, resulting in the death of the pilot and injury to a member of the French Military
procurement."

Now, Admiral, I should like to have you tell the committee just what that means.

ADMIRAL LEAHY: My understanding is that in any request for the sale or export of military aviation equipment, it is intended that the two Departments concerned shall refer to the Aeronautical Board aviation equipment which meets with the specifications in subparagraphs (a) and (b).

SENATOR NYE: That there shall be no release of any articles that lend themselves to those descriptions without the approval of the Aeronautical Board? Is that a fair statement?

ADMIRAL LEAHY: I would say without consultation with the Aeronautical Board.

SENATOR NYE: Meaning, of course, that you could not in some instances prevent the industry from going ahead and making sales in spite of your protest?

ADMIRAL LEAHY: I think there are means of preventing the sale by industry of any naval equipment which we believe should not be so disposed of.

SENATOR NYE: Did the Navy have any interest in the light bomber built by the Douglas people, which was involved in the crash out in California, resulting in the death of the pilot and injury to a member of the French Military
ADMRAL LEAHY: I have no detailed information in regard to the plane to which you refer. I think it is correct, however, to say that the Navy had no interest in that particular plane.

SENATOR NYE: You have no knowledge that the Navy had contributed any suggestions whatsoever that were being incorporated into that plane?

ADMRAL LEAHY: I have no such knowledge.

SENATOR NYE: Mr. Johnson, do you have any knowledge whether the Army had made any suggestions or had any interest whatever involved in that particular plane?

ASSISTANT SECRETARY JOHNSON: The Army had arranged for a test on March 15, which was open to anyone, with reference to planes coming within the general limitations laid down by the Army.

SENATOR NYE: Had the Army asked for inclusion in that plane of any feature which they were anxious to have developed? Do you know as to that, or should I ask General Arnold regarding that?

ASSISTANT SECRETARY JOHNSON: I think you could get a more satisfactory detailed answer from General Arnold on that. That was a development that started back in 1937.

SENATOR NYE: General Arnold, did you hear the question that I propounded relative to the possibility of Army inter-
est in this light bomber involved in the crash in California?

GENERAL ARNOLD: Yes; I did.

SENATOR NYE: Tell us generally what, if anything, the Army interest was in that particular plane.

GENERAL ARNOLD: That plane was being developed as the result of Army specifications issued for the purpose of securing a light bomber airplane for a test to be held in March, 1939.

SENATOR NYE: Had the Army any considerable amount of money tied up in these specifications?

GENERAL ARNOLD: The specifications came as the result of a meeting of a technical committee of the Air Corps, and after approval by the Chief of the Air Corps and the War Department General Staff they were adopted for the guidance of any manufacturer who might be interested in submitting planes of that kind.

SENATOR NYE: You speak of specifications, General. They were not in the form of blueprints?

GENERAL ARNOLD: No; just a general idea of the characteristics that we desired in that airplane. The manufacturers were given free rein to accomplish that purpose.

SENATOR NYE: When you decided on that plane, enumerated in the specifications, I suppose you felt that you would have a distinct advantage in the possession of a plane of that kind?
GENERAL ARNOLD: The idea was by means of this evaluation test to secure the best possible attack bomber that American industry could produce.

SENATOR NYE: General, during the progress of the building of that particular bomber, did agents of the War Department have access to the construction, so as to make suggestions to be further built into that plane?

GENERAL ARNOLD: No. That was supposed to be the outgrowth of the ideas of the manufacturer. The War Department keeps its ideas out, pending the completion of the plane, so the manufacturer cannot say he received more or less help than another.

SENATOR NYE: Are other manufacturers engaged in constructing a light bomber in keeping with those same specifications?

GENERAL ARNOLD: Yes.

SENATOR NYE: How many?

GENERAL ARNOLD: It is hard to say definitely. Some have since withdrawn, and some never proceeded further than the blueprint stage. We know that the Glenn Martin Company is building one; that the Stearman Branch of the Boeing Company has built one; that the North American Company is building one; and that another company, the Douglas Company, had built one.

SENATOR NYE: All of them in keeping with the same general specifications?
GENERAL ARNOLD: In general keeping with those specifications.

SENATOR THOMAS OF UTAH: Tell us what you mean by "specifications" in this particular instance.

GENERAL ARNOLD: We have certain desirable features that we expect to secure with reference to airplane construction.

SENATOR THOMAS OF UTAH: Do you have specifications as to the height?

GENERAL ARNOLD: Just a general idea. In respect to that particular bomber the limit was 5,000 feet. The Board felt that for the military use of that bomber, a limit to 5,000 feet would result in the maximum tactical.

SENATOR HOLMAN: There were other specifications than flying specifications, were there not? Were there not specifications relative to sight?

GENERAL ARNOLD: We have distributed to all manufacturers what we call a handbook, which gives specifications for the building of airplanes which will meet our specifications, and the detailed instructions are contained in the handbook.

SENATOR HOLMAN: My point had to do with flying apparatus and fighting.

GENERAL ARNOLD: I do not have all these specifications with me.
SENATOR NYE: Speaking generally, were there new appliances to be built into that plane?

GENERAL ARNOLD: It was only a matter of performance, to get maximum performance. We do not try to give details by which they must build them. We give them range, so far as we can, so as to get a better competition.

SENATOR NYE: General, you anticipated from these specifications that planes would be brought into competition for sale to the Army that would afford a distinct advantage to the country's national defense, did you?

GENERAL ARNOLD: Yes.

SENATOR NYE: That is all I wish to ask the General right now.

Admiral Leahy, what was the occasion for the issuance of this declaration of policy for the information of the trade? Had there been any unfortunate experiences encountered prior to its issue?

ADMIRAL LEAHY: There had been some questions as to whether or not naval aviation equipment should be released for sale. There was to my knowledge no formulated policy, and it appeared to be advantageous to furnish the industry and the Navy Department with a statement of policy which would guide both in relation to the sale or export of naval aviation material.

SENATOR NYE: How long was that policy being formulated?
ADMLRAL LEAHY: I do not know, sir.

SENATOR NYE: Mr. Johnson, do you know?

ASSISTANT SECRETARY JOHNSON: I do not know, but it is my understanding there was a policy of that kind in existence sometime earlier.

SENATOR NYE: I think there is a note in the pamphlet that indicates that.

ASSISTANT SECRETARY JOHNSON: That was my understanding at the time. It seems to me I had a previous draft, although I am not certain.

SENATOR NYE: Is it fair to say that policy had been in the making for the last three years or thereabouts?

ASSISTANT SECRETARY JOHNSON: I should not think so, sir. I think this was a revision of a former statement.

SENATOR NYE: I am speaking only of the declared policy, not of any revision, but the policy from its very beginning. When did the first public policy come forth from the Board?

ASSISTANT SECRETARY JOHNSON: I cannot tell you, but I can get that for you.

SENATOR NYE: Was it a matter of two or three years ago?

ASSISTANT SECRETARY JOHNSON: It would be a pure guess on my part to answer that. I shall be glad to furnish that information.

SENATOR NYE: General Arnold, have you participated in
the work of this Aeronautical Board?

GENERAL ARNOLD: Yes.

SENATOR NYE: You were a member of the Board?

GENERAL ARNOLD: I was one member of it.

SENATOR NYE: Were you a member from the beginning?

GENERAL ARNOLD: It has been in existence since 1918. I was made a member of it three years ago.

SENATOR NYE: Was there such a policy as that in existence three years ago?

GENERAL ARNOLD: That release policy took the place of a former policy.

SENATOR NYE: There had been a good deal of consideration and work in perfecting that policy?

GENERAL ARNOLD: Yes.

SENATOR NYE: Through how long a period?

GENERAL ARNOLD: My answer would be a mere guess. I think it took about six months to get it prepared and approved.

SENATOR NYE: To get the release policy prepared?

GENERAL ARNOLD: Yes.

SENATOR NYE: There was a lot of work put in on it?

GENERAL ARNOLD: Yes.

SENATOR NYE: I should like, Admiral Leahy, for you to turn to paragraph 42 in this policy, where we find this declaration:

"Pilot or passenger flight by foreign representatives
for demonstration purposes in aircraft coming within the scope of paragraph 3 above shall not be permitted, whether or not such aircraft has been released for foreign sale."

Does that mean that demonstration flights are forbidden even of planes or aircraft that have been released for foreign sale?

ADMIRAL LEAHY: That seems very clear in its statement that foreign representatives will not be permitted to take flight in Navy aircraft under almost any conditions.

SENATOR NYE: What would be the occasion for a policy so sweeping as that?

ADMIRAL LEAHY: I presume that it was put in for the purpose of making it difficult for foreign representatives to secure information in regard to our confidential equipment on naval planes.

SENATOR NYE: With particular reference to the planes themselves?

ADMIRAL LEAHY: I still think that was intended to prevent the release of confidential information in regard to airplanes. Whether there was any confidential information in the plane itself, or whether it was intended to prevent information regarding military equipment, is not stated in the paragraph. I should think it was inserted for the purpose of protecting our confidential information.

SENATOR NYE: General Arnold, was paragraph 42, which
has just been read, a part of the policy of some time back?

GENERAL ARNOLD: I could not answer that question.

SENATOR NYE: You do not recall that this paragraph was under special consideration by the Board in more recent months?

GENERAL ARNOLD: No; I do not.

SENATOR NYE: Would you care to state for the record, as Admiral Leahy has, the purpose, as you understand it, of this particular paragraph?

GENERAL ARNOLD. My opinion is that it was for the purpose of safeguarding confidential and secret devices in the airplanes.

SENATOR NYE: Would it be with any thought at all of protecting any advantage that might be built into the airplane itself?

GENERAL ARNOLD: I would not think so.

SENATOR NYE: Admiral Leahy, this policy was in effect, was it not, last December?

ADMIRAL LEAHY: It was.

SENATOR NYE: You and Mr. Johnson appear to have signed this paragraph promulgating the new policy. Did the signatures to that require any conference between you and Mr. Johnson at the time?

ADMIRAL LEAHY: It did not.

SENATOR NYE: Mr. Johnson, did you have particular
knowledge of the contents of the policy when you affixed your signature to it?

ASSISTANT SECRETARY JOHNSON: Yes. There was no conference with Admiral Leahy.

SENATOR NYE: Had you worked rather closely with the Aeronautical Board in formulating the policy?

ASSISTANT SECRETARY JOHNSON: No.

SENATOR NYE: You had no knowledge of it until it was brought to you for approval?

ASSISTANT SECRETARY JOHNSON: That is not quite right. I did know about the study that was going on. I knew from the members of the staff of the Air Corps that they were developing one, but the document came to me as the recommendation of the Aeronautical Board, and the Navy representatives on the Board. That is why I gave it most careful consideration.

SENATOR NYE: Admiral Leahy, were you approached at all during this winter with respect to the making of aircraft development available to foreign nations?

ADMIRAL LEAHY: I was not.

SENATOR NYE: Have you ever been asked to make known or available to foreign nations any aircraft advantage of this country?

ADMIRAL LEAHY: I have never been asked to do that.

About the middle of December last the Navy Department
received from the Procurement Division of the Treasury Department a request that they be given the assistance of the advice of one of our officers who was familiar with aircraft procurement, and at that time in reply to that request, which was not unusual, the Navy Department assigned Captain Kraus to advise the Procurement Division; Captain Kraus being the head of the Division of Aircraft Procurement in our Bureau of Aeronautics. He has since advised procurement officers in that work. What this advice amounted to, I do not know. Then, sometime along about Christmas time, we received another request.

SENATOR NYE: This earlier request was about the middle of December?

ADmiral Leahy: About the middle of December, I do not remember the date. Along about Christmas or just before Christmas we received a request that Captain Kraus be permitted to accompany a group of Frenchmen to the Pacific Coast, and that the Navy Department provide transportation by plane for that group.

SENATOR CLARK OF MISSOURI: Was anything said in the first communication with reference to the French mission, when you were asked to assign an officer?

ADmiral Leahy: No; nothing was said to me about that.

SENATOR NYE: Who made the first request?

ADmiral Leahy: I am not certain. I think it was a
telephone request from the Procurement Division of the Treasury Department. That would be the normal way to receive it.

SENIOR NYE: Do you have any recollection as to who made the second request, specifically, for the Navy to transport this mission to California?

ADMIRAL LEAHY: I am practically certain that request was made by Rear Admiral Peoples, who is Procurement Officer of the Treasury Department. That request was granted, and that is all I know about it. I asked Captain Kraus at the time of the second request whether or not the French Mission was interested in naval planes, and he said it was not.

SENIOR NYE: When you assign an officer to another department, is that officer under any obligation to make a report of his activities to his first department, in this case the Navy Department?

ADMIRAL LEAHY: I should think not, although he did keep me informed. I knew Captain Kraus was advising the Procurement Division in regard to the availability of aircraft facilities in this country for the manufacture of planes. I knew that because he told me, keeping me informed of what was going on.

SENIOR NYE: Did the Procurement Division, to your knowledge, make a like request of the War Department?

ADMIRAL LEAHY: I do not know.

SENIOR NYE: Mr. Johnson, do you know?
ASSISTANT SECRETARY JOHNSON: I cannot give you a categorical answer. I did not know about that matter until the latter days of December, after Christmas.
GENERAL, did you have any definite knowledge about this prior to the time you mention in December?

GENERAL ARNOLD: No, sir.

SENATOR NYE: Admiral, did you have any definite knowledge prior to the time you have described as being about the middle of December?

ADMIRAL LEAHY: I think it was after that, Senator, when the request came for transportation to the Pacific Coast.

SENATOR NYE: Late in December?

ADMIRAL LEAHY: Late in December. I think that is the first time I knew there was a French Mission in this country looking into our facilities for building airplanes.

SENATOR THOMAS OF UTAH: Admiral, if I understood you correctly, you said, I believe, that the request that came to you from the Procurement Division was not unusual. Did I understand that correctly?

ADMIRAL LEAHY: That is correct, Senator; it is not unusual. It is quite in the ordinary course of events for another department of the government to ask the Navy Department for temporary assistance by some of its experts.

SENATOR THOMAS OF UTAH: Well, would the request that you furnish transportation to a foreign delegation be unusual?

ADMIRAL LEAHY: That is the only case that I have any
knowledge of, but if such a request should come from another department of the government, it would be granted if we had the facilities available.

SENATOR CLARK OF MISSOURI: Admiral, had the Procurement Division of the Treasury ever shown any interest before this incident in the manufacture or procurement of military or naval airplanes, so far as you know?

ADMIRAL LEAHY: Not to my knowledge.

SENATOR CLARK OF MISSOURI: The Procurement Division of the Treasury has nothing on the face of the earth to do with the procurement of naval airplanes, does it?

ADMIRAL LEAHY: It has nothing to do with the procurement of naval airplanes.

SENATOR NYE: General Arnold, do you have knowledge of any request made of the War Department for the assignment of someone in the Department to serve with the Procurement Division of the Treasury?

GENERAL ARNOLD: On the 21st of December, sir.

SENATOR CLARK OF MISSOURI: How is that?

GENERAL ARNOLD: On the 21st of December, sir.

SENATOR NYE: By whom was that request sent to the War Department?

GENERAL ARNOLD: I have no idea, sir.

SENATOR NYE: Was it in writing?

GENERAL ARNOLD: I have no idea, sir.
SENATOR NYE: Well, then, from whence, General, comes your knowledge that such a request was made?

GENERAL ARNOLD: The Secretary of War asked me to give the name of an officer to serve with the Procurement Division of the Treasury Department to represent the War Department.

SENATOR NYE: Mr. Johnson, you have no knowledge of that particular request, do you?

ASSISTANT SECRETARY JOHNSON: Of the making of it; no. Only the later advice, after I had first heard of it having been requested.

SENATOR NYE: You knew nothing of the request before it was granted?

ASSISTANT SECRETARY JOHNSON: No, sir; not until shortly thereafter.

SENATOR NYE: General Arnold, who was assigned as a result of this request?

GENERAL ARNOLD: Major Fairchild, M. S. Fairchild of the Air Corps.

SENATOR NYE: Was Major Fairchild under any obligation to report back to the War Department or his superiors in the Department?

GENERAL ARNOLD: He was given instructions to report back to me everything that happened.

SENATOR NYE: So far as you know, he did this?
GENERAL ARNOLD: So far as I know, he did this.

SENATOR NYE: Admiral Leahy, you don't know if there was any particular requirement on the part of Captain Kraus to report back to you, but you felt that he would?

ADMIRAL LEAHY: There was no such instructions given to him, but I am sure that he did keep me informed in regard to the matter under discussion in the Procurement Division.

(Discussion off the record.)

SENATOR NYE: Admiral Leahy, what was your first knowledge of the existence of a French Mission to purchase planes in America?

ADMIRAL LEAHY: My first knowledge of the existence in America of the French Mission was late in December, shortly before Christmas. I am not certain that I knew the mission intended to purchase planes; that was not told to me.

SENATOR NYE: General Arnold, what was your first knowledge, again, for the purpose of making the record doubly clear, of the existence of the French Mission in this country?

GENERAL ARNOLD: I would first like to answer off the record.

(Discussion off the record.)

GENERAL ARNOLD: On the 20th of December, from Admiral Cook of the Navy.
(Discussion off the record.)

SENATOR NYE: General Arnold, there was no request made of your office or of the Department prior to this 21st day of December, 1938, for access to and study or demonstration of aircraft at the Douglas plant in California?

GENERAL ARNOLD: No, sir.

SENATOR NYE: And when came your first knowledge of the desire of the French Mission to observe this newest bomber in the Douglas plant?

GENERAL ARNOLD: I got it unofficially from Admiral Cook the day before, on the 20th of December.

SENATOR THOMAS OF UTAH: May I ask who Admiral Cook is?

GENERAL ARNOLD: Chief of the Bureau of Naval Aeronautics.

SENATOR NYE: Did your office at that time in any way protest against giving access to the French Mission to demonstrations in the Douglas plant?

GENERAL ARNOLD: That happened late in the afternoon of the 20th, and the next day I got the information from the Secretary of War, and I did protest to him.

SENATOR CLARK OF MISSOURI: Did what, General?

GENERAL ARNOLD: I protested to him.

SENATOR CLARK OF MISSOURI: To the Secretary of War?
GENERAL ARNOLD: Yes, sir; protested to the Secretary of War.

(Discussion off the record.)

SENATOR NYE: Admiral Leahy, do you have any knowledge of any protest that was made by the Navy Department?

ADMIRAL LEAHY: No protest was made by the Navy Department, Senator.

SENATOR CLARK OF MISSOURI: They were not getting any of your planes, were they, Admiral?

ADMIRAL LEAHY: They were not, sir.

SENATOR NYE: General Arnold, was this release policy for aircraft and aircraft equipment brought specifically into execution at the time of this protest?

(Discussion off the record.)

SENATOR NYE: On what grounds did you protest, General?

GENERAL ARNOLD: On the ground it did not conform with the release policy.

SENATOR NYE: General Arnold, when was this matter next brought to your attention in a way that called for official consideration and action?

GENERAL ARNOLD: On the 22nd of December.

SENATOR NYE: What was the requirement upon your Department at that time?

GENERAL ARNOLD: I was called for a conference in...
the office of the Secretary of War, with the Secretary of
War and the Deputy Chief of Staff.

SENIOR NYE: With the Assistant Secretary of War?
GENERAL ARNOLD: No; with the Secretary of War and
the Deputy Chief of Staff.

SENIOR NYE: Was there any representative of the
Procurement Division of the Treasury present?
GENERAL ARNOLD: Not at that time, sir.

SENIOR NYE: What was the consideration at that
time?

GENERAL ARNOLD: The consideration was as to what
the War Department should do in connection with selling these
planes,—planes that were not on the release list, to the
French Government.

SENIOR NYE: Was there any decision reached at that
meeting?

GENERAL ARNOLD: The decision reached was that we
would go to the Secretary of the Treasury with a view of
securing additional information in presenting the War De-
partment's viewpoint.

SENIOR CLARK OF MISSOURI: General, was there a
memorandum prepared to be left with the Secretary of the
Treasury setting forth the War Department's views?

GENERAL ARNOLD: Is this to be on the record, or off?

SENIOR CLARK OF MISSOURI: It is on.

(Discussion off the record.)
GENERAL ARNOLD: I can say I believe there was a memorandum signed by the Secretary of War. That is the best I can give you on that.

SENATOR CLARK OF MISSOURI: All right; if that is the General's answer, I guess we can get the information for the Senators elsewhere.

SENATOR MINTON: The position of the War Department was not because they were objecting to all plans to secure planes, but all the War Department was objecting to was because it might reveal certain plane performance?

GENERAL ARNOLD: That is correct.

SENATOR MINTON: That is, it is not interfering with all plans to secure planes?

GENERAL ARNOLD. That is right.

SENATOR CLARK OF MISSOURI: Is that on the record, or off the record? Now, he has not testified as to the grounds of the memorandum.

SENATOR MINTON: I never asked him anything about what was in the memorandum. I am just getting him to state for the record what I understood from the impression I got as to the attitude of the War Department, that the War Department was protesting that the sale of these planes, as I understood, was interfering with our program to procure planes, but also they objected because it might reveal plane performance to a foreign country contrary to the policy.
established by the War Department.

SENATOR CLARK OF MISSOURI: Are you testifying, or the General?

SENATOR MINTON: I am giving my impression, and if anybody says that is not right, let them speak up, or hold their peace.

General, was that the ground of the objection?

GENERAL ARNOLD: The grounds of the objection, as far as I could recall now, were based upon the release policy, in that this did not conform to the release policy.

SENATOR CLARK OF MISSOURI: Let me ask you this, then, General: Was it your idea, as the technical head of the Air Service that the sale of a large number of these planes to France, or to any other country, would interfere with the program contemplated by the United States Army?

GENERAL ARNOLD: It would not interfere if carried out in accordance with the numbers as represented that the French wished to procure. It was also brought out in the conference that the authorized orders would be so arranged so that it would not interfere with our production.

SENATOR MINTON: In other words, when we were ready to go into the market, the French would have to go out of our way?

GENERAL ARNOLD: That is the understanding I had, sir.

(Discussion off the record.)
SENATOR NYE: Mr. Chairman, I hesitate to question General Arnold any further, except we might wish to question him after questioning or while questioning Secretary Branding.

THE CHAIRMAN: Very well. Proceed with Admiral Leahy, then. Do you want to ask a question?

SENATOR HOLMAN: I wanted to ask one question of the General, if I may.

THE CHAIRMAN: Certainly.

SENATOR HOLMAN: You use the word "performance" as to the use of these machines. "Performance," I would gather, consists of two elements; one meaning the flight of the machine, and one as to the operation of the machine as to a war weapon; is not that so?

GENERAL ARNOLD: I use the word "performance" rather loosely. As used by me, it meant not only the performance of the airplane in the air, but also its performance on the ground and its suitabiltiy as a military weapon.

SENATOR HOLMAN: Well, and that would include its facility for dropping bombs or shooting projectiles, or something of that kind, would it or would it not?

GENERAL ARNOLD: In a general way.

SENATOR HOLMAN: The entire machine?

GENERAL ARNOLD: In the loose way in which I use the word "performance"; that is correct.
SENATOR HOLMAN: All right; yes.

SENATOR NYE: Is Captain Kraus here?

THE CHAIRMAN: Yes. Do you want him now, or do you want to finish?

SENATOR NYE: I think I am finished with Admiral Leahy.

THE CHAIRMAN: Admiral, let me ask you one question, then: Did you participate in any conference with War Department officials in the matter of planes desired by the French Mission?

ADIMRAL LEAHY: I did not, Senator.

THE CHAIRMAN: Does any one else wish to ask any questions?

SENATOR NYE: You have related, Admiral, what was your entire acquaintance officially with this visit by the French Mission?

ADIMRAL LEAHY: That is correct, sir; I think I have told you everything I know about the visit of the French commission to this country.

SENATOR NYE: Thank you, Admiral.

THE CHAIRMAN: Does any other Senator wish to ask the Admiral a question?

Very well, Admiral; thank you very much.

Do you want Captain Kraus?

SENATOR NYE: I wonder if there is any need of keeping Secretary Johnson any further. I will propound this
question, and we will see.

Mr. Secretary, did you have any contact with this matter beyond what has already been revealed, speaking specifically of the visit of the French Mission?

THE CHAIRMAN: Suppose we hear from him now as to what he knows about the entire matter, or would you rather wait until after the Captain?

SENATOR NYE: No; I think this is a fine time, if he has anything to say at all.

ASSISTANT SECRETARY JOHNSON: I don't mind waiting.

SENATOR NYE: I haven't any more questions. If he wanted to make any statement, I think this is a fine time to do it.

THE CHAIRMAN: Suppose you give us your connection with the entire matter.

ASSISTANT SECRETARY JOHNSON: You are asking that question?

THE CHAIRMAN: That is the question, isn't it; what was the extent of his connection with the entire matter?

SENATOR NYE: That is right. If you have anything more to say, Mr. Secretary, on that, now is the time.

ASSISTANT SECRETARY JOHNSON: In the period in between Christmas and New Year's, as I have already suggested, I first heard about it. Christmas was a Sunday, wasn't it; and the 21st -- it was the 29th of December when the Secretary of War
and myself discussed it. And there were many discussions after that.

There was no disagreement at any time between the Secretary of War and myself about this. The report in the newspaper that I had been contacted by the French Mission prior to that time, or by Ambassador Bullitt, I believe the newspaper said, is absolutely erroneous. Ambassador Bullitt never contacted me about this, as stated in the press.

SENATOR NYE: Incidentally, I have never seen such report.

ASSISTANT SECRETARY JOHNSON: I saw it in the New York Times, but there was no such contact.

SENATOR CLARK OF MISSOURI: It has never been testified to here.

ASSISTANT SECRETARY JOHNSON: I did not see it anywhere else except that one place.

The contact I had, then, was from that time on, and was purely routine. The procurement of planes and all of that is by statute in the office of the Assistant Secretary of War, under the direction of the Secretary of War. And I was familiar with the situation from that time on, when it was determined that the French might see this ship.

SENATOR CLARK OF MISSOURI: There was that determination, Mr. Secretary?

ASSISTANT SECRETARY JOHNSON: Do you mind putting that
off the record first until we discuss whether it should or should not go off the record?

SENATOR CLARK OF MISSOURI: I am perfectly willing to have it discussed, but I think this is the gist of the whole matter.

ASSISTANT SECRETARY JOHNSON: The authorization to me and to Secretary Woodring --

THE CHAIRMAN: Is this off the record or on the record?

SENATOR CLARK OF MISSOURI: I think the Secretary is to decide later whether it is to go on the record or off the record.

THE CHAIRMAN: Go ahead.

ASSISTANT SECRETARY JOHNSON: The authorization to Secretary Woodring and myself was by the President of the United States in a conference at the White House. Pursuant to the conference, there was discussion there --

SENATOR CLARK OF MISSOURI: When was that conference, Mr. 'secretary?

ASSISTANT SECRETARY JOHNSON: Senator, I am hazy as to the date of that. I can give you the exact date it was announced in the press. This conference was attended by Mr. Woodring and myself, and then after that it was announced in the press, and I can give the exact date.

SENATOR CLARK OF MISSOURI: It is not important.
ASSISTANT SECRETARY JOHNSON: After that authorization, in conference between Secretary Woodring and General Craig and myself, it was agreed that I should handle the matter and treat it as routine, as we would treat any other foreign purchase.

SENATOR CLARK OF MISSOURI: Well, that was not in accordance with your routine, was it, Mr. Secretary?

ASSISTANT SECRETARY JOHNSON: From this point on, it has been entirely routine.

SENATOR CLARK OF MISSOURI: I mean, the whole practice was in violation or certainly in derogation of the established rule which you had had up to that time, was it not?

ASSISTANT SECRETARY JOHNSON: Senator, being a lawyer, I would like to answer yes or no. But I can't do that exactly here. This is a plane which was not built with Government funds, but was being built to enter into government competition.

SENATOR CLARK OF MISSOURI: Being built to government specifications, was it not?

ASSISTANT SECRETARY JOHNSON: Specifications as to objectives; not as to how, in any sense. And therefore as a lawyer, I think you and I would have to agree that these regulations, government funds not being involved, did not cover that particular ship.
SENATOR CLARK OF MISSOURI: Is it your position, Mr. Secretary, that a ship being constructed according to government specifications for entry in government competition was not covered by your regulations?

ASSISTANT SECRETARY JOHNSON: Now, Senator Clark, I want to give you an answer to that question, but I would like to discuss that off the record first.

SENATOR CLARK OF MISSOURI: All right; go ahead. (Discussion off the record.)

SENATOR CLARK OF MISSOURI: Would you read that last question, now?

THE REPORTER: "Is it your position, Mr. Secretary, that a ship being constructed according to government specifications for entry in government competition was not covered by your regulations?"

SENATOR CLARK OF MISSOURI: The Secretary said he wished that to be off the record, and I wish to find out what he does wish to be off the record.

Do I understand, Mr. Secretary, it is your position that it involves a military secret for the Assistant Secretary of War to state to this committee whether or not it was the position of the War Department that exactly the same situation applied to the Douglas plane involved in the accident that applied to the so-called P-40?

ASSISTANT SECRETARY JOHNSON: Senator Clark —
SENATOR CLARK OF MISSOURI: That is what I understand.

ASSISTANT SECRETARY JOHNSON: I don't think your last question involved that.

SENATOR CLARK OF MISSOURI: You certainly stated that was a military secret.

ASSISTANT SECRETARY JOHNSON: Oh, not a military secret, but something we were discussing; it is the basis of all we were discussing.

SENATOR CLARK OF MISSOURI: That was certainly the question on which you stated, as nearly as I recall it --

ASSISTANT SECRETARY JOHNSON: Senator, that was to the previous question.

SENATOR CLARK OF MISSOURI: No; you stated that on this last question. If the Assistant Secretary of War refuses to answer that on the ground of being a military secret, I will have to take some other means.

ASSISTANT SECRETARY JOHNSON: The Assistant Secretary of War does not refuse to answer your question on the ground of being a military secret.

SENATOR CLARK OF MISSOURI: All right; will you answer that question? That is the question I understood you to say was a military secret. What was the question that you refer to?

SENATOR MINTON: Let us have it read.

THE REPORTER: "Do I understand, Mr. Secretary,
it is your position that it involves a military secret for the Assistant Secretary of War to state to this committee whether or not it was the position of the War Department that exactly the same situation applied to the Douglas plane involved in the accident that applied to the so-called P-40?"

ASSISTANT SECRETARY JOHNSON: Neither directly nor indirectly do I intend to give any such impression, that that is a military secret. The Curtiss P-40 is a ship owned by the Government, developed with Government funds, and to which legally, in my humble opinion, the regulations do apply. The Douglas attack bomber is a ship being built by a manufacturer to general specifications, without the use of Government funds, and which the manufacturer can at any time up until the actual entering into the competition, which in this case is March 15th, I believe, either enter or not, as the manufacturer may elect; and there is no power vested in the War Department or the government presently to compel the entry of that ship into the competition, even though it may have been built to the general objectives asked for in the circular proposal.

SENATOR CLARK OF MISSOURI: But did not the War Department take the position that the regulations did apply to this Douglas pursuit bomber in that it was precisely on the same footing as the P-40; was not that the position of the War Department?
ASSISTANT SECRETARY JOHNSON: Senator, the War Department concedes there is a difference between these two ships, but I do not mean by that to negative the testimony you already have, that there was objection to both ships, because it is true there was.

SENATOR CLARK OF MISSOURI: Well, did not the War Department take the position that it would be certainly at variance from the policy of the War Department as set forth in the regulations, to permit the sale of either these ships, either the P-rO or the Douglas ship?

ASSISTANT SECRETARY JOHNSON: I think, sir, the War Department was discussing it on its broad and general basis, rather than on the ground of these specific regulations; and the War Department did state its position to the President of the United States.

SENATOR CLARK OF MISSOURI: The War Department objected to the sale of either one of them, did it not?

ASSISTANT SECRETARY JOHNSON: Yes.

SENATOR CLARK OF MISSOURI: That is all.

(Discussion off the record.)

SENATOR NYE: If we are ready to get back on the record, Mr. Chairman?

THE CHAIRMAN: Yes.

SENATOR NYE: I would like to ask Secretary Johnson whether he had knowledge that the Douglas people were
approached by the French Mission or any one speaking for the French Mission prior to the time when the War Department was brought into consultation in the matter?

ASSISTANT SECRETARY JOHNSON: The first data I had, as I told you, the first knowledge I had of the French Mission in the country in seeking ships, or that they came with that idea, was from the Douglas Company, that they had been approached.

SENATOR NYE: They had been approached?

ASSISTANT SECRETARY JOHNSON: Yes; that they had been approached, that an approach had been made, and they were wanting to know from the War Department, what about it.

SENATOR NYE: Do you know what the approach was?

ASSISTANT SECRETARY JOHNSON: Not of my own knowledge; no, sir.

(Discussion off the record.)

SENATOR NYE: I understood from your testimony, Mr. Secretary, that you had a hand in expediting the order that finally released this particular light bomber plane to the French Mission?

ASSISTANT SECRETARY JOHNSON: That is correct.

SENATOR NYE: Did you draft the order?

ASSISTANT SECRETARY JOHNSON: There was no written order. I think the record shows the authorization Mr. Woodring and I had, and that Secretary Woodring and General Craig and
myself agreed I should handle this matter, and it was at a conference at my office attended by General Arnold, Colonel Burns, my executive assistant, and the representative of the Treasury who had sought the conference, and held at his instance, Mr. Collins, that this matter was discussed. And at that time I directed General Arnold, in accordance with the direction I had, insofar as the Army had any control over this ship or the Douglas Company, or the regulations of the Army had control over the ship, to permit the French Mission to inspect the ship less all army secrets.

SENATOR NYE: You had no hand in drafting the order that General Arnold finally signed?

ASSISTANT SECRETARY JOHNSON: No, sir; never saw it. I gave him verbal direction at this conference I told you about.

(Discussion off the record.)

THE CHAIRMAN: The Aeronautical Board finally released this Douglas plane for sale to the French?

ASSISTANT SECRETARY JOHNSON: No, sir.

THE CHAIRMAN: It was testified that there would be no release without the consultation with the Aeronautical Board; that is one of the rules?

SENATOR NYE: That is right.

THE CHAIRMAN: Well, has it appeared in the testimony that the Aeronautical Board was consulted about
the sale?

ASSISTANT SECRETARY JOHNSON: Senator Sheppard, if it was, I am not so advised. I have given the source of my authority and how I exercised it, and that is all there is to it. It was purely Army routine from the point I was delegated to handle it for the War Department.

THE CHAIRMAN: I will ask General Arnold about that.

GENERAL ARNOLD: The Aeronautical Board, so far as I know, has never released this plane.

SENATOR CLARK OF MISSOURI: General, may I ask:
There are two different phases of the order, one the War Department and one the Navy Department; but as I remember both agreed as to this, that the order itself says that this plane was to be shown to those Frenchmen with the view to inspection and purchase?

GENERAL ARNOLD: That is correct, sir; that is correct.

ASSISTANT SECRETARY JOHNSON: And to treat the order --

SENATOR MINTON: Less secrets.

SENATOR CLARK OF MISSOURI: One order said "less secrets" and the other was a copy that did not have it.

ASSISTANT SECRETARY JOHNSON: Now, Senator, there was a copy put in the record. I gave the order, and as I gave it, it said "less all secrets," not just less bomb sights. And that was issued in the presence of these people, many of whom you may recall for verification. And General Arnold
tells me "less all secrets" was the way the order was executed.

SENATOR NYE: We have never had as a part of our printed record this order as outlined here. I think, Mr. Chairman, we should have it now, unless there is objection to its being included in the record.

THE CHAIRMAN: I thought it was entered in the record.

SENATOR NYE: No; all we had in the record was the copy Captain Kraus gave us, which is alleged not to have been a correct copy.

SENATOR MINTON: General Craig had a copy, but it was not put in the record.

SENATOR NYE: Do you see any objection to its being in the record?

GENERAL ARNOLD: No, sir; I don't see any objection.

SENATOR NYE: May I ask at this point, Mr. Chairman, that it might be made a part of the record?

THE CHAIRMAN: It is marked "confidential". I don't know whether it should be.

SENATOR NYE: General, it is marked "confidential". What have you to say as to that relationship?

(Discussion off the record.)

ASSISTANT SECRETARY JOHNSON: I think the top ought to come off; it has no reference to the message itself.
(Discussion off the record.)

SENATOR NYE: Well, then, let the body of the order as sent by General Arnold be printed in the record at this point.

SENATOR MINTON: May I suggest that it be read, so as not to get anything in the record that should not be.

SENATOR NYE: "Copy. January 19, 1939, memorandum for Chief Signal Officer."

 Might I ask there, General, the Chief Signal Officer's address was what?

GENERAL ARNOLD: Washington, D. C.

SENATOR NYE: "Deliver following message to K. B. Wolfe Quarte Captain Kraus US Navy and three members of French mission will arrive Santa Monica or Mines Field Saturday night Stop Authority granted for them to inspect Douglas attack bomber less secret accessories Comma Fly in same and open negotiations with Douglas Company relative to purchase Stop All negotiations must be made with you as Army representative and Douglas Company Stop Keep this office informed of action taken Stop Above information to be held as confidential Make arrangements for plane demonstration Sunday Unquote Expedite. ARNOLD."

Mr. Secretary, that order was in keeping with the understanding that was accomplished in your meeting at the War Department?
ASSISTANT SECRETARY JOHNSON: Yes.

(Discussion off the record.)

THE CHAIRMAN: Senator Lundeen?

SENATOR LUNDEEN: On that "less secret accessories," it seems to me there is something to a plane besides the accessories. It seems to me the whole plane is a secret, the construction of the whole plane is a secret.

THE CHAIRMAN: What is your answer to that, General Arnold?

GENERAL ARNOLD: I answered that question when I was asked it once before. An airplane is a secret only, the airplane body, now, the frame of the airplane, only up to the point it goes out on the airdrome and starts to fly. Once it goes on the airdrome for flight tests, any one can take a photograph.

SENATOR LUNDEEN: If permitted.

GENERAL ARNOLD: But there is no way to stop them if they use a telephoto lens. And from that photograph, with a knowledge of the engines in there, they can come pretty close to figuring out the actual performance of that aircraft, no matter how secret we want to make it. And they can also get from those same photographs a certain amount of information relative to the type of construction, which may have been a secret, the ratio between the wing spread and the cord, and the size and the shape of the elevators and
the shape of the fuselage. All those things are what go to make it a secret ship; but once it is on the line, all that is done, because anybody can get it from an inspection of the airplane from a short distance away.

SENATOR LUND'EN: Well, of course I am a layman, but it seems to me, Mr. Chairman, that there would be considerable difficulty in duplicating any plane from photographs; although I am not putting my opinion against the experts, or anything of that kind.

THE CHAIRMAN: Have you got that message in shape now?

SENATOR NYE: Mr. Chairman, I think we failed to complete the order that General Arnold suggested to the Chief Signal Officer.

Is it correct, General Arnold, to say that you had requested that this message be sent by the Chief Signal Officer to the Commanding General of the First Wing at March Field in Riverside, California?

GENERAL ARNOLD: Yes, sir.

SENATOR DONNEY: Do you still desire to have a representative from the Douglas Company here Monday? I have communicated that wish to the Company, and they will have some one here prepared to give whatever information they have about this occurrence, if you still want it.

THE CHAIRMAN: What is the wish of the Committee?
SENATOR NYE: I would like to know just two things from the Douglas people: First, what is their practice in dealing with non-military or foreign sources in the sale of aircraft; and second, whether or not they were approached by any private source before this activity within the Department raised to make the demonstration available to them out there.

Now, it may be that Captain Kraus can clear that up this afternoon. If he can, I don't see any particular reason why we should have those people here.

SENATOR DOWNEY: It is a very long, difficult and expensive trip.

THE CHAIRMAN: Could their representative here give us that information?

SENATOR DOWNEY: They are trying to see if there is anybody in New York City who can give that information, and they don't know whether there is anybody in Washington who can give it or not.

THE CHAIRMAN: I can take that up with you tomorrow.

SENATOR DOWNEY: I will find out tomorrow.

THE CHAIRMAN: You want to proceed with Captain Kraus?

SENATOR NYE: If the Committee is finished with Secretary Johnson.

THE CHAIRMAN: Does anybody wish to ask Secretary Johnson any questions?

(No response.)
STATEMENT OF SYDNEY M. KRAUS, CAPTAIN, U. S. NAVY, ATTACHED TO BUREAU OF AERONAUTICA, NAVY DEPARTMENT.

THE CHAIRMAN: Captain, we will be glad to hear from you. Will you identify yourself?

CAPTAIN KRAUS: Sydney M. Kraus, Captain, U. S. Navy, attached to Bureau of Aeronautics, Navy Department.

SENATOR NYE: You have identified yourself for the purpose of the record, Captain?

CAPTAIN KRAUS: Yes.

SENATOR NYE: Are you now associated with the Procurement Division of the Treasury?

CAPTAIN KRAUS: No, sir.

SENATOR NYE: When did you cease your duties there?

CAPTAIN KRAUS: Today.

SENATOR NYE: Today?

CAPTAIN KRAUS: Yes, sir.

SENATOR NYE: You will go back now to the regular service?

CAPTAIN KRAUS: I have returned to my regular duties, exclusively, but I might say, Senator, that I suspect that I might be called on to explain the meaning of some thing or other that may have happened at some time.

SENATOR NYE: You have not been succeeded in the Procurement Division by anyone else from the Naval Service?

CAPTAIN KRAUS: No, sir. I was never regularly
attached to the Procurement Division; I was just loaned to them.

SENATOR NYE: Loaned to them?

CAPTAIN KRAUS: I had been carrying on my regular duties at the Navy Department, and finally the Chief of my Bureau told me to just forget my regular duties and parcel them out to my regular assistants, and I was assigned to this other chore.

SENATOR NYE: What was your assignment in the Navy Department prior to your being loaned to the Procurement Division of the Treasury?

CAPTAIN KRAUS: I was the head of the material branch of the Bureau of Aeronautics, Navy Department.

SENATOR NYE: When were you assigned or when were you loaned to the Procurement Division?

CAPTAIN KRAUS: I think it was the 18th of December.

SENATOR NYE: Do you know what the occasion was for the desire for your services there?

CAPTAIN KRAUS: I think my being assigned to that temporary activity came about in this way, that the Chief of Procurement or the Director of Procurement of the Procurement Division, or the Assistant Director called the Chief of the Bureau of Aeronautics, or the Acting Chief of the Bureau, about then and asked him to come over there or to send over there somebody who was familiar with the capabili-
ties of the various airplane plants, to assist and advise them on a matter dealing with or having to do with aircraft procurement. And I was sent over there on that basis. It was a matter that fell right in the middle of the material activities of the Bureau.

SENATOR NYE: That was on the 18th of December?

CAPTAIN KRAUS: The 18th of December.

SENATOR NYE: Did you have knowledge on that day of the interest of the French in buying planes?

CAPTAIN KRAUS: I had knowledge on that day; yes, sir.

SENATOR NYE: That was the first knowledge you had of it?

CAPTAIN KRAUS: I was advised, or at least it is my recollection that the mission had arrived in the United States either the day before or two days before.

SENATOR NYE: In December?

CAPTAIN KRAUS: In December.

SENATOR NYE: So it is in keeping with your knowledge, then, that the French Mission did not arrive here before the middle of December?

CAPTAIN KRAUS: I think not. There had evidently been some prior discussion of the matter, because it probably dated back months before, oh, many months before, I may say, as to the French interest in the purchase of planes in America. But, so far as I know, there was no mission in America. I
have no way, it is just my impression from my discussion in the Procurement Division in the Treasury, that there was no mission in America prior to about, we will say about the 15th of December, it may have been the 16th or 17th. But they were in Washington on the 18th, because I saw them.

SENATOR NYE: Was there brought to your knowledge any reason to believe that an effort had been made to accomplish entree for the French mission without the aid of the War and Navy Departments and the Procurement Division of the Treasury?

CAPTAIN KRAUS: I don't think so; that is, not by this group that has recently been over here. We don't have any way of knowing who might have been scouting around in the United States. I suppose there are always people scouting around in the United States.

SENATOR NYE: You did not know, then, that the Douglas people had been asked to give right of way to this French mission?

CAPTAIN KRAUS: No, sir.

(Discussion off record.)

CAPTAIN KRAUS: I know that the mission was in Washington, as I remember it, on the 18th of December, because I met them. And some few days, possibly only a day or so after that, they set forth what their needs were, as to quality and quantity.
SENATOR MINTON: Where did you meet them?

CAPTAIN KRAUS: In the Procurement Division.

SENATOR GURNEY: Of the Treasury?

CAPTAIN KRAUS: Of the Treasury. After about a day of discussion as to what their requirements would be in quality and quantity and speed of delivery, the dates of delivery, they displayed an interest in the Douglas light bomber, of which they manifestly had knowledge. I attribute that to the fact the airplane had been flying since sometime in October.

Then with knowledge of what their needs were, the position in the Procurement Division was that they could not be put in contact with, the French mission should not be put in contact with anything on which delivery could not be accomplished approximately within the period which they had set out since, if everything were thrown open to them, the mission might degenerate from a purchasing expedition to a mere fishing expedition. It was therefore necessary, before any move was made with respect to the Douglas light bomber, to ascertain what the probable delivery capabilities were. And at that time I contacted the Douglas Airplane Company, Incorporated, to ascertain what their approximate capabilities were of manufacturing and delivering the airplanes at that time. That was probably about the 20th of December, or the 21st; somewhere along in there. To have done otherwise
would have exposed everything we had merely for, you might say, a circus exhibition in many cases, and might not in any respect have represented any possibility of any purchase. In other words, it would not have been a serious undertaking on the part of the French.

(Discussion off the record.)

SENATOR NYE: Was the member of the French mission who was in the plane crash at the time of the demonstration one of the mission who came to see you?

CAPTAIN KRAUS: Yes; he was.

SENATOR NYE: How many were there in the mission?

CAPTAIN KRAUS: There were originally, I think, four, and one added, was five, and at subsequent dates there were French technicians who I understand were not members of the mission but who dealt with the mission after contacts were made and the Frenchmen contacted the manufacturers and dealt with the manufacturers. The total number of French representatives of one degree of stature or another who were in the United States in connection with this project, I don't know. I am quite certain, I feel certain I have not seen or heard of all of them.

SENATOR NYE: Who could cause you, Captain, to make inquiry of the Douglas plant relative to the salability of this new light bomber, if you had knowledge of the existence of the release policy to which we have been addressing ourselves

Regarded Unclassified
this afternoon?

CAPTAIN KRAUS: I was acting there as an agency of the Treasury Department, whose advice to me was there was freedom to assist the French in all respects that were possible in this connection, and I accepted the advice on that at face value.

SENATOR NYE: Being loaned to the Procurement Division, who did you consider your immediate superior to be?

CAPTAIN KRAUS: I worked entirely with and in association with Mr. H. E. Collins, the Assistant Director of Procurement, to whom this matter had been practically one hundred per cent turned over by the Director of Procurement, Admiral Peoples.

SENATOR NYE: You had knowledge, did you, of the release policy at the time?

CAPTAIN KRAUS: Yes; I was familiar with the release policy.

SENATOR NYE: You did ascertain what was the availability of this plane through the Douglas plant?

CAPTAIN KRAUS: From the standpoint of the ability to manufacture and deliver.

SENATOR NYE: What recommendations did you make after ascertaining that?

CAPTAIN KRAUS: I simply listed those possibilities on a sheet of paper.
SENATOR NYE: For whose information?

CAPTAIN KRAUS: For general information in making up a program of what could be done, what could be accomplished in connection with the project.

SENATOR NYE: For the information alone of those who were considering what might be one to help the French?

CAPTAIN KRAUS: Yes, sir. I think a photostatic copy of a schedule was made, and I think was supplied to the War Department, probably to the Air Corps, and also to the Chief of the Bureau of Aeronautics of the Navy Department. They could see what had been promised as a possibility by different manufacturers.

SENATOR NYE: Were you aware ultimately of the protest by the War Department?

CAPTAIN KRAUS: Yes, sir.

SENATOR NYE: To the sale of this particular bomber plane?

CAPTAIN KRAUS: Yes, sir.

SENATOR NYE: When was that?

CAPTAIN KRAUS: I think probably about the 21st or the 22nd of December; about the 22nd, or it may have been later than that, it may have been in the next week.

SENATOR NYE: You and others in the Procurement Division gave consideration to that protest?

CAPTAIN KRAUS: Yes, sir.
SENIATOR NYE: To what extent did you give consideration?

CAPTAIN KRAUS: No further dealings and no further discussion until the matter was cleared.

SENIATOR NYE: Was the matter ultimately cleared?

CAPTAIN KRAUS: Yes, sir.

SENIATOR NYE: How long after?

CAPTAIN KRAUS: Well, certainly prior to the 23rd of January, prior to the 21st of January, when I left here to go to the Douglas plant. I don't know what date, Senator.

SENIATOR NYE: Did you attend any of the meetings at which this matter was finally cleared?

CAPTAIN KRAUS: Yes, sir; I did.

I may ask to remove that answer from the record.

(SESSION OFF THE RECORD.)

SENIATOR NYE: Captain Kraus, after there had been the decision to make this particular Douglas bomber available to the French, were you asked to accompany and transport the French mission to the Douglas plant in California?

CAPTAIN KRAUS: I was ordered to.

SENIATOR NYE: By whom?

CAPTAIN KRAUS: I had orders to go there, at any rate, for that purpose.

SENIATOR NYE: From whence came your order?
CAPTAIN KRAUS: My authority came from the Navy Department. I needed authority in order to travel, or be absent. The purpose was defined in my mind from the discussion that had been had and a memorandum, or rather a memorandum that I had from Mr. Collins, which said that clearance for the actual visit would be arranged by the War Department directly with its representative, and I departed on that basis, and upon arrival I found that clearance for the visit had been arranged with the War Department representative.

SENATOR NYE: When did you first come into possession of a copy of the order which was to tell you to favor this French mission; the order that had been executed by General Arnold before you left here, or after you arrived in California?

CAPTAIN KRAUS: After my arrival at Santa Monica; in fact, just before my departure, returning.

SENATOR NYE: After you had been with the mission through the plant and observed the demonstration?

CAPTAIN KRAUS: That is correct.

SENATOR NYE: You had no knowledge specifically of this order before that time?
CAPTAIN KRAUS: Yes, sir; I had seen it in Major Wolfe's hands and read it in a cursory manner.

SENATOR NYE: But you had no copy of it?

CAPTAIN KRAUS: I had no copy of it. I had knowledge of its existence, and had read it, as I say.

SENATOR NYE: What made you want a copy of it?

CAPTAIN KRAUS: Because I felt I needed the record, and the Procurement Division felt it needed a clear record of the authority under which this mission had been presented out there.

SENATOR NYE: I had gathered the impression from previous testimony before, that you had given before the Committee, that you had this order before you had visited the plant and observed the demonstration; but that was not the case?

CAPTAIN KRAUS: No; I did not. I think a careful reading of my testimony will make that clear.

SENATOR NYE: Well, it probably is.

CAPTAIN KRAUS: I think I also explained at that time -- and I am going back, now -- I think at the same time, or some time or other, I explained to the Committee that there was a possibility of error in that copy, since it was hurriedly prepared for me while I was waiting to take off in the airplane to come back.

SENATOR NYE: Well, now, tell us who made this copy
CAPTAIN KRAUS: Major Wolfe, the Army representative.

SENATOR NYE: Do you have any objection, Captain, in the light of the fact that the Arnold order itself has been placed in the record, to have repeated in this record that is being made now the copy that you furnished the Committee when you appeared before?

CAPTAIN KRAUS: I did not furnish the copy to the Committee, Senator. I think it was furnished by Secretary Morgenthau. However, I did testify as to the nature of it. So I have no objection, I individually have no objection to that appearing.

SENATOR NYE: Then, Mr. Chairman, may that particular order that we have before us at this time and which was printed in the previous record, be made to appear in the record at this point?

SENATOR THOMAS OF UTAH: Let us see what is the difference?

SENATOR NYE: Was there any difference in the real order and the copy that you had, except for the absence of that word "loss", Captain?

CAPTAIN KRAUS: I know that the word "loss" did not appear in the copy that I had, that I received. I gather that, in that respect, that copy differed from the message that was sent and the message that was received.
SENATOR THOMAS OF UTAH: Did the word "secret" appear?

CAPTAIN KRAUS: Yes; the word "secret" did appear.

SENATOR THOMAS OF UTAH: Then it read -- did you imply that it read "with secrets"?

CAPTAIN KRAUS: The copy that I had would have included the display of secret accessories, with the omission of the word "less" in that phrase.

SENATOR CLARK OF MISSOURI: That is the only difference, isn't it, Captain, as I understand, that the word "less" appeared in one, but not in the other?

CAPTAIN KRAUS: As a matter of fact, I have never read over the other order, and that is the only reason I am hedging a little.

SENATOR CLARK OF MISSOURI: That is the difference, isn't that right?

CAPTAIN KRAUS: I think that is the case.

SENATOR THOMAS OF UTAH: Let us get this right, then; the order that you got could have been interpreted as "with secrets"?

CAPTAIN KRAUS: Yes, sir; the way the copy that I read was worded.

SENATOR NYE: That is correct.

CAPTAIN KRAUS: It could have been interpreted as "with secrets."
SENATOR THOMAS OF UTAH: But the order which General Arnold sent was definitely "without secrets"?

CAPTAIN KRAUS: I believe it to have been.

SENATOR NYE: Senator, I think we might clarify it now if I read the copy of the order as it was transcribed in the copy to Captain Kraus -- by Major Wolfe?

CAPTAIN KRAUS: Major Wolfe.

SENATOR NYE: At the time you were taking off and leaving again for the East?

CAPTAIN KRAUS: Yes; some time near one ten p.m., the 24th of January.

SENATOR NYE: "Deliver following message to K. B. Wolfe Quote Captain Kraus US Navy and three members of French mission will arrive Santa Monica or Mines Field Saturday night Stop Authority granted for them to inspect Douglas attack bomber secret accessories Comma fly in same and open negotiations with Douglas Company relative to purchase Stop All negotiations must be made with you as Army representative and Douglas Company Stop Keep this office informed of action taken Stop Above information to be held as confidential Make arrangements for plane demonstration Sunday Unquote Expeditie Arnold."

So, as nearly as I have been able to see, it is the absence of only the one word "loss".

(Discussion off the record.)
SENATOR NYE: General Arnold, might we anticipate having early word as to just what form that message was received in by Major Wolfe?

GENERAL ARNOLD: We have heard about that. The message has been checked as it was sent, as it was received in San Francisco and as it was received again at March Field. It was received at March Field exactly as it was sent. In delivering it to Major Wolfe, it was delivered over the telephone, and he was to write it down at the other end or receive it, and the only check we can get from Major Wolfe is as to how he actually received it over the telephone.

SENATOR NYE: Well, do you have any word from Major Wolfe revealing that he understood himself to be pledged not to reveal the secret accessories?

GENERAL ARNOLD: I have a telegram here:

"I certify that upon receipt of the decoded radio on January 20 I informed the Douglas Company that they were authorized to demonstrate the seven B attack bomber to the French mission without restriction as to Douglas Company design and manufacturing secrets. Inasmuch as this plane was not an air corps contract plane it contained no War Department secret or restricted items of equipment. The airplane was demonstrated in this condition. E. B. Wolfe, Major Air Corps."
THE CHAIRMAN: That can go in the record.

SENATOR THOMAS OF UTAH: Did Captain Kraus say in regard to how he interpreted this order?

SENATOR NYE: Well, of course it is rather meaningless as to how he interpreted it, because he received no copy of the order until he was virtually finished with his mission.

SENATOR THOMAS OF UTAH: But, at the same time, did they get any secrets?

SENATOR MINTON: He knows what was revealed.

SENATOR NYE: If you think the Captain should testify as to that: Captain, what is your knowledge of what the French mission had access to them at the Douglas plant in this demonstration?

CAPTAIN KRAUS: Major Wolfe displayed to me a copy of this same dispatch that has been here under discussion. I read it hurriedly, to assure myself that contact with the French mission and their access to the Douglas plant and to the airplane was authorized, and observed that definitely I had nothing to do with that contact except not to interfere; that is, the matter was entirely in Major Wolfe's hands. The French mission examined the plane rather thoroughly. Since I was more or less a third party to the matter, I never entered the plane. I looked in at the bomber compartment through the various windows that were
there, and so far as the bombor compartment was concerned, it was practically a bare compartment. There might or might not have been a few simple flight type instruments the bomber would have need to use, but in no sense anything that is restricted or that has not been sold by the thousand, I guess, all over the world. I walked down the left side of the plane under the wing, and looked in at the bomb bay from underneath when the doors were open. I saw nothing in that examination that in any respect would compromise anything I believe the military services would want to keep secret. I think that the airplane was displayed in the condition contemplated by what I believe to be the correct phrasing of the message; there isn't any doubt of that in my mind, not a doubt whatsoever. And Major Wolfe mentioned to me that there was not any bomb sight in it, and I told him that would not make any difference anyhow, because his visitors were not interested in the bomb sight.

SENATOR NYE: How many of the mission accompanied you to California?

CAPTAIN KRAUS: Four.

SENATOR NYE: You flew?

CAPTAIN KRAUS: Yes, sir.

SENATOR NYE: In a navy or army plane?

CAPTAIN KRAUS: Navy plane.

SENATOR NYE: How long were you there?
CAPTAIN KRAUS: We arrived in Los Angeles at about 8:30 in the morning on the 23rd of January, and left Los Angeles Municipal Airport, not the Municipal Airport, we left the field at the Douglas plant at, 1:10 p.m. on the 24th of January. So we were in the area altogether roughly twenty-seven or twenty-eight hours.

SENATOR NYE: Did the entire mission accompany you back to Washington?

CAPTAIN KRAUS: No, sir.

SENATOR NYE: Did any of them accompany you back?

CAPTAIN KRAUS: Yes, sir.

SENATOR NYE: How many came back with you?

CAPTAIN KRAUS: Two.

SENATOR NYE: And two remained there?

CAPTAIN KRAUS: Yes, sir.

SENATOR NYE: You don't know what their activities were after you left?

CAPTAIN KRAUS: One was in a hospital with a broken leg, and I understand the other was left as a sort of watch-dog to look out for his health and comfort.

SENATOR NYE: And did they have another name for him, that one that was companion to him?

CAPTAIN KRAUS: I cannot say as to that.

SENATOR NYE: I will not ask you to comment on it.

(Discussion off the record.)
SENATOR NYE: Even though there had been a release of this particular bombing plane for demonstration and sale to the French, still the secrecy that had been prevalent throughout the days the mission was here continued, even after the crash, and except for the crash I don't suppose we should have known or had any direct knowledge of the existence of this mission in America at all.

SENATOR MINTON: Is that any different from any other mission that might buy scrap iron or munitions? They don't have a band beating at the station or anything to demonstrate that they are here to buy or find out. And it seems to me they are just like anybody else that is here to buy anything.

(Discussion off the record.)

SENATOR NYE: I think, Mr. Chairman, I have no more to ask of Captain Kraus.

Captain, did you pay any particular attention to this copy of the order that was given to you?

CAPTAIN KRAUS: No; I did not.

SENATOR NYE: For the reason that you had no occasion for reference to it?

CAPTAIN KRAUS: You asked about the copy that was given to me. I simply folded it up and put it in my pocket. It was given to me at the last moment and, I don't know, I read it, I think, after I was on the way. After the issue
was raised here I was just as surprised as anybody else to
find there was apparently a discrepancy in it.

SENATOR NYE: Would you have been at all surprised
if you had asked for this copy of the order upon your arrival
there, and had been called upon to give it a more definite
consideration than you did?

CAPTAIN KRAUS: I would have been surprised at the
wording of the order to a military service representative
that directed him, you might say, to display secret acces-
sories, or anything secret.

SENATOR NYE: You should in that event at least
have gone back and checked, I suppose?

SENATOR THOMAS OF UTAH: You would at least have
asked for a repeat before you would have given any considera-
tion to this order?

CAPTAIN KRAUS: Senator, I would answer it this way:
At least my eye brows would have gone up, I believe.

My lack of interest in scanning the message came
out of two things; one was that my initial view of the
message in Major Wolfe's hands made it clear to me that he
had complete authority, exclusive authority; and the other
was that I did not see the copy until all possibility of
my contact or being involved in it had long since been re-
moved. In other words, it was after the fact, when I had
the copy.

SENATOR NYE: Captain, who accompanied the French mission to the office of the Procurement Division on that visit when you first encountered the mission?

CAPTAIN KRAUS: I don't think any one accompanied them over there; there may have been. They may have come from the Treasury Department and may have been escorted by Mr. Collins, but I doubt it. I think they came over probably in a taxicab.

(Discussion off the record.)

THE CHAIRMAN: Was there anything in the newspaper about the arrival of this mission and its work until the crash in California?

CAPTAIN KRAUS: None that I know about.

THE CHAIRMAN: Did you have any instructions regarding giving it out to the press?

CAPTAIN KRAUS: I would not under any condition have given it out to the press.

SENATOR NYE: Were there any requests for pledges to secrecy about the existence of this mission?

CAPTAIN KRAUS: It seemed to me that the mission, by its character and by its activities would naturally not be displayed as a matter of general public knowledge, at least at the stage in which the project then stood.

THE CHAIRMAN: That is all.
SENATOR MINTON: That impression grew, not out of any instructions, but out of your training as a military man?

CAPTAIN KRAUS: Well, out of the training as a military man and out of the general feeling that neither the government nor business men do their business in a gold fish bowl.

SENATOR MINTON: But you had no instructions about secrecy?

CAPTAIN KRAUS: I am quite certain it was well understood; it was not any direct instruction, but I think it was quite well understood that the matter was to be kept secret.

SENATOR NYE: That it was to be kept secret?

CAPTAIN KRAUS: That it was to be kept secret.

SENATOR MINTON: But nobody gave you any such specific instruction?

CAPTAIN KRAUS: No; I had no specific instruction.

SENATOR THOMAS OF UTAH: It was a matter of military routine.

CAPTAIN KRAUS: I would not have presumed to have treated it on any other basis without specific instructions.

THE CHAIRMAN: That is all, so far as I know, at present. Thank you very much, Captain.

SENATOR BRIDGES: Mr. Chairman, I would like to say something that will only take a few minutes.
THE CHAIRMAN: I would like to hear you, because I have something, too.

SENATOR BRIDGES: We had before this Committee in joint session with the House Committee Ambassadors Kennedy and Bullitt. I understand that Ambassador Hugh Wilson of Germany is still in the United States and has been here for a substantial period of time. As long as he is here available, I would be very interested, for one on this committee, to invite him here in executive session, either in secret or on the record, whichever you gentlemen decide or the Ambassador desires. I would like to hear, preferably I would say on the record, such things as he may want to disclose, or off the record would be agreeable to me, if he so desires. I would like to formally make the request, or the motion to move, Mr. Chairman, that Ambassador Hugh Wilson of Germany be invited to appear before this Committee at an early date.

THE CHAIRMAN: Without objection, that will be done.

(Discussion off the record.)

THE CHAIRMAN: We have agreed that everything that has taken place today will be given to the papers and the record made public as soon as it comes back from the people who testified and the copies to be distributed will contain everything that took place except what we agreed on here today was confidential.
(Discussion off the record.)

(Whereupon, at 5 o'clock p. m., the Committee recessed to the call of the Chairman.)
February 15, 1939
5:30 p.m.

Present:

Capt. Kraus
Mr. McReynolds
Mrs. Klotz

HM Jr: You don't mind my making notes?

Capt. Kraus: No, sir.

HM Jr: I called up Mr. Edison and said when it was all over I would like to know about it.

Capt. Kraus: I have not seen him as yet.

I was up before the Military Affairs Committee this afternoon and finally was confronted with a straight out question, "Were you ever present at any discussion in which decision was finally reached on the clearance of the Douglas airplane?" And I claimed privilege on it on the basis that it had been in high places and policy making people were concerned, but there was no way, that I could see, that I could deny that I had been present when the meeting occurred.

Mr. McReynolds: They insisted on the answer.

Capt. Kraus: "When the meeting had been in the White House. So I told them about it. Later on there was discussion in which it was brought out that in the inception of this session....

Mr. McReynolds: This afternoon.

Capt. Kraus: .... they had advised all witnesses of their rule that everything would be public, despite its being Executive Session, except what they decided was confidential.

HM Jr: Who decided?

Capt. Kraus: What the Committee decided was con-
idential. So I then apologized for injecting myself into what was an internal discussion in the Committee and pointed out that I had not been present when the Committee started its hearing and had not been informed of the Committee's rule on that matter and again pointed out that I had been brought up in a school where anything to do with the White House and any communication from it was in a privileged status, so I think it will come off the record.

Mr. MoReynolds: But you have no assurance.

HM, Jr.: Let me get this. You are talking about the meeting where we sat around the room with the President and where the President said, "This is what I want!"

Capt. Kraus: That's the meeting. And Mr. Johnson got up and said, "Now to be specific and so there will be no misunderstanding, does that include release of the Douglas bomber?" and the President said, "Exactly that."

HM, Jr.: And that was the meeting where I asked for it in writing.

Capt. Kraus: Yes, sir. And that's the only meeting I attended.

HM, Jr.: As a matter of fact, it has been published or some place because it was on the ticker that at that meeting were Johnson, Woodring, Hanes, myself, Collins and you and Ambassador Bullitt and, if my memory serves me right, that meeting took place about January 16th.

Capt. Kraus: I think that's correct.

HM, Jr.: Are you bothered because you talked about that meeting?

Capt. Kraus: I merely thi--it is something you should know. I claimed privilege. I am not bothered about anything, Mr. Secretary. What comes my way is perfectly all right with me, because I know I have done the right thing by the right people. After all, I have
been working with you and certain other people and I am loyal to the job and I want you to know of it at a timely moment if it's any use to you, but I don't want to get into a jam and become the goat.

HM, Jr: Of course you don't. But any influence I have with the President with the United States would be towards seeing that you got a letter of commendation for what you have done. See?

Capt. Kraus: There was one other thing that I was asked, "If I was in on any policy fixing decision?" Mr. Johnson explained about contacts. He said he under stood there had been some contacts made with the Douglas Company by Mr. Kraus -- in his testimony. So...

Mr. McReynolds: That was this afternoon.

Capt. Kraus: This afternoon. So I took it up and discussed it from the standpoint that we had to have contact to know what delivery capabilities were before we went so far as to display any airplanes in which there might be no possibility of purchase because they could not be fabricated and delivered in time to meet the needs of the customer and that was the basis on which we did make contact.

HM, Jr: That is most ridiculous! Now, look! Johnson talked to me last night. One of the things they objected to when you were out there at the Douglas plant was that you asked questions about Army secrets. Now all I could help but say was, "Is Captain Kraus of the United States Navy or is he working for a foreign power?" I said to Johnson, "Isn't the thing that is really bothering you people the fact that we used Navy officers and not Army officers." "Oh, no!" I said, "Well, I think it is." He said Admiral Peoples was rude to General Arnold. I said "Admiral Peoples is never rude to anybody. Ever!" I said, "The whole thing is, isn't it, the fact that we used Navy officers and not Army officers?"

Capt. Kraus: I remarked sometime ago that if the Director of Procurement was a former Quartermaster General of the Army instead of Paymaster General and Chief of the Bureau of Supplies and Accounts of the Navy...
he would probably have turned to Army officers because he knew names and what they were doing.

HM, Jr: How long did he cross-examine you?

Captain Kraus: My total time as a witness was not very long. They asked me about the mission and I did not consider Monnet's arrival in October was part of the mission.

HM, Jr: Did they ask you about that?

Capt. Kraus: No. They fenced about it and probably have some information on it and I said as far as I had judged from what I learned in the Procurement Division and general discussion with the mission that we met, as I remembered, on the 17th or 18th of December and that I judged they had arrived in the United States maybe only a day or so before that. As far as I know. That's my belief right today. On the Monnet thing I did not disclose that I ....

HM, Jr: Did his name come up?

Capt. Kraus: No. "But I felt quite certain that there had been inquiry, but not any mission in the United States. Might have been inquiry by the French several months before as to possibility of examination -- possibility of obtaining airplanes in the United States, but as far as I knew the mission arrived sometime immediately prior to the 18th of December." I think that's the day that we met there -- the 17th or 18th.

And they asked me how the mission got over there to Procurement. Who escorted them. I said "I don't remember that they were. They might have come over with Captain Collins, but I think they just came over in a taxicab." That smelled to me like an effort to unearth Monnet -- that he escorted them over there.

Mr. McReynolds: The Captain told me he had the feeling that the questions that were put to him were planted questions.

Capt. Kraus: I think they were. And the name
they are particularly interested in getting into the record is Mr. Bullitt, because I was asked later on, in the midst of questions that were clearly for the record, "Had I ever met or been present at any other time when Mr. Bullitt was urging this," and I said, "Now I can't answer that, Senator."

**HM.Jr:** Which Senator?

**Capt. Kraus:** Senator Nye. "Can't answer that, Senator, because that's all bound with this equivocal situation. As to this other question that you ask me," I said, "if for your own satisfaction, your own information you want to know, off the record, I will say to you that I never saw Mr. Bullitt before, after, or anywhere else in my life." That's not in the record. That's definitely off the record.

**HM.Jr:** The only place you saw him was at the White House.

**Capt. Kraus:** That's the only place, but I wasn't going to put that in the record because that in the record dragged the other thing in.

**HM.Jr:** Was Admiral Leahy there?

**Capt. Kraus:** Admiral Leahy came in ahead of me. He was in the witness chair at the moment ....

**HM.Jr:** You were not there through the whole thing?

**Capt. Kraus:** Not through the whole of his testimony.

**HM.Jr:** Did Johnson go on first?

**Capt. Kraus:** Johnson may have been on ahead of Admiral Leahy, but he was on after Admiral Leahy also.

**HM.Jr:** Do you think it would be good or bad ball to call up Louis Johnson to ask him if he can tell me anything before I go up?
Mr. McReynolds: Good. I don't think there is any question of it.

Capt. Kraus: The October visit of Mr. Monnet has not been put in the open. Were my veracity in answering that brought into question, I did not think Mr. Monnet entered into the mission.

(HM, Jr placed a call for Mr. Edison, and their conversation is recorded on the two pages following this page.)

HM, Jr: In this ticker story (copy attached) they say printed copy of the testimony is going to be out and they say they have changed their rules.

(He placed a call for Mr. Johnson, but not being able to reach him said he would phone Mr. Johnson when he got home.)

HM, Jr: They say here "The Committee heard four witnesses today, but found that its recently-adopted rule permitting members to discuss the testimony freely with newsmen was not workable. Therefore, according to Chairman Sheppard it was decided to make public a transcript of today's testimony as soon as it is printed. The transcript, Sheppard said, will contain all testimony except that involving military secrets." At the bottom, "In addition to Morgenthau and Woodring, the Committee planned to call Treasury Procurement representatives and State Department officials who may have had a part in arranging credentials for the French mission."

But you think they want to know about that October thing.

Capt. Kraus: I suspect they have been tipped off on it because they asked this question: "Who escorted them" or something like that "over to the Procurement Division?" and also whether there had been any previous discussion, any previous effort. Did I have any knowledge of any previous effort? I hedged on that by saying I felt certain there had been consideration of the possibilities of our having capacity over here to produce airplanes in excess of our own needs perhaps over a period of months before that and that is borne out by the fact that as early as May they
February 15, 1940.
6:08 p.m.

"Mr.: Hello
Operator: Mr. Edison.
"Mr.: Hello.
Charles Edison: Hello, Mr. Secretary.
"Mr.: How are you?
E: Well, pretty good.
"Mr.: It's on the ticker that I'm to go up tomorrow before the Military Affairs Committee. I haven't a note -- I haven't received any notice yet, but it's on the ticker, see?
E: Yeah.
"Mr.: And I wondered if, before I went up, whether -- if there's anything that Admiral Leahy might tell me which would be helpful to guide me.
E: Well, now I'm trying to get -- I tried to get Admiral Leahy, and I called him and he'd gone, and then I tried and he hasn't gotten there yet.
"Mr.: Well, I --
E: I called about a half an hour ago.
"Mr.: Well, I --
E: I'll call him right away.
"Mr.: I'm home tonight, see?
E: Yeah.
"Mr.: And if I've got to go up on the Hill tomorrow morning, which is what the ticker says --
E: Yeah.
"Mr.: If there's anything he's got which would be helpful to me, would you tell him to -- he could drop at the house either tonight after supper or the first thing in the morning?
E: All right, I will.
H.Jr: Will you ask him to do that?
E: Yes, I'll -- I'll get him right away. Where are you now?
H.Jr: I'm at the Treasury.
E: Well, are you going to be there for the next ten or fifteen minutes?
H.Jr: Yes.
E: All right, I'll call you back.
H.Jr: Right. Thanks.
E: Goodbye.
actually bought airplanes here from Curtiss.

They asked how many people in the mission and I said four or five and subsequently there were additional people who were technical, administrative people who worked for the mission but were not parties to the mission and I did not know what the total number of people they had in the United States.

HM, Jr: If you noticed the announcement from the French Embassy, they mentioned Monnet's name as part of the French mission.

Capt. Kraus: I did not see that.

Mr. McReynolds: Front page story.

HM, Jr: I read it this morning.

Well, Captain, I am very much obliged. If I go up again I don't think it will be necessary for you to go this time. You have established the thing I wanted.

Capt. Kraus: I saw no way to avoid answering.

HM, Jr: I wouldn't worry. It's a matter of public record that that meeting took place.

Mr. McReynolds: I told Captain Kraus, I said, if you (the Secretary) had been called and the same question had been asked you, I think undoubtedly you would have answered the same way.

HM, Jr: I think so.

Thank you very much.

Capt. Kraus: And I will coordinate the thing tomorrow morning with Mr. Edison if I can get him. I don't propose to chase him up this evening.

HM, Jr: He has been fine and he's all for this.

(Capt. Kraus left.)

HM, Jr: No. This is all right. Certainly I
have not got any notice to go up on the Hill and cer-
tainly it would be very helpful if I could see the
transcript before I go up. We will sit tight. I
think the thing to do is stall it and go up on the Hill
Friday.

Mr. McReynolds: Very much better. I would like
to see the testimony of the fellows who appeared today.

HM, Jr: There is no notice.

Mr. McReynolds: No formal notice. They haven't
called you.
The Senate Military Affairs Committee agreed late today to summon Secretary Morgenthau and Secretary Woodring before it tomorrow in an attempt to complete its investigation of French purchases of American-made military airplanes.

2/15 ON525P

The Committee heard four witnesses today, but found that its recently-adopted rule permitting members to discuss the testimony freely with newsmen was not workable. Therefore, according to Chairman Sheppard it was decided to make public a transcript of today's testimony as soon as it is printed.

The transcript, Sheppard said, will contain all testimony except that involving "military secrets." Committee members refused to discuss the testimony pending publication of the record.

Today's witnesses included Assistant Secretary of War Johnson, Admiral William D. Leahy, Maj. Gen. H. H. Arnold, and Capt. Sydney M. Kraus, naval officer assigned to the Treasury Department to assist a French air mission. Sheppard said they were asked about the sale of planes to France and about arrangements for helping the French representatives obtain the best available equipment.

"I would guess that the testimony was about 40 per cent confidential," Sheppard said.

In addition to Morgenthau and Woodring, the committee planned to call Treasury Procurement Division representatives and State Department officials who may have had a part in arranging credentials for the French mission.

2/15 ON533P
HIGH OFFICERS OF THE ARMY AND NAVY TESTIFIED THIS AFTERNOON AT RESUMPTION OF THE SENATE MILITARY AFFAIRS COMMITTEE'S INVESTIGATION OF FRENCH PURCHASES OF AMERICAN-MADE AIRPLANES.

THE COMMITTEE MET IN EXECUTIVE SESSION UNDER AN AGREEMENT LEAVING MEMBERS FREE TO DISCUSS WITH NEWSMEN ALL TESTIMONY NOT INVOLVING MILITARY SECRETS. ADMIRAL WILLIAM D. LEAHY, CHIEF OF NAVAL OPERATIONS, CAPT. SYDNEY M. KRAUS, NAVAL OFFICER ASSIGNED TO ASSIST A FRENCH AIR MISSION, AND GEN. HENRY H. ARNOLD, ARMY AIR CORPS CHIEF, APPEARED BEFORE THE COMMITTEE.

2/15-CS254P
"Mr.: Hello.
Operator: Senator Sheppard.
"Mr.: Hello.
Senator Sheppard: Mr. Secretary?
"Mr.: Good morning.
Senator Sheppard: 
"Mr.: How are you?
Senator Sheppard: How are you today?
"Mr.: Oh, being morning, I'm fine.
Senator Sheppard: Fine. The Military -- the Senate Military Affairs Committee wanted to talk with you again a while this morning.
"Mr.: Well, -- that's their privilege, and I'll be there.
Senator Sheppard: Yes, sir. Ten-thirty.
"Mr.: May I make -- ask two favors of you?
Senator Sheppard: Yes, sir.
"Mr.: One, It is like very much to have the Assistant Secretary of War there.
Senator Sheppard: Well, I just asked the Secretary to come.
"Mr.: Well, on account of the Assistant Secretary -- I think, under the law having to do with procurement of planes --
Senator Sheppard: Yes?
"Mr.: If he could be there, I think it would be helpful.
Senator Sheppard: You mean with -- with the Secretary?
"Mr.: Yes.
Senator Sheppard: Yes.
"Mr.: Well, I'll -- I'll have the Secretary right away and ask him to bring him.
"Mr.: Yes, I mean -- inasmuch -- I think the law says, doesn't it, that the -- he has the -- the responsibility of the procurement of planes?
S: Yes, sir.

Sr: Yeah.

S: What -- what's the other one?

Sr: The other one is, I wish you'd put Woodring on first.

S: Yes.

Sr: And let me follow him. If that's all right.

S: Very well, I'll -- I don't quite control that, but insofar as I control it, I certainly will.

Sr: Well, -- the first thing -- of having Louis Johnson there, I feel quite serious about that. The second one I -- I just leave with you.

S: All right, I'll do the best I can with it.

Sr: Thank you so much.

S: Ten-thirty.

Sr: Thank you so much.
February 18, 1939.
9:20 a.m.

Hi Jr: Hello.

Operator: Admiral Peoples.

Hi Jr: Hello.

Admiral Peoples: Hello.

Hi Jr: Admiral?

P: Good morning, Mr. Secretary.

Hi Jr: Good morning. Senator Sheppard has requested that you, Collins and I come up on the Hill this morning at ten-thirty.

P: Yes, sir. Well, I can. I -- Collins is due back today from New York, Mr. Secretary.

Hi Jr: But he won't be here?

P: I don't think so. I haven't --

Hi Jr: Well --

P: Hello, Mr. Secretary.

Hi Jr: Yes.

P: I haven't heard whether he -- he was expected back this afternoon, sir.

Hi Jr: Well --

P: And -- but I will be there.

Hi Jr: All right. Supposing you be at my office at ten-fifteen and we'll go up together?

P: I'll be there at ten-fifteen.

Hi Jr: Thank you.

P: Thank you, sir.

Hi Jr: All right.

P: Yes, indeed.
February 16, 1939

HM, Jr called the President at 9:30 this morning.

HM, Jr: Good morning, Sir.

President: Good morning, Henry. How is everything?

HM, Jr: Everything is all right. I got a summons to come up before the Military Committee and I understand Woodring has been called also. Have you any suggestions?

President: No. Tell them you know nothing, you saw nothing, you heard nothing.

HM, Jr: I thought anything that they might want to ask about details, how they were shown and what they were shown, that I would say that I just do not know anything about that.

President: Woodring will be all right on this.
He will be O. K.
February 16, 1930.
9:58 A.M.

Jr: Hello.
Operator: Mr. Johnson is in the building. They are going to locate him and have him call you.
Jr: Thank you.
Operator: You're welcome. (Pause)
Jr: Hello.
Operator: Mr. Johnson.
Jr: Thank you.
Operator: Go ahead.
Jr: Hello.
Louis Johnson: Good morning, Mr. Secretary.
Jr: Good morning. I just thought I'd like to tell you that I spoke to the chairman of the Military Affairs Committee.
Operator: Yes?
Jr: He called when I was here and then I called him back, and he has asked me to come up on the Hill.
Operator: Yes. Senator Sheppard.
Jr: Yes, and I said that, of course I'd come and that I thought that inasmuch as under the law you were authorized with the procurement of planes for the Army, it would be helpful if you were present.
Operator: That's right, I am so charged, and --
Jr: And so I said that under those circumstances I would ask you if you would do that.
Operator: Yes, sir.
Jr: If he would communicate that to the Secretary of War.
Operator: All right. I'll -- I'll be there.
Jr: You will be there?
J: Yes, sir.
Jr: Fine.
J: All right.
Jr: Thank you.
J: Thank you.
Jr: Hello?
J: Yes?
Jr: Well, I mean, I'm just repeating my conversation with the chairmen.
J: I see.
Jr: And he said he would communicate that to the Secretary.
J: All right, thank you for it.
Jr: And I hope you'll be there.
J: Definitely.
Jr: Thank you.
J: Good bye.
Jr: Good bye.
February 16, 1939

Louis Johnson told me this morning that immediately after the conference, when I testified before the Military Affairs Committee, Woodring saw the President, McIntyre and Steve Early and told them how terribly I had acted on the Hill and what terrible advice I had been giving the President.
February 16, 1939.
4:34 p.m.

Mr. Johnson:
Hello.
Operator:
Mr. Johnson.
Mr. Johnson:
Hello.
Mr. Johnson:
Louis Johnson?
J:
Yes, sir.
Jr:
Henry Morgenthau.
J:
Oh, I was calling just to congratulate you on the way the thing came out this morning.
Jr:
I thought it came out fine.
J:
We had quite a long session over here and your call -- they sent a note back to the Secretary's office and I was talking from there, but all they let in know that you were informed that Senator Sheppard wanted me on the Hill.
Jr:
Well, I got the thing when you said "good morning".
J:
Yes, I thought you had it, so it was handled beautifully.
Jr:
But--
J:
I didn't tell him anything about seeing you earlier in the morning at all.
Jr:
But I didn't know whether they would pass it on to you that Senator Sheppard did want you.
J:
Probably wouldn't have, but Jack May told me as I left up there that he had asked that I appear before the House Committee, reaffirming what I already knew, and Mr. Nittington said "no", but starting the hearings tomorrow on the Senate side on the VeY Bill, the Committee has already asked that I take charge of it.
Jr:
Well, that's grand.
J:
Which we'll do.
Jr:
Well, I thought the thing went very well.
J: I thought that your head of Procurement made a grand --

H: Peoples.

J: Peoples made a grand defense. He was a pretty expert witness; when they were getting him cornered he went far afield and then they didn't have sense enough to come back.

H: Well, I told Peoples, I said, "He hasn't had a chance to make a propagandist speech on Procurement before this Committee." He said, "No, and I made the best of the opportunity."

J: He sure did.

H: He's good.

J: Yes, he is and I'm happy the way it's all worked out. I think it's finished now.

H: I think it's finished, and did you notice how Reynolds came to our defense?

J: Complete reversal of form.

H: And Clerk --

J: I can tell you the inside story on that.

H: You can?

J: Yes.

H: I'd be pleased --

J: He -- he sent me word through Morgan --

H: Morgan?

J: Tom Morgan, yeah, the --

H: Oh, yes.

J: That he resented some of this stuff and that he was going to have me sit beside him and if I'd give him a nudge he'd break in and stop up anything we wanted to -- and stop anything we wanted stopped.

H: I see.

J: Well, he was not only doing that yesterday and today, but he was carrying the ball for us and clarifying that picture.
WIR: Well --

J: I think it's a very happy -- the way it's left now.

WIR: We think it's all right.

J: And congratulations to you.

WIR: Well, thanks. In fact, I think your sitting there directly opposite was very beneficial.

J: Well, I had this session with him for an hour and a half and I told him that any --

WIR: This morning?

J: Any effort -- yes, this morning -- after --

WIR: This morning.

J: What's that?

WIR: This morning?

J: Yes. That's how I happened to be in his office when you called.

WIR: Oh, you talked things over this morning?

J: I talked it over and I told him that there had been no sniping yesterday and if he tried to get back on that thing this morning, that there would just be hell-slinging. It was all going to be his fault because it was blowing up.

WIR: Well, something happened certainly, because --

J: And he agreed with that, and he -- he had another agreement; he said, "Well, now, if they get down to this plane business, I'm going to pass the ball back to you."

WIR: Fine.

J: And he did just that. Do you remember?

WIR: Absolutely.

J: So he played ball a hundred percent. Now, let's give him credit for that, and when he came away, the only kind thing he's ever said was that he thought we'd done a good job. So -- and there was no bitterness in his heart as he came down from the Hill, and that's the first time.
Mjr: Maybe now we could all go back to work and get people --
J: No, no, there isn't any hope of that.
Mjr: No.
J: I'm going to work at my own business, of course. Do the best we can here.
Mjr: Thanks for the help. I'm very, very much obliged.
J: All right, and thank you, sir. Good bye.
February 17, 1939.

1:34 p.m.

Mr. Sheppard: Hello, Mr. Morgenthau.

Mr. Sheppard: Hello.

Mr. Sheppard: How are you?

Mr. Sheppard: I'm sorry I couldn't come sooner.

Mr. Sheppard: "Well, I appreciate that.

Mr. Sheppard: Senator, I looked up that document of the French. Hello?

Mr. Sheppard: Yes.

Mr. Sheppard: And I find they use the French word "Mister" and that's all.

Mr. Sheppard: The French word what?

Mr. Sheppard: "Monsieur" -- you see? It isn't addressed to anybody. Just like in English we say -- wrote the word "Mister".

Mr. Sheppard: Yes?

Mr. Sheppard: But no name of any kind. It isn't addressed to anybody.

Mr. Sheppard: Oh, I don't get that.

Mr. Sheppard: Well, the French word is M-O-N-S-I-E-U-R.

Mr. Sheppard: Yes.

Mr. Sheppard: Which is in English -- which translated means "Mister".

Mr. Sheppard: Oh, yes. And if you want -- you mean it ought to be in the hearings "Monsieur"?

Mr. Sheppard: No, no. I'm just saying -- I think -- what I'm trying to say is that it isn't addressed to anybody; it's just as though -- it's -- as though you wrote a letter "Gentlemen", you see?

Mr. Sheppard: Yes.

Mr. Sheppard: And it doesn't name anybody. Hello?

Mr. Sheppard: You mean the hearings?
MR: No. You remember I was asked yesterday, did this letter of credentials that the French have --

S: Yes?

MR: Whether it was addressed to anybody in particular.

S: Oh -- oh.

MR: You see?

S: Yes.

MR: And I'm simply telling you -- I'm giving you my word of honor that it's addressed as though it were addressed "Gentlemen".

S: I see.

MR: And it's not addressed to any individual.

S: Well, that should -- that should come out in the -- you've got your testimony, haven't you, for yesterday?

MR: Yes.

S: Well, why don't you put it in there?

MR: Well, I just thought I would tell it to you. This is -- belongs -- this is a document that belongs to the French Government. It doesn't belong to me.

S: Oh, I see.

MR: You see?

S: All right. It was addressed to "Gentlemen"?

MR: That's all.

S: Well, shouldn't that be in that -- shouldn't there be something to that effect in the testimony?

MR: Well, could --

S: However, if it -- was it made -- was it an issue any way?

MR: No.

S: Uh-huh.
No, you remember -- it's just that --

Well, I'll keep that in mind until I see your testimony comes back.

Yes, you'll remember, I think. It's just about as we were about to close. Senator Nye said, "Was it addressed to anybody in particular?"

Yes, and what did you say?

And I said I'd have to look at it, but my best remembrance was it was addressed to nobody.

Well, now, I tell you, put right in there -- you see, you've got a -- you said you'd find out later.

Yes.

And I would just add that -- just put a note there, a footnote, or I can, that Secretary Morgenthau reported that after looking at the document it was addressed "Gentlemen".

That's right.

All right.

And -- may I ask you another question?

Yes, sir.

What is the program now in regard to all this testimony? know

Well, I don't/ of any more to be taken.

Yes.

And we're going ahead with the plan of -- of publishing the record as it was corrected.

I see.

Yes.

I -- Senator Austin did quite an unusual thing yesterday.

Oh, yes very, and that was due to a misunderstanding on his part.
Mr: I thought it certainly was most unfortunate.
S: Oh, yes. That didn't come from me, I assure you.
Mr: Oh, I know you wouldn't do a thing -- but --
S: Yes, as a matter of fact, you never said that.
Mr: That's right.
S: Yeah.
Mr: And -- but it's all gone out over the wires.
S: Oh, yes. Well, did you think something of correcting that?
Mr: Well, the only thing to correct it would be the sooner all of my testimony is put the better.
S: That's right, that's right. All right.
Mr: What?
S: That's fine.
Mr: Thank you.
S: We'll do that.
Mr: Thank you.
S: All right, good bye.
Mr: Good bye.
February 18, 1939

TO: Secretary Morgenthau
FROM: Mr. Osmont

I delivered personally to Senator Sheppard, at 9:55 this morning, the transcript of your testimony and that of Mr. Hanes and Admiral Peoples before the Senate Military Affairs Committee on Thursday, February 16th. I called the Senator’s attention to the fact that the only corrections made were those of "grammatical errors or construction," which was in accordance with his letter to you dated February 17th. I told him that in going over the testimony I had at first indicated by pencil rings some phrases and sentences which I personally thought should come out, but that after reading the Herald Tribune this morning I thought there was no point to doing that kind of editing. The Senator said, contrary to his letter, that we should feel free to strike out anything we wished and I again put rings around the three or four references to German preparation that I thought out to come out.

Major Watt then joined the conversation and after we had discussed what appeared in the Herald Tribune he said that he thought we should leave it alone except for grammatical changes and the Senator and I assented. I told the Senator that I hoped he would not mind my saying that the whole business of the way that the testimony before the Committee had come out in unauthorized and garbled form was outrageous. He agreed with me emphatically but seemed to think it none of his responsibility. He said that when Senator Austin placed his false interpretation upon your testimony on Thursday, that we should have corrected it. I told him that was not the way we understood our responsibility, that we considered the Committee responsible for what was said about testimony before it. He said "not at all," that we had a perfect right to correct misstatements about it.

I asked the Senator if he understood what I had told him about the French letter of authority, to which reference had been made at Thursday’s hearing. He said he understood you to say that the letter was not addressed to any individual but just "Gentlemen." I told him that the letter was addressed simply "Monsieur" and that it was obviously not a letter of introduction but a letter of authorization to the French military commission to buy planes in this
country. He said he would have to prepare a footnote for the record and asked me to help him with it. I had made some notes on a sheet of paper and I corrected them to read substantially as follows:

"Since testifying before the Committee Secretary Morgenthau has advised the Chairman of the Senate Military Affairs Committee that the letter referred to above was not a letter of introduction but a letter of authorization to the French Commission for the purchase of airplanes in this country; that it was not addressed to any officer of the United States but was addressed simply 'Monsieur' and was signed by the French Premier and other officers of the Government of France; and that since it was obviously a letter of the French government to its own agent Secretary Morgenthau did not feel at liberty to supply a copy to the Committee."

---000---
MEMORANDUM

TO: Secretary Morgenthau
FROM: Mr. Gaston

I delivered personally to Senator Sheppard, at 9:55 this morning, the transcript of your testimony and that of Mr. Hanes and Admiral Peoples before the Senate Military Affairs Committee on Thursday, February 16th. I called the Senator's attention to the fact that the only corrections made were those of "grammatical errors or construction," which was in accordance with his letter to you dated February 17th. I told him that in going over the testimony I had at first indicated by pencil rings some phrases and sentences which I personally thought should come out, but that after reading the Herald Tribune this morning I thought there was no point to doing that kind of editing. The Senator said, contrary to his letter, that we should feel free to strike out anything we wished and I again put rings around the three or four references to German preparation that I thought out to come out.

Major Watt then joined the conversation and after we had discussed what appeared in the Herald Tribune he said that he thought we should leave it alone except for grammatical changes and the Senator and I assented. I told the Senator that I hoped he would not mind my saying that the whole business of the way that the testimony before the Committee had come out in unauthorized and garbled form was outrageous. He agreed with me emphatically but seemed to think it none of his responsibility. He said that when Senator Austin placed his false interpretation upon your testimony on Thursday, that we should have corrected it. I told him that was not the way we understood our responsibility, that we considered the Committee responsible for what was said about testimony before it. He said "not at all," that we had a perfect right to correct misstatements about it.

I asked the Senator if he understood what I had told him about the French letter of authority, to which reference had been made at Thursday's hearing. He said he understood you to say that the letter was not addressed to any individual but just "Gentlemen." I told him that the letter was addressed simply "Monseur" and that it was obviously not a letter of introduction but a letter of authorisation to the French military commission to buy planes in this
country. He said he would have to prepare a footnote for the record and asked me to help him with it. I had made some notes on a sheet of paper and I corrected them to read substantially as follows:

"Since testifying before the Committee Secretary Morgenthau has advised the Chairman of the Senate Military Affairs Committee that the letter referred to above was not a letter of introduction but a letter of authorization to the French commission for the purchase of airplanes in this country; that it was not addressed to any officer of the United States but was addressed simply "Monsieur" and was signed by the French Premier and other officers of the Government of France; and that since it was obviously a letter of the French government to its own agent Secretary Morgenthau did not feel at liberty to supply a copy to the Committee."

---000---
February 17, 1939.

Dear Mr. Secretary:

I send you herewith typewritten copy of the hearings held by the Senate Military Affairs Committee on February 16, 1939.

The Committee desires that your testimony and the testimony of Under Secretary of the Treasury John W. Hanes and Admiral C. J. Peoples be revised, if desired, for grammatical errors or construction.

Since there is one copy only which I can send to you, it is desired that after your revision has been made that you turn this copy over to Under Secretary Hanes and Admiral Peoples for their revisions.

The Committee desires return of this copy to the Committee Room, Capitol Building, not later than Saturday morning, February 18th, at 10.00 o'clock.

Cordially yours,

[Signature]

Honorable Henry Morgenthau, Jr.,
Secretary of the Treasury,
Washington, D.C.
February 17, 1939.

Dear Mr. Secretary:

I send you herewith typewritten copy of the hearings held by the Senate Military Affairs Committee on February 15, 1939.

The Committee desires that your testimony and the testimony of Under Secretary of the Treasury John W. Hanes and Admiral C. J. Peoples be revised, if desired, for grammatical errors or construction.

Since there is one copy only which I can send to you, it is desired that after your revision has been made that you turn this copy over to Under Secretary Hanes and Admiral Peoples for their revisions.

The Committee desires return of this copy to the Committee Room, Capitol Building, not later than Saturday morning, February 18th, at 10.00 o'clock.

Cordially yours,

Honorable Henry Morgenthau, Jr.,
Secretary of the Treasury,
Washington, D.C.
MEMORANDUM FOR THE SECRETARY

There is attached hereto agreement between the French State and North American Aviation, Inc., covering the purchase of 200 airplanes.

These are the basic training type, and both the plane and the engine have been previously released for export and numbers of them have been previously sold to other foreign governments.

[Signature]

att.
Mr. Arthur Krock,
The New York Times,
Washington, D.C.,

Dear Mr. Krock,

In your clear story "Behind the Scenes in French Plane Affair" you mention a Mr. Monnet, Jean Monnet. If it is the same Jean Monnet of the old Blair & Co., of Elisha Walker, thereby hangs a tale, a munitions tale. Alas, he has done it before.

His history goes way back to the happy and never to be forgotten grab days of the mighty Callust S. Goulbenkian, second to Deterding, promoter and grabber of the Turkish Petroleum Company that got and split the Asia Minor oil field; of the late Georges also a Blair partner, Bemard, who did not follow Monnet into the Giannini combine that Elisha Walker made, a lesser Goulbenkian but rather a great man himself at financial missions long ago in the other war. These fellows are incorrigible. I have followed them and studied them since 1912 and they are always the same ones, as Clemenceau said of the ministries he felled. I had my weekly French lunch today,- correspondents of Paris papers, small "financiers", and business folk. They naturally saw friend Monnet getting up a company to make down a difference in price on those planes. I said nothing - today's poor meal was by rotation in my own diggings - but I thought with a sad memory of that incredible and mad past in Paris.

142 East 37th Street.
New York.
February 21st, 1939.

Regraded Unclassified
and back and forth from Paris to New York, when war munitions finance
was the life blood of the most interesting schemers in all France:-
"There is goes again, once more! We are in for it again." I
take it that Mr. Morgenthau knows about M. Monnet, though.

Your Wall Streeters and your Paris gang could dig
up a story here all right. I forbid you to mention me in any way. I
have been through it once, and I am out!

Sincerely,

Harrison Reeves

For Monnet always says he is a brandy merchant. True,

but quarter the way Coqnet way launched a

brand, which still perfumes, but its revenue to

Monnet would not in a year pay a day's

interest in the better stuff. Pursuit: His

skill for living small makes the "dirt's delight"

for dealer a fiddle.
MEMORANDUM FOR ADMIRAL PEOPLES

February 23, 1939.

It seems appropriate to call attention to the fact that the duties of the Treasury Department in connection with the mission sent by the French Government to acquire military planes in the United States have now been completed. Therefore, it is my desire that no further contacts by officers or employees of the Procurement Division be maintained nor any information or cooperation furnished to members of the French mission or any other like mission or group without specific authorization and instruction from my office.

(Signed) H. Morgenthau, Jr.

Secretary of the Treasury.
February 28, 1920.

MEMORANDUM FOR ADMIRAL PEKILE

It seems appropriate to call attention to the fact that the duties of the Treasury Department in connection with the mission sent by the French Government to acquire military planes in the United States have now been completed. Therefore, it is my desire that no further contacts by officers or employees of the Procurement Division be maintained nor any information or cooperation furnished to members of the French mission or any other like mission or group without specific authorization and instruction from my office.

(Signed) T. McDonald, Jr.

Secretary of the Treasury.

McElrath
MEMORANDUM FOR MR. McREYNOLDS

For the secretary's files, there is enclosed herewith copy of contract between the French State and Fairchild Aviation, Incorporated, covering the purchase of cameras and accessory equipment.
**CONTRACT**  
(as of)  
FEBRUARY 27, 1939  

**between**  
THE FRENCH STATE  
and  
FAIRCHILD AERIAL CAMERA CORPORATION

<table>
<thead>
<tr>
<th>Articles</th>
<th>TABLE OF CONTENTS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Scope of the Contract.</td>
<td>1</td>
</tr>
<tr>
<td>II</td>
<td>Inspection and Test.</td>
<td>2</td>
</tr>
<tr>
<td>III</td>
<td>Responsibility for Supplies Tendered.</td>
<td>7</td>
</tr>
<tr>
<td>IV</td>
<td>Covenant Against Contingent Fees.</td>
<td>7</td>
</tr>
<tr>
<td>V</td>
<td>Laws of New York.</td>
<td>8</td>
</tr>
<tr>
<td>VI</td>
<td>Definitions and Notices.</td>
<td>9</td>
</tr>
<tr>
<td>VII</td>
<td>Articles Called for and Prices.</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>1) Itemized List and Prices.</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>2) Specifications.</td>
<td>13</td>
</tr>
<tr>
<td>VIII</td>
<td>Deliveries.</td>
<td>17</td>
</tr>
<tr>
<td>IX</td>
<td>Delays in Delivery.</td>
<td>19</td>
</tr>
<tr>
<td>X</td>
<td>Liquidated Damages for Delay.</td>
<td>22</td>
</tr>
<tr>
<td>XI</td>
<td>Payments and Methods Thereof</td>
<td>22</td>
</tr>
<tr>
<td>XII</td>
<td>Option for Additional Purchases.</td>
<td>25</td>
</tr>
<tr>
<td>XIII</td>
<td>Contractor's Liability for Breach.</td>
<td>26</td>
</tr>
<tr>
<td>XIV</td>
<td>Guaranties and Warranties.</td>
<td>28</td>
</tr>
<tr>
<td>XV</td>
<td>Patents.</td>
<td>29</td>
</tr>
<tr>
<td>XVI</td>
<td>Sub-Contracts.</td>
<td>30</td>
</tr>
<tr>
<td>XVII</td>
<td>Surety Bonds.</td>
<td>32</td>
</tr>
<tr>
<td>XVIII</td>
<td>Non-Assignability, Effect of Receivership, etc.</td>
<td>32</td>
</tr>
</tbody>
</table>

(This page does not constitute part of the Contract)
THIS CONTRACT entered into as of the 27th day of February, 1939, by the FRENCH STATE, hereinafter called the "Government", represented by Rene P. G. Weiser, Air Attache to the French Embassy of the Republic of France in the United States, and FAIRCHILD AERIAL CAMERA CORPORATION, a corporation organized and existing under and by virtue of the laws of the State of New York, having its principal place of business at 88-06 Van Wyck Boulevard, Jamaica, New York, hereinafter called the "Contractor".

WITNESSETH THAT:

WHEREAS, the Contractor is a designer and manufacturer of aerial cameras; and

WHEREAS, time is of the essence to the Government in the delivery of the cameras, accessory equipment and spare parts hereunder contracted for;

NOW, THEREFORE, the parties hereto do mutually agree as follows:

ARTICLE I.

Scope of the Contract:

The Contractor shall furnish and deliver to the
Government all of the cameras, accessory equipment and spare parts (all of which may be sometimes herein referred to as "articles") more particularly described in Article VII hereof for the consideration stated and payable as set forth more particularly in Article II hereof in strict accordance with the specifications, all of which are set forth more particularly in Article VII hereof.

Delivery shall be made as set forth more particularly in Article VIII hereof.

ARTICLE II.

Inspection and Test:

1. Before delivery of any camera, it shall be accepted on the conditions indicated in paragraph 3 of this Article II.

2. The acceptance transactions will be affected by the representative of the Government or its delegate in the factory of the Contractor in Jamaica, New York.

Subject to the authorization of the Government of the United States of America, persons designated by the representative of the Government shall at all reasonable times have access to the manufacturing plant of the Contractor and to the materials and parts of the equipment during the course of manufacture which are the objects of the present contract for the purpose of following the progress in manufacturing. How-
ever, the number of persons so designated to be allowed to enter the manufacturing plant will be limited to five.

3. Acceptance by the Government will depend upon such cameras, accessory equipment and spare parts satisfying the following requirements:
   
   a. **Quantity**

   Certification by representatives of the Government as to quantity to be effected at the factory of the Contractor in Jamaica, New York, upon completion of any given production lot.
   
   b. **Quality**

   Certification by representatives of the Government as a result of:

   (1) Periodic inspection of the equipment while in the process of manufacture for which inspections the Contractor will at all times, subject to the authorization of the Government of the United States of America, afford access to the Contractor's plant to the Government's representatives and witnessing the manufacturer's tests, provided that the passing as satisfactory of any part or piece by the Government's representative does not, however, relieve the Contractor from any responsibility regarding faulty workmanship or material which may be subsequently discovered.
prior to final acceptance; and/or

(11) At the discretion of the Government approval by said representatives of the records of such tests as made by the manufacturer, to which records the Government's representatives shall have access on request, that the materials and workmanship and functioning of the articles are in accordance with Article VII, subparagraph 2.

c. Functioning in the Air:

Upon completion of the manufacture of the first 25 cameras and satisfaction of requirements "a" and "b" above, one of such cameras shall be selected by a representative of the Government and shipped to the Glenn L. Martin Company, in Baltimore, for flight test in an airplane of the Government's selection at the Government's risk and expense. Upon completion of reasonable tests the representative of the Government shall certify as to whether or not there has been

(1) A satisfactory mechanical functioning of the camera in accordance with the specifications of this contract and

(11) A satisfactory photographic quality in the resulting photographs. Satisfactory photographic quality shall be deemed to mean
the equivalent of photographs which are ac-
ceptable to the United States Army Air Corps.

If upon such flight test, such camera should fail to
satisfy either of tests (i) and (ii) above, the Govern-
ment shall have the right, by notice in writing, to
cancel this contract, provided, however, that the Con-
tractor after receiving such notice shall at its writ-
ten request have forty (40) days within which time under
the Government’s continued inspection, it may effect ad-
justments or with the Government’s approval make neces-
sary changes in specifications or design and within
which further it may cause to be made available in air-
craft and under conditions subject to the Government’s
approval; and (which shall be mutually agreed upon) a
second flight test shall then be made by the Govern-
ment’s representatives, at the Contractor’s risk and
expense, as to such camera’s functioning in the air,
as to which tests the Government’s representative shall
certify as before. If such certification shall show
the performance of the camera to have satisfied both
said tests (i) and (ii), such cancelation shall be re-
voked; otherwise it is to remain in effect. The Con-
tractor will cooperate with the Glenn L. Martin Company
in affecting installation facilities, but it will not
be held responsible for any failures or faulty performance of the products of the Contractor which may be shown to have been due to faulty installation of the equipment in aircraft.

d. **Inspection Limits:**

Acceptance inspection for Quantity (subparagraph "a" above) and acceptance inspection for Quality (subparagraph "b" above) will be effected by the Government within fifteen (15) days subsequent to notification by the Contractor to the Government in writing that any equipment is available for such inspections.

Flight tests (subparagraph "c") shall be completed by the Government within thirty (30) days after acceptance, under subparagraphs "a" and "b" above.

e. **Certificate of Inspection:**

When conditions for acceptance for above paragraphs "a" and "b", and for paragraph "c", have been complied with, the Contractor shall make out in duplicate a Certificate of Inspection and shall present the same to the representative of the Government or his delegate for approval.
ARTICLE III.

Responsibility for Supplies Tendered:

The Contractor shall be responsible for the cameras and accessory equipment covered by this contract until they are accepted and paid for by the Government. The cameras and the accessory equipment will become the property of the Government at the factory of the Contractor in Jamaica, New York, although the Contractor will agree to act as agent for the Government with regard to the transportation of said equipment to a French port as indicated in Article VII, Item 10.

ARTICLE IV.

Covenant Against Contingent Fees:

1. The Contractor declares and guarantees that in connection with this contract it has not paid and will not pay, directly or indirectly, any gratuity, commission, bribe or emolument to any officer, agent, or representative, temporary or permanent, of the Government or to any other person as an inducement for the Government to enter into this agreement. Any breach of the undertakings contained in this Article shall be ground for cancellation of this contract. Such cancellation, however, can only take place upon decision rendered by a competent court in the State of New York. The execution of this contract shall be suspended thirty (30) days from the day on which the Contractor shall have received from the
Government notice by registered letter of its intention to sue for this cancellation and until the decision of the competent court has become final and not liable to appeal, either ordinary or extraordinary.

2. In the event that the contract is cancelled in accordance with the terms of the present Article, a statement will be made with regard to this contract, showing the amounts due by the parties to one another.

3. In case of contestation, such statement will be submitted for decision to the competent court in the State of New York.

4. In any event, the cancellation will have no effect on the contract in respect of such part thereof as shall have been executed at the date provided hereinabove and up to the thirty (30) days from receipt of the notice.

5. In the event that the judicial decision is to the effect that there is no reason for cancellation of the contract, the Contractor will have the right, when this decision has become final, to take proceedings before a competent court for damages caused by the suspension of the contract.

ARTICLE V.

Laws of New York:

Any disputes arising under this agreement shall be determined in accordance with the laws of the State of
Definitions and Notices:

1. The term "Government Representative" or "Representative of the Government" as used herein shall mean any person who shall be appointed and accredited by the Government acting through the Air Attache of the French Republic in the United States to act on its behalf for the purposes of this contract. One or more representatives may be so appointed provided the Contractor shall be notified of each appointment in writing by the Government. One representative designated as the Financial Representative shall be in charge of and shall approve invoices, certificates for payments, orders for shipments, etc. The same or another representative designated as the Technical Representative may be in charge of acceptance covered by this contract. The Contractor is hereby authorized to rely and act upon any written approval, direction, consent or notice signed by the principal Government Representative or his delegate or delegates appointed in writing and to the extent therein indicated.

2. All notices or communications to the Contractor shall be addressed to the Contractor at Jamaica, New York.

3. All notices or communications to the Government
shall be addressed in writing to the Representative of the Government designated by it to deal with the matter covered by such notice.

**ARTICLE VII.**

Articles Called for and Prices:

1. **Itemized List and Prices:**

   The Contractor shall furnish and deliver to the Government the following articles for the considerations stated opposite each article and totaling two hundred and forty-five thousand four hundred and nine dollars and eighty-five cents ($245,409.85).

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. CAMERAS:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>40</td>
<td>K8A Camera Operating Units of 12-inch focal length complete, each</td>
<td>$3,869.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$146,760.80</td>
</tr>
<tr>
<td>B. ACCESSORY EQUIPMENT:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>40</td>
<td>Sets of two Filters: Minus Blue, #26 Red, each</td>
<td>$122.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4,888.80</td>
</tr>
<tr>
<td>3.</td>
<td>15</td>
<td>Extra 24-inch Lens Cones for use with above K8A Cameras, each</td>
<td>$1,479.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>22,168.75</td>
</tr>
<tr>
<td>4.</td>
<td>15</td>
<td>#26 Red Filter for use with above 24-inch Cones, each</td>
<td>$74.45</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1,116.75</td>
</tr>
<tr>
<td>5.</td>
<td>60</td>
<td>Special Film Magazines for use with above K8A Cameras, each</td>
<td>$543.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>32,592.00</td>
</tr>
<tr>
<td>6.</td>
<td>40</td>
<td>Sets Installation Cables, each</td>
<td>$23.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>931.20</td>
</tr>
<tr>
<td>7.</td>
<td>115</td>
<td>Signal Lights with Connecting Cables, each</td>
<td>$17.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2,064.25</td>
</tr>
<tr>
<td>ITEM</td>
<td>QUANTITY</td>
<td>DESCRIPTION</td>
<td>PRICE</td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>B. ACCESSORY EQUIPMENT: (CONT'D)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>115</td>
<td>Special View Finders, each - $72.75</td>
<td>$8,366.25</td>
</tr>
<tr>
<td>C. SPARE PARTS:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td>Spare Parts as follows:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Unit 77 Minus Blue Filters</td>
<td>427.77</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Unit 77 #25 Red Filters</td>
<td>427.77</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Unit 156 #25 Red Filters</td>
<td>628.13</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>24-inch F6 Lens with Built-in Minus Blue Filter</td>
<td>621.56</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>12-inch F5 Eastman Kodak Lens</td>
<td>174.60</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Intervalometers</td>
<td>2,376.60</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Intervalometer Heaters</td>
<td>59.41</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Intervalometer Thermostats</td>
<td>49.23</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Intervalometer Motor Assembly</td>
<td>356.47</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Intervalometer Governor Assemblies</td>
<td>166.35</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Wind Rods for 12-inch Cameras</td>
<td>110.33</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Trip Rods for 12-inch Cameras</td>
<td>95.06</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Sets of Washer, Screws, Nuts, Pins, etc.</td>
<td>68.20</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Retard Segment Assemblies for 12-Inch Shutter</td>
<td>201.76</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Retard Cam Shaft Assemblies for 12-Inch Shutter</td>
<td>372.48</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Spring Housing Assembly for 12-Inch Shutter</td>
<td>27.16</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>Diaphragm Leaf Assemblies for ten 12-Inch Shutter</td>
<td>156.20</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Complete Leaf Center with Housing for 12-Inch Shutter</td>
<td>261.90</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Complete Leaf Center less Housing for 12-Inch Shutter</td>
<td>450.08</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>Shutter Main Springs for 12-Inch Shutter</td>
<td>77.60</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Retard Pallets for 12-Inch Shutter</td>
<td>93.12</td>
</tr>
<tr>
<td>ITEM</td>
<td>QUANTITY</td>
<td>DESCRIPTION</td>
<td>PRICE</td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
<td>-------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>C. SPARE PARTS: (CONT'D)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Retard Cam Shaft Assemblies for 24-Inch Shutter</td>
<td>$100.88</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Retard Segment Assemblies for 24-Inch Shutter</td>
<td>73.72</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Retard Pallets for 24-Inch Shutter</td>
<td>17.46</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>Magazine Light Trap Assemblies</td>
<td>582.00</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Magazine Light Slide Assemblies</td>
<td>194.00</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Magazine Drive Assemblies</td>
<td>2,376.50</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Magazine Drive Coupling Assemblies</td>
<td>82.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Magazine Drive Spacing Mechanism Assemblies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>Magazine Data Cards</td>
<td>77.60</td>
<td></td>
</tr>
<tr>
<td>500</td>
<td>Magazine Light Trap Screws</td>
<td>29.10</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>Magazine Film Tension Springs</td>
<td>29.10</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Sets of Springs for Magazine and Drive</td>
<td>31.04</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>Magazine Contact Glasses</td>
<td>3,395.00</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Camera Motor Complete</td>
<td>1,018.50</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Camera Motor Armature &amp; Field Assemblies</td>
<td>373.45</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Camera Motor Rod</td>
<td>81.48</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Recording Watch Assembly</td>
<td>543.80</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Recording Altimeter Assembly</td>
<td>1,018.50</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Recording Altimeter Prism</td>
<td>162.96</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Camera Case Drive</td>
<td>3,066.60</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Camera Body Level Assembly</td>
<td>29.10</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>2-pole Cable Plug Assemblies</td>
<td>135.60</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>3-pole Cable Plug Assemblies</td>
<td>139.68</td>
<td></td>
</tr>
<tr>
<td>ITEM</td>
<td>QUANTITY</td>
<td>DESCRIPTION</td>
<td>PRICE</td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C. SPARE PARTS) (CONT'D)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Recording Counter Assemblies</td>
<td>$38.80</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Wind Rod Assemblies for 24-Inch Camera</td>
<td>162.96</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Trip-Rod Assemblies for 24-Inch Camera</td>
<td>142.69</td>
</tr>
<tr>
<td>1240</td>
<td></td>
<td>Lamps for Recording Chamber and Signal Lights</td>
<td>144.34</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Complete Leaf Centers with Housings for 24-Inch Shutter</td>
<td>179.48</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Complete Leaf Centers less Housings for 24-Inch Shutter</td>
<td>213.40</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Spring Housing Assembly for 24-Inch Shutter</td>
<td>27.16</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Shutter Main Springs for 24-Inch Shutter</td>
<td>29.10</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Sets of Springs for Shutter, Case Drive, Intervalometer</td>
<td>20.37</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>View Finder Glass with Center Cross</td>
<td>162.74</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>View Finder Negative Lenses</td>
<td>814.80</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Fitted Spare Parts Trunks</td>
<td>336.50</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Fitted Spare Parts Trunk</td>
<td>97.00</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>Sets Installation Cables</td>
<td>465.60</td>
</tr>
</tbody>
</table>

D. TRANSPORTATION CHARGES:

10    |          | All transportation charges to deliver Items 1, 2, 3, 4, 5, 6, 9 to either of the following French ports: Dunkerque, St. Nazaire, Havre, Cherbourg or Bordeaux. (This figure includes all insurance except war and strike risks which will be for the account of the Government if desired). | 2,340.00 |

TOTAL |          | 1245.409.86 |

2. Specifications:

All of the said equipment hereinabove listed shall be
in strict accordance with the following specifications:

(a) Materials and workmanship and construction throughout shall fully equal United States Army-Navy standards.

(b) The K&A operating units (Item 1 above) shall be operable on 24 volt current, will be equipped with radio shielding, and consist of the following:

(b1.) Fully automatic recording camera made up of special roll film magazine equipped to take film 26 meters by 179 millimeters on spools of the Government's specifications, giving negatives of 18 centimeters by 178 millimeters size; camera body with electric driving motor; recording chamber with negative numbering device, watch, level bubble, data card and altimeter of 1500 m. - 7500 m. range; lens cone with 12-inch Eastman F5. lens complete with Fairchild high efficiency between-the-lens shutter having at least two speeds, the highest of which shall be 1/165 second.

The Contractor will endeavor to make available to the Government shutter speeds for the shutter incorporated in the cameras and camera cones being purchased by this agreement in excess of 1/165 second. If such change is possible, the Contractor will notify the Government the costs of such a change and the
Government will indicate whether such change is desired.

Shutter speeds specified above and in subparagraph "d" of this Article VII will be within plus or minus 10% of the speeds specified.

(b2.) The intervalometers being supplied will provide for exposures at regular intervals varying from 6 to 75 seconds in length. Intervals of available exposures will be 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60, 63, 66, 69, 72, 75 seconds.

NOTE: Intervalometer intervals specified above will be guaranteed accurate within 5%.

(b3.) A sturdy trunk will be supplied fitted to take the 12-inch K8A camera and Minus Blue, #25 Red Filters as described in Item 2.

(c) All filters supplied in Items 2 and 4 will be of the bayonet type, readily interchangeable, and made of optically flat glass.

(d) The extra 24-inch lens cones, Item 3, which will be supplied will be readily interchangeable with the 12-inch lens cones with which the K8A cameras which are being furnished are equipped. These cones will be complete with Eastman or Bausch & Lomb F6, lens of 24-inch focal length com-
plete with between-the-lens Mius Blue Filter and the Fairchild high efficiency between-the-lens shutter having at least two speeds the highest of which shall be 1/165 second. Shutter wind and trip rods and shutter retard control rod are supplied with each lens cone. Each extra 24-inch cone will be supplied with a trunk fitted to take the #26 Rod filter described under Item 4.

NOTE: The Contractor has specified either Eastman or Bausch & Lomb 24-inch lenses in the KGA extra cones in order that prompt delivery can be assured. The Contractor, however, warrants that if one type of lens cannot be used in the cameras throughout that its substitute will be of equal quality.

(e) The special roll film magazines which are being supplied in Item 5 will be identical to those furnished with the KGA cameras, Item 1. These magazines will be equipped to take film 26 meters by 179 millimeters on spools of the Government's specifications, and will give negatives of 18 centimeters by 178 millimeters size. No film spools will be supplied as those will be furnished by the Government.

(f) The installation cables and connecting cables
(items 6 and 7) will be radio shielded and to a length specified by the Glenn L. Martin Company.

(g) The vertical view finder (item 8) shall consist of a negative lens and reference plate glass located above the former in a suitable mount.

NOTE: Items 7 and 8 will be delivered by the Contractor to the Glenn L. Martin Company, in Baltimore, if desired, at no additional charge.

(h) The spare parts furnished will be identical in quality and grade to the original parts supplied in the camera.

(i) Three copies of the Contractor’s instruction manual in English revised to apply to equipment being obtained will be furnished to the Government within three months from receipt of order. Also within five months from receipt of order one copy negative and original print of each photograph appearing in said handbook will be furnished to the Government.

(j) Name plates for all cameras shall be in the French Language.

ARTICLE VIII.

Deliveries:

(a) All of the cameras and accessories called for under the terms of this contract shall be delivered at the factory of the Contractor at Jamaica, New York, with the ex-
ception of Items 7 and 8 of Article VII which shall be delivered at the Contractor's expense to the Glenn L. Martin Company in Baltimore, Maryland. Each camera will become the property of the Government at the factory of the Contractor upon fulfillment of total payments as agreed upon in Article II. These deliveries shall be made as follows:

2 months from date of contract — 15 sets signal lights
   (item 7)
   15 view finders (item 8)

3 months from date of contract — 100 sets signal lights
   (item 7)
   100 view finders (item 8)

6 months from date of contract — 25 KSA cameras (item 1)
   25 sets filters (item 2)
   25 sets installation cables (item 6)
   15 24-inch extra cones
   (item 3)
   15 #25 red filters (item 4)

8 months from date of contract — 10 additional KSA cameras
   (item 1)
   10 additional sets filters
   (item 2)
   10 sets installation cables
   (item 6)

9 months from date of contract — 5 additional KSA cameras
   (item 1)
   5 additional sets filters
   (item 2)
   60 additional special roll film magazines (item 6)
   5 sets installation cables
   (item 6)
   -- All spare parts as listed (item 9)
ARTICLE II.

Delays in Delivery:

(1) Subject to the provisions hereinafter mentioned which render certain delays of the Contractor excusable, should the Contractor fail or refuse to deliver any of said cameras, accessory equipment and spare parts deliverable in any period mentioned in Article VIII, for sixty (60) days after the expiration of such period, or for sixty (60) days after such extended period as may result from excusable delay, then the Government shall have the right to cancel and terminate this contract as to all or any such articles deliverable in such period or in such period as so extended, and to recover from the Contractor such partial payments as shall have been made by the Government under Paragraph II upon the articles as to which such cancellation shall have been effected. Such right of cancellation shall be once exercised by the Government by notice in writing delivered to the Contractor on, or not more than seven (7) days before, the earliest day on which the Government claims or contends that such right of cancellation shall accrue or has accrued. Such notice shall state the articles to which such claimed right of cancellation shall apply, and it shall also state such claimed date of cancellation. If the Contractor shall not concur in such claimed date of cancellation it shall so advise the representative of the Government in writing, and if the parties shall be unable to
agree upon the adjusted delivery date hereunder, the determination of such date shall be referred to arbitration.

(2) The Contractor shall not be deemed to be in default in its obligation to make deliveries as in this contract provided, when, and to the extent that, the Contractor shows that such delivery was prevented or delayed by force majeure (as hereinafter defined), and which prevention or delay, herein also to be classed as excusable delay, could not have been escaped or avoided by the exercise of reasonable care on the part of the Contractor. Especially to be considered as instances of force majeure are:

1. War between the United States and a foreign country.

2. Civil War, uprisings or insurrections in the United States.

3. A law, regulation or ordinance of the Government of the United States or any subdivision or authority or of any representative of that Government.

4. Floods, fires, explosions or other catastrophes or serious accidents occurring during the preparation of the plans or of the manufacture of the goods.

5. Any labor trouble resulting in a cessation or interruption of work.
5. Any other cause duly proved, due to either the French State or its representatives, or events unforeseeable and beyond the control of the Contractor, and having had as effect, either to delay, or to prevent the performance by the Contractor of its obligations.

(3) The Contractor shall within three days from the beginning of any excusable delay notify the Government representative in writing of its claim of such delay and the extent or anticipated extent thereof. Within three days after its receipt of such notice the Government representative shall notify the Contractor in writing, either that the Government concurs in such notice given by the Contractor or the extent, if any, to which, in the opinion of the Government, other events and circumstances have rendered immaterial the delay claimed by the Contractor. In the event the Government shall not concur in such claim by the Contractor the parties shall confer, and, if possible, reach an agreement as to the extent of any excusable delay and the adjusted delivery dates which agreement shall be reduced in writing and approved by the parties. If the parties shall not agree, each shall make a written statement concerning such claimed excusable delay, which statements shall be exchanged and preserved for use in arbitration or dispute.
ARTICLE I,

Liquidated Damages for Delay:

If the Contractor refuses or fails to make deliveries of the cameras, accessory equipment and spare parts in accordance with Article VIII hereof, the Contractor will as liquidated damages pay for delay as follows:

1/4 of one per cent. (1%) for each day of delay of the value of such delayed articles not to exceed fifteen per cent. (15%) of the value of such equipment. It is understood and hereby agreed by the parties of this contract that the above damages shall not apply after notification to the Government by the Contractor that the equipment is ready for acceptance. Should any equipment not be accepted by the Government for reasons of failure to meet specifications hereinbefore outlined, delivery terms (and liquidated damages, if they have already commenced) shall continue from the date the articles are indicated in writing to the Contractor for correction until renotification by the Contractor in writing that the equipment is available for reinspection.

ARTICLE II,

Payments and Methods Thereof:

1. The total amount which the Government agrees to pay to the Contractor for all of the items covered by Article
VII of this contract shall be in the sum of two hundred and forty-five thousand four hundred and nine dollars and eighty-five cents ($245,409.85) American Dollars in New York funds.

2. **Partial Payments:**

   (a) A payment of twenty per cent, (20%) of the total purchase price of this contract will be made to the Contractor within one month from date of receipt by the Government of a written estimate and invoice by the Contractor of expenditures to be made by it for materials both raw and finished and for labor and overhead in connection with the manufacture of the articles specified in Article VII hereof.

   (b) A further payment of thirty per cent, (30%) additional of the total purchase price of the contract will be made upon acceptance, in accordance with the terms of Article II, paragraph 3, subparagraphs "a", "b" and "d", of those cameras, accessory equipment and spares which are scheduled for delivery within six months from receipt of order.

   (c) A further payment of thirty per cent, (30%) additional of the total purchase price of this contract upon acceptance of one camera in accordance with the terms of Article II, paragraph
3. subparagraphs "c" and "d" and delivery of invoice.

(d) The balance of the purchase price shall be paid upon acceptance by the Government of all articles scheduled for last delivery.

3. Methods of Payment

After each invoice shall have been approved by the Financial Representative of the Government, whether for partial or final payment, such invoice shall be presented either by the Financial Representative of the Government, or by the Contractor, to the Financial Attache of the French Embassy, who shall stamp such invoice and either return same to the Contractor or present the same, on behalf of the Contractor, to the Federal Reserve Bank of New York through which bank payment will be made of the net amount of such invoice for the account of the Contractor to the Chemical Bank & Trust Company of New York, New York.

For all payment except the first the Government agrees that not more than fifteen days shall elapse between the presentation of invoice with acceptance report to the Financial Representative of the Government and final payment to the Contractor.

All payments to be made hereunder, or by another provision of this contract shall be in American Dollars, New York funds, and shall be free from all French taxes and any
other taxes whatsoever. If the Government exacts any taxes in respect of this contract, it undertakes to increase the amounts of the payments of this contract accordingly.

All duties, taxes, and other payments (excluding exportation taxes) which may be claimed by the Government of the United States of America, or any subdivision thereof, shall be borne by the Contractor.

ARTICLE XII.

Option For Additional Purchases:

The Contractor agrees that the Government shall have the right for a period of one hundred and twenty days from the signing of this contract to purchase in any amount or amounts additional cameras and/or accessory equipment and/or spare parts described and specified in Article VII and at the same prices and in all other respects subject to all the terms and conditions of this contract, except that the item of transportation charges described in Article VII, subparagraph 1, Item 10, above shall be subject to negotiation at each or any exercise of such option and further provided that delivery dates under exercise of any such option shall be as the parties may then agree.
ARTICLE XIII

Contractor's Liability for Breach (Exclusive of Failure in Deliveries)

In the event any articles finally offered for delivery hereunder should in any material respect fail to conform to and meet with the Specifications set forth in Article VII, subparagraph 2 hereof, and the standard of performance established in Article II, subparagraph 3, c, (ii), or should the Contractor fail, in any material respect, to carry out and perform the terms and conditions of this contract on its part to be performed, then and in any such event the Government may terminate this contract by written notice to the Contractor, and the Contractor and his Surety shall be liable to the Government for any and all payments made by the Government to the Contractor with respect to articles which, at the time of such cancellation, have not been delivered and accepted and for any and all such damages as the Government may suffer from any such failure by the Contractor. This Article shall not govern the right to cancellation or termination of this contract by reason of failure or refusal of the Contractor with respect to time or times of delivery covered by paragraph (1) of Article IX hereof.

ARTICLE XIV

Guarantees and Warranties:

(1) Guarantee of Performance - The Contractor guarantees that the cameras and accessory equipment if operated
and maintained in accordance with instructions furnished by the Contractor will in their performance equal standards maintained by the United States Army and Navy Air Corps in connection with cameras and accessory equipment of similar type.

If any camera or accessory equipment should within one year after acceptance thereof, and while so operated and maintained, fail to perform according to such guaranty, the Government shall return such camera and equipment for repair or substitution. If the Contractor fails to deliver such repaired or substituted camera or equipment to the Government at the Contractor's plant within such thirty days or if after such repair or substitution such camera or equipment so repaired or such new article which so operated and maintained fails, within fifteen months from the date of delivery of the original camera or equipment to perform according to such guaranty then in either event of failure the Government may rescind the within contract as relates to the said camera or equipment, as to which there has been such failures; and the Contractor and its surety shall be obligated to repay the amount of its purchase price theretofore paid.

(2) **Warranty of Material and Workmanship** - The Contractor warrants each article purchased in this contract to be free from defect in material and workmanship under normal use in service. The Contractor's obligation under this guar-
... and warranty will be limited to making good at its factory any part or parts hereof which shall within one year after delivery be returned to the Contractor, transportation charges prepaid, and which are defective. This warranty shall not apply on any articles which have been repaired or altered or which shall have been subjected to misuse, negligence, or accident. This warranty is extended by the Contractor to the Government and shall not be transferable.

ARTICLE XV

Patents:

Upon notice promptly given to the Contractor by the Government the Contractor will take over all claims made in the United States of America in respect of articles sold under this contract by all owners of United States patents against the Government or the Contractor for infringement thereof and will take proceedings, at its own expense, in such manner that the Government will be saved harmless therefrom.

The Contractor warrants that no manufacturing license for any of the articles involved in this contract has been sold or granted to any French manufacturing concern. Subject to the foregoing warranty, the Government will assume the entire and exclusive responsibility for all risks which might be incurred in connection with taking such articles into French territory and particularly in view of French internal legislation concerning patents.
ARTICLE XVI

Sub-Contracts

No sub-contract shall be made by the Contractor with any other party for furnishing any completed or substantially completed cameras, accessory equipment or spare parts herein contracted for without the written approval of the Government. Approval of the Government will not be required for purchase orders by the Contractor of finished or semi-finished articles and material normally and generally purchased by the Contractor from third parties but prompt written notice will be given to the Government of such purchase orders. The Contractor will require that any sub-contracts for the furnishing of any completed or substantially complete cameras, accessory equipment or spare parts, and which sub-contracts are approved by the Government as above required shall be performed so that the material covered thereby shall be in accordance with this contract and specifications. The Contractor shall exercise supervisory power over the system of inspection used in performing such sub-contracts. The Contractor agrees, wherever possible, that the Government, through its representative, shall have the same rights of observation, inspection and test with reference to work of sub-contractors and access for that purpose, as provided for in Article II, subpara-

graph 2.
ARTICLE XVII

Surety Bonds:

The Contractor shall furnish to the Government at the times indicated:

1. **Security Governing Partial Payments**

   One or several bonds issued by one or several American surety companies on the list issued by the United States Treasury Department of those approved as sureties on bonds to the United States Government in a form acceptable to the Financial Attaché of the French Embassy, guaranteeing to the Government the repayment in the amount due of the sums paid by it under the provisions of Article XII, subparagraph 2 hereof in the event that the cameras and accessory equipment and spare parts described in Article VII hereof are not in fact manufactured and delivered according to the conditions stipulated in the present contract. One or more of these bonds shall be delivered to the representative of the Government with or prior to and in the amount of each or several or all the invoices for partial payments described in Article XII, subparagraph 2, hereof. The aggregate liability of the principal and the sureties upon such bond or bonds shall in no event exceed the actual partial payments made on account to the Contractor by the Government minus the full purchase price of each article delivered under this contract; provided however that the liability thereunder shall be reduced or
exinguished by the percentage of the full price (fixed in Article VII hereof) for each delivery hereunder which will then have been established under Article VIII hereof as being the exact percentage of the total contract price which the Contractor may have drawn in partial payments.

2. Limited Security Covering Guarantees, Warranties and Liquidated Damages for Delay

One or several bonds issued by one or more American surety companies on the list issued by the United States Treasury Department of those approved as sureties on bonds to the United States Government in a form acceptable to the Financial Attaché of the French Embassy for ten per cent. (10%) of the total amount of each delivery, guaranteeing to the Government payment of the liquidated damages for delays in delivery as stipulated in Article X hereof and the carrying out of the guaranty and warranty in Article XIV hereof. Such bond or bonds may be furnished to the representative of the Government at the time each invoice is delivered to the representative of the Government as set forth in Article X subparagraph 3 hereof and in that event shall apply to the cameras, accessory equipment and spare parts included in such invoice, and no other articles whatsoever. The Contractor may furnish to the representative of the Government before the first delivery of an article hereinafter a bond for ten per cent. (10%) of the total contract price as set forth in Article X.
hereof in lieu of the foregoing.

ARTICLE XVIII

Non-Assignability, Effect of Receivership, Etc.:  

(1) This contract shall enure to the benefit of, and be binding upon, the successors and assigns of the parties hereto, but it shall not be assignable wholly or in part by either party without the prior written consent of the other party, excepting in case, unaccompanied by change in essential management of the Contractor's plant, of merger, consolidation or voluntary sale or transfer of substantially all of the Contractor's assets.

(2) In the event that a Receiver or Trustee in Bankruptcy is appointed over substantially all the assets of the Contractor by any Court having jurisdiction and shall not be discharged within thirty days thereafter, the Government shall, without derogation from any of its other rights and remedies as in this contract provided, have the right to cancel this contract with respect to any cameras, accessory equipment or spare parts thereof which shall not have been delivered prior to the date of such cancellation.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed in quadruplicate (all of
which shall be assumed original on the day and year above written.

THE FRENCH STATE

BY

Rene F. C. Weiser
Air Attache

FAIRCHILD AERIAL CAMERA CORPORATION

BY

Ernest Robinson
Vice-President

ATTEST:
My dear Captain Evans:

I enclose herewith a copy of a letter I have just sent to the Secretary of the Navy thanking him for the services you rendered in connection with the cooperation given the French mission.

Very sincerely yours,

(Signed) H. Morethun, Jr.

Captain Sydney H. Evans,

Department of the Navy.
My dear Captain Kreuz:

I enclose herewith a copy of a letter I have just sent to the Secretary of the Navy thanking him for the services you rendered in connection with the cooperation given the French mission.

Very sincerely yours,

(Signed) H. Morganthau, Jr.

Captain Sydney M. Kreuz,
Department of the Navy.
My dear Captain Evans:

I enclose herewith a copy of a letter I have just sent to the Secretary of the Navy thanking him for the services you rendered in connection with the cooperation given the French mission.

Very sincerely yours,

(Signed) H. Morgenthau, Jr.

Captain Sydney H. Evans,

Department of the Navy.
My dear Mr. Secretary:

Upon the termination of the duties the Treasury Department has been required to perform in cooperation with the mission recently sent to this country by the French Government to purchase military planes, I wish to express to you my very high regard for and appreciation of the services rendered by Captain Sydney M. Irms who was assigned to assist in this project. Captain Irms' knowledge of the subject and his untiring application to the duties assigned to him was a source of very great satisfaction.

Sincerely,

(Signed) H. Mortenhau, Jr.

The Honorable

The Secretary of the Navy.
My dear Mr. Secretary:

Upon the termination of the duties the Treasury Department has been required to perform in cooperation with the mission recently sent to this country by the French Government to purchase military planes, I wish to express to you my very high regard for and appreciation of the services rendered by Captain Sydney K. Krems who was assigned to assist in this project. Captain Krems' knowledge of the subject and his untiring application to the duties assigned to him was a source of very great satisfaction.

Sincerely,

(Signed) H. Morgenthau, Jr.

The Honorable

The Secretary of the Navy.
My dear Mr. Secretary:

Upon the termination of the duties the Treasury Department has been required to perform in cooperation with the mission recently sent to this country by the French Government to purchase military planes, I wish to express to you my very high regard for and appreciation of the services rendered by Captain Sydney N. Lewis who was assigned to assist in this project. Captain Lewis' knowledge of the subject and his untiring application to the duties assigned to him was a source of very great satisfaction.

Sincerely,

(Signed) H. Morgenhan, Jr.

The Honorable
The Secretary of the Navy.
My dear Mr. Secretary:

Upon the termination of the duties the Treasury Department has been required to perform in cooperation with the mission recently sent to this country by the French Government to purchase military planes, I wish to express to you my very high regard for and appreciation of the services rendered by Captain Sydney N. Evans who was assigned to assist in this project. Captain Evans' knowledge of the subject and his untiring application to the duties assigned to him was a source of very great satisfaction.

Sincerely,

[Signature]

The Honorable

The Secretary of the Navy.

[Signature]
SIR:

The receipt is acknowledged of your letter of 28 February, 1939, expressing your appreciation for the services rendered by Captain Sydney M. Kraus, U.S.N., in connection with his recent duties with the mission sent to this country by the French Government to purchase military planes.

Your commendatory letter will be made a part of the official records of Captain Kraus, and he is being notified accordingly.

Respectfully,

[Signature]

Acting

Hon. Henry Morgenthau, Jr.,
Secretary of the Treasury,
Washington, D.C.
MEMORANDUM FOR THE SECRETARY

There is attached hereto a memorandum indicating the contracts recently made as between the French State and the companies indicated thereon, covering purchases made in the United States by the French Mission.

[Signature]
<table>
<thead>
<tr>
<th>Company</th>
<th>Description</th>
<th>Unit Price</th>
<th>Total</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curtiss-Wright Corp.</td>
<td>100 Hawks, 75 A</td>
<td>$34,000.00</td>
<td>$3,460,000.00</td>
<td>$4,021,984.80</td>
</tr>
<tr>
<td></td>
<td>Mounting Guns on 74 Planes</td>
<td>900.00</td>
<td>81,000.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Material and Services, Dis-</td>
<td>900.00</td>
<td>90,000.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>assembling and Crating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spares</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Additional Propellers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spares for Accessories to Motors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Douglas Aircraft Co.Inc.</td>
<td>100 Attack Bombers</td>
<td>$94,924.00</td>
<td>$9,492,400.00</td>
<td>$10,316,260.00</td>
</tr>
<tr>
<td></td>
<td>Spares</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairchild Aerial Camera Corp.</td>
<td>40 Camera Operating Units</td>
<td>$3,669.02</td>
<td>$146,760.80</td>
<td>$245,409.85</td>
</tr>
<tr>
<td></td>
<td>Accessory Equipment</td>
<td></td>
<td>72,148.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spare Parts</td>
<td></td>
<td>26,501.05</td>
<td></td>
</tr>
<tr>
<td>G. L. Martin Company.</td>
<td>115 Attack Bombers</td>
<td>$113,848.61</td>
<td>$13,082,590.00</td>
<td>$16,364,590.88</td>
</tr>
<tr>
<td></td>
<td>Equipment and Accessories</td>
<td>21,512.57</td>
<td>2,473,945.55</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spares of Standard and Special Equipment</td>
<td></td>
<td>2,395,355.35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disassembling and Crating</td>
<td>3,500.00</td>
<td>402,500.00</td>
<td></td>
</tr>
<tr>
<td>Item Description</td>
<td>Unit Price</td>
<td>Total</td>
<td>Grand Total</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>------------</td>
<td>-------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>North American Aviation, Inc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200 Basic Trainers</td>
<td>$24,900.00</td>
<td>$4,950,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 Spare Engines</td>
<td>$4,958.00</td>
<td>495,800.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spare Parts and Equipment</td>
<td></td>
<td>598,260.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disassembling and Crating Airplanes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Each) 665.00</td>
<td></td>
<td>137,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crating of Spare Parts</td>
<td></td>
<td>23,930.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Aircraft Corporation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 P&amp;W Twin Wasp SC3G Engines</td>
<td>$13,110.00</td>
<td>$1,311,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>415 &quot; &quot; &quot; &quot; &quot; &quot; &quot; &quot;</td>
<td>$13,430.00</td>
<td>5,573,450.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>230 &quot; &quot; &quot; &quot; &quot; &quot;</td>
<td>$13,640.00</td>
<td>3,137,200.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 &quot; &quot; &quot; &quot; &quot; &quot;</td>
<td>$13,190.00</td>
<td>659,500.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRAND TOTAL .....</td>
<td>$50,464,186.33</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
THIRTY BROAD STREET
NEW YORK

20th January 1959.

Dear Mr. Secretary,

I met Mr. Washington on Wednesday and Thursday, and for the first time since we last met:

I have nothing special that I wish to take up with you, but it would give me very great pleasure to see you if only for a few minutes.
if you can square the time,
I will take the liberty of calling you,
Secretary from Washington
With best compliments,
Believe me,
yours sincerely,

Mr. Henry Clay.
Secretary of the Treasury.
Washington, F. M.
Mr. Henry M. Goldfogle,

Secretary of the Treasury,

Washington, D.C.
March 23, 1939
4:30 p.m.

Present:
Mr. Monnet
Mr. Lochhead

HM Jr: Everything all right with you?

Mr. M: No. I have to go to Europe tomorrow because my father is not well, so I am going tomorrow.

As it was when I wrote you my letter, there was nothing that I wanted to take up with you, but just wanted to see you for a few minutes to say, which I did not have opportunity to say when we parted last time, I appreciated very much the confidence and support you gave me personally and gave us in this French plane affair and that I do think that the result of it, mainly due to the support that was given here by you, has had a very great effect in France.

HM Jr: Good! The orders are going to come through?

Mr. M: Yes. As you know, there were certain options which I think the French will exercise. There was a meeting held today with the airplane people.

But from the point of view of the defense of France (that, I say to you only) but the bombers, if they do buy about 400, they are going to exercise their option which will come up to 400 or 500 more of fast speed, that would mean that from this country France will have 500 when, in fact, French production would be only by the end of this year of the same type about 300, so you can see what a difference it makes.

HM Jr: Is the story true that the French Government had a lot of planes on order from Czechoslovakia? That they had placed a lot of orders there?

Mr. M: Not to my knowledge.
In production there? You would know that?

Mr. M: I might know it.

HM, Jr: You see so many stories.

Mr. M: I will tell you what I do know, that the Czechs had built before Munich a certain number of planes and they were planes doing about 250 to 260 miles an hour and the Czechoslovakian owners or Government came and tried to sell them to the French Government sometime last Fall, but to my knowledge nothing has been done. I would be exceedingly surprised. The only thing I know of other purchases the French Government has made, and your people know, is they bought a certain number of motors from Great Britain, Rolls-Royce motors. As you know, the British have made very great progress in their production and are advanced in their production of motors. So outside of that, I don't think.....

HM,Jr: But of bombers that will go over 300 miles an hour, by January the French will have 300 of their own production?

Mr. M: This is maximum. And they have now 200 on order with you. I think they will lift another option for 100 and I have every hope they will reach 400 or 500 on the option they have with both Douglas and Martin. So you can see from the purely material point of view, not to think of the psychological effect in France, what this affair means. You may realize it, but the effect I am speaking of, France itself, has been of tremendous importance.

HM,Jr: Everybody now thinks it's a good thing in this country, but for a month I went through hell!

Mr. M: I know that.

HM,Jr: I went through hell!

Mr. M: I know.

HM,Jr: One of the most unpleasant experiences I ever had. Terrific! But now everybody thinks it is fine, but just by sticking and not giving one inch. Did you read my testimony?
Mr. M: I did.

HM, Jr: Did you see where I was questioned about my part? I didn't apologize ever for it.

Mr. M: I did not have a chance at that quick meeting when we parted, but I want to say to you (and that's the real object of my visit) that not only I feel grateful personally, but if it had not been for the cooperation which had been given here, which was through you and the firmness of your attitude, this would not have gone through.

HM, Jr: I admit it. It's true.

Mr. M: I feel it deeply and that is so and I say to you again it's the first step, as far as France is concerned, but I can assure you it made 100% difference because people are confused and they don't know how many planes there are and very few people have exact figures, but the psychological value is this.

HM, Jr: The very fact that the poor fellow was killed and all the confusion and mystery added, they don't know how many planes. The very confusion was good.

Mr. M: The very confusion, from that angle, was good and from the point of view of psychology in France I can assure you that there are very few persons of the Government who actually know just what the situation is and what it made on their attitude means a difference.

HM, Jr: Mr. Monnet, thanks for coming in. If you do sail, give Ambassador Bullitt my very best regards. And I am still here to help when necessary.

000-000