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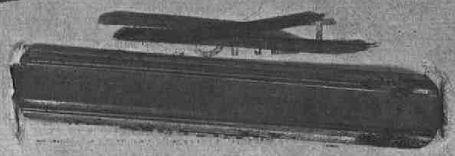

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TO THE ARCHIVES
OF THE AAF
HISTORICAL OFFICE
File No. 202.1-25
MAR 1946

P.R.C.

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EO-10-501, November 1953
Ltr dtd 25 April 1957
BY [signature]
DATE 30 April 1957

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Auth: C.G. ATSC

Initials: CWT

Date: 5 MARCH 1946

CLASSIFICATION CHANGED TO

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EO-10-501, November 1953

Ltr dtd 25 April 1957

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DATE 30 April 1957

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CASE HISTORY

OF

A-26 AIRPLANE

The A-26, built by Douglas Aircraft Company, Inc., was a light bombardment airplane of 26,700 pounds gross weight, having a high speed of 372 m.p.h. at 17,000 feet and was powered by two Pratt and Whitney R-2800-27 engines, rated at 1600 h.p. each. Alternate configurations consisted of a low level strafing version, a tank destroyer version, or a medium altitude bomber version.

Documents in this case history were obtained from the files of Air Technical Service Command, Wright Field, and Headquarters, Army Air Forces, Washington, D. C.

Classified documents are included herein, and therefore, compliance with pertinent sections of AR 380-5 is necessary.

Compiled by
Historical Division
Intelligence, T-2
Air Technical Service Command
Wright Field
October 1945

[redacted]

UNCLASSIFIED

W-71377-3

SUMMARY

SUMMARY OF THE A-26 AIRPLANE

Believing that the A-20 series of light bombers would not meet the latest combat requirements in Europe, the Experimental Engineering Section, Wright Field, in November 1940, gave first priority to the Douglas Aircraft Company for designing and developing a new plane. It was desired that the new plane be faster, have greater defensive armament, have greater design strength, require shorter landing and take-off distances
(1) (2) than the A-20, and provide for crew interchangeability. Eventually, it
(57) was hoped that this model would also replace the B-25 and B-26. Douglas proposed to manufacture two planes, one a night-fighter adaptation of the other, and to schedule such a thorough series of wind tunnel tests of the
(3, 4) experimental models that mass production could follow almost immediately. Mock-up inspections were conducted during the latter part of April 1941.

In March, a contract had been submitted to the Chief, Materiel Division, Washington, but had been returned because of what appeared to be unreasonable costs. At Douglas' request, the contract was rewritten
(9) on a cost-plus-fixed-fee basis. On 2 June 1941, Contract W535 ac-17946 was approved, covering the procurement of one XA-26 plane and one XA-26A (night fighter version) plane, at an estimated price of $2,083,385.79
(10) plus a fee of $125,003.15. Almost immediately, a change order provided
(11) for an additional plane incorporating a 75 mm. cannon, which was designated the XA-26B.

The first mass production contract, ac-21393, was approved 31
(15) October 1941, and called for 500 A-26's at a total cost of $75,264,093. Deliveries on this contract were postponed, however, because of delays
(17) in procuring components for the prototype planes. Meanwhile, the Production Engineering Section, Wright Field, was debating the various possibilities suggested by the apparent versatility of the new plane. The versions considered were:

(1) a medium altitude bomber with bombardier nose,

(2) a tank destroyer and ground attack plane with a 75 mm. cannon,

(3) a tank destroyer and ground attack plane with four 37 mm. cannon,

(4) a ground attack plane with a six .50 cal. gun nose,

(5) a night fighter version with radar equipment,

(6) a photographic or reconnaissance version with long range fuel tanks.

Production Engineering Section thought it possible to provide three interchangeable noses, a bomber nose, a 75 mm. cannon nose, and a six

* The numbers placed in parentheses in margin refer to the documents found in the Document File attached.

(22) .50 cal. gun nose, each of which could be installed in 24 hours. In the summer of 1942, it was decided that all 500 planes on Contract ac-21393 would have the 75 mm. cannon nose, and that 200 of the .50 cal. (26) gun noses would be produced as alternates for field installation.

The first flight of the XA-26 was not made until 10 July 1942. The earliest production date of A-26's was estimated to be July 1943, even with (31) the use of XA-26 prototype tooling for the first six planes. The Production Division, Wright Field, believing that a reason for the delay was that an insufficient number of tooling engineers was assigned, directed Douglas to transfer at least two-thirds of the personnel listed on the C-74 project to the A-26. Also, all engineers whose efforts on the XA-26 were not applicable to the production airplane were to be transferred to the A-26, and no engineers were to be utilized in improving crew comfort or arrangement in cargo planes unless specifically authorized by Wright (32) Field. Studies of additional armament arrangements were ordered to be (33) curtailed until a more advanced stage of production had been reached. Priorities for the various versions of the A-26 were established as follows:

(a) 75 mm. cannon nose,

(b) bombardier-observer nose,

(37) (c) machine gun nose.

Nevertheless, in January 1943, Douglas informed Wright Field that it would be impossible to meet the production schedule. Difficulties arising from design changes had been followed by difficulties in tooling. Initial (39) deliveries were re-estimated for October.

Planes on Contract ac-21393 were to be delivered from the Douglas plant at Long Beach. The second production contract, W535 ac-34433, (46) covered procurement of 500 A-26B's from Douglas-Tulsa. This contract (48) was approved 17 March 1943 and involved a total cost of $109,164,900. All of these planes were to be procured with 75 mm. cannon noses, although (49) 167 bombardier-observer nose sections were to be procured in addition. The version of the plane which incorporated four 37 mm. cannon was can-(52) celed the following August.

Although deliveries were begun in the fall of 1943, proposals for (53, 54, 55) further modification of the A-26 continued, including installation for a co-pilot and further additions of armament. Shortage of machinery for making wing spars was delaying production the next spring to such an extent that the Commanding General of the AAF demanded "... A-26's for use in this war and not the next war. If something drastic is not done, (57) we cannot hope to replace the B-25's, B-26's and A-20's with the A-26." Maj. Gen. O.P. Echols, Assistant Chief of Air Staff, Materiel, Maintenance, and Distribution, Washington, replied that Douglas "seemed to have little interest in or little desire to manufacture this airplane" and that the Materiel Command, Wright Field, had urged Douglas to place orders for tools

(58) and find subcontractors. However, the District Supervisor of the Western Procurement District, Los Angeles, pointed out that the A-26 wing was entirely different from that of any other airplane; further, that delivery schedules had been set before all design and tooling problems had been solved. At one time there had been as many as 35 change orders
(62) a day on the A-26.

On 29 March 1944, 2700 additional A-26B's were covered by supplemental agreements to Contracts 21393 and 34433 at a total cost of
(60, 61) $308,454,619.13. But, in May, production flow was again complicated as a result of failure of the A-26B wing during static tests. Douglas
(65, 66) was requested to redesign the wing and increase its strength by 10%.

Four A-26's assigned to the Fifth Air Force were given combat tests the following July. The report submitted to Wright Field stated that the planes were not satisfactory, chiefly because insufficient
(67) visibility made low-level attack formations impossible. This situation prompted Gen. Kenney, Commanding General of the Far Eastern Air Force, to announce, "We do not want the A-26 under any circumstances as a replacement for anything." Production Division, Wright Field, agreed that "the A-26 is not desired as a replacement for present types of light and medium bombardment airplanes." Nevertheless, it was the opinion of Gen. Vandenberg, of the Ninth Air Force, that, on the basis of inconclusive tests, it appeared that the A-26 was a satisfactory
(74, 78) replacement for B-26's and A-20's in the European Theater.

A new type of pilot's canopy, designed to improve visibility, was the subject of considerable discussion following the report from the Far Eastern Air Force. Douglas claimed that, because of late reception of tooling information at the Tulsa plant, the canopy could not be
(73) incorporated in an airplane delivered before January 1945. The Commanding General of the AAF stated that the job could be done more quickly if Douglas wished and that the manufacturer's efforts in
(75) connection with the A-26 had been "little short of reprehensible." Gen. Arnold believed that stronger liaison between the Douglas engineer-
(79) ing personnel at Long Beach and the Tulsa plant was necessary. By February 1945 the following steps had been taken by Douglas to improve A-26 production: the number of stations in the production line had been increased, efforts were being made to secure additional engineering
(93) personnel, and the chief inspector had been replaced. Meanwhile, an
(69) all-purpose gun nose had been designed and faulty nose landing gear
(80, 92, 97) had been redesigned.

In November 1944, the Assistant Chief of Air Staff, Operations, Commitments and Requirements, Washington, informed the Chief of Air Staff that all European A-20 groups and all but three B-26 groups were to be converted to A-26 planes by the end of the following July. In spite of the dislike of the A-26 expressed by Gen. Kenney, conversion
(83) in other theaters would follow.

Two more contracts, W33-038 ac-5140 and W33-038 ac-5141, were approved

8 December 1944 for a total of 2400 planes at a cost of $231,999,989.44, in-
(86, 87) cluding fixed fee. Contract ac-5140 was supplemented on 5 April 1945 to
(100) cover procurement of 1250 A-26's at a total cost of $106,211,313.13, and a
week later a supplement to Contract ac-5141 provided for 350 A-26D airplanes
(101) at a total cost of $33,344,067.12. The A-26D was similar to the A-26B ex-
(109) cept for power plant improvements.

Reports on the performance of the A-26 in combat theaters continued to mix praise and complaint in the early part of 1945. Maj. Gen. S.E. Anderson of the Ninth Bombardment Division stated that once pilots were familiar with the A-26, they considered it better than any other plane they had flown. A triumph for the A-26 was recorded when the Commanding General of the Far Eastern Air Forces reported that the version with the eight-gun nose and no bottom turret had proved to be highly satisfactory
(110) as a replacement for A-20's and B-25's. However, major deficiencies, such as canopy frosting, faulty brakes, and unreliable nose landing gear, hampered
(89, 92) combat operations. The last-named deficiency was particularly trouble-
(103) some.

In May 1945, a re-examination of A-26 schedules in the light of theater requirements resulted in a decision that instead of increasing production
(104,105) to 400 a month, production should be cut to approximately 150 a month.
(106) Contract ac-5140 was terminated in its entirety on 31 May, and production
(107) at Douglas-Tulsa was stopped. In August, Contracts ac-21393, ac-34433, and
(114,118, ac-5141 were also terminated.
119)

Late modifications of the A-26 were a photo reconnaissance version
(111,112, (FA-26), a tow target version, a night intruder, and a jet experiment
113,115) (XA-26F). A post-war model, the A-26Z, was proposed by Douglas, which would incorporate a raised canopy, re-arrangement of the cockpit, an en-
(120,123) trance hatch through the nose wheel well, and wing-tip droppable fuel tanks; but the Air Technical Service Command informed the manufacturer that, while the A-26Z represented a distinct improvement over the standard plane, there
(124) was no requirement for it in the Army Air Forces.

PHOTOGRAPHS

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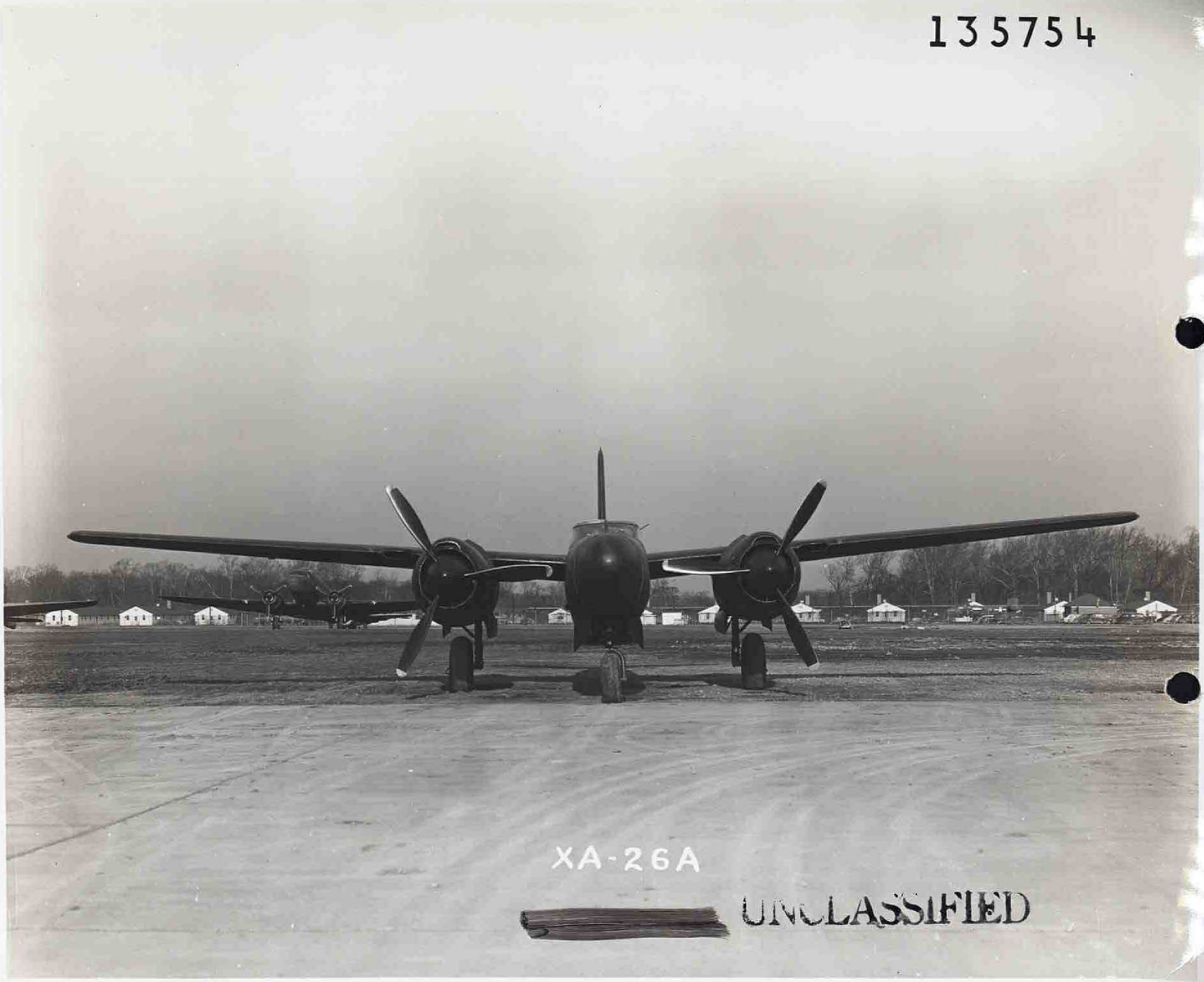

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XA-26A

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XA-26A.

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A-26B

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PERFORMANCE
CHARACTERISTICS

BY CHAS. C. SMITH, EXETER, NE
STYLE GCS-39CR

TSENG Form No. 8C
(5 Apr 45)
Old TSESA Form 1AV

February 7, 1946

TYPE A-26B Light Bomber PROJECT No.

Contractor Douglas No. on Contract 3200

Contract Number W535-ac-21393 ac-34433 Estimated Flight Date

Spec. No. XC-220-3A

I. POWER PLANT

(1) Number of Engines 2 (Mfr. & Type Engine) P&W - R-2800-27 or 71
(2) Supercharger Single stage, 2 speed geared superchargers
(3) Propeller Hamilton Standard, constant speed hydromatic, full feathering, 3 blades, 12'-7" diam. Red. Gear Ratio 2:1

(4) Engine Ratings:	THRUST	B. H. P.	R. P. M. (Eng.)	FT. ALT.
a. Take Off		2000	2700	S.L.
b. Military		2000(1600)	2700(2700)	1500(13,500)
c. Normal		1600(1450)	2400(2400)	5700(13,000)
d. War Emergency		2340	2700	S.L.

II. PERFORMANCE

(1) Speed in Level Flight	M. P. H.	ALT. FEET	THRUST OR B. H. P.
a. High Speed - critical alt	353	16,850	3200
b. High Speed - sea level	340	S.L.	4000

(2) Rate of Climb	FT/MIN	ALT. FEET	WEIGHT
a. War Emergency Power	-	-	-
b. Military Power	2750	S.L.	-

(3) Time to Climb	MIN.	ALT. FEET	WEIGHT
a. War Emergency Power	-	-	-
b. Military Power	8.0	15,000	-

(4) Range	MILES	M. P. H.	FUEL GALS.	CARGO OR BOMBS LBS.
a. Design Gr. Wt.	690	2000 bhp.	440	-
b. Design Gr. Wt.	-	-	-	-
c. Alt. Gr. Wt.	3210	197 mph.	1600	-
d. Alt. Gr. Wt.	-	-	-	-

(5) Service Ceiling	FT. ALT.	B. H. P.	WEIGHT
a. With all Engines	26,900	-	-
b. With ½ Engines	16,300	-	-

(6) Take-Off & Land Over 50' Obs.	TAKE-OFF	LANDING	WEIGHT
a. Design Gross Wt.	2195	2303	27,603
b. Alt. Gross Wt.	-	-	-

TSENG Form No. 3
(5 Apr 45)

February 7, 1946

MODEL DESIGNATION A-26B TYPE Douglas - Light Bomber

III. CHARACTERISTICS

(1) Weight Empty 22,366 lbs.
(2) Design Gr. Wt. 27,603 lbs.
(3) Alt. Gross Wt. - lbs.
(4) Length 609"
(5) Span 70'-0"
(6) Wing Area 540.0 (sq. ft.)

	Design Gr. Wt.	Alt. Gr. Wt.
(7) Wing Loading (#/Sq. Ft.)	751.1	-
(8) Power Loading (#/BHP) at Mil. Power	-	-

IV. ARMAMENT

(1) Guns and Cannons:

No.	Cal.	Type or Position	Rds per Gun
a. Normal			
6	.50	Nose - Fixed	400
2	.50	Upper turret - Flexible	500
2	.50	Lower turret - Flexible	500
(4 or 8)	.50	Wings - Fixed Package guns	300
b. Alternate			
6	.50	Nose - Fixed	400
6	.50	Wings - Fixed	300
2	.50	Upper turret - Flexible	500
2	.50	Lower turret - Flexible	500

(2) Bombs, ~~Rockets~~:

No.	Size
4	1000 or
6	500 or
8	250 or
16	100 internal capacity

V. CREW Normal 3 Alternate -

VI. SPECIAL FEATURES:

All fixed guns operated by pilot, all flexible guns operated remotely by gunner-observer.

VII. NOTES

Complete radio equipment.

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Auth: C.G. ATS
Initials: Court
Date: 5 March 1946

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Auth: C. B. ATSC.
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Date: 5 MARCH 1946

DOCUMENT BRIEF

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W-71377-3

1. (U) Ltr. 5 Nov. 1940
Fr: Maj. F.O. Carroll
Chief, Exp. Eng. Sect., WF
To: Douglas Aircraft Co., Inc.
Santa Monica, Cal.
(File: Bomb. Br., Eng. Div.)

Exp. Eng. Sect. (WF) indicated priorities for the preliminary design studies being made by Douglas Aircraft Company, Inc., (hereinafter referred to as Douglas) giving the new and improved model of a light bomber first priority. To aid Douglas in its conception of a new light bomber, Exp. Eng. Sect. outlined the following characteristics of the A-20 series which had failed to meet the latest combat requirements in the war in Europe: no interchangeability of crew, insufficient defensive armament, too small design strength, and too great landing and take-off distances. While the speed of the A-20 was considered excellent for the type and size, Exp. Eng. Sect. believed that greater speed would be required for airplanes to be produced in 1942-43.

2. (u) TT 11 Dec. 1940
Fr: Exp. Eng. Sect., WF
To: Chief, Exp. Eng. Sect.,
Wash.
(File: Bomb. Br., Eng. Div.)

Douglas was conducting design studies which Exp. Eng. Sect. (WF) believed would result in an experimental light bomber which would be the 1942 successor to the A-20 airplane.

3. (U) Ltr. 28 Jan. 1941
Fr: Douglas Aircraft Co., Inc.
El Segundo, Cal.
To: Contr. Officer
Mat. Div., WF
(File: Contract Files)

Douglas submitted a proposal for the manufacture of two airplanes. The first was to be a twin-engine light bombardment type airplane, and the second, basically identical to the first, was to be equipped as a night fighter. These experimental airplanes were to be designed with attention to mass production problems. Results of the extensive series of wind tunnel tests planned for the airplanes would ensure entering the type into production with the fewest possible changes over the experimental model, thereby minimizing delay and reducing the expense of the entire program.

4. (C) Memo 7 Feb. 1941
Fr: E.W. Miller
Head Mech. Engr., LMAL
Langley Field, Va.
To: Engineer-in-charge, LMAL
Langley Field, Va.
(File: Contract Files)

During a conference held at Langley Memorial Aeronautical Laboratory (hereinafter referred to as LMAL) it was concluded that it would not be practical either to change the fuselage shape of the A-26, or to shorten the nacelles, which were unusually long and extended far forward of the leading edge of the wing. The program planned by Douglas for the development of the XA-26 included: routine tests of a 1/8-scale model in the Caltech tunnel, a comprehensive test program in the NACA 19-foot tunnel, tests of a full-scale nacelle, and tests of large scale wings in the NACA low-turbulence tunnel.

5. (C) IOM 13 Feb. 1941
Fr: Lt. Col. F.O. Carroll
Chief, Exp. Eng. Sect., WF
To: Chief, Contr. Sect., WF
(File: Contract Files)

Exp. Eng. Sect. (WF) compared the characteristics of the A-20B and the proposed XA-26 airplane and furnished data on the night fighter XA-26A. A comparison of prices indicated that the price per pound of the XA-26 was greater than that of any other experimental model listed. Exp. Eng. Sect. stated that repeated unsuccessful attempts had been made to obtain lower quotations from Douglas, but that the higher price per pound for the XA-26 and XA-26A airplanes was partially justified by the fact that the XA-26A was radically different from the XA-26, so that Douglas was, in effect, quoting on design and construction of two different airplanes.

6. (U) Ltr. 28 Feb. 1941
Fr: Douglas Aircraft Co., Inc.
Santa Monica, Cal.
To: Contr. Officer
Mat. Div., WF
(File: Contract Files)

Douglas submitted a bid for 500 A-26 airplanes plus 10% spares, a static tests model, wind tunnel model, and engineering data at a cost of $66,470,850 plus 7% fee, amounting to a total price of $71,123,809.50. The airplanes were to be manufactured at the Douglas plant at Santa Monica (hereinafter referred to as Douglas-Santa Moncia) and deliveries were to begin twenty months after date of contract, reaching a total of 33 airplanes per month twenty-four months after contract date. Douglas submitted a complete breakdown of the estimated price.

7. (C) Rpt. 22 April 1941
By: Capt. Malcohm Green, Jr.
McChord Field
(File: Contract Files)

The mock-up of the XA-26 was inspected between 19 April 1941 and 22 April 1941. The pilot's cockpit, armament provisions, and bombardier-navigator compartment were found satisfactory except for the following comments and recommendations: (1) visibility to the right front was poor and it was recommended that a study be made to improve it, (2) since formation flying required the use of both hands, the Mock-up Committee suggested that the bomb and gun switches be incorporated on the left wheel grip, (3) it was also recommended that the standard crew of the XA-26 be composed of pilot, bombardier, navigator, radio operator, substitute gunner, and rear gunner.

8. (C) Memo Rpt. No. EXP-M-50/534
28 April 1941
(File: Contract Files)

The mock-up of the XA-26 was inspected between 11 April and 16 April 1941. The Mock-up Committee decided to make this the official mock-up inspection for the following reasons: (1) the mock-up was complete except for the power plant installation, (2) arrangements had been made for an officer representing GHQ Air Force to attend, personnel were available from the most interested Laboratories and Sections of Mat. Div., (3) the mock-up had been inspected by representatives of the RAF and their recommendations were available,

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and (4) it was necessary to give Douglas a "go ahead" as soon as possible because of the early delivery date of the airplane. The Mock-up Committee recommended that the mock-up be considered satisfactory with the exception of the power plant and chemical tank installations which would be mocked up later.

9. (C) IOM 26 May 1941
Fr: Lt. Col. A.E. Jones
Chief, Contr. Sect., WF
To: Chief, Mat. Div.
OCAC, Wash.
(File: Contract Files)

Contract W535-ac-17946 was to cover procurement of one XA-26 airplane, one XA-26A airplane, models and data, at a total estimated price of $2,208,388.94, including a fee of 6%. A contract covering this procurement had previously been submitted to Chief, Mat. Div., OCAC, (Wash.) on 10 March 1941, but had been returned on 18 March 1941, with instructions to conduct further negotiations with Douglas in an attempt to secure a more reasonable price. The first contract was based on a fixed price of $2,519,792.86, but at Douglas' request the contract was rewritten on a cost-plus-fixed-fee basis. The estimated cost of the CPFF contract was $311,403.92 less than the fixed price, the reduction being due to the removal of contingencies from the fixed price, establishment of a 6% fee on an estimated cost, and the removal of $60,000 from each airplane for flight insurance. The resubmission of the contract was delayed because Douglas was unwilling to accept the contract without a special clause pertaining to labor shortage and disputes. A decision had been reached to include a substitute clause. Because of greater strength, higher performance, and better crew facilities of the A-26 as compared with the A-20B series, Contr. Sect. (WF) considered it more feasible to procure an XA-26A airplane than to obtain 13 night fighter conversions of the A-20B.

10. (C) Contract W535 ac-17946
2 June 1941
(File: Contract Files)

CPFF Contract W535 ac-17946, approved 2 June 1941 by Under Secy. War, covered the procurement of 1 XA-26 airplane, 1 XA-26A airplane, data, model, and tests at an estimated cost of $2,083,385.79, plus a fee of $125,003.15.

11. (U) Chg. Ord. 1 to Contr. W535 ac-17946 9 June 1941
(File: Contract Files)

Chg. Ord. 1 to Contract W535-ac-17946 provided for the procurement of an additional XA-26, to include the installation of one 75 mm. cannon and be designated XA-26B. The estimated cost of $511,106.65 plus a fee of 6% amounted to a total price of $541,773.05.

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12. (C) Ltr. 1 July 1941
Fr: Douglas Airc. Co., Inc.
El Segundo, Cal.
To: Asst. Chief, Mat. Div., WF
Attn: Airc. Projects
Exp. Eng. Sect.
(File: Contract Files)

Douglas had given special attention to the design of the power plant installation in the XA-26 and the XA-26A in order to provide quick disconnect units at the firewalls. Douglas estimated that the power plant in operating condition with all cowling installed could be removed and replaced by another unit installed and in operation in one hour and thirty minutes, all work being performed by not more than four men. Douglas also designed the demountable power plant assembly to be interchangeable for right or left nacelles.

13. (U) Ltr. 30 July 1941
Fr: Douglas Aircraft Co., Inc., Santa Monica, Cal.
To: Contracting Officer, Mat. Div., WF
(File: Contract Files)

Douglas submitted a revised bid for 500 A-26 airplanes, models, and data for an estimated unit cost of $134,037 and an estimated total cost of $73,834,950 plus a 6% fee of $4,430,097, making a total price of $78,265,047. Douglas stated that the increase in unit price from $132,823 as submitted on 7 July 1941 to $134,037 was due to the incorporation of provisions for torpedo carrying and contractor furnished torpedo director. The airplanes were to be delivered at the flying field near Douglas-Santa Monica. Douglas submitted a complete breakdown of the estimated price of the airplane.

14. (U) Ltr. 31 Oct. 1941
Fr: Brig. Gen. O.P. Echols
Chief, Mat. Div., Wash.
To: Under Secy War, Wash.
(File: Contract Files)

Chief, Mat. Div. (Wash.) submitted for approval Contract W535 ac-21393 covering the procurement of 500 A-26 airplanes, spare parts and data, one skeleton airplane, and one model airplane at a total price of $78,264,093, including 6% fee. The unit cost of the A-26 was constrasted with the unit costs of other airplanes of the type as follows: the approximate cost of the A-20B was $96,000; of the B-26, $131,000; of the B-17, $245,000; while the approximate cost of the A-26 was $134,037. Mat. Div. considered the cost of the A-26 fair and reasonable as compared with those of the A-20 and of the B-26.

15. (U) Contract W535 ac-21393
31 Oct. 1941
(File: Contract Files)

CPFF Contract W535 ac-21393 provided for the procurement of 500 A-26 airplanes, spare parts and data, one skeleton airplane and one free-spinning model airplane, to be furnished at an estimated cost of $73,834,050 plus a fee of $4,430,043, making a total price of $78,264,093. The contract was approved by direction of the Under Secy. War on 31 Oct. 1941.

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16. (C) Ltr. 21 Apr. 1942
Fr: Douglas Aircraft Co., Inc.
El Segundo, Cal.
To: CG, Mat. Center, WF
Attn: Airc. Proj.,
Exp. Eng. Sect.
(File: Bomb. Br., Eng. Div.)

In accordance with Mat. Center (WF) requests, Douglas submitted a plan for the design and construction of a separate nose containing four 37 mm. cannon, to be installed in place of the 75 mm. cannon nose.

17. (C) Ltr. 8 May 1942
Fr: Douglas Airc. Co., Inc.
Santa Monica, Cal.
To: CG, AAFMC, WF
(File: Contract Files)

Douglas stated that it would not be possible to maintain A-26 deliveries on Contract ac-21393 as originally scheduled, because delays encountered on the prototype airplane would cause a corresponding delay in the delivery of production airplanes. Inability to obtain landing gear struts had necessitated revising the first flight date from 15 Jan. 1942 to 1 July 1942. Other delays in delivery of self-sealing tanks, turrets, and GFE items such as engines, propellors, spinners, and generators were adversely affecting the A-26 program. Complete engineering information on turrets to be installed was not completed until 2 May 1942, because of delay in receiving information from Mat. Center. Douglas stated that, because of these factors, there would be a minimum delay of five and one-half months in production A-26 airplanes.

18. (U) TT 9 May 1942
Fr: Prod. Eng. Sect.
Mat. Center, WF
To: Tech. Exec., Mat.
Com., Wash.
(File: Contract Files)

Prod. Eng. Sect. (WF) believed that it would be possible to install the 75 mm. nose cannon in all or part of the 500 A-26 airplanes on Contract ac-21393 without delaying delivery. The 75 mm. cannon version would not necessarily incorporate the range finder sight, but would retain bomb bay installation and bomb release controls. Prod. Eng. Sect. was considering a .50 cal. gun nose, containing the maximum number of guns possible, as an alternate installation to the 75 mm. cannon nose. The delivery schedule of the experimental airplanes was: the bombardment XA-26 in June 1942, the night fighter XA-26A in Sept. 1942, and the destroyer XA-26B in October 1942. Prod. Eng. Sect. believed that the basic A-26 airplane was a highly versatile weapon because of its adaptability to various combat versions.

19. (C) IOM 16 May 1942
Fr: Col. F.O. Carroll
Chief, Exp. Eng. Sect.,
WF
To: Chief, Ind. Plan. Sect.,
WF
(File: Bomb. Br., Eng. Div.)

Douglas had informed Exp. Eng. Sect. (WF) that because of delay in delivery of landing gear struts until 1 June 1942, the first flight of the XA-26 would be delayed for an "unreasonable length of time."

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20. (C) IOM 16 May 1942
Fr: Col. F.O. Carroll
Chief, Exp. Eng. Sect., WF
To: Chief, Prod. Eng. Sect., WF
Attn: Attack Br.
(File: Bomb. Br., Eng. Div.)

Exp. Eng. Sect. (WF) made a comparison of approximate gross weight, useful load, and range data of the XA-26, the XA-26B, and the modified XA-26B. The tank destroyer version, a modified XA-26B mounting one 75 mm. cannon but no range finder, was basically very similar to the XA-26 except for the removable nose and the cannon installation. Exp. Eng. Sect. believed that a relatively high percentage of the basic XA-26 attack bomber version airplanes should be maintained in production, but also stated that a few ground attack version airplanes, mounting sufficient forward fire power to be effective, might be desired.

21. (U) TT 8 June 1942
Fr: Prod. Eng. Sect., WF
To: Prod. Sect., Wash.
(File: Contract Files)

Prod. Eng. Sect. (WF) stated that the firing tests of the mock-up 75 mm. nose were very successful, and that the tank destroyer (75 mm.) version would probably be required in as many of the 500 A-26 airplanes on Contract ac-21393 as possible without delaying delivery. Douglas had been requested to submit proposals for 75 mm. and .50 cal. noses to be supplied concurrently with bomber version airplanes. Prod. Eng. Sect. stated that, in order to keep the production line running at capacity, it would be advisable to contract for additional airplanes as soon as the XA-26 could be proved successful.

22. (C) Memo Rpt. PES-M-33
9 June 1942
(File: Central Files)

Prod. Eng. Sect. (WF) stated that the configuration of the basic XA-26 was such that several combat versions could be built in a production line with comparatively little difficulty in changing from one version to another. The different versions considered were: (1) medium altitude bomber with bombardier nose, (2) tank destroyer and ground attack version with 75 mm. cannon and either telescopic or radio range finder, (3) tank destroyer and ground attack version mounting four 37 mm. high velocity cannon, (4) ground attack version with a six .50 cal. gun nose and pilot-controlled bombing installation, (5) night fighter version with either AGL or AI equipment, and (6) photographic or reconnaissance version with long range fuel tanks. Prod. Eng. Sect. believed it possible to provide each airplane with three noses which could be interchanged in twenty-four hours. The alternate configurations would be the bomber nose, the 75 mm. cannon installation, and a six .50 cal. gun nose. Engineering on the A-26 airplane was being accomplished at the Douglas plant at El Segundo (hereinafter referred to as Douglas-El Segundo), but the airplane was to be built at Douglas-Santa Monica.

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23. (C) Ltr. 22 June 1942
Fr: Col. O.R. Cook
Chief, Prod. Eng. Sect., WF
To: Douglas Aircraft Co., Inc.
Santa Monica, Cal.
(File: Contract Files)

Mat. Center (WF) acknowledged that Douglas had experienced a delay in engineering and manufacturing schedules for the A-26 airplanes on Contract ac-21393, as a result of approximately six months delay in the completion of the prototype model XA-26, which in turn was due to delays in delivery of various major components of the airplane. But considering the urgent need for A-26 airplanes, Mat. Center requested that Douglas make every effort to absorb the delays and refused to grant a Douglas request for a change in Contract ac-21393 to specify a change in delivery schedule.

24. (U) TT 11 July 1942
Fr: Exp. Eng. Sect., WF
To: CG, AAF, Mat. Com., Wash.
(File: Bomb. Br., Eng. Div.)

The first flight of the XA-26 was made on 10 July 1942, and the airplane was reported entirely satisfactory.

25. (C) CTI-796
18 July 1942
(File: Contract Files)

CTI-796, dated 18 July 1942, initiated action to provide the 75 mm. cannon nose installation for all 500 A-26 airplanes on Contract ac-21393.

26. (U) TT 24 Aug. 1942
Fr: Col. O.R. Cook
Chief, Prod. Eng. Sect., WF
To: AAFRR, Douglas Aircraft Co., Inc.
Santa Monica, Cal.
(File: Bomb. Br., Proc. Div.)

Douglas was informed that all bomber noses for A-26 airplanes were to be cancelled, but that 200 of the six .50 cal. gun noses would be required. The wooden nose (75 mm. cannon installation) was required on all 500 airplanes on Contract ac-21393 and the 200 six .50 cal. gun noses would be procured as alternates for field installation.

27. (C) Ltr. 3 Sept. 1942
Fr: Col. O.R. Cook
Chief, Prod. Eng. Sect.
WF
To: Douglas Aircraft Co., Inc.
Santa Monica, Cal.
(File: Contract Files)

The 689 Inspection Board for the XA-26 airplane made recommendations for certain design changes to be incorporated in production A-26 airplanes. Changes were recommended in power plant, propellor, armament, electrical and miscellaneous installations, aircraft structure and radio, and photographic equipment.

28. (C) ICM 7 Sept. 1942
Fr: Col. D.L. Putt
Chief, Bomb. Br.,
Exp. Eng. Sect., WF
To: Chief, Airc. Proj., WF
(File: Central Files)

Exp. Eng. Sect., (WF) stated that the installation of four 37 mm. guns in the XA-26B airplane was being made for the purpose of determining the relative effectiveness of this installation as compared with the 75 mm. cannon installation in the XA-26B. Exp. Eng. Sect. furnished a table showing relative effectiveness of the 37 mm. and 75 mm. guns, indicating that the 75 mm. cannon was more effective as an anti-tank weapon. However, Exp. Eng. Sect. believed that decision as to which type of gun should be installed should be based upon the type of target to be destroyed.

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29. (C) Ltr. 10 Sept. 1942
Fr: Col. O.R. Cook
Chief, Prod. Eng. Sect., WF
To: Douglas Aircraft Co., Inc.
Santa Monica, Cal.
(File: Contract Files)

Prod. Eng. Sect. (WF) furnished Douglas with additional information concerning design changes in A-26 and XA-26 airplanes. Douglas was informed that there was no production procurement planned for the XA-26A night fighter type airplane. Since the production airplane with a 75 mm. cannon nose and bomb bay installation was the production version of the XA-26B, the model designation of the production airplanes was to be changed from A-26 to A-26B.

30. (U) TT 16 Sept. 1942
Fr: Prod. Eng. Sect., WF
To: Exec., Mat. Com., Wash.
(File: Central Files)

Prod. Eng. Sect. (WF) requested the establishment of priorities for the various armament installations being studied by Douglas, including a six .50 cal. gun nose, a four 37 mm. cannon nose, and a two 37 mm. cannon installation in an external rack under the bomb bay. Due to lack of engineering personnel it was possible for Douglas to work on only two of the three armament proposals at once. The A-26 had been basically changed from a medium bomber type to a ground attack and destroyer type by the change from the bomber nose to the 75 mm. cannon nose, in accordance with CTI-796.

31. (S) IOM 31 Oct. 1942
Fr: Col. O.R. Cook
Chief, Prod. Eng. Sect.
WF
To: CG, Mat. Com., Wash.
Attn: AC/AS (P)
(File: Central Files)

Prod. Eng. Sect. (WF) stated that the earliest production date of A-26 airplanes would be July, 1943, but that every effort would be made to improve this date by at least two months. As a means of expediting the program, the first six airplanes would be built with XA-26 prototype tooling.

32. (C) Ltr. 4 Dec. 1942
Fr: Brig. Gen. K.B. Wolfe
Chief, Prod. Div., WF
To: Mr. Donald Douglas
Douglas Aircraft Co., Inc.
Santa Monica, Cal.
(File: Bomb. Br., Eng. Div.)

Prod. Div. (WF) stated that the number of engineers, particularly tooling engineers, assigned to the A-26 was not acceptable in comparison to the number assigned to other projects such as the DC-3, C-74, and B-17F, and requested that production of the A-26 airplane be given first preference. Prod. Div. directed Douglas to transfer at least two-thirds of the personnel listed in each category on the C-74 project to the A-26 project and stated that the various development armament arrangements of the A-26 should be made secondary to the production airplane. All engineers whose efforts on the experimental A-26 airplanes were not applicable to the production airplane were to be transferred to the A-26 project, and no engineers were to be utilized in improving crew comfort or arrangement in cargo airplanes unless specifically authorized by Mat. Center.

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33. (C) Ltr. 8 Dec. 1942
Fr: Brig. Gen. F.O. Carroll
Chief, Eng. Div., WF
To: Douglas Aircraft Co., Inc.
El Segundo, Cal.
(File: Contract Files)

Douglas was informed that, except for the 75 mm. cannon installation for the production A-26B airplane, studies of armament arrangements should be curtailed until the airplane had reached a more advanced stage of production. When this stage was reached, the studies were to proceed in the following order of priority: normal bombardier nose, twin .50 cal. machine guns installed in external wing racks, a package installation of two 37 mm. cannon in a removable unit under the bomb bay, six .50 cal. machine gun nose, and four 37 mm. cannon nose.

34. (U) Ltr. 9 Dec. 1942
Fr: Brig. Gen. K.B. Wolfe
Chief, Prod. Div., WF
To: Douglas Aircraft Co., Inc.
Santa Monica, Cal.
Attn: E.H. Heineman
(File: Central Files)

Gen. Wolfe requested that Douglas transmit a message to all personnel employed on the A-26, emphasizing the importance of this airplane to the war effort, and urging them to do everything possible to expedite production.

35. (U) Ltr. 17 Dec. 1942
Fr: Douglas Aircraft Co., Inc.
Santa Monica, Cal.
To: CG, AAF, Mat. Center, WF
(File: Contract Files)

On 17 Sept. 1942 Douglas submitted to Mat. Center (WF) an outline of the measures being taken to accelerate A-26 production. These measures included: (1) informing drafting personnel of the urgency of the project, (2) transferring to the A-26 as many engineers from the C-74 project as could be utilized on A-26 tool design work, and (3) maintaining close correlation of the engineering, shop, and piloting phases of the flight test activities of the XA-26 airplanes. However, Douglas stated that, because of the advanced stage of A-26 engineering, two-thirds of the engineering personnel in each category could not be transferred from the C-74 to the A-26.

36. (U) IOM 22 Dec. 1942
Fr: Col. H.Z. Bogert
Chief, Tech. Staff,
Eng. Div., WF
To: Chief, Eng. Div., WF
(File: Bomb. Br., Eng. Div.)

Eng. Div. (WF) furnished a report on the status of the various versions of the A-26 under contract and data on the projects in which an interest had been expressed to Douglas. Instructions had been issued to Douglas to expedite A-26B production as much as possible and to proceed with the study of several different armament arrangements.

37. (C) CTI-943 Addendum No. 1
30 Dec. 1942
Fr: Brig. Gen. B.M. Chidlaw
AC/S, (E), Wash.
To: Tech. Exec., Mat. Center
WF
(File: Contract Files)

CTI-943, Addendum No. 1, dated 30 Dec. 1942, initiated action to establish order of priority for the various versions of the A-26 as follows: (1) 75 mm. cannon nose, with two fixed free-firing .50 cal. guns, if feasible, (2) bombardier-observer nose, and (3) a machine gun nose containing a minimum of six .50 cal. free-firing guns. All configurations of the airplane

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were to include provisions for pilot operation of the torpedo director and torpedo and bomb releases, installation of modified N-3A low altitude combination bomb and gun sight, two .50 cal. guns under each of four wing racks, and C-1 automatic pilot. The first 500 airplanes were to be 75 mm. cannon nose airplanes, and the following ratio was established for all subsequent airplanes:

1: cannon nose version
8: bombardier-observer nose version
5: machine gun nose version

38. (C) IOM 2 Jan. 1943
Fr: Col. H.Z. Bogert
Chief, Tech. Staff,
Eng. Div., WF
To: Chief, Eng. Div., WF
(File: Bomb. Br., Eng. Div.)

Chief, Tech. Staff, Eng. Div. (WF) outlined the status of the various experimental projects being conducted by Douglas. The XA-26 and XA-26A were being used to obtain flight test data of great importance to both experimental and production airplanes. The XA-26B was being expedited in order to provide a flying test for the 75 mm. cannon installation to be used in A-26B airplanes. The XA-26C project, involving a nose installation of four low velocity 37 mm. cannon to replace the 75 mm. cannon installation on the XA-26B, had been postponed until production should have reached a more advanced stage.

39. (U) Ltr. 11 Jan. 1943
Fr: Douglas Airc. Co., Inc.
Santa Monica, Cal.
To: C.G., AAF Mat. Center, WF
Attn: Prod. Eng. Sect.
(File: Central Files)

Douglas informed Mat. Center (WF) that it would be impossible to meet the production schedule on A-26 airplanes. The limiting factor was not one of design engineering, which had been the controlling factor up to that time, but one of tooling and factory development. It had been planned to complete the first production airplane in July 1943, but because design changes in the airplane had delayed engineering release, Douglas estimated that initial deliveries of production airplanes on Contract ac-21393 would start at Douglas-Long Beach in October 1943, and on Contract ac-34433 at the Douglas plant at Tulsa, Okla. (hereinafter referred to as Douglas-Tulsa) in January 1944. [There was attached a comparative tabulation of S-L delivery schedules requested by Douglas and estimated delivery possibilities.]

40. (C) Ltr. 14 Jan. 1943
Fr: Brig. Gen. A.E. Jones
Chief, Proc. Div., WF
To: Douglas Aircraft Co., Inc.
El Segundo, Cal.
(File: Bomb. Br., Proc. Div.)

Proc. Div. (WF) made detailed comments on the design changes required to convert A-26 bomber airplanes into A-26B attack airplanes, including the 75 mm. cannon installation, relocation of bombing controls in the pilot's compartment, and armament, radio, and camera installations. Mat. Center was expediting delivery

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of machine tools and materials in an effort to enable Douglas to meet A-26 schedules and had authorized Douglas to delay engineering schedules on other AAF projects in order to accelerate delivery of A-26 airplanes.

41. (U) E.O. Contr. W535 ac-21393
19 Jan. 1943
(File: Contract Files)

Model designation of all 500 airplanes on Contract W535 ac-21393 was changed from A-26 to A-26B-1-DO, because of change in design from bomber version to attack version.

42. (C) IOM 22 Jan. 1943
Fr: Brig. Gen. F.O. Carroll
Chief, Eng. Div., WF
To: C.G., Mat. Com.
Hdq. AAF, Wash.
Attn: AC/S (E)
(File: Central Files)

Eng. Div., (WF) stated that Douglas was proceeding with the development of various armament arrangements of the A-26 airplane as directed in CTI-043, Addendum 1, dated 30 Dec. 1942. The all-purpose gun nose included provisions for each of the following arrangements: (1) six .50 cal. guns, (2) four .50 cal. guns and one 37 mm. T-20 cannon, (3) two 37 mm. T-20 cannon, or (4) two .50 cal. guns and one 75 mm. cannon. Any of these arrangements could be made in the field by installing the guns on brackets contained in the nose.

43. (C) Ltr. 22 Feb. 1943
Fr: Brig. Gen. A.E. Jones
Chief, Proc. Div., WF
To: Douglas Airc. Co., Inc.
El Segundo, Cal.
(File: Bomb. Br., Proc. Div.)

The A-26B type airplane included both the all purpose gun nose version and the 75 mm. cannon nose version, and the bomber nose version was to be designated A-26C. Proc. Div. (WF) recommended certain changes to be incorporated in the bomber nose as originally designed by Douglas, including provisions for electrical bomb release and installation of a C-1 automatic pilot, a drift meter, and additional armor plate.

44. (C) Ltr. 22 Feb. 1943
Fr: Col. E.Z. Bogert
Chief, Tech. Staff,
Eng. Div., WF
To: Douglas Aircraft Co., Inc.
El Segundo, Cal.
(File: Contract Files)

Eng. Div. (WF) informed Douglas that no further study was to be made of the installation of the 37 mm. high velocity cannon under the bomb bay of the A-26. Firing tests of the installation of a 37 mm. cannon beneath the bomb bay of a B-25 airplane had produced serious damage to the nose wheel doors and skin structure.

45. (C) IOM 27 Feb. 1943
Fr: Lt. Col. F.R. Cook
Chief, Bomb. Br., WF
To: Chief, Aero Equip. Br.
Prod. Eng. Sect., WF
(File: Bomb Br., Proc. Div.)

The C-1 automatic pilot was deleted from the requirements for the A-26B low altitude attack airplane but would be required for the A-26C bomber airplanes.

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46. (U) Ltr. 9 March 1943
Fr: Maj. Gen. O.P. Echols
CG, Mat. Com., Wash.
To: The Under Secy. of War
Attn: Col. Park Holland
(File: Contract Files)

Contract W535 ac-34433 was to cover procurement of 500 A-26B airplanes, spare parts, and data at a unit cost of $152,125 and a total estimated contract price of $109,164,900, including a fee of 4%. The airplanes were to be manufactured at Douglas-Tulsa, and the delivery of airplanes was to begin in Jan. 1944. Previous procurement consisted of 500 A-26 airplanes on Contract W535 ac-21393 but no production airplanes were to be delivered until late in 1943. The increase of $18,125 from the unit price of airplanes on Contract ac-21393 was attributed to engineering changes, necessity for additional subcontracting in order to expedite production, change in production location from Long Beach, Cal. to Tulsa, Okla., and increase in labor rates at Tulsa.

47. (S) Ltr. 15 March 1943
Fr: Col. M.E. Gross
Acting Dir. Mil. Req.
M&S, Wash.
To: CG, Mat. Com., WF
(File: AC/AS-4)

In order to provide for the most expeditious engineering and accelerated production, Acting Dir. Mil. Req. (Wash.) established requirements for the A-26 airplane. The airplane was to be engineered so that certain listed variations of the basic type would be possible. The variations were to be accomplished by means of interchangeable gun combinations so that not more than two different types of noses would be required. The basic airplane was to include complete provisions for bomb and torpedo release by the pilot, provisions for four wing gun packages, each containing two .50 cal. machine guns, and provisions for carrying a minimum of eighty 23 lb. parachute fragmentation bombs. The bombardier-observer nose was to be required for 33 1/3 per cent of all airplanes, and the wing gun package installation was to be procured for all airplanes.

48. (U) Contract W535 ac-34433
17 March 1943
(File: Contract Files)

CPFF Contract W535 ac-34433, approved by direction of the Under Secretary of War on 17 March 1943, covered the procurement of 500 A-26B airplanes, spare parts and data at a total estimated price of $109,164,900, including 4% fixed fee.

49. (C) TT 29 April 1943
Fr: AC/AS, MM&D
Mat. Div., Wash.
To: C.G., Mat. Center, WF
Attn: Prod. Div.
(File: Bomb. Br., Proc. Div.)

All of the first 500 A-26 airplanes on Contract W535 ac-34433 were to be procured with gun noses. One-third, or approximately 167, bombardier-observer noses would also be procured. Of all additional A-26 airplanes procured, two-thirds were to be equipped with gun noses and one-third with bombardier-observer noses. Confidential teletype from Prod. Eng. Sect., WF, to Mat. Div., Wash., dated 5 May 1943, stated that the gun nose on the first 500 A-26 airplanes would contain the 75 mm. cannon only and would have no supporting .50 cal. guns.

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50. (S) IOM 10 May 1943
Fr: Col. S.R. Brentnall
Chief, Prod. Eng. Sect., WF
To: Chief, Administrative Office, Prod. Div., WF
(File: Central Files)

Prod. Eng. Sect. (WF) quoted secret teletype 6B-376 listing armament requirements for the gun noses for A-26 airplanes. The all-purpose gun nose would not be available for production airplanes until the 501st airplane. The bombardier-observer nose was desired for one-third of the first 500 airplanes and one-third of all subsequent airplanes were to have bombardier noses and two-thirds were to incorporate all-purpose gun noses.

51. (U) IOM, 23 Aug. 1943
Fr: Col. S.R. Brentnall
Chief, Prod. Eng. Sect., WF
To: Chief, Flight Research Liaison Br., Eng. Div., WF
(File: Central Files)

Prod. Eng. Sect., (WF) stated that supervisory personnel at Douglas Long Beach had done everything possible to expedite production of A-26 airplanes and it appeared that the first production airplane would be approximately thirty days ahead of schedule.

52. (R) IOM 28 Aug. 1943
Fr: Col. H.Z. Bogert
Chief, Tech. Staff, Eng. Div., WF
To: Chief, Prod. Eng. Sect., WF
Attn: Spec. Br.
(File: Bomb. Br., Eng. Div.)

Chief, Tech. Staff, Eng. Div. (WF) requested that Spec. Br. (WF) remove model designation XA-26C from records since the project had been cancelled. [The XA-26C was to incorporate a nose installation of four 37 mm. cannon.]

53. (U) TI-1583
18 Dec. 1943
Fr: Col. T.A. Sims
Dep. C/S, WF
To: Eng. Div., WF
(File: Central Files)

Design studies were to be initiated to determine the possibility of providing a co-pilot in A-26B airplanes and of providing an all .50 cal. gun nose containing a minimum of eight and preferably ten fixed guns. Gen. Kenney, Chief, Mat. Com. (WF), contrary to his former opinions, had expressed his belief that the A-26 should have a co-pilot.

54. (U) IOM 24 Jan. 1944
Fr: Brig. Gen. F.O. Carroll
Chief, Eng. Div., WF
To: CG, AAF, Wash.
Attn: AC/AS, MMSD
Devel. Eng. Br.
(File: Central Files)

Eng. Div. (WF) stated that space was available for a co-pilot installation in all versions of the A-26 airplane except that mounting a 75 mm. cannon. However, permanent installation of copilot controls was not considered feasible because such an installation would not allow the installation of the 75 mm. cannon, would block access to the bombardier's station, and would involve major redesign of the airplane. A kit consisting of the necessary copilot controls which could be dismantled in flight was under development. Eight .50 cal. wing package guns could be installed in any configuration of the A-26 airplane. When the bombardier

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nose was installed, available fire-power consisted of ten fixed forward-firing guns, in addition to two twin .50 cal. gun turrets, and a flexible nose gun. The all purpose gun nose version provided fourteen fixed forward-firing guns and two upper turret guns which could be fixed in the forward position, plus a two gun lower turret. The original design gross weight of the XA-26 airplane was 26,700 pounds, but when the airplane was actually built it weighed 700 pounds less. A combination of loadings of all the bomb, gun, and armor plate arrangements of the A-26 airplane would produce a plane 10,000 pounds heavier than the design gross weight. Since all loadings would not be carried at one time, the normally considered combat weight of the A-26 airplane was 33,400 pounds.

55. (C) Ltr. 3 March 1944
Fr: Capt. E.H. Wynn
Asst. Tech. Exec., WF
To: CG, AAF, Wash.
Attn: AC/AS, MMSD
Prod. Br., Mat. Div.
(File: AC/AS-4)

CTI-1597, dated 16 Feb. 1944, initiated action to procure external wing gun packages for two-thirds of the total A-26 airplane production including spares. It was considered that a higher ratio of wing gun packages might be required if the airplanes were later allocated to foreign governments. Asst. Tech. Exec. (WF) recommended that wing gun packages be procured for all the first 1000 airplanes on contract and that the situation be reviewed for possible reduction before production of the 2700 airplanes on the "J" program was begun. Asst. Tech. Exec. stated that it was indicated that bombardier noses would not be available before September 1944, and that action would be taken to schedule bombardier nose production to reach a maximum of two-thirds of total A-26 airplane production.

56. (C) Ltr. 8 March 1944
Fr: Col. G.E. Price
Chief, Prod. Eng. Sect., WF
To: C.G., ASC, Patterson Field
Attn: Tech. Rep. Unit
Col. Dickerson
(File: Bomb. Br., Proc. Div.)

Four A-26B airplanes were assigned to the 5th Air Force for tactical suitability evaluation tests. There had been no previous delivery of A-26B airplanes to the Southwest Pacific Theater.

57. (S) R&R-1, 13 March 1944
Fr: Gen. H.H. Arnold
CG, AAF, Wash.
To: Maj. Gen. O.P. Echols
AC/AS, M&S, Wash.
(File: AC/AS-4)

Gen. Arnold stated that the modification situation in general was very bad. The A-26 airplanes were being delayed because of a shortage of wings, due in turn to lack of spars which could not be built because of difficult output of machinery. Gen. Arnold requested that Gen. Echols formulate a plan

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for producing the A-26 airplane and stated: "One thing is certain: I want the A-26's for use in this war and not the next war. If something drastic is not done, we cannot hope to replace the B-25's, B-26's and A-20's with the A-26."

58. (S) RAB-3, 16 March 1944
Fr: Maj. Gen. O.P. Echols AC/AS, MMAD, Wash.
To: Maj. Gen. B.M. Giles C/AS, MMAD, Wash.
(File: AC/AS-4)

Both AC/AS (Wash.) and Mat. Com. (F) had endeavored to get Douglas to take a greater interest in manufacturing the A-26 airplane. Mat. Com. had spent some time locating and recommending subcontractors to Douglas and urging Douglas to place orders for tools and subcontracting. AC/AS stated that Douglas "seemed to have little interest in or little desire to manufacture this airplane." It was expected that Douglas-Long Beach would meet the W-9 schedule, but Douglas-Tulsa was behind schedule because of lack of wings. Steps were being taken to secure additional spar milling capacity to aid Douglas in the program.

59. (C) RAB-1, 22 March 1944
Fr: AC/AS, MMAD, Mat. Div., Wash.
To: AC/AS, OC&R, Req. Div., Wash.
(File: AC/AS-4)

Mat. Com. (F) had submitted to AC/AS, MMAD (Wash.) a preliminary study to determine the possibilities for additional tactical range in the A-26B airplane. The report listed the various items of armament for the A-26 airplane, and showed the amount of gasoline that could be carried and the approximate range which could be obtained with each of the various loadings.

60. (U) Supp. Agree. 13 to Contr. W535 ac-21393 29 March 1944
(File: Contract Files)

Approved by direction of Under Secy. War on 29 March 1944, Supplemental Agreement No. 13 to Contract W535 ac-21393 covered the procurement of 1100 A-26B airplanes, spare parts, special hand tools, and data, at an estimated cost of $117,419,829.10, plus a fee of $4,776,793.16, making a total price of $124,196,622.26.

61. (U) Supp. Agree. 3 Contr. W535 ac-34433 29 March 1944
(File: Contract Files)

Supp. Agree. No. 3 to CPFF Contract W535 ac-34433 between the United States Government and Douglas covered the procurement of 1600 A-26B airplanes, spare parts, special tools and data at a total price of $184,257,996.87, including fixed fee. The Supp. Agree. was approved 29 Mar. 1944 by direction of Under Secy. War.

62. (C) Ltr. 11 April 1944
Fr: Brig. Gen. D.F. Stace Dist. Supvr., W. Proc. Dist., Los Angeles, Cal.
To: CG, AAF, Wash. Attn: AC/S, MMAD
(File: Central Files)

Through March 1944, wing spar caps had been the governing factor in the production of A-26 airplanes. The construction of the A-26 wing was entirely different from that of any other airplane. It incorporates eight inboard and eight outboard spars. Each of the eight outboard spars was different from the others and required a special machine arrangement. Dist. Supvr.,

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W. Proc. Dist., listed the companies manufacturing wing spars and the difficulties they had encountered. Wing spar caps were no longer a critical item. The A-26 airplane was accepted by the Army and delivery schedules were established before all design and tooling problems were solved. "Generally speaking, each of these airplanes up to the present time [11 April 1944] has been a hand made article, as tooling has been unable to catch up with the numerous changes in fabrication." At one time there were as many as thirty-five change orders a day on the A-26. Dist. Supvr., W. Proc. Dist., listed some of the engineering difficulties encountered on the A-26.

63. (C) Ltr. 24 Apr. 1944
Fr: Col. G.E. Price
Chief, Prod. Eng. Sect.
WF
To: Chief, Tr. Aids Div.
New York City
Attn: Chief, Devel. Br.
(File: Central Files)

Prod. Eng. Sect. (WF) advised Tr. Aids Div. that development of the A-26 airplane had reached the point where training aids could be developed without the risk of becoming obsolete through changes in design of airplane and equipment. Prod. Eng. Sect. listed principal tactical production changes to be made on the A-26 airplane and stated that it would be advisable to consider these changes and installations in the development of training aids.

64. (S) Memo 18 May 1944
Fr: Maj. Gen. H.A. Craig
AC/AS, OC&R, Wash.
To: Brig. Gen. P.W. Timberlake
Dep. C/AS, Wash.
(File: AC/AS-4)

AC/AS, MM&D (Wash.) had been requested to have eighteen A-26 airplanes, in the proportion of one-third bombardier noses to two-thirds gun noses, ready for departure 1 August 1944. The airplanes were scheduled for the Ninth Air Force in the ETO. AC/AS, Training (Wash.) had been requested to have eighteen trained crews ready by 1 August 1944. If possible, pilots were to be selected from instructor pilots who had some flying time in twin-engined airplanes. The date was set for 1 August 1944 because AC/AS, MM&D, could not guarantee delivery prior to that date of airplanes having reworked canopies, and an earlier date would result in an unsatisfactory degree of training for combat crews. Conversion of the eight B-26 groups in the United Kingdom was to be effected by four A-26 Mobile Training Units, and was expected to be completed by March 1945.

65. (U) IOM 18 May 1944
Fr: Col. F.N. Myers
Actg. Chief, Airc. Lab.
Eng. Div., WF
To: Bomb. Br., Prod. Eng.
Sect., WF
(File: Bomb. Br., Proc. Div.)

The wing spar of the A-26B airplane failed at 80% ultimate load at a normal gross weight of 26,000 pounds in static test at Wright Field. As a result, all A-26B airplanes were to be restricted to a maximum flying weight of 26,000 pounds, a maximum load factor of 3.6 "g" and a maximum indicated air speed of 340 m.p.h.

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66. (U) IOM 13 June 1944
Fr: Col. P.H. Kemmer
Chief, Airc. Lab.
Eng. Div., WF
To: Chief, Prod. Eng. Sect.,
WF
(File: Bomb. Br., Proc. Div.)

Seven static tests had been conducted on the A-26B airplane wing. In the first four tests, the wings failed at between 80 and 90% ultimate load, although reinforcements were made. Additional reinforcements were made and on the fifth test the wings failed at 95% load. Two more tests were conducted, but both times the wing failed and Airc. Lab. (WF) concluded that redesign of the wing would be required in order to support 100% load and to secure additional bending strength. A wing of conventional design could easily be reinforced to give added bending strength but the A-26 wing was designed so that the wing spars must support the entire bending load. Airc. Lab. listed poor design features of the wing and recommended certain changes. Subsequent 1st Ind. by Prod. Eng. Sect., dated 19 June 1944, furnished information that wing reinforcements were being incorporated in production of all A-26B airplanes, effective 5 June 1944, and that Douglas had been requested to proceed with redesign of the wing to increase strength by approximately 10% and eliminate unsatisfactory design features.

67. (C) Rpt. 29 July 1944
Fr: Capt. S.E. McFadden
A-26 Liaison officer, WF
To: CG, AAF Mat. Com., WF
Attn: Dept. 70-2
(File: Bomb. Br., Proc. Div.)

Four A-26 airplanes assigned to the Fifth Air Force for tactical suitability evaluation tests were assigned to the 3rd Attack Group for combat tests. Capt. McFadden, A-26 Liaison Officer, submitted a report based on the opinions of the crews which flew the A-26 airplanes in combat. Lack of visibility made the A-26 airplane unsatisfactory as an attack plane, since insufficient visibility to either side made it impossible to fly the formations required by low level tactics. Pilots were favorably impressed with forward fire power when the wing guns were installed. However, installation of the wing guns reduced speed by 25 mph and without them forward fire power was inadequate. Elevator forces required for low altitude pull-outs were considered too great, range was inadequate, the location of the life raft was unsatisfactory, and the bottom turret was thought to be unnecessary. The A-26 Liaison Officer made recommendations for changes to correct these deficiencies. Ground personnel found the A-26 airplanes satisfactory from the maintenance standpoint, except for certain difficulties encountered with the electrical system, air filters, and fuel selector valves.

68. (U) IOM 5 Aug. 1944
Fr: Col. P.H. Kemmer
Chief, Airc. Lab.
Eng. Div., WF
To: Chief, Prod. Eng. Sect.,
WF, Attn: Bomb. Br.
(File: Central Files)

Buffeting of the bomb bay doors, fuselage vibration, and directional oscillations of the airplane due to an unsteady flow condition in the bomb bay occurred when the bomb bay doors on the A-26 were opened. These difficulties were overcome by a spoiler system, consisting of three 4 inch by 16 inch vertical plates mounted under the fuselage forward of the bomb bay. The spoilers were fully retractable so that there was no reduction in speed when the bomb bay doors were closed.

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69. (U) Ltr. 16 Aug. 1944
Fr: Bomb. Br., Prod. Sect.
Proc. Div., WF
To: CG, AAF, Wash.
Attn: AC/AS, M&S, Mat. Div.
(File: Central Files)

Douglas had submitted a proposal for an eight gun nose for the A-26 airplane, which would incorporate alternate provisions for any of the following configurations: (1) one 75 mm. cannon and four .50 cal. guns, (2) one 75 mm. cannon and one 37 mm. cannon, or (3) two 37 mm. cannon. A ten gun nose could not be developed because of space and structure restrictions.

70. (C) Ltr. 29 Aug. 1944
Fr: Brig. Gen. F.O. Carroll
Chief, Eng. Div., WF
To: CG, AAF, Wash.
Attn: AC/AS, M&S
Develop. Eng. Br.
(File: AC/AS-4)

Eng. Div. (WF) furnished a comparison of the performance of the A-26 airplane when powered by "B" series R-2800 engines and by the proposed "C" series R-2800 engines. Mat. Com. (WF) was in favor of changing to the "C" series engines at the earliest time when the engines should become available. Eng. Div. stated that if a prompt decision were made to make the change, all production engineering could be completed by December 1944, and "C" series engines could be started in the production line in March 1945.

71. (S) Memo 6 Sept. 1944
Fr: Col. W.F. McKee
Dep. AC/AS, OC&R, Wash.
To: Maj. Gen. B.M. Giles
C/AS, Wash.
(File: AC/AS-4)

Deputy AC/AS, OC&R (Wash.) recommended that the A-26 airplanes should not be sent at that time to Gen. Kenney, CG, FEAF, because the changes and modifications proposed for the airplanes could not be completed before 1 Jan. 1945. Gen. Kenney was very much opposed to the A-26 airplane and would probably give an unfavorable report on the A-26 without the proposed changes.

72. (C) R&R 28 Sept. 1944
Fr: Col. G.A. Hatcher
Prod. Div., WF
To: Chief, Prod. Sect.,
Proc. Div., WF
(File: Bomb. Br., Proc. Div.)

"1. The A-26 is not desired as a replacement for present types of light and medium bombardment airplanes. In discussions with Colonel J. O'Neil, A-3 of the 14th Air Force at Kunming, it was pointed out that since spares are so critical to this theater, it would be foolish to replace the B-25's which are operating successfully.
"2. General Kenney, Commanding General of the Far Eastern Air Force in Hollandia, was very outspoken on the subject. His exact words were, 'We do not want the A-26 under any circumstances as a replacement for anything'. These airplanes were thoroughly service tested by experienced crews and flown under actual combat conditions. They are unsuitable for formation work and cannot be flown close to the ground individually as a strafer airplane. The A-26's in that theater are all grounded at present or in permanent storage with the engine pickled."

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73. (U) TT 30 Sept. 1944
Fr: Col. G.E. Price
Prod. Sect., WF
To: Prod. Br., Mat. Div.
AAS, Wash.
(File: Bomb. Br., Proc. Div.)

The new type pilot's canopy for the A-26 airplane was to be incorporated in production at Douglas-Long Beach in the 251st airplane, scheduled for delivery during the last week in October, 1944. The effective point for the new type canopy in airplanes at Douglas-Tulsa was the 501st airplane, scheduled for delivery during the last week in January, 1945. Douglas offered the following reasons for the ninety-day delay in effective point at Douglas-Tulsa: basic engineering was done at Douglas-Long Beach, and production tooling was done during development, allowing the project to be moved directly from development into the production line: certain basic tooling information was not received at Douglas-Tulsa until 26 August 1944, so that fabrication tools would not be available until October 1944. In establishing the 501st Tulsa airplane as the effective point, Douglas had allowed a time margin to insure that delays in procurement of material or tooling would not cause production delays. Prod. Sect. (WF) recommended that the effective point be moved to the 401st airplane, scheduled for delivery about 10 Jan. 1945, so that Douglas would make greater efforts to meet this date without production delays.

74. (S) 1st Ind. 5 Oct. 1944
By: Maj. Gen. H.S. Vandenberg
CG, Ninth Air Force
To: CG, U.S. Strategic Forces
in Europe
(File: AG/AS-4)

The missions flown in A-26 airplanes by the Ninth Air Force did not constitute a complete and conclusive test of combat suitability, but did establish the fact that the A-26 airplane was a suitable replacement for B-26 and A-20 airplanes in the Ninth Bombardment Division. The A-26 airplanes were received at an inopportune time for complete and conclusive suitability tests. The principal difficulty was lack of targets for testing the airplane at low altitudes and making maximum use of forward fire power.

75. (U) TT 9 Oct. 1944
Fr: CG, AAF, Wash.
To: Dir., ATSC, WF
(File: Bomb. Br., Proc. Div.)

CG, AAF (Wash.) stated that it was believed that Douglas could have made the change in production of new pilot's canopy on A-26 airplanes at Douglas-Tulsa more quickly than it was done if Douglas had "so desired and exerted the effort of which he is capable." Douglas had an airplane which made several weekly trips among the various plants. C.G., AAF, stated that "correction of poor visibility in this airplane is a feature affecting the military utility which can be reckoned in terms of lives and in ability to use the airplane in combat units," and concluded that Douglas' efforts in connection with the A-26 airplane had been "far from satisfactory and little short of reprehensible."

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76. (U) TG 13 Oct. 1944
Fr: Col. G.E. Price
Prod. Sect., WF
To: Prod. Br., Mat. Div.
M&S, Wash.
(File: Bomb. Br., Proc. Div.)

Douglas contended that certain engineering information did not reach Tulsa prior to 26 Aug. 1944 because of the length of time required to develop the redesigned canopy. Prod. Sect. (WF) stated that the veracity of statements by Douglas representatives in connection with this was being investigated. The effective point for the change at Douglas-Tulsa was revised to the 401st airplane and about 50 additional canopies would be available to modify as many airplanes as possible prior to the 401st airplane, without delay in deliveries.

77. (C) RAR 16 Oct. 1944
Fr: Lt. Col. W.T. Rison
Chief, Bomb. Br., WF
To: Prod. Sect., WF
(File: Bomb. Br., Proc. Div.)

As a result of combat suitability tests of A-26 airplanes made by the Fifth Air Force in the Southwest Pacific area, Gen. Kenney had stated that A-26 airplanes were not desired as replacements for A-20 or B-25 airplanes. Poor visibility was the main objection, but since that time, a redesigned pilot's canopy had been incorporated into production at Long Beach and was to be incorporated at Douglas-Tulsa in January, 1945. Favorable comments were received from all who had flown the A-26 with the prototype new canopy. Col. Hennebry, CO of the group which made the combat suitability tests of the A-26 airplanes, on whose recommendation Gen. Kenney had advised that A-26 airplanes were not desired as replacements, had flown the A-26 with the new type canopy. He was pleased with the canopy and indicated that the A-26 airplane should be suitable for operations in the Southwest Pacific Theater.

78. (S) Memo 19 Oct. 1944
Fr: Maj. Gen. H.A. Craig
AC/AS, OCAR, Wash.
To: C/AS, Wash.
(File: AC/AS-4)

Ninth Air Force had submitted a report on combat suitability of A-26 airplanes, based on eight combat missions carried out by a force of eighteen A-26 airplanes sent to the United Kingdom during the summer of 1944. Included in the report were preliminary flight test results, combat mission operating data, combat fuel consumption, combat radius of action, enemy opposition, armament equipment and defensive armor, flying characteristics, crew composition, maintenance, refueling, and bomb loading. It was concluded that the A-26 was a very effective medium bomber with a larger load than the A-20 airplane, greater range than either the A-20 or B-26 airplane, and with superior single engine performance. Its speed advantage, flying characteristics, maneuverability, and ease of maintaining formation permitted longer missions with less crew fatigue. On the missions flown gasoline consumption was lower and radius of action was greater than had been expected.

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79. (U) TT 21 Oct. 1944
Fr: CG, AAF, Wash.
To: Dir., ATSC, WF
Attn: Gen. Wolfe
(File: Central Files)

It was the opinion of Headquarters, AAF (Wash.) that the managerial organization of Douglas-Tulsa and Douglas-Long Beach, with engineering concentrated at Douglas-Long Beach, would continually result in a three to six months delay in production changes at Douglas-Tulsa. It was not feasible to make Douglas-Tulsa the primary engineering source, so stronger liaison personnel and possibly stronger production tooling personnel for Douglas-Tulsa appeared to be the only alternative.

80. (U) Ltr. 26 Oct. 1944
Fr: Brig. Gen. K.B. Wolfe
Chief, of Eng. and Proc.
ATSC, WF
To: Maj. Gen. W.T. Larson
CG, 3rd AF
(File: Bomb. Br., Proc. Div.)

Difficulty was encountered with the nose gear down lock on A-26 airplanes during accelerated service and winterization tests. On 17 June 1944, ATSC requested Douglas to improve operation of the lock. This change was incorporated in airplanes delivered 27 June 1944 from Douglas-Long Beach and 17 July 1944 from Douglas-Tulsa. There were six cases of nose wheel failures on A-26 airplanes in the Third AF between 15 June 1944 and 13 Oct. 1944. In five of these failures the nose gear failed to lock in the down position. In each of the five failures the indicator showed the gear down and locked, although unsatisfactory toggle switch installations which had previously caused this condition had been replaced by micro-switch installations.

81. (U) TT 28 Oct. 1944
Fr: Col. G.E. Price
Prod. Sect., ATSC, WF
To: Prod. Br., Mat. Div.,
M&S, Wash.
(File: Bomb. Br., Proc. Div.)

Revised pilot's canopy was to be installed in modification of 351st Douglas-Tulsa A-26 airplane, scheduled for delivery last of December 1944. Special hand-built canopies were to be installed in as many airplanes as possible between the 301st and 351st airplanes.

82. (U) TG 23 Nov. 1944
Fr: Col. H.A. Shepard
Proc. Div., WF
To: AAFRH, Douglas Aircraft Co., Inc., Santa Monica, Cal.
(File: Bomb. Br., Proc. Div.)

Proc. Div. (WF) indicated that it was desired to establish a coordinating or program office to insure more efficient production coordination among Douglas-Long Beach, Douglas-Tulsa, and sub-contractors' plants. Proc. Div. suggested that a formal organization was unnecessary and outlined a proposed organization. All questions concerning coordination of production of A-26 airplanes, except contractual or fiscal problems, were to be submitted to this office.

83. (S) Memo 26 Nov. 1944
Fr: Brig. Gen. D. Wilson
AC/AS, OC&R, Wash.
To: C/AS, Wash.
(File: AC/AS-4)

AC/AS, OC&R (Wash.) indicated a need for a firm basis upon which to formulate future production plans for A-26 and B-25 airplanes. All European A-20 groups and all but three B-26 groups were to be converted to A-26 airplanes by the end of July 1945, making a total

of eleven A-26 groups. The FEAF had frequently reiterated their non-requirement for A-26 airplanes. AC/AS, OC&R, believed that the extreme prejudice of the FEAF against A-26 airplanes was not justified when it was considered that the four A-26B airplanes furnished them for operational tests were four of the first production airplanes and incorporated a number of undesirable features. AC/AS, OC&R, considered it most desirable that all B-25 groups in other theaters be converted as soon as A-26 airplanes were available, and recommended that the units be converted in the following order:

(1) ETO
(2) MTO
(3) CBI
(4) AAFPOA
(5) FEAF
(6) North Pacific

84. (U) Ltr. 30 Nov. 1944
Fr: Col. W.F. Volandt
Asst. Chf., Proc. Div.
OAC/AS, M&S, Wash.
To: Spec. Rep. of Under Secy. War
(File: Contract Files)

Contract W33-038 ac-5140 was to cover the procurement of 2000 A-26 airplanes plus spare parts. Estimated unit cost was $7[illegible],008, and fixed fee at 3.75% was $6,814,440, making a total estimated price of $188,532,840.

85. (U) Ltr. 30 Nov. 1044
Fr: Col. W.F. Volandt
Asst. Chief, Proc. Div.
OACAS, M&S, Wash.
To: Spec. Rep. Under Secy. War, Wash.
(File: Contract Files)

Contract W33-038 ac-5141 was to cover the procurement of 400 A-26B airplanes, spare parts, special tools and data at an estimated unit cost of $86,354, and a total estimated price of $43,467,149.44, including a fixed fee of 4%. The airplanes were to be manufactured at Douglas-Long Beach.

86. (U) Contract W33-038 ac-5140 8 Dec. 1944
(File: Contract Files)

CPFF Contract W33-038 ac-5140, approved by direction of Under Secy. of War on 8 Dec. 1044, covered the procurement of 2000 A-26 airplanes and spare parts at a total estimated price of $188,532,840, including fixed fee.

87. (U) Contract W33-038 ac-5141 8 Dec. 1944
(File: Bomb. Br., Proc. Div.)

CPFF Contract W33-038 ac-5141, approved by direction of Under Secy of War 8 Dec. 1044, covered the procurement of A-26B airplanes [400], spare parts, tools, and equipment at a total estimated price of $43,467,149.44, including fixed fee.

88. (U) R&R 26 Dec. 1944
Fr: Col. B.L. Boatner
Actg. Chief, Proc. Div., WF
To: Chief of Administration, WF
Attn: Maj. E.E. Wynn
(File: Bomb. Br., Proc, Div.)

Douglas-Long Beach was manufacturing A-26 airplanes with gun noses and Douglas-Tulsa was building airplanes with both gun and bombardier noses. By January, 1045, all Douglas-Tulsa production was to be changed to bombardier nose A-26 airplanes. The change to internal wing guns at Douglas-Long Beach was to be made about 6

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Mar. 1945. No definite point was set at Douglas-Tulsa for the change but preliminary information indicated that it would probably be in May 1945.

89. (S) Ltr. 4 Jan. 1945
Fr: Maj. Gen. S.E. Anderson
9th Bomb. Div. (M)
A.P.O. 140, U.S. Army
To: Gen. H.H. Arnold
CG, AAF, Wash.
(File: Central Files)

Gen. Anderson gave a summary of Ninth Bomb. Division's combat experience with the A-26 and gave a detailed account of a mission conducted on 1 Jan. 1945. Gen. Anderson stated that once pilots became familiar with the A-26 they considered it better than any other airplane they had ever flown. Single-engine performance of the A-26 was excellent and formation flying presented no great difficulties after pilots became accustomed to the limited visibility caused by the high nacelles. Gen. Anderson listed the major deficiencies that had been found to hamper combat operations of the A-26, including canopy frosting, failure of brakes, and the gunner's escape hatch.

90. (U) R&R 6 Jan. 1945
Fr: Col. H.A. Shepard
Actg. Chief, Prod. Sect.
Proc. Div., WF
To: Proc. Div., WF
Attn: Col. Boatner
(File: Bomb. Br., Proc. Div.)

Proc. Div. (WF) gave a summary of the A-26 program for 1944. During 1944 the first A-26 airplanes went into action, and the type was designated as the successor to the A-20, B-25, and B-26 airplanes. A-26 airplanes had been used successfully on medium altitude bombing missions by the Ninth Air Force. Of the 682 airplanes delivered during 1944 from Douglas-Long Beach and Douglas-Tulsa, 572 were A-26B gun nose version airplanes, and 110 were A-26C bombardier nose type airplanes. Proc. Div. listed some of the important changes incorporated into production in 1944, including the new pilot's canopy, bombardier nose version, strengthening of wings, all purpose gun nose, and improvements to nose gear.

91. (U) R&R 16 Jan. 1945
Fr: Brig. Gen. C.E. Cook
Chief, Proc. Div., WF
To: Deputy Director,
Proc. Div., WF
Attn: Maj. E.H. Wynn
(File: Bomb. Br., Proc. Div.)

Proc. Div. (WF) was advised on 9 Jan. 1945 that Douglas did not desire to deliver any more A-26 airplanes until several items of powerplant rework were completed. These changes reduced the possibilities of fires and prevented engine cut out during take-off. Approval was granted to stop deliveries. Deliveries at Douglas-Long Beach were resumed on 12 Jan. 1945 and at Douglas-Tulsa on 13 Jan. 1945.

92. (C) Ltr. 25 Jan. 1945
Fr: Col. V.R. Haugen
Asst. Chief, Bomb. Br.,
Eng. Div., WF
To: Dir., ATSC, WF
Attn: Capt. E.F. Bache
Airc. Proj., Eng. Div.
(File: Central Files)

Col. Haugen, writing from Headquarters, A.S.C., U.S. Strategic Air Forces in Europe, stated that difficulty had been encountered with the nose gear installation on the A-26. During taxi and takeoff, mud was splashed on to the gear mechanism, and, after the airplane was airborne, the mud froze, locking the gear in the up position. A mud guard over the nose wheel had been tried but proved to be unsuccessful.

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93. (U) TT 7 Feb. 1945
Fr: Brig. Gen. R.G. Harris
ATSC, Mid-W. Proc. Dist.
Wichita, Kansas
To: Dir., ATSC, WF
Attn: Gen. Cook
(File: Bomb. Br., Proc. Div.)

Mid-W. Proc. Dist. listed steps which had been taken at Douglas-Tulsa to improve acceptances ofA-26 airplanes. The measures taken included: (1) the number of stations in the production line had been increased in order to reduce the work required at one station, (2) efforts were being made to secure additional engineering personnel, especially liaison engineers, (3) additional gages were being obtained to facilitate inspection, and (4) the chief inspector had been replaced.

94. (S) Ltr. 9 Feb. 1945
Fr: Col. J.A. Gibbs
Chief, Airc. Proj. Br.
Mat. Div.
OACAS, M&S, Wash.
To: Dir., ATSC, WF
Attn: Asst. for Tech. Matters
(File: Central Files)

Airc. Proj. Br., Mat. Div. (Wash.) commented on the various deficiencies in the A-26 as listed by Maj. Gen. S.E. Anderson, Ninth Bomb. Div., in a letter to CG, AAF, dated 4 Jan. 1945. Studies were being made in an effort to prevent canopy frosting, and action was already underway to correct brake failures, and to provide a new gunner's escape hatch.

95. (U) Ltr. 14 Feb. 1945
Fr: Brig. Gen. R.G. Harris
ATSC, Mid-W. Proc. Dist.
Wichita, Kansas
To: Maj. Gen. B.E. Meyers
ATSC, WF
(File: Bomb. Br., Proc. Div.)

Gen. Harris stated that frequently airplane designs as presented to higher authority were incomplete, defective, and improperly designed. When production was ordered and tooling was begun many defects began to appear which had not been apparent before because the prototype was hand-made. In order to secure maximum range and bomb load, designers often incorporated weak parts elsewhere in the airplane. Gen. Harris cited the Lockheed O-40 airplane and the Douglas A-26 airplane as specific examples of this. He believed it might be well to criticize designers as well as production people.

96. (U) Tel. Conv. 14 Feb. 1945
Brig. Gen. R.G. Harris
CG, Mid-W. Proc. Dist.
Col. H.A. Strauss, AAFRR
Douglas Airc. Co., Inc.
Tulsa, Okla.
W.G. Jerrems, Jr., Plant
Mgr., Douglas Airc. Co.,
Inc., Tulsa, Okla.
(File: Bomb. Br., Proc. Div.)

Gen. Harris requested that A-26 airplanes at Douglas-Tulsa be examined and exact lists made of the factors which prevented acceptance of each airplane. The schedule for February, 1945 called for 159 A-26 airplanes and Gen. Harris stated that 130 of them must be made, regardless of time or money involved. Gen. Harris had been urgently requested by Gen. Knudsen, Gen. Meyers, Gen. Wolfe, and Gen. Cook to secure information concerning the situation at Douglas-Tulsa.

97. (S) 1st Ind. 22 Feb. 1945
Fr: Maj. H.F. Mullins
Office, Chief of Admin. WF
To: CG, AAF, Wash.
Attn: AC/AS, M&S
Prod. Br., Mat. Div., Wash.
(File: Central Files)

Information was submitted concerning service difficulties on the A-26 and the measures being taken to correct them. Douglas was making a study of complete redesign of the nose gear door interlocking mechanism in order to replace it with a mechanically operated sequence valve.

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98. (R) Ltr. 23 Feb. 1945
Fr: Lt. Col. G.A. Neuberg
Recorder, AAF Board,
Orlando, Fla.
To: Dir., ATSC, WF
Attn: AAF Board Liaison
Office
(File: Bomb. Br., Proc. Div.)

AAF Board (Orlando, Fla.) requested information concerning modifications made to prevent nacelle fires in the A-26 airplanes. Subsequent 1st Ind., dated 4 Apr. 1945, by Col. H.A. Shepard, Actg. Chief, Prod. Sect., Proc. Div. (WF) gave a detailed summary of the changes.

99. (U) R&R 13 March 1945
Fr: Lt. Col. W.T. Rison
Chief, Bomb. Br., Proc.
Div., WF
To: Prod. Sect., WF
Attn: Capt. Fletcher
(File: Bomb. Br., Proc. Div.)

Douglas had submitted a counter proposal to the plan for production coordination outlined by Bomb. Br., Proc. Div. (WF). The Douglas plan included establishment of a Change Control Panel within each plant, assignment of Douglas-Tulsa personnel to Douglas-Long Beach so that they might obtain detailed information more easily, and assignment of a Douglas-Long Beach engineer to Douglas-Tulsa to help them interpret data received. This organization had just begun functioning and Bomb. Br., Proc. Div. believed that it would be generally successful.

100. (U) Ltr. 5 Apr. 1945
Fr: Brig. Gen. A.E. Jones
Chief, Proc. Div.
OACAS, M&S, Wash.
To: Spec. Rep. of Under
Secy. War, Wash.
(File: Contract Files)

Supplemental Agreement No. 7 to Contract W535 AC-5140 was to cover procurement of 1250 A-26 airplanes, spare parts, special tools, and data. Estimated unit cost was $72,476 and estimated total price was $106,211,313.13 including a 3.75% fixed fee. Douglas submitted its original quotation and price breakdown on 27 Jan. 1945. The original bid was unsatisfactory to the procuring agency and Douglas revised its bid four times, beginning with a unit cost of $70,683, the second $73,565, the third $75,496, and the final accepted quotation was $72,476. Proc. Div. (Wash.) made a comparison of previous procurements of A-26 airplanes under contract.

101. (U) Suppl. Agree. 6
Contract W33-038 ac-5141
13 April 1945
(File: Bomb. Br., Proc. Div.)

Supp. Agree. 6 to CPFF Contract W33-038 ac-5141 between Douglas and the United States Government covered the procurement of 350 A-26D airplanes, spares, tools, and data at a total estimated price of $33,344,067.12, including a fixed fee. The Supp. Agree. was approved by direction of the Under Secy. War on 13 Apr. 1945.

102. (C) Ltr. 17 April 1945
Fr: Col. H.G. Bunker
Chief, Airc. Proj. Br.,
Mat. Div.
OACAS, M&S, Wash.
To: Dir., ATSC, WF
Attn: Asst. for Tech.
Matters
(File: Central Files)

Due to the reduced demand for bombardier nose A-26 airplanes for use in the ETO and to the expected employment of A-26 airplanes in Pacific Areas, A-26 airplanes were to be produced in a ratio of 66 2/3% gun noses to 33 1/3% bombardier noses.

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103. (U) Ltr. 17 Apr. 1945
Fr: Brig. Gen. O.R. Cook
Chief, Proc. Div., WF
To: Douglas Airc. Co., Inc.
Long Beach, Cal.
and Tulsa, Okla.
(File: Bomb. Br., Proc. Div.)

ATSC stated that the number and frequency of failures and malfunctions of the landing gear installations on A-26 airplanes had become a matter of great concern because they had resulted in abortive sorties in combat and training and in damage to equipment. ATSC had been severely criticized by both domestic and overseas operating activities and within ATSC. Two major design changes to the nose gear installation had been in development for several months and ATSC requested that engineering and development work on these changes be expedited. ATSC furnished a list of accidents involving landing gear failures or malfunctionings.

104. (S) Memo 9 May 1945
Fr: R.A. Lovett
Asst. Secy War (Air)
Wash.
To: Deputy Commander, AAF,
Wash.
(File: AC/AS-4)

Asst. Secy War (Air) suggested that the WX-9 schedule for A-26 airplanes, providing for an increase until 400 per month should be reached in August 1945, be re-examined in regard to strategic plans in the Pacific and combat uses of the relatively short range A-26 airplane.

105. (S) Memo 16 May 1945
Fr: Maj. Gen. D. Wilson
AC/AS, OC&R, Wash.
To: Deputy Commander, AAF, Wash.
(File: AC/AS-4)

Requirements for A-26 airplanes were based upon the following assumptions: seven A-26 groups, including one Pathfinder group, were to be redeployed in the Pacific; all medium and light groups deployed against Japan, except three FEAF B-25 groups, were to be re-equipped with A-26 airplanes; no A-26 airplanes were to be included in lend-lease; and flow of A-26 airplanes as attrition replacements for O.A.F. groups equipped with B-26 airplanes was to begin in June 1946 and was to sustain unit equipment and a 25% reserve. AC/AS, OC&R, furnished a comparison of A-26 production and requirements, and concluded that A-26 airplane production should be reduced immediately to approximately 150 per month.

106. (U) Ltr. 31 May 1945
Fr: Lt. W.N. Howell
Contracting Officer
Term. Sect., WF
To: Douglas Airc. Co., Inc.
Tulsa, Okla.
(File: Contract Files)

Contract W33-038 ac-5140 between Douglas Airc. Co., Inc. and the United States Government was terminated in its entirety on 31 May 1945.

107. (U) R&R 5 June 1945
Fr: Lt. Col. W.A. Davis
Actg. Chief, Bomb. Br.
Proc. Div., WF
To: Prod. Sect., WF
Attn: Col. Shepard
(File: Bomb. Br., Proc. Div.)

Production of A-26 airplanes at Douglas-Tulsa had been terminated at article 1753. All changes not scheduled to be incorporated into production before that time were to be cancelled. Engineering and Tooling Department personnel were to be moved out of Douglas-Tulsa, and the Assembly and Fabrication Groups were to complete the airplanes on contract. For this reason any late changes might have to be made at the Modification Center at Tulsa

108. (U) TT 7 June 1945
Fr: Col. H.A. Shepard
Actg. Chief, Prod. Sect.
Proc. Div., WF
To: CG, AAF, Wash.
Attn: AC/AS, M&S Mat. Div.
(File: Bomb. Br., Proc. Div.)

The effective point for installation of the R-2800-83 "C" engine in A-26D airplanes at Douglas-Long Beach was set back due to difficulties with exhaust stacks and induction system. The "C" engine change was not to be made at Douglas-Tulsa.

109. (U) R&R 30 June 1945
Fr: Col. H.A. Shepard
Chief, Prod. Sect.
Proc. Div., WF
To: BAC, WF
(File: Bomb. Br., Proc. Div.)

The A-26B and A-26C were similar except the A-26B was equipped with a gun nose and the A-26C incorporated a bombardier nose. Both had Pratt & Whitney R-2800 Series "B" engines. The A-26D was to be a gun-nosed airplane, similar to the A-26B except that it would have power plant improvements and the R-2800 Series "C" engines.

110. (S) Cablegram 15 July 1945
Fr: CG, FEAF, Manila, Philippines
To: War Dept., Wash.
Attn: Gen. H.H. Arnold
(File: AC/AS-4)

CG, FEAF, stated that the A-26 airplane with the eight gun nose and without the bottom turret had proved to be highly satisfactory as a replacement for the A-20 airplane and later for the B-25 airplane, and requested a schedule of the arrival of A-26 airplanes in that theater as a basis for planning.

111. (C) TI-2026, Add. #4, 24 July 1945
Fr: Col. K.H. Bitting
Chief of Admin., WF
To: Proc. Div., WF
(File: Central Files)

TI-2026, Add. #4, dated 24 July 1945, initiated action to modify eight A-26C airplanes for use as photo reconnaissance FA-26 type airplanes. Among the required modifications were special night photographic equipment, an oxygen system, and glossy black night camouflage.

112. (U) TT 9 Aug. 1945
Fr: Col. H.A. Shepard
Chief, Prod. Sect.,
Proc. Div., WF
To: AAFPR, Douglas Airc. Co., Inc., Tulsa, Okla.
AAFPR, Douglas Airc Co., Inc., Santa Monica, Cal.
(File: Contract Files)

Tow target modifications were to be undertaken on eight A-26B airplanes returned from ETO. Required modifications included installation of tow-reel equipment and a simplified oxygen system.

113. (U) TT 10 Aug. 1945
Fr: Col. H.A. Shepard
Chief, Prod. Sect.,
Proc. Div., WF
To: AAFPR, Douglas Airc. Co., Inc., Long Beach, Cal.
AAFPR, Douglas Airc. Co., Inc. Santa Monica, Cal.
Attn: W.S. Fryer
(File: Contract Files)

Night Intruder modifications were to be incorporated on 96 A-26B airplanes. Modification requirements included the following: (1) maximum fuel in self-sealing bomb-bay tank, (2) effective flame dampening equipment, (3) flash hiders for all guns, (4) adequate cockpit lighting to eliminate glare, (5) glossy black night camouflage, (6) installation of Loran, and (7) a simplified oxygen system.

[redacted] UNCLASSIFIED

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114. (U) TG 13 Aug. 1945
Fr: Capt. W.M. Howell
Contracting Officer
Term. Sect. WF
To: Resources Division
OC/AS, M&S, Wash.
(File: Contract Files)

Contract W535 ac-34433 between Douglas Airc. Co., Inc. and the United States Government was terminated in its entirety on 13 Aug. 1945 except for technical data requirements. Subsequent telegram, dated 28 Aug. 1945 from Capt. W.M. Howell, Contracting Officer, Term. Sect., WF, to Douglas-Santa Monica excluded one A-26C airplane from termination.

115. (U) IOM 13 Aug. 1945
Fr: Col. M.F. Cooper
Chief, Airc. Proj. Sect.
Eng. Div., WF
To: Airc. Radio and Radar
Subdiv., WF
Attn: Col. H.R. Yeager
(File: Contract Files)

The XA-26F airplane was a standard A-26B airplane with the rear gunner's compartment, upper and lower turrets, and an I-16 power unit installed in the rear of the fuselage.

116. (C) Memo 17 Aug. 1945
Fr: Capt. R.F. Bache
Prod. Sect., WF
To: Lt. Col. W.A. Davis
Chief, Bomb. Br.,
Proc. Div., WF
(File: Bomb. Br., Proc. Div.)

Capt. Bache accompanied twenty-five A-26B airplanes assigned to the Third Bombardment Group in the Southwest Pacific Area for tactical and operational suitability tests. Five missions were flown against targets on Formosa and excellent results were obtained. All pilots were pleased with the destructive power of the fourteen forward firing .50 cal. guns. Capt. Bache gave other data concerning the missions flown by the A-26B airplanes and stated that the airplanes were accepted enthusiastically.

117. (S) Ltr. 18 Aug. 1945
Fr: Maj. C.R. Hawks
Chief, Eng. Sect., Prod.
Div., W. Proc. Dist.
Los Angeles, Cal.
To: Chief, Eng. Div., ATSC, WF
Attn: Serv. Eng. Sect.
Airc. Projects
(File: Bomb. Br., Proc. Div.)

A representative of Douglas reported that all work on Project X-32823, installation of I-16 power plant in an A-26, had been suspended because of the termination of Contract W535 ac-21393. At this time the remaining items before completion were installation of the I-16 engine and piping, and cleaning up the airplane for inspection and flight test.

118. (U) Ltr. 27 Aug. 1945
Fr: Capt. W.M. Howell
Contracting Officer
Term. Sect., WF
To: Douglas Airc. Co., Inc.
Long Beach, Cal.
(File: Rec. Unit, Proc. Div.)

Contract W33-038 ac-5141 between Douglas and the United States Government was terminated in its entirety on 27 Aug. 1945.

[redacted]

UNCLASSIFIED

119. (U) Ltr. 27 Aug. 1945
Fr: Capt. W.M. Howell
Contracting Officer
Term. Sect., WF
To: Douglas Airc. Co., Inc.
Long Beach, Cal.
(File: Contract Files)

By Letter Termination Notice, Contract W535 ac-21393 between Douglas Airc. Co., Inc., and the United States Government was terminated in its entirety on 27 Aug. 1945 except for certain technical data requirements and work on Project X-32823.

120. (U) Memo 30 Aug. 1945
Fr: Capt. R.F. Bache
Prod. Sect., WF
To: Maj. D.C. Waterbury
Prod. Sect., WF
(File: Bomb. Br., Proc. Div.)

A conference was held at WF with Douglas personnel to discuss changes to be made in the post-war A-26, to be designated the A-26Z. The purpose of the discussion was to formulate tentative specifications for the post-war airplane, which was to retain the same external configuration.

121. (U) R&R 3 Sept. 1945
Fr: Col. H.A. Shepard
Chief, Prod. Sect.,
Proc. Div., WF
To: Eng. Div., WF
(File: Bomb. Br., Proc. Div.)

The prototype A-26Z was to be ready for inspection by 1 July 1946. The A-26Z would remain essentially an A-26 but was to incorporate certain changes to make it the best possible combat airplane of the A-26 configuration.

122. (R) Ltr. 3 Oct. 1945
Fr: Maj. C.R. Hawks
Eng. Div., Liaison Officer
West. Proc. Dist.
Los Angeles, Cal.
To: Chief, Eng. Div.
ATSC, WF
Attn: Serv. Eng. Sect.
Airc. Projects
(File: Bomb. Br., Proc. Div.)

A representative of Douglas stated that engine piping was being installed on the I-16 installation in an A-26D, on Project X-32823. A ground run of the I-16 unit would probably be made on 10 or 11 October 1945. Approximately one week after the ground run, the airplane was to be given a functional flight test with the I-16 unit inoperative.

123. (U) Ltr. 3 Oct. 1945
Fr: Douglas Airc. Co., Inc.
Santa Monica, Cal.
To: CG, ATSC, WF
Attn: Col. W.T. Rison
Airc. Sect., Proc. Div.
(File: Central Files)

Douglas submitted a proposal for the A-26Z airplane. The basic airplane was almost identical to the A-26, but incorporated certain changes, including the following: raised pilot's canopy allowing improved visibility, rearrangement of the cockpit to provide better access to installations, an entrance hatch through the nose wheel well, and wing tip droppable fuel tanks.

124. (U) Ltr. 31 Oct. 1945
Fr: Col. G.A. Hatcher
Chief, Airc. Sect., Proc.
Div., WF
To: Douglas Airc. Co., Inc.
Long Beach, Cal.
(File: Central Files)

ATSC informed Douglas that, while the A-26Z airplane represented a distinct improvement over the current A-26 airplane, there was no requirement in the AAF for additional airplanes of that type.

[redacted]

DOCUMENT FILE

Address Reply to Assistant
Chief, Materiel Division
Reference: TAS:aj - 50

Wright Field, Dayton, Ohio
November 5, 1940.

Research and Development.

Douglas Aircraft Company, Inc.,
Santa Monica,
California.

1. Reference is made to a recent verbal request on the part of Mr. A. E. Raymond to Captain D. L. Putt that the Air Corps indicate officially their desires as to priority of experimental development between several very preliminary design studies being undertaken by the Douglas Company, such as the DC-6, new light bomber, new medium bomber, and new dive bomber. This letter is written to indicate such priorities, with the hope that it will be of some assistance in scheduling the tasks now confronting your preliminary design group.

2. Taking the uncompleted portion of the Research and Development Program F.Y. 1941 into consideration, the following priorities are indicated for the Douglas Company:

a. New and improved model of a Light Bomber,
b. New and improved model of a Medium Bomber.

3. This makes no mention of a Dive Bomber or of the DC-6, the reasons being that due to the higher pricrity of other projects and also to lack of funds, any completely new development of a Dive Bomber to meet Army requirements, rather than purely Navy requirements, will probably be postponed until the next Fiscal Year, and that the Air Corps will rely on purely Navy Developments in this category for the time being. As to the DC-6, it has long been an established policy of the Air Corps to spend Research and Development Funds on Combat Type airplanes only, and to rely on the commercial industry for articles that approximate their needs for Cargo or Transport; therefore, if you undertake such a development, it will have to be as a commercial venture, at least until it becomes a relatively proven article.

4. The latest Air Corps specification for a Medium Bomber was completed ahead of the specification for a Light Bomber. This specification on a Medium Bomber, XC-219, was air mailed to the Air Corps Representative at your plant several days ago. Specification for the Light Bomber is under

1.

preparation and should be issued within about two weeks. To aid you in your conception of a new Light Bomber, the following characteristics of the A-20 series airplanes, viewed in the light of the present war in Europe, fail to meet the latest requirements:

a. No interchangeability of crew. This is generally considered the most serious of all.

b. Insufficient defensive armament. Guns should be in powered turrets for all around defense, .50 calibre guns preferable, if not mandatory, and ammunition supplies should be increased.

c. The design strength of 6.00 G ultimate which is reduced to 5.25 G when the gross weight is increased by modernization is too little for safety in the maneuvers now contemplated. Shallow glide bombing will be attempted with the A-20B, but there is no possibility of accomplishing a moderate form of dive bomber attack which the Chief of the Air Corps has repeatedly asked for in this type.

d. Landing and take-off distances are considered too great for close support airplane, which is required to operate from relatively unimproved fields within 100 miles of the ground forces.

e. Speed now considered excellent for this size and type, but it will probably have to be increased for airplanes to be produced in 1942-43, particularly the speed at intermediate altitude.

It is suggested that your design studies on the Light Bomber include studies of the above tentative requirements until such time as a specification is available.

5. In addition to the above new basic projects, your company will in the near future receive an official request to submit a quotation and proposal to modify one A-20 series airplane to permit utilization of this modified airplane as a night pursuit weapon. The project invobes the use of certain radio reflection wave devices to gain visual contact with the

target under conditions of darkness and of poor visibility. It will probably be a three-place airplane, with one man up in the nose operating the radio devices, then when visual contact is gained operating a turret in the upper forward quartersphere; a man in the rear operating a turret in the upper rear quartersphere; and the pilot flying the airplane. The additional radio devices weight about 250 pounds. It is suggested that you send a representative to the Materiel Division to look at certain design studies now being accomplished, and to discuss this project in more detail, as it may require a completely new fuselage.

For the Assistant Chief of the Materiel Division:

F. O. CARROLL,
Major, Air Corps,
Chief, Experimental
Engineering Section.

cc: A. C. Factory Repr., Douglas Co.
Production Engineering Section
Bombardment Projects
Pursuit Projects

TAS:aj
10:15 AM

December 11, 1940

F. O. CARROLL, Lt.Colonel, A. C.

Chief, Experimental Engineering Section

EXP-T-277 ..... AS A BACKGROUND THE DOUGLAS COMPANY ARE AT LEAST SERIOUSLY WORKING ON SOME DESIGN STUDIES THAT WE HOPE WILL LEAD UP TO A CONTRACT FOR AN EXPERIMENTAL LIGHT BOMBER THAT MAY BECOME THE 1942 SUCCESSOR TO THE A-20B AIRPLANE. THERE ARE TWO PRELIMINARY INVESTIGATIONS THAT IF ACCOMPLISHED WILL GREATLY AID THIS COMPANY TO DEVELOP THIS NEW LIGHT BOMBER. ONE INVOLVES THE INSTALLATION AND FLIGHT TESTS OF G.E. POWER TURRETS IN AN EXISTING A-20A AIRPLANE, ACTION ON WHICH WAS REQUESTED IN TELETYPE EXP-T-277 DATED DECEMBER 7, 1940.

THE SECOND INVOLVES THE EXPERIMENTAL INVESTIGATION OF A NEW AILERON OR LATERAL CONTROL DEVICE IN CONJUNCTION WITH A SLOTTED FLAP. IF SUCCESSFUL THIS WILL ENABLE THE USE OF A FULL SPAN FLAP WHICH SHOULD INCREASE THE MAXIMUM LIFT COEFFICIENT AND PERMIT LOWER LANDING SPEED WITH SAME WING LOADING. THIS HAS BEEN COORDINATED WITH N.A.C.A. AND IT IS BELIEVED VERY DESIRABLE TO INCORPORATE THIS DEVICE ON AN EXISTING AIRPLANE AND OBTAIN ACTUAL RESULTS ON EFFECTIVENESS OF CONTROL AND A MEASURE OF MAXIMUM LIFT COEFFICIENT IN FLIGHT.

THE DOUGLAS COMPANY NOW PROPOSE TO INSTALL THIS DEVICE ON ONE A-17A AIRPLANE AND CONDUCT THE NECESSARY FLIGHT TESTS AND WOULD LIKE TO HAVE AN A-17A AIRPLANE ASSIGNED

December 11, 1940

TELETYPE EXP-1-277 (concluded)

TO THEM UNDER CONTRACT FOR THIS WORK STARTING DECEMBER 17, 1940 AND LASTING APPROXIMATELY 60 DAYS.

REQUEST YOU OBTAIN ONE A-17A AIRPLANE FOR ASSIGNMENT TO THIS PROJECT AND ADVISE BY TELETYPE.

CC: Aircraft Laboratory
Flight Research Projects

EXPERIMENTAL ENGINEERING SECTION

Douglas Aircraft Company, Inc.
El Segundo Division
El Segundo, Calif.

A for P
168931

Ref. No. E25-279

January 28, 1941

Cable Address: "Douglasair"

Subject: Experimental Airplanes - Light Bombardment and Night Fighter Types - Proposal for

To: Contracting Officer, Materiel Division
Wright Field, Dayton, Ohio

17946

Reference:

a. Type Specification XC-220 dated January 21, 1941.

b. Douglas Specification DS-538 dated January 27, 1941 including Appendix III.

1. In accordance with the informal negotiations between the Materiel Division and this Contractor's representative at Wright Field, a proposal is forwarded herewith as outlined in the following paragraphs.

2. Two airplanes are proposed, the first of which is a twin-engined light bombardment type as described in Reference b, the Contractor's detail specification 538, dated January 27, 1941. The second airplane, although basically the same as the first, is to be equipped for night fighting operations as described in Appendix III of Reference b. These airplanes are to be designed and constructed in accordance with the most modern practices and under the provisions of the latest Air Corps specifications available on January 7, 1941, thus showing definite improvement in fire power, performance, and strength over their immediate predecessor, the type A-20B light bomber.

3. The first airplane will be complete twelve (12) months after the contract date or the date of final approval and acceptance of the specification by the Air Corps whichever is the later, providing that the Air Corps assigns resident personnel at this Contractor's plant with full power to make immediate and final decisions on both design and construction. The second airplane, the Night Fighter version, will be complete three (3) months after the first provided that all design information on the AI equipment and four gun turret is

2nd conditions on ~~[illegible]~~ 2, 8 1 or 8

Incl. 4

F-539
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3. (Cont'd)

received by the Contractor not more than three (3) months after the contract ~~or specification approval date,~~

4. These experimental airplanes and their associated data are offered as follows:

a.	One Light Bomber Airplane per specification DS-538 dated 1-27-41	$1,465,618.55
b.	One Night Fighter version of the above per App. III of DS-538 dated 1-27-41	905,671.53
c.	Photographs of Mockups of a and b	517.50
d.	Engineering data (Stress analysis, weight reports, etc.)	5,175.00
e.	Blueprint copies of drawings used for actual construction of items a and b	5,175.00
f.	Engine Ground Test	12,650.00
1.	Additional for shipping to NACA for unloading, set-up, and full scale NACA tunnel tests to be conducted at Government expense and preparing and loading for return. Includes Contractor furnished engineer and two mechanics.	6,081.88
g.	Operation & Maintenance instructions (5 blueprint copies)	10,350.00
h.	Wind tunnel models, tests, and data.	
1.	One Galcit power model	21,275.00
2.	One power model for 19' NACA tunnel	36,800.00
3.	One large Galcit tunnel nacelle including power	11,500.00
4.	Two large laminar flow constant chord wing sections for NACA tunnel	9,200.00
i.	One model without power for Wright Field	8,830.00

4. (Cont'd)

j.	Proof load, one airplane	$ 20,948.40
	TOTAL, Two airplanes and data	$2,519,792.86

These prices are firm until February 24, 1941. They do not include any California State Sales Tax.

5. In view of the cost involved and the time necessary to furnish the completed airplanes, partial or progress payments are requested by the bidder to be executed in accordance with the standard procedure on Army contracts, i.e. partial payments will be made as the work progresses at the end of each calendar month or as soon thereafter as is practicable on the basis of authenticated statements of expenditures of the Contractor approved by the Contracting Officer.

6. These experimental airplanes will be designed with full attention given to mass production possibilities, but the data to be supplied will be no more complete than is usual for experimental contracts. The series of wind tunnel tests, paragraph 4, items f(1) and h, even though extensive for an experimental contract, are considered to be an economical means of expediting delivery of satisfactory airplanes, particularly since very little data or experience is available concerning the laminar flow wing section which will be used, and since full scale tunnel testing of the complete power plant installation will permit an early solution of possible cooling problems. Performance of all of these tests will also ensure the possibility of entering into mass production of the type with the fewest changes over the experimental model, thus minimizing delay and reducing the expense of the complete program.

7. The proof loading tests listed in paragraph 4, j shall include:

a. Wing mounted on jig.

b. Horizontal tail surfaces and fuselage supported by the landing gear and engine mounts.

c. Vertical tail surfaces mounted on the fuselage in its normal position and load applied through cables and loading pads.

To: Contracting Officer, Materiel Division

d. Shock struts to be dropped on jigs by the strut manufacturer.

The complete airplane will not be subjected to drop tests.

8. This Contractor understands that these experimental models should be expedited to the greatest possible degree and is prepared to enter into their design and construction on this basis. He has therefore endeavored to present a proposal which will permit the discovery and solution of problems before rather than after flight tests have started.

DOUGLAS AIRCRAFT COMPANY, INC.

C. A. Cover
General Manager

JAL:IM

cc: John Rogers
A. E. Raymond
T. E. Springer
E. H. Heinemann
L. J. Devlin
C. C. Pearson
L. V. Hunt
J. S. Farra

ENCLOSURES:

(A) DS-538, Airplane Specification, Model XA-26 — 10 b.p. & 1 v.d. ✓

(B) F-76, Finish Specification, Model XA-26 — 3 b.p. ✓

(C) Report 3043 - Comments on A.C. Spec. 27993 — 3 b.p.

(D) Report 1159-A - Est. Wt. & Bal. Models XA-26 and 538-A — 3 b.p. ✓

(E) Report 791 - Aerodynamics, Model XA-26 — 3 b.p. ✓

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ENCLOSURES: (Cont'd)

(F)	Report 792 - Propeller, Model XA-26	3 b.p. ✓
(G)	Drwg. No. 5121717 - General Arrangement - 3 view	3 b.p. ✓
(H)	Drwg. No. 5121718 - Inboard Profile - Model 538	3 b.p. ✓
(I)	Drwg. No. 5121719 - Proposed Installation - Power Plant	4 b.p. ✓
(J)	Drwg. No. 5121720 - Proposed Installation - Alighting Gear	3 b.p. ✓
(K)	Drwg. No. 5121833 - Inboard Profile, Model 538-A	3 b.p. ✓
(L)	Deviations from A.C. Type Spec. XC-220	5 copies

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JUL 1941

Cont. F. 17946
(pg. 1/3)

19

LMAL

Langley Field, Va.
February 7, 1941.

MEMORANDUM For Engineer-in-Charge.

Subject: Conference with representatives of the Douglas Company and the Army Liaison Office on the XA-26 airplane.

Reference: Mat. Div. L. O., Langley Field Let. Feb. 3, 1941.

1. On request of Colonel Greene, a conference was called to discuss certain questions with reference to the XA-26 airplane. Those present were: Dr. M. U. Clauser, representing the Douglas Company; El Segundo Division; Mr. T. De Port, representing the Liaison Office, and Messrs. E. N. Jacobs, Abe Silverstein, and E. W. Miller, representing NACA. Two questions had been suggested for discussion: First, fuselage shape; second, nacelle length. The Douglas XA-26 airplane is a light bomber of about 25,000 pounds gross weight. It is thus intermediate in size between the A-20 and the Martin B-26. It is powered by two 2800 engines in nacelles which extend especially far forward with respect to the wing. The nacelles are below the wing, the upper surface being tangent with the upper surface of the wing. The nacelles appear unusually long.

Fuselage shape:

The main question seemed to be whether it would be better to use a square-section fuselage as contemplated in the preliminary design or whether a circular fuselage would be more efficient. The circular fuselage would have to be larger than the square one, forward by circumscribing a circle about the square. It appeared that the Laboratory has little data on this subject other than a series of fuselages of narrow shapes which were tested in the variable density tunnel several years ago. In those tests the circular fuselage appeared better but it was the general opinion that the intersection of the wing with the fuselage tended to overcome the difference between the two shapes and that as the square fuselage had rounded corners, there would be little to choose between the two. It is the general opinion that the fuselage shape might be designed largely on the basis of surface area.

Mr. Jacobs pointed out that in this design, as well as in numerous others that had been considered, a disturbed

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4.

flow condition might be expected due to interference of that part of the wing between the fuselage and the nacelle. He thought the design might be improved by increasing the wing chord between the fuselage and the nacelle. This device has apparently been tried by some other manufacturers.

There was a discussion of the general program laid out by the Douglas Company for the development of this airplane as follows:

(1) Routine tests of a 1/8-scale model in the Caltech tunnel.

(2) A rather complete test program in the NACA 19-foot tunnel. These tests would be for the purpose of studying the laminar-flow wing, the use of flaps, longitudinal stability, stalling, and other pertinent questions.

(3) Tests of a large nacelle, preferably full size, to study the cooling of the power plant.

(4) Tests of several large scale wings in the NACA low-turbulence tunnel.

There was a general discussion of the above items. It was the consensus of opinion that as much general information about the design as possible should be obtained from item (1) in the Caltech tunnel. It was agreed that a test program in the 19-foot tunnel as suggested under item (2) would be the best means of getting general information on the proposed design. There was considerable discussion here of the use of laminar-flow wings, the effects of surface roughness, and a discussion of icing and ice prevention. It was suggested that further information regarding the use of heat in preventing ice would be available in the near future from the Ames Laboratory. Dr. Clauser was concerned about the added weight if the exhaust method of heating were used and about the wing roughness if rubber de-icers were used. It was agreed that there would be no difficulty in making the required tests of the proposed large scale wing models in the low-turbulence tunnel.

Nacelle length:

With reference to the length of the nacelle, it appeared that the length was determined by the position of the propellers with reference to the pilot's cockpit and the personnel quarters in the fuselage and by the space needed for retracting the landing gear. It did not appear possible to make it any shorter for practical reasons and nobody

Cont. F. 17946
(Bg. 3/3)

suggested making it any longer. It was the general opinion that the drag of the nacelle would depend largely on the skin friction and more especially on the number of scoops and other protuberances on the surface.

Mr. Jacobs pointed out that in a design of this type, the drag of the nacelles constitute a considerable portion of the drag of the complete airplane and if the engines could be buried in the fuselage and the propellers driven by gears and shafting, that a considerable gain might be expected. Dr. Clauser thought it very unlikely that any manufacturer would be willing to proceed with such a radical design any time during the present emergency.

Elton W. Miller,
Head Mechanical Engineer

EWM.FM

WF-10-38-40-50M

CONFIDENTIAL

INTER-OFFICE MEMORANDUM

HAS/GLT

AIR CORPS
MATERIEL DIVISION

Date...February 13, 1941.....

TO: Chief, Contract Section. 17946

SUBJECT: (check)

EXPERIMENTAL ENG.
.....Engines
.....Propellers
.....Aircraft
.....Armament
.....Equipment
.....Accessories
.....Communications
.....Misc.

PRODUCTION ENG.
.....Attack
.....Bombardment
.....Cargo
.....Observation
.....Pursuit
.....Training
.....GFE
.....Radio
.....Misc.

CONTRACTS
.....Administration
.....Legal
.....Purchase

FIELD SERVICE
.....Administrative
.....Depots
.....Supply
.....Maintenance
.....Transportation

INDUSTRIAL PLANNING

ADMINISTRATIVE

REV. COM. OFFICER

RADIO LAB.

S. C. LIAISON OFFICER

MUSEUM

INSPECTION

Proposed Procurement of XA-26 and XA-26A Douglas Airplanes.

1. In order that comparison may be readily made of the characteristics and prices of recently procured experimental airplanes with the XA-26 and XA-26A airplanes proposed for procurement from the Douglas Aircraft Company, pursuant to Authority for Purchase No. 168931 dated January 30, 1941, the following information is forwarded:

a. The following are the characteristics of the Douglas Model A-20B airplane compared with the characteristics of the proposed Model XA-26 airplane:

Characteristics	A-20B	XA-26
Engine No.	R-2600-3(11)	R-2800-25BG
Propeller Diameter (ft.)	11.25	12'6"
Weight Empty (lbs.)	15,499	20,450
Useful Load (lbs.)	5,080	5,550
Normal Gross Weight	20,579	26,000
Wing Loading (lbs./sq.ft.)	44.27	48.3
Max. Speed at Alt.(MPH)	342 at 14,000'	372 at 17,000'
High Speed at 5000'(MPH)	326	358
Speed at 5000' (MPH)	275 at 75%	280 at 70% HP
Range at 5000' (M)	650 at 75%	683 at 70% HP
Speed at 50% P. at 5000'(MPH)	233	241
Range at 50% P. at 5000' (M)	843	823
Service Ceiling (FT.)	26,600	26,200
Single Engine Ceiling (Ft.)	13,400	13,700
*Take Off Distance (Ft.)	2500	2090
*Landing Distance (Ft.)	2160	2110
Stalling Speed (Flaps Down)	97	
Initial Rate/Climb(Mil. P.)	2760	2900
Time to Climb,10,000, 20,000	5 . 12.5	4.1 10.6
Pos. Flight	5.25	7.0
Neg. Flight	-3.29	-3.5
Landing (Vert.)	4.5	5.25

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-1- Signature.....

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5.

Characteristics (Cont'd.)	A-20B	XA-26
Gasoline S.S. (Gals.)	400	440
Aux. Gasoline S.S. (Gals.)	172	250
Fixed Guns Forward	2 cal. .50	2 cal. .50
Fixed Guns Aft	2 cal. .30	---
Upper Flex. Aft	2 Cal. .30 or 1 cal..50	2 cal. .50
Lower Flex. Aft	1 cal. .30	2 cal. .50
Normal Gross Wt.(All bombs Internal)		
Horizontal Bombing	10 - 100 or 3 - 300 or 1 - 600 or 1 - 1000	12 - 100 or 4 - 300 or 2 - 500 or 1 - 1000
Glide Bombing	2 - 100 or 2 - 300 or 1 - 600 or 1 - 1000	8 - 100 or 4 - 300 or 2 - 500 or 1 - 1000
Alt. Load, Max. Gross Weight, using Wing Racks		
Horizontal Bombing	14 - 100 or 8 - 300 or 3 - 500 or 1 - 1000	20-100 or 12-300 or 6-500 or 2-1000
Glide Bombing	6 - 100 or 6 - 300 or 3 - 500 or 1 - 1000	12 - 100 or 12 - 300 or 6 - 500 or 2 - 1000
Photo Bombs	4	4
Chem. Tanks	4	4
Table II No.	1	None
Wing Area (Sq. ft.)	464.8	540

* Over 50 ft. obstacle.

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b. Following are the characteristics of the Model XA-26A:

Model XA-26A (Douglas Model 535A) - Two engine, Light Bombardment Airplane (Night Fighter Version)

Engines: Two P & W R-2800-25SD, single stage, two speed.

Engine Rating:

Normal - 1600	Altitude - Sea Level	RPM - 2400
Normal - 1600	Altitude - 5,700	RPM - 2400
Normal - 1450	Altitude - 13,000	RPM - 2400
Military - 2000	Altitude - Sea Level	RPM - 2700
Military - 2000	Altitude - 1,500	RPM - 2700
Military - 1600	Altitude - 13,500	RPM - 2700
Take-off - 2000	Altitude - Sea Level	RPM - 2700

Propellers: 2 Curtiss Wright 3-blade, hollow steel, 12'6" dia.

High Speed at 17,000 ft.
High Speed at 5,000 ft.
Landing Speed
Take-off Distance
Landing Distance
Range at 5,000 ft.
Weight Empty
Design Gross Weight
Wing Area
Wing Loading
Power Loading at Design Gross Weight
Guns
Bombs

Performance will be slightly less than the XA-26 due to the addition of the four 20 mm guns, the substitution of the 4-gun upper turret in lieu of the 2-gun turret, and due to the blunt nose of the fuselage required to house the AI equipment.

2. Submitted herewith for comparison purposes are design gross weights contract prices and prices per pound of several experimental models now on contract or being negotiated:

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11.

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To: Chief, Contract Section
Proposed Procurement XA-26 & XA-26A
February 13, 1941

Airplane Model	Contractor	Design Gross Weight (lbs.) 2 Airplanes	Contract Price First 2 Exp. Airplanes & Data	Price per Pound
XB-28	N. American	65,423	$1,053,573.09	$16.10
XB-29	Boeing	200,000	3,699,245.00	18.50
XB-32	Consolidated	184,200	3,818,492.95	20.73
XB-33	G.L. Martin (being negotiated)	93,000	3,000,000.00	32.26
XP-61	Northrop	47,240	1,367,000.00	28.94
XA-26	Douglas	52,000	2,519,792.00	48.46

3. With reference to the price quoted by the Douglas Aircraft Co. for the XA-26 and XA-26A Airplanes, the Experimental Engineering Section has repeatedly attempted to obtain lower quotations from Douglas, but without success. In partial justification for the higher price per pound charged for the XA-26 and XA-26A, your attention is invited to the fact that the XA-26A (Night Fighter) version of the airplane is radically different from the straight XA-26, and therefore Douglas is, in effect, quoting on the design and construction of one each of two different airplanes. The Douglas Aircraft Co. has agreed to submit to the Air Corps at the time the contract is signed and returned a complete breakdown and justification of the prices quoted.

F. O. Carroll

F. O. CARROLL,
Lt. Colonel, A.C.,
Chief, Experimental
Engineering Section.

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Cont. F. 452.1
(pg. 1/3)

Douglas Aircraft Company, Inc.

Santa Monica, California

Cable Address "Douglasair"

In reply refer to File

February 28, 1941

Set 3.

452.1 A-26 Douglas

SUBJECT: Bid on A-26 Airplanes

TO: Contracting Officer,
Wright Field,
Dayton, Ohio.

1. The Douglas Aircraft Company, Inc. hereby submits its bid to furnish 500 A-26 airplanes plus 10% spares, to be constructed in accordance with Douglas Specification No. DS-538B, dated March 25, 1941. A quotation for a static test article, wind tunnel model, and engineering data is included. The bidder requests a fixed fee contract.

2. The estimated prices of this equipment and data are listed below.

Airplanes, 500 at $120,653.00 ea.	$60,326,500.00
Spares, 50 equivalent airplanes at $120,653.00 ea.	6,032,650.00
Static Test article	80,000.00
Free spinning model	5,000.00
Van Dykes and Parts Lists	2,400.00
Stress Analysis	4,500.00
Manuscript Copy of Handbook	9,000.00
Bill of Material	4,000.00
Photographs	900.00
Misc. Data, paragraph E-2, Spec. 40118-A, dated April 1, 1940, except wind tunnel model and free spinning model	5,000.00
Percentage Breakdown	900.00
Total Cost	$66,470,850.00
Fee, 7%	4,652,959.50
Total Price	$71,123,809.50

3. Airplane deliveries will start twenty months after date of contract. Deliveries will reach 33 airplanes per month twenty-four months after date of contract and maintain that schedule until all are delivered. 10% of the spares will be delivered not later than the delivery of the 50th airplane; 15% additional not later than delivery of the 125th airplane, 25% additional not later than delivery of the 250th airplane; 25% additional not later than delivery of the 375th airplane andthe final 25% not later than the delivery of the last airplane. Delivery of the airplanes will be fly away from the flying field near the bidder's plant at Santa Monica, California, and the spares will be delivered F.O.B. cars, Santa Monica, California. The delivery schedule of the static test artile, wind tunnel model, and engineering data, is listed:

Misc. Data, paragraph E-2, Spec. 40118-A, dated April 1, 1940, except wind tunnel model and free spinning model 5,000.00
Percentage Breakdown 900.00
Total Cost 66,470,850.00
Fee, 7% 4,652,959.50
$71,123,809.50

CONTRACT FILES

6.

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Int. F. 452.1
(pg. 2/3)

Static Test article	Between deliveries of 3rd & 4th airplane.
Free spinning model	6 months after contract date.
Van Dykes	At delivery of first airplane.
Van Dyke changes	30 days after delivery of airplane affected.
Parts List	30 days after delivery of last airplane.
Stress analysis	45 days after delivery of first airplane.
Manuscript copy of Handbook . .	Delivery in accordance with Spec. 40102-D dated 11-15-39 and as amended 6-21-40.
Bill of Material.	90 days after delivery of first airplane, with changes complete 30 days after delivery of last airplane.
Photographs	Delivery of 4th airplane.
Miscellaneous data	As progress of airplane design permits.
Percentage breakdown	30 days after contract date.

4. A breakdown of the estimated price of the airplane is attached.

DOUGLAS AIRCRAFT COMPANY, INC.
Santa Monica Plant

Fred W. Herman

Fred W. Herman
Chief Engineer

1 Incl.
Price Breakdown

RECEIVED

Cont. F 452.1
(pg. 3/3)

Price Breakdown, A-26 Airplanes

Attached to Douglas Aircraft Co., Inc. letter "Bid on A-26 Airplanes" dated February 28, 1941.

	Price	Hourly Rate	Overhead
Engineering	$1,530.00	$1.20	$ 612.00
Loft	520.00	.99	208.00
Tooling	3,015.00	1.05	2,565.00
Shop Labor	36,385.00	.95	30,927.00

Total labor and overhead	$ 75,762.00
Material	
Raw	24,600.00
Purchased Parts	7,285.00
Tooling	900.00
Direct Charges	1,400.00
Administrative	5,458.00
* Extra Cost due to subcontracting	5,248.00
Total Cost	$120,653.00
Fee, 7%	8,446.00
Total price, per airplane	$129,099.00

* This item includes crating and transportation of subcontracted parts, vendor higher labor rates, and vendor's fee.

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RECOMMENDATIONS MOCKUP BOARD XA-26 AIRPLANE

April 22, 1941

The mock-up of the XA-26 airplane was inspected between the dates of April 19, 1941 and April 22, 1941. On the later date the mock-up was not complete as to tail section, engine installation and landing gear; however, the work was far enough along on these items to obtain a limited inspection. These items partly mocked-up were apparently satisfactory.

Reports of Major L. C. Craigie and Major John S. Mills were studied and recommendations stated therein are concurred with, and the following recommendations and additions are submitted.

The following major installations of the XA-26 were inspected and were found satisfactory as mocked-up except as noted and explained in detailed comments.

	Comments
1. Pilot's Cockpit	
(a) New windshield arrangement - Pilot's vision.	Not satisfactory to right front. See detailed recommendations. (1)
(b) Control Columns -	
1. Location	O.K.
2. Gun Switch	Unsatisfactory. See detailed recommendations. (2)
3. Microphone Switch	O.K.
(c) Rudder Pedals	O.K.

[redacted]

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	Comments
1. **Pilot's Cockpit** - Cont'd	
(d) Engine Control Pedestals	
1. Control lock	O.K.
2. Tab Controls	O.K.
3. Engine Controls	O.K.
(e) Instrument Board	O.K. as mocked up.
(f) Radio Controls	O.K.
(g) Gun Sight	O.K.
(h) Co-pilot's Seat	O.K.
(i) Pilot's Seat - Lateral Location	Satisfactory except for note on right front visibility. (1)
(j) Access	Satisfactory
(k) Emergency Exit	O.K.
(l) Oxygen Arrangement	O.K.
(m) Map case	O.K.
(n) Pilot's Switch Panel	O.K.
(o) Pilot's Telltale Indicator	O.K.

ARMAMENT

1. Bombs	
(a) Arrangement	Satisfactory.
(b) Hoisting	Satisfactory.
(c) Fusing	Satisfactory.
(d) Dropping Order	Satisfactory.

		Comments
	Armament - Cont'd	
2.	Bomb Arrangement vs. Fuel Tank Capacity	Excellent
3.	One vs. two Torpedos	Dropping clearance for torpedos in either case considered small -- approximately 3 inches. (3)
4.	Passage-way	Satisfactory with positive locking signal.
5.	Camera Installation.	
	(a) Accessibility on Ground	O.K.
	(b) Accessibility in the Air	O.K.
	(c) Electrical Junction	O.K.
6.	Upper Gun Turret	
	(a) Gun Service	Cannot be made easier without radical change in design. Considered satisfactory.
	(b) Ammunition Loading	O.K.
	(c) Link Catcher	Satisfactory
7.	Bomb Bay Doors and Operating	O.K.
8.	Dome Light	Satisfactory
	BOMBARDIER, NAVIGATOR COMPARTMENT	
1.	Arrangement or Location of:	
	(a) Free Air Therm. Bulbs.	Study being made by Materiel Division on practicability of flush bulbs being mounted on nose of airplane.

		Comments
Bombardier, Navigator Compartment - Cont'd		
1.	Arrangement or Location of: (Cont'd)	
(b)	Instruments and Lighting of	Satisfactory. Recommend bracket for flash-light be installed on left side of compartment. Space available in mock-up. (4)
(c)	Switch Panel	O.K.
(d)	Interphone Box and Microphone	See detailed comments.
(e)	Camera Control - Right Hand	O.K.
(f)	Camera Control - Intervalometer, Left Hand	O.K.
(g)	Bomb Intervalometer	O.K.
(h)	Bomb Control Handle	O.K.
(i)	Vertical View Finder Stowage	O.K.
(j)	Hand Fire Extinguisher (Outside Accessibility)	O.K.
(k)	Sextant	O.K.
(l)	Bomb Sight and Glide Sight Attachments	O.K.
2.	Entrance and Exit	
(a)	Bomb Sight Window and Cleaning of	Satisfactory
3.	Gun Installation	
(a)	Removal Features	Satisfactory
4.	Armor Plate	~~Additional armor for Radio Operator if one is carried. See detailed comments.~~ Satisfactory

		Comments
Bombardier, Navigator Compartment - Cont'd		
5.	Dome Light	O.K.
6.	Vision	O.K.
7.	Heating	
	(a) Pilot	O.K.
	(b) Bomb Sight Glass	Very satisfactory
	(c) Guns	O.K.

DETAILED COMMENTS

Pilot's Cockpit

Flight control satisfactory except wheel. Pilot's gun switch and bomb release should be on left side of wheel in a right hand throttle airplane. Formation flying requires the use of both hands, therefore it is recommended that bomb and gun switch buttons be incorporated on the left wheel grip to remedy this. Contractor is designing a standard wheel with switch buttons on both grips so wheel can be used for either right or left hand throttle airplanes. (2)

Detailed Comments - Cont'd

Pilot's Cockpit - Cont'd

It is recommended that the landing gear operating lever be placed on the rear control pedestal to the right of the flap handle. It should be separated from the flap handle by the width of the pedestal. As mocked up, pilot has to reach too far to operate gear control. Contractor has agreed to install a metal safety lock to be painted red which will prevent moving landing gear operating lever when airplane is on ground. (5)

It is recommended that a study be made with a view to shallowing the instrument cowl. Cowl as mocked-up restricts pilot's vision to right front. This visibility is very important when flying formation No. 3 position in airplanes having left side controls. Contractor has agreed to modify cowl consistent with requirements of obviating instrument light reflection on the windshield. (6)

Bombardier Navigator Compartment

A further study was made on the feasibility of installing a seat for the bombardier. No conclusion could be reached due to the lack of room. It is recommended that a combination arm rest and writing table be installed on the right side of the compartment. Such a unit was installed and tested in the mockup by putting hinges on a panel covering the forward gun barrels.

Detailed Comments - Cont'd

Bombardier Navigator Compartment - Cont'd

The installation did not interfere with the forward blast tubes or other accessories of the nose compartment. The rest was far enough forward so that it enabled the bombardier, when operating the sight, to carry part of his weight on his right forearm, thereby relieving pressure on his knees. It is believed this installation will remedy, partly, the bombardier's cramped position when operating the sight. The Douglas Company will submit photographs ~~drawings~~ of subject arm rest. Arm rest may also be used as a table for writing materials.

It is recommended that microphone be mounted on the left side of the compartment near the oxygen regulator in order that bombardier can report "bomb away" to the pilot without reaching or changing his position at the sight. Suitable toe holds will be installed on the floor of the bombardier's compartment to aid in steadying kneeling position. (7)

Armament

The four .50 caliber guns in the upper and lower power turrets considered sufficient defensive armament. A small blind spot to the rear of the vertical fin is considered insufficient reason to install tail gun. A Telltale instrument is expected to remedy the vulnerability of this blind spot.

Detailed Comments - Cont'd

Armament - Cont'd

It is believed turret gunner can be trained to take drift readings with rear gun sight and communicate information to navigator satisfactorily.

Scanning windows at sight installation considered satisfactory as mocked up.

It is recommended that a deviation be allowed to enable the Douglas Company to design the forward gun mounts to be interchangeable for .50 caliber or .30 caliber guns. If the airplane is to be used as an attack bomber using forward firing machine guns against light materiel and personnel, .30 caliber guns would be more desirable against personnel. Approximately 1,000 rounds for each .30 caliber gun can be carried in forward ammunition boxes. It is believed .30 caliber guns are more effective against personnel in unorganized defenses. (8)

Armor plate for rear gunner and bombardier satisfactory as mocked up.

Airplane - General

A study is being made by the Contractor to install two fuel tanks of approximately ~~150~~ 125 gallons each in the wings inboard of the engine nacelles. This additional fuel will allow an alternate load of ~~500~~ 250 gallons that further increases the flexibility of the fuel-bomb load of this airplane. It is

Detailed Comments - Cont'd

Airplane - General - Cont'd

believed that this is highly desirable in a light bombardment airplane. It is recommended that the above study be conducted and tanks installed. Full fuel load would then be 1100 gallons including 250 gallons carried in the bomb bay tank. Contractor claims the XA-26 airplane will then carry at least 2400 pounds of bombs and not be dangerously overloaded. However, this is considered an extreme loading and is maximum performance.

Calculated Load Figures for Above Condition

1100 gallons of fuel	Wing loading 59 #/sq.ft.
2400 pounds of bombs	Gross Weight 31,750 lbs.
475 miles tactical radius	Overload 5,750 lbs.
Takeoff (no obstacle) 2750 ft.	Load Factor (approx.) 5.5
Takeoff (50 ft. obstacle) 3300 ft.	Speed 300 mph.

The above figures are purely theoretical and are based on assumed conditions of tactical operation.

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Detailed Comments - Cont'd

Composition of Crew for XA-26 Airplane

It is believed the tactical radius of this airplane is great enough to require a navigator and a radio operator. It is recommended that a liaison set be installed just forward of the bomb bay and be protected by armor plate which would protect the operator as well. The radio operator can be trained as a substitute gunner if rear gunner becomes a casualty. It is recommended that the following personnel for the crew of this airplane be made standard: Pilot, Bombardier Navigator, Radio Operator Substitute Gunner, and Rear Gunner.

Malcolm Green Jr.

Malcolm Green, Jr.
Captain, Air Corps
McChord Field

WAR 83 RPA

MG:IM

66a-Wright Field 10-13-39-30M

[redacted]

WAR DEPARTMENT
AIR CORPS, MATERIEL DIVISION

MEMORANDUM REPORT ON LCC [illegible]

Date April 28, 1941

SUBJECT: Mock-up Inspection of Douglas XA-26 Airplane

SECTION..Experimental Engineering

SERIAL No...EXP-M-50/534.....

17946

Contract No. W-535-AC-17946
Expenditure Order No. 127-1-18
Purchase Order No.

A. Purpose

1. To report on the inspection of the Mock-up of the Douglas XA-26 Airplane.

B. Factual Data

1. The mock-up of the XA-26 airplane was inspected between the dates of April 11 and April 16, 1941. The Mock-up Committee consisted of the following personnel:

Major L. C. Craigie, A. C., Wright Field, Dayton, Ohio

Major F. C. Wolfe, A. C., Wright Field, Dayton, Ohio

Major M. B. Burnside, A. C., Wright Field, Dayton, Ohio

Major Robert F. Tate, A. C., GHQ Air Force, March Field

Major D. L. Putt, A. C., Wright Field, Dayton, Ohio, was scheduled as a member of the above Committee but was prevented from attending because of duties in connection with the XB-19 Airplane.

2. The following personnel inspected the mock-up prior to its completion and submitted recommendations which were considered by the Mock-up Committee:

Major John B. Mills, A. C., Wright Field, Dayton, Ohio

Major R. C. Wilson, A. C., Wright Field, Dayton, Ohio

3. The Douglas Company had indicated to the Materiel Division by letter dated March 19, 1941, that this was to be a preliminary mock-up to be followed at a later date by a complete one. Upon arrival of the Committee at the Douglas plant, however, it was learned that the Douglas Company desired that this be the official and final mock-up as far as

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the Air Corps was concerned. It was their intention that the more complete mock-up which was to follow would be for their own information in working out final and accurate installation details.

4. In view of the following factors, it was agreed to consider this the official mock-up:

a. The mock-up was complete in all respects except for the power plant installation.

b. Arrangements had been made through the Western Procurement District Headquarters at Riverside, California, for attendance of an officer representing the GHQ Air Force.

c. Personnel were available representing those Laboratories and Sections of the Materiel Division which were most vitally concerned.

d. The mock-up had been inspected by representatives of the R.A.F. and their recommendations were at hand.

e. It was considered essential that the contractor be given a "go-ahead" at the earliest possible date in view of the early delivery date contemplated for this airplane.

5. All changes which were desired were discussed with representatives of the Douglas Company and when such changes were feasible, were incorporated in the mock-up.

6. Representatives of the Royal Air Force had inspected the mock-up on April 9, 1941. A copy of their inspection report was made available to the Mock-up Committee and was carefully studied. In most cases, it was possible to comply with the recommendations of the British. A separate report has been prepared commenting on the specific items covered in the R.A.F. report. A copy of this report is attached as Exhibit "E".

7. The power plant installation was in process of fabrication and not ready for inspection. It is estimated by the Douglas Company that this portion of the mock-up will be completed and ready for inspection approximately May 15, 1941.

8. The aft portion of the fuselage, including tail surfaces, the right wing, engine nacelle, and the outer portion of the left wing were not mocked up, but silhouettes were painted on the wall of the mock-up room to represent them. The wing tips are visible from the pilot's cockpit.

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9. The double slotted flap contemplated for this airplane was not mocked up. This is, at present, being studied in the wind tunnel. A working model will be mocked-up at a later date.

10. The final details of the mock-up, including changes requested by the Committee, were scheduled for completion by April 19. A complete set of photographs was to be made on that date and the required number of copies furnished the Materiel Division.

11. Every effort was made to eliminate non-essentials in order to permit the maximum weight of fuel and bombs to be carried.

12. Considerable emphasis was placed on the matter of obtaining the maximum interchangeability of fuel and bomb load. To achieve this, the length of the bomb bay was increased approximately 24 inches and the fuselage 9 inches. Although the normal bomb load is only 1200 lb., the airplane, as re-designed, can accommodate on the internal racks 4 1000-lb. bombs or 6 500-lb. bombs.

13. The normal fuel load is 440 gallons. Approximately 410 gallons of additional fuel can be carried as alternate load, disposed as follows: Approximately 160 gallons may be carried in the main fuel tanks in the engine nacelles. This was made possible by extending the tank several inches to the rear. Approximately 250 gallons can be carried in a leak-proofed tank mounted in the upper portion of the forward bomb bay. With this latter tank installed, it is possible to carry 4 - 1000-lb. bombs or 6 - 500-lb. bombs as there is no interference between bombs and bomb bay tanks.

14. Detailed comments pertaining to the mock-up changes made thereto are contained in Exhibit "A".

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Experimental Engineering Section
Memorandum Report No. EXP-M-50/534
April 25, 1941

C. Recommendations

1. It is recommended that the mock-up of the airplane be considered satisfactory with the exception of the power plant and chemical tank installations which will be mocked up and inspected at a later date.

2. It is recommended that the contractor be authorized to proceed with the detail design and construction of the airplane.

MEMBERS OF COMMITTEE

Lawrence C. Craigie

LAURENCE C. CRAIGIE, Major, Air Corps
Recorder.

FRANKLIN C. WOLFF, Major, Air Corps

ROBERT F. TATE, Major, Air Corps

MERRILL D. BURNSIDE, Major, Air Corps

Approved by H. Z. BOGERT, Lt. Colonel, A.C.,
Chief, Technical Staff

Approved by F. C. CARROLL, Lt. Colonel, A. C.,
Chief, Experimental Engineering Section

Approved by (Carbon-back signed by Brig. Gen'l Kenney Jones)
GEORGE C. KENNEY, Brig. General, U.S.A.,
Ass't. Chief, Materiel Division

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JWS:BJ:SO

May 26, 1941

Chief, Materiel Division, C.C.A.C.
Washington, D. C.

Contract W-535 AC-17946 with Douglas Company
For XA-26 and XA-26A Airplanes, model and data.

1. Forwarded herewith letter to the Under Secretary of War prepared for signature in the Office Chief of Air Corps, transmitting three (3) numbers of contract W-535 AC-17946, with Douglas Aircraft Company, Inc., Santa Monica, California, covering procurement of one XA-26 airplane, light bombardment, and one XA-26A airplane, light bombardment (night fighter) together with model and data at a total estimated cost of $2,206,388.94, fixed fee included, as follows:

One XA-26 Airplane	Estimated Cost -	$1,220,849.91
One XA-26A "	" "	732,788.00
Models and Data		129,747.88
Fixed Fee 6%		125,003.15

2. A contract covering procurement of this material was previously forwarded to your office with inter-office memorandum dated March 10, 1941, under same subject and was returned with inter-office memorandum from your office dated March 18, 1941, with instructions that further negotiations be conducted with the manufacturer, leading to a more reasonable price for this project, and that the matter be resubmitted when such is obtained. The contract was previously based on a fixed price, totaling $2,519,792.86. At the request of the contractor, the attached contract has been prepared on a cost plus fixed fee basis in lieu of fixed price, as the contractor was unwilling to reduce the fixed price quoted. The estimated cost, including the fee is $311,403.92 less than the fixed price previously quoted. This reduction is due to the removal of contingencies from the fixed price, the establishment of a 6% fee on the estimated cost, and the removal of $60,000 from each airplane for flight insurance. The removal of the flight insurance is in accordance with recent approval of your office as pertaining to experimental airplanes.

3. Delay in resubmitting this contract was occasioned by the contractor not being willing to accept the contract without a clause similar to that included in contract W-535 AC-15847 pertaining to labor shortage and disputes. However, an agreement

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To Chief, Materiel Division
Subj- Contract AC-17946
May 26, 1941

has been reached to include a substitute clause which is contained in the contract as the 5th paragraph under sub-paragraph (b), Article 3, Page 4 of the contract. Reference in this connection is made to teletype from your office E-522 dated May 15, 1941.

2. The proposed procurement of one model XA-26A airplane equipped as a night fighter is considered more feasible than attempting to obtain 13 night fighter conversions of the A-20B type airplane. This opinion is due to the higher strength and performance and better crew facilities of the A-26 type as compared with the A-20B series. Advantages are more specifically set forth in paragraphs 2 and 3 of Douglas Aircraft Company's letter dated January 20, 1941, original attached.

3. For your information there is attached a copy of memorandum from the Chief, Experimental Engineering Section to the Chief, Contract Section, dated February 13, 1941, setting forth, for comparison purposes, characteristics and prices of certain experimental airplanes now on contract or in the process of negotiation. Direct comparison with prices incorporated in subject contract cannot, in justice to the Douglas Aircraft Company, be made however, for the reason that experimental costs in common with production costs are constantly rising and subject contract has been negotiated on the basis of absorbing all costs in connection therewith. Past procedure has been for the manufacturer to expect to amortize losses sustained on experimental contracts through later production contracts.

4. A copy of contract W-535 AC-17946 marked "Advance Copy" is forwarded for the files of your office. W.D.Form No. 36 in duplicate is also enclosed together with a copy of contractor's specification DS-538 including Appendix III thereto, and a copy of Pratt & Whitney Specification A-8051 covering R-2800 engines, with which these airplanes will be equipped.

5. The attached copies have not been signed by the contractor, or the Contracting Officer. Mr. Rodgers, Representative of the Douglas Company, has expressed a desire to sign the contracts in your office. The contractor's Advance Copy of the contract was previously supplied to him and was not returned to this Division at the time he desired modification in same, therefore, there is forwarded herewith one set of revised pages of the contract to complete the contractor's copy. There is also attached Preference Rating Certificate which should be given to the contractor at the time the contract is signed by him.

MAY 27 1941

A. E. JONES,
Lt. Colonel, Air Corps,
Chief, Contract Section.

[redacted]
Lt. Col., Air Corps,
Ass't Technical Executive

Att-Specs.A-8051,DS-538 w/App III
ltr to Under Sec/war
w/encls.
Dougl.let 1/20/41
Exp.Eng.Memo 2/13/41
Adv.Cy Cont.AC-17946 w/W.D.Form 36
Rev Sheets " in Dupl

DATE
CHF. DIV.
TECH. EXC.
ADM. EXC.
C. O.
BUD. OFF.
EXP. ENG.
PROD. ENG.
CONTRACT
INSP.
F. S. S.
I. P. S.
OTHERS

CENTRAL FILES MDAC-190-WF-3-15-[illegible]
2977

293

ANMB Preference A-1-A

C. P. F. F. Form No.3
Approved by The Assistant
Secretary of War, Aug. 14, 1940.

Contract No. W 535 ac-17946
(4459)

17946

COST-PLUS-A-FIXED-FEE

SUPPLY CONTRACT

(Air Corps)

WAR DEPARTMENT
JKR/bb/mm

PROJECT NO. M X 73

This document contains information affecting the national defense of the United States within the meaning of the Espionage Act, U.S.C. 50:31 and 32. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

A TRUE COPY
Ennis McCall.

Ennis McCall,
1st Lt., Air Corps.
Contracting Officer.

Contractor: DOUGLAS AIRCRAFT COMPANY, INC.

Contract for: 1 XA-26 AIRPLANE AND 1 XA-26A AIRPLANE, DATA, MODEL AND TESTS

Estimated cost: $ 2,083,385.79

Fixed-Fee: $ 125,003.15

Payments to be made by Finance Officer at: WRIGHT FIELD, DAYTON, OHIO

The supplies and services to be obtained by this instrument are authorized by, and for the purpose set forth in, and are chargeable to the following Procurement Authorities, the available balances of which are sufficient to cover the cost of the same:

AC11 P 71-1381 A 0705-01

AFP: 168931

Approval recommended:
JUNE 2, 1941
For the Chief of the Air Corps
(SIGNED) O. P. ECHOLS
Oliver P. ECHOLS
Brig. Gen., Air Corps,
Chief, Materiel Division.

APPROVED: JUN 2 1941
By direction of the Secretary of War
under the provisions of Section 10(k)
Act of July 2, 1926, and Section 1(a)
~~Act of July 2, 1940.~~
(SIGNED) ROBERT P. PATTERSON
ROBERT P. PATTERSON
Under Secretary of War.

hc

1 & 10

X

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X

Approval recommended:
June 21, 1941.

For the Chief of the Air Corps

W. F. Volandt

W. F. Volandt
Colonel, Air Corps,
Asst. to Chief, Mat. Div.

Approved: JUN 24 1941 6-24-41

Robert P. Patterson,
Under Secretary of War.

JMM

[redacted]

11.

MDAC-414-WI-5-26-41-15M sets of 2 pp

CHANGE ORDER

KAH/eg

Prepare in Septuplicate
Detach no copy.
Execute in triplicate

WAR DEPARTMENT
AIR CORPS
MATERIEL DIVISION
WRIGHT FIELD DAYTON, OHIO

Serial No. 4598 Date 6-9-41
Change No. 1 to
Contract No. W 535 ac-17946
Dated May 28, 1941

TO: Douglas Aircraft Company, Inc., Santa Monica, California
SUBJECT: Exercise of Option
AFFECTING: Contract W 535 ac-17946
ORDER:
~~REASON:~~

17946

CONTRACT FILES

1. The Government hereby elects to exercise its right and option contained in Article 25(a) of Contract W 535 ac-17946, to require the Contractor to manufacture and furnish one (1) additional Airplane at the price hereinbelow stipulated:

a. One (1) Airplane, Light Bombardment, experimental, modified to include the installation of one (1) T-7 Model 75 mm. cannon, being Contractor's Model No. 538-C and likewise designated as Air Corps Model XA-26B, complete and conforming to Contractor's detailed Specification No. DS-538, as modified by Appendix IV, dated April 25, 1941, hereby made a part hereof, and Air Corps Type Specification No. XC-220, hereinbefore referred to. In the event Contractor's Specification No. DS-538, as modified by Appendix IV, and Air Corps Specification No. XC-220 are specifically at variance, in any respect, then the provisions of Contractor's Specification No. DS-538, as modified by Appendix IV, shall govern, control and be complied with insofar as such variance may exist. Provision shall be made for the installation therein of two (2) Pratt & Whitney R-2800-2SBG, Single Stage, Two Speed Aeronautical Engines conforming to Pratt & Whitney Specification No. A-8051-A, dated January 24, 1941, revised February 21, 1941, hereinbefore referred to. Such engines shall be furnished by the Government in the manner hereinafter set forth without cost to the Contractor but shall be installed by the Contractor.

Estimated cost - $511,106.65

Fixed Fee 6% - 30,666.40

The Contractor shall serial number the Airplane called for hereinabove as follows:

AC 41-19588

2. Delivery: Delivery of the Airplane called for hereinabove shall be made in accordance with the general provisions of Article 17 of the Contract, within sixteen (16) months from and after date of approval of this Change Order.

REASON: Additional Airplane required by the Experimental Engineering Section under Item No. 427-4, Project No. 71-1, Fiscal Year 1941 Program.

[redacted]

Except as hereby amended, all the terms and conditions of the Contract affected shall remain unmodified and in full force and effect and shall also apply in carrying out the provisions of this Change Order.

Approved by:

E. T. KENNEDY, LT. COL., A.C.
Assistant Chief, Contract Section

Ordered by:

JOHN G. SALSMAN, MAJOR, A.C.
Contracting Officer.

1st INDORSEMENT

Dayton, Ohio June 17, 1941
(Place) (Date)

TO: CONTRACTING OFFICER:

1. Contractor or Vendor hereby acknowledges above Change Order and agrees to comply therewith under the terms immediately hereinafter indicated:

(a) For the total consideration of $ 541,773.05 in addition to ~~decrease~~ that provided in the Contract affected, and which is to ~~deduct~~ become due forthwith upon delivery of all the articles and spare parts affected.

(b) With an extension of the delivery date or dates set forth in Contract affected of As scheduled days, for delivery of all of the articles and spare parts affected.

(c) The estimated / guaranteed weight of the article is increased / decreased from ..... pounds to ..... pounds

(d) The estimated / guaranteed performance of the engine shall be increased / decreased to ..... H. P. at ..... R. P. M.

(e) The center of gravity of the airplane has been moved ..... inches forward / backward and ..... inches upward / downward by the above change.

(f) The estimated / guaranteed performance of the airplane is altered as follows:

(1) High speed at ..... altitude increased / decreased from ..... m. p. h. to ..... m. p. h.

(2) Rate of climb at ..... altitude increased / decreased from ..... ft. per minute to ..... ft. per min.

(3) Service ceiling increased / decreased from ..... feet, to ..... feet

(4) Absolute ceiling increased / decreased from ..... feet, to ..... feet

(5) Flying Qualities .....

NOTE: Delete words not applicable. In Sections (c), (d) and (f) the word "estimated" must be deleted when a weight and performance has been guaranteed in the original contract.

It is hereby warranted that in the event award is made to the undersigned the unmanufactured articles, materials, or supplies furnished the United States will have been mined or produced in the United States, and the manufactured articles, materials, and supplies will have been manufactured in the United States all from articles, materials, or supplies mined, produced or manufactured, as the case may be, in the United States, except as noted below or otherwise indicated in this bid.

Douglas Aircraft Co., Inc. (SEAL)
(Contractor or Vendor)

By .....
(Signature of Official with Office held)

2nd INDORSEMENT

AFP: 167161

Dayton, Ohio JUN 17 1941
(Place) (Date)

TO: CONTRACTOR or VENDOR:

1. The terms proposed by you in the first indorsement are (not) accepted by the Government.
2. The supplies and services to be obtained by this instrument are authorized by, are for the purpose set forth in and are chargeable to Procurement Authority AC 11 P 71-1361 A 0705-01 the available balance of which is sufficient to cover cost of same. Except as noted below or otherwise indicated herein all unmanufactured articles, materials, or supplies furnished under this Change Order shall have been mined or produced in the United States and all manufactured articles, materials, or supplies shall have been manufactured in the United States substantially from articles, materials, or supplies mined, produced or manufactured, as the case may be, in the United States.

John G. Salsman
Contracting Officer.

Approved:

JOHN G. SALSMAN
Major A. C.

CONFIDENTIAL

Cont. F. 17946 (pg 1/3)

Douglas Aircraft Company, Inc.

El Segundo Division

El Segundo, Calif.

RECEIVED JUL 3 1941 A. C. F. R. DOUGLAS

Ref. No.
E25-1864

Cable Address: "Douglasair"

July 1, 1941

Subject: Contract AC-17946
Model XA-26 & XA-26A Airplanes
Replacement of Power Plant Assembly

To: Assistant Chief, Materiel Division
Wright Field, Dayton, Ohio

Attention: Aircraft Projects Experimental
Engineering Section

Through: Air Corps Representative

Reference: MDAC letter JAB:jmw:50 dated June 20, 1941, subject, Replacement of Power Plant Assembly in Service Airplanes

1. The Contractor believes that the subject model airplanes comply with the requirements listed in the reference letter.

2. In the design of the subject model power plant installation special effort has been given to provide quick disconnect units at the firewalls. The Contractor estimates that the power plant in operating condition and with all cowling installed may be removed and a similar unit installed and in operation in not more than 1 hour and 30 minutes. All work may be performed by not more than four (4) men. A platform on each side of the engine mount and movable hoists will be required to meet the 1 hour and 30 minute time limit. It is possible, however, to replace the power plant assembly without these platforms.

3. The demountable power plant assembly consisting of the engine, propeller, cowling, engine mount, and all component parts in the engine mount section, such as the vacuum system oil

[redacted]

CONTRACT FILES
Rpd 7-19-41

12 p.57

A. C. F. R. DOUGLAS

separator, vacuum system safety relief valve, booster coil junction box, cowl flap motor, propeller feathering pump, oil dilution solenoid, and engine section junction box containing autosyn transmitters may be removed by the following procedure:

(a) Drain oil system

(b) Remove access doors in the nacelle. (Dzus fastener retained)

(c) Remove access doors in the engine mount. (Dzus fastener retained)

(d) Remove central portion of firewall. (Dzus fastener retained)

(e) Disconnect, by means of quick disconnect units, all fuel, oil, and vent lines.

(f) Disconnect, by removing plugs, all electrical lines.

(g) Disconnect, by quick release units, all engine controls.

(h) Disconnect, by special fittings, all vacuum and hydraulic connections.

(i) Remove anti-drag ring.

(j) Attach hoist to engine hoisting eyes.

(k) Remove four (4) small cover plates over engine mount attaching bolts (single Dzus fastener per cover plate).

(l) Remove six (6) engine mount attaching bolts (may be approached with speed-wrench externally).

(m) Swing engine free and replace with similar unit reversing the above procedure.

4. In addition to the special effort made for ease and speed of replacement of power plant assemblies, the Contractor has also designed the demountable power plant assembly to be

[redacted]

COPY IDENTICAL

1864
Cont. F. 17446
(Y9 3/3)

interchangeable for right or left hand nacelles.

Douglas Aircraft Company, Inc.
El Segundo Plant

J. A. Lombardt
for - E. H. Heinemann
Chief Engineer

RECEIVED
JUL 3 1941
A. C. F. R.
DOUGLAS

RCD:bm
cc: W. Dist. Suprv.
John Rogers
L. E. Miller
R. C. Donovan
W. J. Lockett

JUL 3 1941
No Comment.
Dean Farran
DEAN FARRAN
Capt., Air Corps
Acting Air Corps Factory Representative

[redacted]

Cont. F 21393
(pg 1/4)

Douglas Aircraft Company, Inc.

Santa Monica, California

Cable Address "Douglasair"

In reply refer to File

Rec Cont. Adm 2 P.M. 8-5-41 CWC

July 30, 1941 S30-E-2107

Subject: Revised Bid on A-26 Airplanes

To: Contracting Officer
Wright Field
Dayton, Ohio

21393

Reference: a. Douglas Letter "Revised Bid on A-26 Airplanes", dated July 7, 1941.
b. Division Radio Prodr Dash 297, dated July 23/24, 1941.
c. Air Corps Factory Representative Radio D Dash 666, dated July 24, 1941.
d. Division Radio Prodr Dash 240, dated June 27/28, 1941.
e. Air Corps Factory Representative Radio D-280, dated June 30, 1941.
f. Douglas Letter, E25-2123, dated July 23, 1941.

1. In response to reference d, the Contractor replied through reference e, and subsequent to reference e, the Contractor's representative at the Division, Mr. F. W. Herman, submitted reference a.

2. Upon receipt of reference b, the Contractor advised through reference c that bid contained in reference a was not in accordance with Contractor's specification DS-539, dated June 16, 1941, but that he would submit a revised bid based on specification DS-539, dated June 16, 1941, which bid is as follows:

Airplanes - 500 @ $134,037 ea.	$67,018,500.00
Spares - 50 equivalent airplanes @ $134,037 ea.	6,701,850.00
Static Test Article	62,900.00
Free Spinning Model	5,000.00
Handbook and Parts Lists	2,400.00
Stress Analysis	500.00
Manuscript Copy of Handbook	9,000.00
Bill of Material	1,000.00
Photographs - 300 @ $3.00 ea.	900.00

[redacted]

13.

Cont. F 2/393 (pg 2/4)

Miscellaneous Data, paragraph E-2 Spec. 40118-A dated April 1, 1940 except Wind Tunnel and Free Spinning Models	$ 5,000.00
Percentage Breakdown	900.00
Total Estimated Cost	$73,834,950.00
Fee @ 6%	4,430,097.00
Total Price	$78,265,047.00

The price quoted above is firm until August 15, 1941. The difference in price between the bid contained in reference a and subject bid is due to the incorporation of provisions for torpedo carrying and Contractor furnished torpedo director. This price is also contingent upon acceptance of Contractor's quotation in reference f, inasmuch as all development costs for torpedo provisions and director are provided for in quotation for Model YA-26 airplane.

3. Deliveries, based on receipt of approved Contract by August 15, 1941, are as follows:

	Airplanes	Spares
January 1943	1	
February	3	
March	6	
April	10	
May	22	
June	28	10%
July	40	
August	40	15%
September	50	
October	50	25%
November	50	
December	50	25%
January 1944	50	
February	50	25%
March	50	

Static Test Article - Between deliveries of third and fourth airplanes.

Free Spinning Model - Six (6) months after Contract date.

- At Delivery of first airplane.

Weight and Changes - Thirty (30) days after delivery of airplane affected.

Parts Lists - Thirty (30) days after delivery of last airplane.

Stress Analysis - Forty-five (45) days after delivery of first airplane.

Manuscript Copy of Handbook - Delivery in accordance with Spec. 40102-D dated 11-15-39 and as amended 6-21-40.

AIR CORPS RECEIVED

Cont. F 21393 (pg. 3/4)

Bill of Material - Ninety (90) days after delivery of first airplane, with changes complete thirty (30) days after delivery of last airplane.

Photographs - At delivery of fourth airplane.

Miscellaneous Data - As progress of airplane design permits.

Percentage Breakdown- Thirty (30) days after Contract date.

4. Delivery of the airplanes will be fly-away from a flying field in the vicinity of the Contractor's Plant at Santa Monica, California. Delivery of spares, static test article and free spinning model will be F.O.B. cars, Santa Monica, California. Engineering data will be delivered to the Materiel Division at Wright Field, Dayton, Ohio.

5. A price breakdown of the estimated cost of the airplane is enclosed herewith.

6. Price quoted does not include any allowance for performance or payment bonds.

7. Advance and partial payments are desired.

DOUGLAS AIRCRAFT COMPANY, INC.

C. A. Cover
EXECUTIVE VICE PRESIDENT

JTM:jm
Encl.

CC: Mr. J. M. Rogers
Mr. A. E. Raymond
Mr. P. H. Heinemann
Mr. W. A. Hamilton
File (2)



[redacted]

Cont. F 21393
(19 4/4)

PRICE BREAKDOWN, A-26 AIRPLANES

Attached to Douglas Aircraft Company, Inc. letter, "Revised Bid on A-26 Airplanes", dated July 30, 1941.

	Price	Hourly Rate	Overhead
Engineering	$ 1,727.00	$1.30	$ 691.00
Loft	595.00	1.09	238.00
Tooling	3,420.00	1.15	2,907.00
Shop Labor	41,119.00	1.05	34,951.00
Total labor plus Overhead			$ 85,648.00
Material			
Raw			24,975.00
Purchased Parts			9,093.00
Tool			915.00
Direct Charges			1,484.00
Administrative			6,674.00
*Extra Cost due to Sub-Contracting			5,248.00
Estimated Cost			$134,037.00

RELEASED

* This item includes crating and transportation of sub-contracted parts, vendor's higher labor rates and vendor's fees.

[redacted]

ADDRESS REPLY TO
CHIEF OF THE AIR CORPS
WAR DEPARTMENT
WASHINGTON, D. C.

5

XX

Cont. F 21393
(pg 1/2)

WAR DEPARTMENT
OFFICE OF THE CHIEF OF THE AIR CORPS
WASHINGTON OCT 31 1941

SUBJECT: Contract W 535 ac-21393

TO: The Under Secretary of War

1. Forwarded herewith, recommending approval under provisions of Section 2(a) Act of June 28, 1940, Section 1(a) Act of July 2, 1940, and Section 9 Act of June 30, 1941, are three numbers of contract W 535 ac-21393 with Douglas Aircraft Company, Incorporated, Santa Monica, California, covering the procurement of 500 Air Corps Model A-26 Light Bombardment Airplanes, spare parts therefor and data, one Skeleton Airplane and one Model Airplane, Free Spinning, at a total estimated cost of $78,264,093.00, fixed fee of 6% included.

2. Approval of subject contract is recommended for the following reasons:

a. Essential to expedite accomplishment of the Defense Program and to be sure of the accomplishment of the Program.

b. These airplanes are listed for procurement on Air Corps Program "B" 14,394 Modified as Light Bombers, 2-engine A-26 Douglas.

c. The placing of this order as recommended will not overload other facilities manufacturing similar type airplanes and/or combat airplanes.

d. The proposed requirement for the procurement of this type airplane has been allocated to the manufacturer deemed the best fitted to meet delivery requirements without overloading facilities or creating serious congestion.

The following is submitted in connection with this proposed procurement:

a. Douglas Aircraft Company, Incorporated is the designer and sole manufacturer of the particular airplanes being purchased.

RECEIVED

14.

Memo to: The Under Secretary of War
Subject: Contract W 535 ac-21393

b. The estimated cost is considered fair and reasonable as compared with the Type A-20 airplane, since it is approximately 9 feet longer in span, 4½ feet more in length and weighs approximately 40% more than the A-20 type airplane. And further, since the first 500 A-20 type airplanes were produced at a time when labor and material were at least 20% lower than at the time the A-26 type airplanes will be built. On the basis of weight and quantity, the estimated cost is considered fair and reasonable as compared with the Martin B-26 airplane.

c. Two XA-26 airplanes procured on Contract W 535 ac-17946 were purchased at an estimated cost, on entire contract, of $2,083,385.79: the first XA-26 airplane being estimated to cost $1,220,849.91, without fee; the second XA-26A Airplane being estimated to cost $732,788.00. Douglas' quotation for these airplanes was submitted in letter dated July 7, 1941, at $132,823.00 each in lots of 500 plus 10% spares. Due to changes desired in the airplane, primarily, incorporation for provisions for torpedo carrying with the Contractor furnishing the torpedo director, a revised quotation was submitted in letter of July 30, 1941, at $134,037.00 each, same compared with the following airplanes:

	Douglas A-20B	Martin B-26	Boeing B-17B	Douglas A-26
Gross Weight	20,579	28,340	37,810	26,700
Weight Empty	15,499	21,720	28,150	21,150
Approximate Cost	$96,000	$131,000	$245,000	$134,037
Dollars per pound Weight empty	$6.20 (Quantities above 2,900 combined Army & British Purchases)	$6.10 (For Approx. 1,200)	$8.70	$6.35 (Without fee)

d. The contractor's letter dated July 30, 1941, on which the subject contract was negotiated, is forwarded herewith for ready reference.

4. Contract has been cleared through the Director of Purchases, Office of Production Management.

For the Chief of the Air Corps

O P Echols

4 Incls.
1. Contract AC-21393 (in tripl)
2. Douglas ltr 7-30-41
3. Statistical Report
4. Press Release

O. P. ECHOLS,
Brig. Gen., U.S.A.,
Chief, Materiel Division.

C. P. F. F. Form No. 3
Approved by The Assistant
Secretary of War, Aug. 14, 1940.

Contract No. W 535 ac-21393
(5612)

21393

15

COST-PLUS-A-FIXED-FEE

SUPPLY CONTRACT

(Air Corps)

APPROVAL RECOMMENDED:
OCTOBER 31, 1941
FOR THE CHIEF OF THE AIR CORPS
(SIGNED) O. P. ECHOLS
O. P. ECHOLS
BRIG. GEN., U.S.A.,
CHIEF, MATERIEL DIVISION.

WAR DEPARTMENT
AIRB Preference a-15
HWC:EN

M. C. Harding,
1st Lt., Air Corps,
Contracting Officer,

Contractor: Douglas Aircraft Company, Incorporated

Contract for: Five Hundred (500) Light Bombardment Airplanes, Air Corps Model A-26, Spare Parts Therefor and Data, one (1) Skeleton Airplane and one (1) Model Airplane, Free Spinning,

Estimated cost: $73,834,050.00

Fixed-Fee: $ 4,430,043.00

Payments to be made by Finance Officer at : Wright Field, Dayton, Ohio

The supplies and services to be obtained by this instrument are authorized by, and for the purpose set forth in, and are chargeable to the following Procurement Authorities, the available balances of which are sufficient to cover the cost of the same:

AC 32 P 12-30 A 0705-2 .....$71,160,132.00
AC 18 P 82-30 A 0705-2 ..... 7,103,961.00

AFP: 172043

APPROVED: OCT 31 1941
BY DIRECTION OF THE SECRETARY OF WAR UNDER THE PROVISIONS OF SECTION 2(a) Act of June 28, 1940, Section 1(a) Act of July 2, 1940, and Section 9 Act of June 30, 1941.
(SIGNED) ROBERT P. PATTERSON
ROBERT P. PATTERSON
UNDER SECRETARY OF WAR.

a 15.

CONFIDENTIAL

E35-1

APR 21 1942

Subject: Contract AC-17946
Model XA-26F Airplanes
Four 37 MM Cannon Nose Proposal

To: Commanding General
Army Air Forces, Materiel Center
Wright Field, Dayton, Ohio

Attention: Aircraft Projects Experimental
Engineering Section

Through: Assistant Army Air Forces Resident Representative
Douglas Aircraft Company, Inc.
El Segundo Plant
El Segundo, California

DELIVERED APR 21 1942 ASST. A.A.F. REP. EL SEGUNDO CONFIDENTIAL

3/9/42

Reference: a. ACMD Chief, Contract Section letter PES:jmw:50 dated August 7, 1941, subject, 37 MM Cannon Version of the XA-26 Airplane.

b. ACMD Chief, Experimental Engineering Section letter PES:jmw:50 dated September 3, 1941, subject, Installation of Four 37 MM Cannon.

c. ACMD Chief, Experimental Engineering Section letter LCC:aj:50 dated October 22, 1941, subject, 37 MM Version of XA-26B Airplane.

d. Contractor's letter E35-911 dated February 19, 1942, subject, Contract Change for Ground Firing Proof Test on 75 MM Installation, Request for.

1. In accordance with the requests of references a, b, and c, the Contractor has studied the installation of 37 mm cannon in the XA-26F airplane, and as suggested by paragraph 4 of reference c is offering a proposal of a separate nose mounting four 37 mm cannon which can be readily attached to the XA-26B airplane in lieu of the 75 mm nose. Enclosure A is forwarded herewith and represents this nose complete with four T-9 or M-4 37 mm cannon with continuous feed magazine of 32 rounds per gun. Provision is made to install an ASL-4 scanner located in a

[redacted]

16.

APR 21 1942

non-metallic section of the nose above the barrels of the cannon and an AGL-4 trahsmitter located in the aft section of the nose or forward portion of the fuselage. The guns are charged and loaded by manually operated charging and loading handles but will be fired electrically by means of the cannon firing button on the left side of the pilot's control wheel. Expended cases from these cannon are ejected into the air stream by means of suitable chutes.

2. It is believed desirable that the XA-26B be returned to the El Segundo Plant in order to install this nose and make flight tests to demonstrate handling, but not firing. It is planned to install this nose by removing the present nose of the XA-25F, removing the 75 mm cannon and ammunition supports, and install this proposed nose complete with guns, mounting the gun charging and loading handls support in the space formerly occupied by the 75 mm ammunition supports. The AGL-4 equipment now proposed for the XA-26B may be changed from that nose to the proposed 4-gun nose.

3. The Contractor has proposed by reference d a test program with necessary structure for conducting firing tests of the 75 mm installation. This test structure consists of the forward portion of the fuselage complete with nose and 75 mm cannon mounted on a steel test structure so that the centerline of the bore of the cannon is approximately ten feet above the ground. This test structure and the forward portion of the fuselage may also be used to test the 4-gun nose. It is therefore proposed to build and test the subject nose on this test structure before installation on the XA-26B airplane. This tentative test program would consist of a functioning test of the entire installation, a strength check of the installation, and a check on bore sighting and aligning the guns for a check of fire pattern.

4. The estimated cost of the nose for test as outlined in paragraph 1, 2, and 3 of this letter is as follows:

a. Contractor to design, mockup, fabricate, install, and flight test for handling but not firing one 4-gun nose for XA-26, in accordance with Contractor's proposal drawing 5153507 complete with firing and charging system and four Government-furnished 37 mm cannon - one nose. Delivery of nose complete, ready for tests May, 1943.

Estimated Cost	$ 57,928.44
Contractor's Fee @ 6%	3,475.71
Total	$ 61,404.15

Price and delivery are firm until May 11, 1942 and contingent upon receipt by the Contractor of an acceptance of this quotation before the expiration of the firm date.

[redacted]

b. Contractor to install nose described in paragraph 4a of this letter on test structure, fire on ground with Government-furnished ammunition, and make report. Delivery of report is to be July, 1943.

Estimated Cost	$ 6,461.76
Contractor's Fee @ 6%	387.71
Total	$ 6,849.47

Price and delivery are firm until May 11, 1942 and contingent upon receipt by the Contractor of an acceptance of this quotation, the quotation of reference b, and the quotation in paragraph 4a of this letter before the expiration of the firm date.

The following weight and balance study of this proposed nose and its affect upon installation on the subject airplane is submitted herewith and represents approximately the anticipated gross weight and resultant balance.

ITEM	WEIGHT	BALANCE
Normal Useful Load		
Crew (2)	400.0	
Fuel (440 Gal.)	2840.0	
Oil (40 Gal.)	300.0	
4 - 37 mm Guns & 128 rounds total	1026.0	
4 - .50 cal. Flex. Guns & 800 rounds total	560.0	
TOTAL	4926.0	
Weight Empty	20,848.0	
Gross Weight - Normal - S.S. Up	25,774.0	19.5% M.A.C.
- S.S. Down		17.6% M.A.C.
Nose Heavy Condition (based on Normal Gross Wt. less Fuel, Upper Turret Ammun., Lower Turret Ammun.)	22,894.0	14.1% M.A.C.
Tail Heavy Condition (based on Normal Gross Wt. less 37 mm Ammun.)	25,310.0	21.4% M.A.C.

5. It is suggested by the Contractor that, in the event of approval of this proposal by the Materiel Division, it be incorporated as an Appendix to the Contractor's detail specification for the XA-[illegible] airplane, which is now in the process of being written. It is desired to know for this purpose whether or not the configuration with this 4-gun

MX-19

[redacted]

APR 21 1942 ASST. A.C. REP. EL SEGUNDO

CONFIDENTIAL

nose should be a model change such as XA-26C or whether it should be an alternate loading condition of the XA-26B airplane.

Douglas Aircraft Company, Inc.
EL SEGUNDO PLANT

T. E. Springer
Manager

RECEIVED
APR 21 1942
ASST. A.A.F. REP.
EL SEGUNDO

RCD:rb

Encl: A - Contractor's Dwg. #5153507, "Proposed 37 mm Cannon Installation" (3 blueprint copies)

cc: W. Dist. Suprv.
F. Fleming
H. Adams
A.E. Raymond
E.H. Heinemann
E.E. Miller
R.C. Donovan
Corres. Control

April 21, 1942

CONCURRED IN

L. C. AMES
Major, Air Corps
Acting Army Air Forces Resident Representative

BY:
RICHARD S. NYE
2nd Lieutenant, Air Corps
Asst. Army Air Forces Resident Representative
El Segundo Plant

[redacted]

Douglas Aircraft Company, Inc.

Santa Monica, California

ble Address "Douglasair"

In reply refer to File
A682-4247-33

May 8, 1942

Subject: Contract W535 ac-26294
A-20C Airplanes
Contract W535 ac-21393
Model A-26 Airplanes
Delivery Schedule

To: Commanding General
Army Air Forces Materiel Center
Wright Field, Dayton, Ohio

Through: Army Air Forces Resident Representative
Douglas Aircraft Company, Inc.
Santa Monica, California

Reference:
A. Army Air Forces Letter RFB/vb/70-2 dated April 8, 1942
B. Contractor's Letter 3682-1921 dated February 7, 1942.
C. Contractor's Letter E25-2637 dated September 8, 1941
D. Contractor's Letter E69-2839 dated December 29, 1941

CONTRACT FILES

1. Contractor acknowledges receipt of letter, Reference A and again reiterates the statement that delay of the A-26 airplanes is entirely separate and distinct, and has no bearing on the 750 A-20C airplanes, Contract W535 ac-26294; therefore, it will be neither necessary nor desirable to alter the quotation for 750 A-20C airplanes, and same is not herewith revised as authorized in paragraph 2 of Reference A.

2. The request contained in paragraph 1 of Reference A has been made the subject of additional intensive study in an effort to determine ways and means of absorbing delays previously listed as affecting the A-26 airplanes. However, it is not possible to maintain A-26 deliveries on the subject contract as originally scheduled, because, as has been previously stated, delays encountered on the prototype airplane, in the majority of cases, will effect a corresponding delay in the delivery of the production quantities. The following comments are submitted to substantiate the A-26 schedule submitted in Contractor's letter, Reference B:

A. Landing Gear Struts: Originally scheduled December 15, 1941, on basis of January 15, 1942, first flight date. A series of broken promises, with available information indicating delivery in June, 1942, has necessitated a revised first flight date of July 1, 1942. Therefore,

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on basis of original schedules, delay is involved between January 15, 1942, and July 1, 1942, contingent upon receipt of oleos as promised.

B. Self-Sealing Tanks: Delivery originally promised January 15, 1942. Tanks actually received April 30, 1942. There have been many additional delays of this type but of lesser importance.

C. Turrets: Contractor's letter, Reference C advised the Materiel Center that turrets would be required at Contractor's Plant by January 15, 1942. The Center thereupon informed the Contractor that turrets would be delivered approximately January 28, 1942. Contractor's letter, Reference D advised the Materiel Center that turrets would absolutely be required by February 4, 1942, and that any further delay in turret delivery would delay delivery of the prototype airplane. Subsequent promises of March and April delivery were made but as of May 1, 1942, Contractor still had not received turrets, although information was received stating the turrets were in transit. Complete engineering information on turrets to be installed was finally completed during week ending May 2, 1942, due to delay in receiving information from the Materiel Center.

D. Contractor also calls attention to the fact that G.F.E. items of engines, propellers, spinners and generators have all contributed to the delay in the engine test set up and have adversely affected the engineering and production program. Propellers are still not available and the latest promises on this item are already past due.

E. Another item of increasing difficulty is the long procurement time on forgings necessitating the machining of substitute parts from billets. Sufficient Keller and Hydrovery capacity was not available to accomplish all this work within the necessary time. The lack of sufficient machine tool equipment for machining operations has also increased difficulties of this nature.

F. General elements of delay, which have been constantly stressed in Contractor's Aeronautical Monthly Progress Reports, and also in the Inspection Section Activity Reports cannot be overlooked, and it is especially true that in building an experimental airplane, orders for material, particularly special materials and/or equipment are in small lots and considered a nuisance. These orders for the XA-26 airplane were placed at such a time that they had to compete with the tide of nation-wide production orders with higher priorities as established by OPM-WPB.

3. In the light of the above facts, the Contractor's analysis of the A-26 prototype and production delivery program, taking all factors into consideration, clearly indicates that actual delay of a minimum period of five and one-half months exists as to the production airplanes. The

[redacted]

...Aircraft Company, Inc.

Cont. F 2139
(pg. 3/3)

15B

File No:
A682-4247-33
5/8/42

The schedule established by Contractor's letter reference B above took cognizance of this fact and the dates as provided therein are indicative of the maximum delay which can be absorbed by the Contractor.

4. In view of the critical conditions surrounding materials and equipment supply, it is not considered advisable to arbitrarily advance delivery schedules ahead of the anticipated performance as this will only result in effecting a large amount of work in process and/or unprocessed inventory with corresponding loss in production of other models on which the materials and equipment could otherwise have been utilized.

5. It is therefore requested that the Materiel Center confirm the delivery dates as outlined by Contractor's letter, Reference B, by teletype, that the Army Air Forces institute a Change Order in confirmation thereof, and that the WPB "8" series schedules be revised accordingly.

DOUGLAS AIRCRAFT COMPANY, INC.

John M. Rogers

John M. Rogers
Vice President

GHE:lm
E. H. Heinemann, B
Karl P. Grube, B
C. C. Pearson, A
T. Guernsey, A
Engineering (2), A
Dayton Office,
Washington Office,
Central Contract File, A

MAY 13 1942
No Comment.

F. C. Rockhold

JOHN D. CORKILLE
Col., Air Corps
AAF Resident Representative

MDAC-5-WF-3-5-42-600M

13

Cont. P 21393
(pg 1/4)

TELETYPE MESSAGE

RFB/vb/70-2
WTR

DATE: May 9, 1942

FROM Prod. Engr. Sec.

ATTENTION: EXECUTIVE

21393

REMOVE FROM RECORDS

PES-T-444 . . . . RE E-599 MAY 7, 1942. A-26 AIRPLANES. FOLLOWING COMMENTS AND INFORMATION ARE FORWARDED.

1. IF IT IS DESIRED TO OBTAIN THE 75 MM NOSE CANNON INSTALLATION FOR TANK DESTROYER MISSIONS, IT IS BELIEVED THIS VERSION COULD BE OBTAINED IN ALL OR PART OF THE 500 AIRPLANES NOW ON CONTRACT WITHOUT DELAY IN DELIVERY AS AN ALTERNATE TO THE PRESENT MEDIUM ALTITUDE BOMBER VERSION. HOWEVER, IT WILL BE NECESSARY TO DISCUSS THIS MATTER WITH THE CONTRACTOR BEFORE DEFINITE INFORMATION ON THIS POINT CAN BE FURNISHED.

2. THE ABOVE 75 MM NOSE CANNON VERSION WOULD NOT OF NECESSITY INCORPORATE THE RANGEFINDER SIGHT FOR AIRPLANE DESTROYER MISSIONS AS PROVIDED IN THE XA-26B BUT WOULD RETAIN THE BOMB BAY INSTALLATION WITH BOMB RELEASE CONTROL LOCATED IN THE PILOT'S COMPARTMENT FOR OPERATION BY EITHER THE PILOT OR THE NOSE GUNNER, THUS PROVIDING A LOW ALTITUDE BOMBER VERSION IN COMBINATION WITH THE TANK DESTROYER VERSION. A BOMBSIGHT WOULD NOT BE PROVIDED, BUT AN INTERVALOMETER MIGHT BE PROVIDED.

MDAC-5-WF-3-4-42-500M

Cont. F-21313 (pg 2/4)

TELETYPE MESSAGE

RTB/vb/70-2

DATE: May 5, 1942

FROM Prod. Engr. Sec.

ATTENTION: EXECUTIVE

REMOVE FROM RECORDS

PES-T-1114 (CONT). . . .

3. DUE TO THE EXTRA WEIGHT OF THE NOSE CANNON, THE MAXIMUM BOMB LOAD WHICH COULD BE CARRIED WITH THE FULL BUILT-IN FUEL CAPACITY OF 800 GALLONS WOULD BE NOT OVER 3000 LBS. AS COMPARED TO 4000 LBS. FOR THE PRESENT BOMBER VERSION. THE RANGE WITH 800 GALLONS OF GAS AT 32,000 LBS. GROSS WEIGHT (MAXIMUM PERMISSABLE OVERLOAD WEIGHT) IS ABOUT 1400 MILES.

4. A .50 CALIBER GUN NOSE IS BEING CONSIDERED AS AN ALTERNATE TO THE 75 MM CANNON NOSE FOR GROUND ATTACK MISSIONS, THOUGH NO ACTION HAS BEEN TAKEN WITH THE CONTRACTOR IN THIS MATTER OTHER THAN INFORMAL DISCUSSIONS. SUCH A.50 CALIBER NOSE WOULD HAVE THE MAXIMUM NUMBER OF GUNS POSSIBLE WITH THE OPTIMUM NUMBER OF ROUNDS OF AMMUNITION PER GUN. IT IS BELIEVED THAT EITHER FOUR OR SIX GUNS COULD BE PROVIDED WITH 500 OR 600 ROUNDS PER GUN.

BAC-5-WF-8-5-42-500M

15

XX

Cont. F. 2/393
(pg. 3/4)

TELETYPE MESSAGE

REB/vb/70-2

DATE: May 9, 1942

FROM Prod. Engr. Sec.

ATTENTION: EXECUTIVE

REMOVE FROM RECORDS

PES-T-444 (CONT) . . . .

5. THE AFCE IN THE PRESENT BOMBARDMENT VERSION IS MINNEAPOLIS-HONEYWELL.

6. THE DELIVERY SCHEDULE OF THE EXPERIMENTAL ARTICLES IS AS FOLLOWS:

(A) BOMBARDMENT XA-26 IN JUNE.

(B) NIGHT FIGHTER XA-26A IN SEPTEMBER.

(C) DESTROYER XA-26B IN OCTOBER.

7. IT IS BELIEVED THAT THE BASIC A-26 AIRPLANE IS A HIGHLY VERSATILE WEAPON DUE TO ITS ADAPTABILITY TO VARIOUS COMBAT VERSIONS INCLUDING THE AIRPLANE DESTROYER AND NIGHT FIGHTER VERSIONS ALREADY UNDER DEVELOPMENT. THEREFORE IT IS BELIEVED THAT FUTURE REQUIREMENTS OF THIS TYPE AIRPLANE AND THE VARIOUS VERSIONS OF IT SHOULD BE ANTICIPATED AS SOON AS POSSIBLE IN ORDER THAT PROCUREMENT OF THE DESIRED TYPES CAN BE INITIATED. IT WILL BE NECESSARY TO NEGOTIATE ADDITIONAL CONTRACTS WITH THE CONTRACTOR WITHIN THE NEXT FEW MONTHS IN ORDER TO AVOID A POSSIBLE FALL OFF IN PRODUCTION FOR A PERIOD OF TIME AT THE EXPIRATION OF THE PRESENT CONTRACT FOR 500 AIRPLANES.

AC-6-WF-3-5-42-500M

16

TELETYPE MESSAGE

REB/vb/70-2

Cont. F. 21393
(pg. 4/4)

DATE: May 9, 1942

FROM Prod. Engr. Sec.

ATTENTION: EXECUTIVE

REMOVE FROM RECORDS

8. PERSONNEL FROM EXPERIMENTAL AND PRODUCTION ENGINEERING SECTIONS WILL VISIT DOUGLAS PLANT DURING WEEK OF MAY 17, AND AN INDICATION OF PRESENT AND FUTURE REQUIREMENTS FOR A-26 TYPE AIRPLANES IS DESIRED BEFOREHAND IF POSSIBLE IN ORDER THAT PRODUCTION MATTERS MAY BE DISCUSSED WITH THE CONTRACTOR.

TECHNICAL EXECUTIVE

File: AC-21393

cc - Aircraft Proj., Exp. Engr. Sec.

MDAC-365-A-WF-12-22-41-500M

INTER-OFFICE MEMORANDUM

WAR DEPARTMENT, AIR CORPS
Office, Assistant Chief
Materiel Division

Wright Field, Dayton, Ohio

Date May 14, 1942

TO: Chief, Industrial Planning Section, Wright Field.

SUBJECT: Contract AC-1740, DB-7A Airplanes,
Delivery of Contractor Furnished Landing Gear Struts.

1. It has been received from the Douglas Aircraft Company, Inc., that the delivery of the landing gear struts on the DB-7A airplanes will not be made until approximately June 1, 1942, and that in consequence of this late delivery, the first flight of the airplane will be delayed an unreasonable length of time. On April 29, 1942, personnel of the Experimental Engineering Section visited the plants of the sub-contractor of landing gear struts for the purpose of securing an explanation of the circumstances and to determine the exact status of the work. This visit is recorded in the attached copy of Memorandum Report No. EXP-4-50-642 dated May 4, 1942. In addition, telephone calls were made on April 27, April 28, and May 6, 1942, in which the status was reviewed. The strut sub-contractor was informed by these calls of the concern felt by the Material Center in the matter.

2. This information is transmitted in order that your office may be informed and that, if possible, action may be taken towards improving delivery of the struts to the airplane contractor.

F. O. CARROLL,
Colonel, Air Corps,
Chief, Experimental
Engineering Section.

1 Attachment
MEMR # EXP-4-50-642
dated May 4, 1942

42-73
42-73A

[redacted]

Signature

19.

MDAC 265-A-WF-12-22-41-500M

INTER-OFFICE MEMORANDUM

WAR DEPARTMENT, AIR CORPS
Office, Assistant Chief
Materiel Division

VEH:pjd:50

Wright Field, Dayton, Ohio
Date May 16, 1942

TO: Chief, Production Engineering Section, Wright Field.
Attention: Attack Branch.

File
DSP/1

SUBJECT: Contract AC-17946, XA-26B Airplane, Modification to Tank Destroyer Type.

1. With reference to conference between Mr. R. F. Mache, Production Engineering Section, and personnel of Bombardment Projects, Experimental Engineering Section on May 8, 1942, the following information is transmitted.

2. Approximate gross weight, useful load and range data on the XA-26, XA-26B, and the modified XA-26B airplanes are contained in the table below:

Airplane	XA-26		XA-26B		Modified XA-26B		
Weight Empty	21,150		20,225		20,625		
Crew	3		4		3		
Fuel (gals.)	440	1,000	440	1,000	440	800	1,000
Bombs (lbs.)	1,200	2,500	0	0	1,200	3,000	1,200
Gross Weight	26,700	31,964	26,125	30,060	27,520	31,680	31,660
Range/Speed	890/201	1790/212	890/201	1915/206	880/202	1415/213	1790/212

NOTE: 1. The "modified XA-26B" refers to the tank destroyer version mounting one 75 mm. cannon, but no range finder.

2. Built-in tankage is 800 gallons. 200 additional gallons may be carried in the bomb-bay tank.

3. In no case should the gross weight exceed 32,000 lbs.

4. By reason of questionable weights of the 75 mm. installation, the above weights should be regarded as approximate only.

[redacted]

Signature

20.

3. The changes necessary to the XA-20B to convert it into a tank destroyer are relatively minor. All range finding equipment and the range finder operator need only to be removed. In order to carry bombs, however, the bomb carrying gear and bomb controls must be replaced since they are not carried in the XA-20B airplane. The result is a basic airplane very similar to the YA-26 except for the removable nose section and the camera installation. No bombsight would be carried. However, the pilot could be supplied with the removable pilot's bomb control box now being developed by Douglas Aircraft Company, Inc.

4. In the case of the XA-20B airplane, which has a range finder and is intended for employment against aircraft, it is necessary that the Minneapolis-Honeywell equipment (AFCE) be included for use with the fire control equipment. This feature, however, may be dispensed with on the production tank destroyers if operation of the airplane without an automatic pilot is considered feasible.

5. The present version carries some armor plate in front of the pilot, gun loader, and 75 mm. ammunition. This armor should be increased on the anti-tank airplane.

6. At present the cannon ammunition carried is 20 rounds. For the purpose of attacking armored ground objectives, the number of rounds should be increased. If this is done fewer bombs can be carried.

7. By reason of the attractive performance contemplated for the XA-20 airplane, as an attack bomber, it is believed that conversion to a general purpose ground attack airplane should not be made on a large scale basis. A few ground attack versions, carrying sufficient forward fire power to be effective, may be very desirable. However, it is believed that a relatively high percentage of the basic attack bomber version should be maintained in any production program.

8. In the event that production of some of the ground attack versions is undertaken, it is highly recommended that the forward fire power be made sufficient to be compatible with the potentialities of the airplane. Armor protection should be installed for forward protection of the pilot and the vital parts of the power plants. Control of the bombs can be effected by the removable pilot's bomb control box mentioned above. AFCE will not be necessary.

[redacted]

F. O. CARROLL,
Colonel, Air Corps,
Chief, Experimental
Engineering Section.

Signature

MDAC-5-WF-8-5-42-500M

Cond. F. 21393 (pg. 1/2)

TELETYPE MESSAGE

REMOVE FROM RECORDS

DATE: June 5, 1942 12:05 PM

FROM Prod. Engr. Sec.
O. R. COOK,
Colonel, A.A.F.

ATTENTION: PRODUCTION SECTION 21393

REMOVE FROM RECORDS

PES-T-457 . . . . RE PE-572 MAY 15, 1942. A-26 AIRPLANES. INFORMATION CONTAINED IN REFERENCE TELETYPE WAS DISCUSSED AT LENGTH WITH CONTRACTOR AND INDICATIONS ARE THAT ALL DESIRED CHARACTERISTICS CAN BE OBTAINED. A MEMORANDUM REPORT COVERING ALL DISCUSSIONS HAS BEEN PREPARED AND A COPY WILL BE FORWARDED IN THE NEXT FEW DAYS. FIRING TESTS OF 75 MM NOSE GUN IN FUSELAGE MOCK-UP WERE VERY SUCCESSFUL. CONTRACTOR WAS ADVISED THAT TANK DESTROYER VERSION WITH 75 MM NOSE CANNON WOULD PROBABLY BE DESIRED IN AS MANY OF THE 500 AIRPLANES ON CONTRACT AS POSSIBLE WITHOUT DELAYING DELIVERY IN LIEU OF BOMBER VERSION UNLESS 75 MM NOSE CAN BE SUPPLIED CONCURRENTLY FOR ALTERNATE INSTALLATION WITH BOMBER NOSE. CONTRACTOR HAS BEEN REQUESTED TO SUBMIT TENTATIVE PROPOSALS FOR A CHANGE TO THE 75 MM NOSE CANNON VERSION ON AS MANY OF THE 500 AIRPLANES AS POSSIBLE AND FOR 75 MM AND .50 CALIBER NOSES TO BE SUPPLIED CONCURRENTLY WITH AIRPLANES COMPLETED WITH THE BOMBER NOSE.

MDAC-5-WF-3-5-42-500M

Cont. F 21393 (Pg 2/2)

188

TELETYPE MESSAGE

REB/vb/70-2

DATE: June 8, 1942

FROM Prod. Engr. Sec.

O. R. COOK,
Colonel, A.A.F.

ATTENTION: PRODUCTION SECTION

REMOVE FROM RECORDS

PES-T-457 (CONT) . . . . . IT IS EXPECTED THAT THE XA-26 PROTOTYPE AIRPLANE WILL BE READY FOR FLIGHT BY JULY 1 WITH THE XA-26B AIRPLANE FOLLOWING IN SEPTEMBER. EXPERIMENTAL ENGINEERING SECTION ADVISES THAT IT DOES NOT APPEAR LIKELY THAT ANY TIME WOULD BE SAVED IN FITTING A 75 MM CANNON IN THE FIRST XA-26 AIRPLANE DUE TO THE EXTENSIVE FLIGHT TEST PROGRAM PLANNED FOR THIS AIRPLANE. HOWEVER, THIS COULD READILY BE DONE FROM AN INSTALLATION STANDPOINT IF DEEMED ADVISABLE AT A LATER DATE.

IT WILL BE ADVISABLE TO CONTRACT FOR ADDITIONAL AIRPLANES OF THE VARIOUS VERSIONS DESIRED AS SOON AS IT IS DETERMINED THAT THE XA-26 IS A SATISFACTORY AIRPLANE. THIS WILL BE NECESSARY IN ORDER TO KEEP THE PRODUCTION LINE RUNNING AT CAPACITY AFTER COMPLETION OF THE PRESENT CONTRACT FOR 500 AIRPLANES.

PRODUCTION ENGINEERING SECTION

File: AC-21393

cc - Aircraft Proj., E.E.S.
Ch., Prod. Div.

MDAC-366-A-W 10-27-41-60M
Cent. F 452.1
(89-1/4)

9. CONFIDENTIAL

RFB/vb/70-2

WAR DEPARTMENT
AIR CORPS, MATERIEL DIVISION

MEMORANDUM REPORT ON

45211

Date June 9, 1942

SUBJECT: A-26 Airplane Production of Various Configurations.

SECTION.... Production Engineering

Contract No. W535-ac-21393
Expenditure Order No. 427-4-28
Purchase Order No.

SERIAL No. PES-M-33

A. PURPOSE: To report on Discussions between Douglas Aircraft Company engineering and administration personnel and Production Engineering Section representatives pertaining to the A-26 type airplane.

B. FACTUAL DATA:

1. Personnel from Production Engineering and Experimental Engineering Sections proceeded to the Douglas Aircraft Company plant at El Segundo, California, on May 18, for inspection of the bombing installation and its functional operation in the prototype Model XA-26 airplane, for witnessing firing tests of the 75 mm cannon installation in the fuselage metal mock-up of the XA-26B airplane, and for discussing various combat versions of the basic airplane with respect to production requirements.

C. COMMENTS:

1. The operation of the bombing equipment and the firing tests of the 75 mm cannon were highly satisfactory. These will be the subject of separate reports prepared by the Experimental Engineering Section.

2. The configuration of the basic airplane is such that various combat versions of it can be built in a production line with comparatively little difficulty in changing from one version to another. The various versions so far considered are:

(a) Medium altitude bomber with bombardier in nose in conventional manner.
(b) Tank destroyer and ground attack version with 75 mm cannon in nose operated by gunner and with bombing installation operated by pilot for low altitude bombing.

DATE
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CONFIDENTIAL

Cont. F. 452.1
(Pg. 2/4)

10 CONFIDENTIAL

(c) Airplane destroyer version with 75 mm nose cannon with either telescopic or radio rangefinder. The configuration of the XA-26B airplane was arranged for use of a telescopic rangefinder. With this configuration no bombs would be carried due to the location of radio equipment in bomb bay as a result of the rangefinder and operator being located behind the pilot in the normal location of the radio equipment. However, since it now appears that a suitable radio rangefinder mounted in the nose will be developed, it would be practicable to combine the airplane destroyer version and the tank destroyer and ground attack version.

(d) Tank destroyer and ground attack version same as 2(b) except with four 37 mm high velocity cannon in nose instead of single 75 mm cannon.

(e) Ground attack version with a six .50 caliber gun nose and pilot-operation of bombing controls for low altitude bombing. A simplified bombsight could be provided.

(f) Night fighter version with either AGL or AI equipment same as present XA-26A.

(g) Photographic or reconnaissance version with long range fuel tanks.

3. The following general characteristics for the ground attack version were specified by the Director of Bombardment:

(a) Maximum performance at low altitude.
(b) Suitable armor protection from frontal fire.
(c) Alternate provisions for bomb load or long range fuel tanks.
(d) 75 mm nose cannon with either automatic feed or loading by gunner.
(e) An alternate .50 caliber multiple gun nose.
(f) Gun sight suitable for short range fire at targets such as tanks, gun installation and small boats.
(g) Pilot operated bombing controls with simplified bombsight for low altitude bombing only.
(h) Automatic pilot control.

4. Comments on the characteristics specified in paragraph 4 above are as follows:

(a) It is considered that the airplane has maximum performance at low altitude.
(b) Consideration is being given for adequate armor protection from frontal fire for the ground attack version.
(c) The airplane will have alternate provisions for a long range non-sealing fuel tank in the bomb bay of approximately 600 gallon capacity which should give a maximum range of about 3500 miles.

[redacted]

Ca-A.F. 452.1
(4-3-44)

(d) The 75 mm nose cannon will be hand loaded by the gunner and fired electrically by the pilot. Case ejection is automatic.
(e) It appears that an alternate .50 caliber multiple gun nose can be provided.
(f) Either a type N3A sight or a combination gun sight and torpedo director will be provided. The latter is a new development proposed by the Contractor which is undergoing tests.
(g) Pilot-operation of bombing controls can be provided for the attack versions. It will not be feasible to provide an intervalometer, but a simplified bombsight can be provided to improve the accuracy of low altitude bombing.
(h) APCR is now provided in the basic airplane.

5. It appears entirely feasible to provide three noses for each airplane which could be interchanged in about 24 hours time. These noses would be: (a) the bomber nose, (b) the 75 mm cannon nose, and (c) a six .50 caliber gun nose. Basic provisions would be made to install a simplified bombing control for the pilot when either of the fighter noses were installed. An intervalometer would not be provided, but bombs would be released by a thumb operated switch on the control wheel. Consideration will be given for a simplified bombsight for low altitude bombing to aid the pilot in dropping bombs by estimation.

6. It appears possible to obtain the 75 mm nose gun installation as original equipment in lieu of the bomber nose for a large percentage of the 500 A-26 airplanes now on contract provided this change is authorized within the very near future.

7. It appears possible to obtain three alternate noses for the 500 airplanes with one nose delivered concurrently with the airplanes and the other two noses either delivered concurrently with the airplanes or within a reasonable time thereafter.

8. The Contractor will submit tentative proposals for the 75 mm nose to be supplied on as many of the 500 airplanes as possible without delay in delivery, and for the three alternate noses with the bomber nose to be delivered with the airplanes and the two fighter noses to be delivered either with the airplanes or as soon thereafter as possible. Basic provisions in the airplanes for all three noses can be provided. These will consist of certain structural reinforcements and equipment rearrangement to accommodate the 75 mm and .50 caliber noses with provisions for transfer of bombing control from the bombardier to the pilot.

9. The 75 mm noses for the first 500 airplanes or less will not have provisions for the installation of the radio rangefinder since it is not expected that design information for this equipment can be released in time. However, radio rangefinder equipment can be provided in the 75 mm noses for airplanes on subsequent contracts if this equipment is successfully developed, which now appears likely.

[redacted]

C. CONCLUSIONS:

1. It is concluded that if the performance of the A-26 airplane is as good as expected, the 75 mm nose tank destroyer version and the .50 caliber multiple gun nose attack version will make very useful weapons and their procurement should be expedited all possible.

2. The general design of the airplane appears to be very efficient and it is apparent that considerable thought has been given to detail designs suitable for mass production.

3. The arrangement of the airplane is such that many configurations can be developed from the basic airplane.

4. The engineering on this airplane is being accomplished at the El Segundo plant of the Douglas Company although the airplane will be built at the Santa Monica plant. The El Segundo plant is now very busy with certain Navy projects and is considered basically a Navy plant. Therefore if the need for A-26 airplanes, particularly the tank destroyer version, is deemed sufficiently urgent to warrant an increase in engineering schedules over those now in effect, it may be necessary to require the Contractor to transfer engineering personnel from Navy work for a period of time in order to accomplish the desired speed-up in engineering schedules. The Contractor lacks sufficient skilled engineering personnel to work all projects now in hand in the most effective manner at the same time, but it has been ascertained that the Contractor could expedite the A-26 engineering and production schedule appreciably if directed to do so by higher authority.

D. RECOMMENDATIONS:

1. The Contractor should be advised of the nose configurations required for the 500 airplanes now on contract at the earliest possible date.

2. Orders for additional A-26 airplanes of the various versions desired should be placed with the Contractor as soon as it shall have been established by flight tests on the prototype XA-26 that the basic airplane has satisfactory performance and will make a useful weapon.

R. F. BACHE, Project Engineer

L. F. HARMAN, Lt.Col., A.A.F.
Bomb. Br., P.E.S.

K. B. WOLFE, Brig. Gen., U.S.A.
Chief, Production Division

C.G., Mat.Com., Prod.Engr.Sec.
C.G., Mat.Com., Exp.Engr.Sec.
C.G., Mat.Com., Executive
Director Bombardment

Director Military Requirement
Exp.Engr.Sec., Airc. Proj.
Ch., Prod.Div.
Ch., Prod. Engr. Sec.

Cont. F-2393
(Pg. 1/1)

CONFIDENTIAL

Ref: MTB/vs/70-2

June 22, 1942

Subject: Contract W535-ac-21393
Model A-26 Airplanes
Delivery Schedule

To: Douglas Aircraft Company, Inc.
Santa Monica, California

Reference: a. Douglas letter A682-4247-33 May 8, 1942.

1. The Materiel Center recognizes that the Contractor has experienced an appreciable delay in engineering and manufacturing schedules for the 500 A-26 airplanes on the subject contract as a result of the approximately six months delay in the completion of the prototype Model XA-26 airplane due to delays in scheduled delivery dates of various major components of the latter airplane. However, the Contractor is advised that the request for a change in the contract to specify a delivery schedule beginning in July, 1943 cannot be granted at this time. In view of the urgent need for airplanes of this type in the War program, the Contractor is again requested to make every effort to absorb the delays in engineering and manufacturing schedules which have accrued and to reschedule the production of the airplanes to conform to the A.A.F. 3-J Schedule.

2. If it shall be determined at a later date that the Contractor acting with due diligence and with the exertion of all possible efforts shall have been unable to conform to the projected delivery schedule, a revision of the present delivery schedule to a schedule which it shall be then possible for the Contractor to meet will be authorized.

3. The Contractor will recognize that it is of utmost importance that all manufacturers make every effort to meet projected schedules for the delivery of war material and that delivery schedules cannot be set back as a result of unavoidable delays in planning and scheduling when by redoubled efforts it may be possible for a manufacturer to regain lost ground.

For the Chief of Production Division:

C. R. COOK,
Colonel, Army Air Forces,
Chief, Production
Engineering Section.

cc - A.A.F. Representative
A.A.F. Asst. Dist. Supry.

CENTRAL FILES MDAC-190-WF-6-23-41-1 MM.

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MDAC-5-WF-8-12-40-75M

TELETYPE MESSAGE

HAS:pjd:50
1:00 PM

PRIORITY

DATE: July 11, 1942

FROM: J. S. CARROLL, Colonel, A.C.

ATTENTION: COMMANDING GENERAL AAF MATERIEL COMMAND

EXP-7-156 FIRST FLIGHT OF ONE HOUR DURATION MADE JULY 10 ON DOUGLAS

XA-26 AIRPLANE. CONTRACTOR'S PILOT REPORTS AIRPLANE ENTIRELY SATISFACTORY.

EXPERIMENTAL ENGINEERING SECTION

Contract AC-17946

24.

MC-482-WF-3-24-12-10M

CONFIDENTIAL

20B

ARMY AIR FORCES (AFAMC-5)

C-2406
7/25/42

Cont. F. 21393
(Pg. 1/3)

HEADQUARTERS OF THE MATERIEL COMMAND

WASHINGTON, D. C.

July 18, 1942.

TECHNICAL INSTRUCTIONS

Serial No.: CTL-796.

21393

Subject: Installation of 75 mm Cannon in A-26 Airplanes.

To: Technical Executive
Materiel Center, Wright Field
Dayton, Ohio

1. Problem Presented:

a. To install 75 mm nose in all A-26 airplanes on Contract AC-21393.

2. Authority:

a. Directive from the Director of Military Requirements dated July 17, 1942 (4th entry of R&R - copy attached).

3. Action Desired:

a. That the 500 A-26 airplanes on Contract AC-21393 be equipped with the 75 mm gun nose.

b. That the necessary arrangements be made to have these 500 airplanes equipped with the 75 mm gun, with no change in the scheduled production of these airplanes.

7/24/42 - Dist. by Prod. Div.
Orig. & cy. to Bomb. Br.
CC: Aero. Equipment Br.
Prod. Control Sec.
Ind. Planning Sec.
Budget Office
Statistical Staff

By command of Major General ECHOLS:

See PE-860 7-22

B. E. MEYERS
Brig. Gen., U.S.A.
Chief of Staff.

See teletype PE-860, 7/22/42, attached.
Incl. as above.

CONTRACT FILES
AC-21393

25.

[redacted]

Cont. F 21393
(P9, 2/3)

2/B

CONFIDENTIAL

SUBJECT: A-26 Type Airplanes.

1. AFAMC-5 AFRDB 1942 7-2

1. In previous correspondence you indicated a desire for the 75 mm installation on the A-26 airplane in lieu of the light bomber or night fighter version of as many of the 500 airplanes on Contract AC-21393 as possible without delaying production.

2. Present information indicates that guns suitable for the A-26B nose are now available, that engineering on this nose is practically completed, and that the mock-up of this nose has been fired successfully. If the factory is informed now to proceed on this basis, the first 200 airplanes could be equipped with this nose without delay in production.

3. It is requested that a decision be made as to whether any or all of the airplanes on Contract AC-21393 should be equipped with the 75 mm nose. This decision should be expedited so that delays may be avoided.

O. P. M.
Commanding General, Materiel Command
AFRDB R-7:m

2. AFRDB AFRGS 7-7

1. This office desires that all A-26 airplanes on Contract AC-21393 be equipped with 75 mm. nose. Since the A-26 so equipped is primarily a tank destroyer airplane and logically becomes an air ground support weapon, the recommendations of your Directorate are desired.

2. Request your comments and recommendations.

F. L. A., Jr.
Act. Dir/Bomb.

3. AFRGS AFAMC-5 1942 7/9

AFRGS
HTA-bjl

1. This Directorate concurs in comments under item #2.

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B-684

Cont, F. 21393
(pg. 3/3)

22

CONFIDENTIAL

SUBJECT: A-26 Type Airplane.

AFDMR/MEG/br

4. AFDMR AFAMC 7/17 It is desired that all, or as many as is found to be practically possible of the 500 airplanes on Contract AC-21393 be procured with the 75 mm. nose.

/s/ M.E.G.
for M.S.F.,
Dir. Mil. Reg.

COPY

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Bomb. Br.
(pg. 1/1)

EWL/vb/70-2

GOVERNMENT PAID

August 24, 1942

Prod. Engr. Sec.

ARMY AIR FORCES REPRESENTATIVE
DOUGLAS AIRCRAFT CORPORATION
SANTA MONICA, CALIFORNIA

O. R. COOK,
Colonel, A.C.

PES-TWX-473 . . . . RE DES-R-107, JULY 21 AND DES-TWX-1135, AUGUST 17, CONTRACT AC-21393, A-26 AIRPLANES. CONTRACTOR IS ADVISED THAT BOMBER'S NOSE FOR SUBJECT AIRPLANES SHOULD BE CANCELLED BUT THAT 200 OF THE SIX .50 CALIBER GUN NOSES ARE REQUIRED. THIS WAS DISCUSSED WITH CONTRACTOR'S PERSONNEL ON AUGUST 17 AND SUBSEQUENT DATES. THE WOOD NOSE IS REQUIRED ON ALL 500 AIRPLANES ON THE SUBJECT CONTRACT WITH THE 200 MULTIPLE GUN NOSES TO BE PROCURED AS ALTERNATES FOR FIELD INSTALLATIONS IF DESIRED.

VANAMAN

File: AC-21393

cc - West.Dist.Suprv.
Contract Section

26

A-26

26.

pp Cont. E 21393 (pg 1/4)

CONFIDENTIAL 40B

Ref: RFB/vb/70-2

September 3, 1942

Subject: Contract AC-21393
Model A-26 Airplanes
Design Changes

To: Douglas Aircraft Company, Inc.
Santa Monica, California

Through: AAF Resident Representative

1. In connection with the 689 Inspection of the XA-26 airplane, certain design changes were recommended by the 689 Board for incorporating in the production A-26 airplanes. These changes were discussed with the Contractor's representatives and the following comments are forwarded in confirmation of the design changes discussed.

2. Power Plant Installation.

a. The fuel tank filler necks on the XA-26 airplane are so shaped and located as to restrict the filling rate. It is understood that these are to be revised on the production airplanes to eliminate the above restriction.

b. The inspection doors in the fuel tanks should be made to line up with the inspection cover openings in the wings.

c. The fuel lines to the Stewart Warner heaters in the cockpit should be self-sealing hose.

d. The battery vent should not be combined with the oil tank filler neck over flow drain. A separate vent for the battery should be provided.

e. It is understood that the Contractor will shortly submit a proposal for an air filter installation in accordance with latest A.A.F. requirements which shall provide for selective sources of cold rammed air and filtered unrammed air.

f. On the engine controls stand the arrangement of pushing down to unlatch the cowl flaps controls and pushing up to unlatch the adjacent carburetor heating control is undesirable and

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CENTRAL FILES MDAC-190-WF-2-5-42-1 Mil.

Cont. F 21393
(PJ 2/8)

CONFIDENTIAL 4/8

Douglas Aircraft Co.
Santa Monica, Calif.

NFB/vb/70-2
9/3/42

it is requested that these controls be redesigned to provide for similar latching action. It is understood that the Contractor is preparing new design proposals for these controls.

e. It is requested that the Contractor submit samples of the "Trantis" rod end bearings to the Materiel Center for tests before final approval for the use of these rod end bearings for engine controls is given.

h. In accordance with the new winterization program, it is desired that the Contractor investigate the matter of providing for tight closing of the gap between cowl flaps and the cowl. It is requested that a proposal on this matter be submitted. In this connection, consideration will be given to temporary provisions for tight closing of this gap for extremely cold weather operations, in the event that it is impracticable to provide for tight closing of the gap in the regular flap design as a result of interference between the exhaust stacks and the cowl flaps.

i. It appears that the vertical partition in the oil cooler duct for supplying cooling air to the generator under ram will be subject to icing. It is understood that the Contractor will conduct tests to determine if sufficient generator cooling can be obtained without this partition in the oil cooler duct and if so it should be eliminated.

j. The Air Force type B-6 hydraulic pump should be used in lieu of the Pesco No. 349 hydraulic pump now installed in the XA-26 airplane.

k. The installation of the cowling on the XA-26 airplane was considered to be difficult and to require two or more men to accomplish. In this connection, it is understood that the Contractor will investigate the matter of installing the cowl fastener hooks and the dowel pins on the upper half of the cowling and of providing means for fastening the upper half of the cowling to the engine in order that the entire cowling can be installed by one man. It is also understood that the Contractor will investigate the need for cowl rubbing strips on the cowling supporting rings. In the event that service on the XA-26 airplane indicates considerable

CONFIDENTIAL

Cont. No. 2383
(Pg. 3/4)

wear and chaffing on the cowl support rings, the above mentioned wearing strips should be provided for production airplanes.

1. Autosyn instruments shall be eliminated and standard type instruments provided in lieu thereof.

3. Propeller Installation.

a. The capacity of the alcohol tank for the propeller de-icing system should be 7 gallons, however, it is understood this 7 gallon capacity will be incorporated as part of the alcohol system on the subject airplanes for propeller, carburetor and windshield de-icing.

4. Electrical Equipment Installation.

a. The Contractor shall make a study in regard to isolating the generator voltage regulators and certain of the turret electrical units now located in the bomb bay in order to eliminate the fire hazard which would be present when fuel tanks are carried in the bomb bay.

b. The Contractor shall provide 2 Type S-9A switches for the position lights, one for the wing tip lights and the other for the tail light, in order to permit the tail light to be used as a resin light.

c. The cockpit lamp should be installed above the radio controls instead of below them in order to improve the illumination of the radio dials.

d. The cockpit lamp mounted on the center control pedestal should be relocated in order to avoid damage from personnel stepping on it.

e. The emergency alarm bell shall not be safties through the ignition switch in order to permit ringing the bell in the event the master ignition switch is turned off.

f. Manual meshing of the engine starters shall be provided in order to permit personnel to engage the starter when hand cranking the engines.

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(pg. 4/c)

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Santa Monica, Calif.

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9/3/42

g. A handle on the bottom of the battery supports shall be provided to facilitate pulling the batteries down on the tubular supports for servicing.

h. The solenoid switches in the engine nacelles shall be installed with the large terminals in the up position in order to prevent the switches from closing in case the springs should fail.

i. It is desired to eliminate the bomb formation signal lamp rheostat and to provide a Type B-9A switch with a fixed resistor. This is to conform to latest A.A.F. requirements.

j. It is desired that the landing gear warning horn release relay be connected so as to permit the pilot to silence the horn with either or both throttle levers in the closed position.

k. It is desired that two landing lamps be provided instead of the one now specified. This desired in conformity with latest A.A.F. requirements.

l. An insulating material which will be satisfactory at low temperatures shall be provided over the aluminum bus bars and electrical terminals.

m. Approved type circuit breaker switches in lieu of the present switches and fuses in the electrical system shall be provided where possible. Refer to Specification 32300 for these requirements.

n. A starter hand crank and extension shaft to be carried in the airplane shall be provided.

o. A dome lamp shall be provided in the pilot's compartment for general illumination.

p. It is understood the Contractor will investigate a means for reducing the glare from the signal lamps in the pilot's cockpit for night flying.

5. Miscellaneous Equipment Installation.

a. In regard to the disposable card board containers for crew relief, it is understood that the Contractor will provide plastic containers which cannot be readily removed from

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Cont. F. 2-393
(pg. 5/8)

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CONFIDENTIAL

Douglas Aircraft Co.
Santa Monica, Calif.

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the airplane and that these plastic containers will be suitable for installation of disposable cardboard containers.

b. It is desired that the Contractor furnish covers for the engines, propellers, windshields and windows for the subject airplanes. The engine covers should be in accordance with Specification 98-26751-E. This specification provides for covers with two 4 inch diameter sleeves for attaching to the hot air duct from standard ground heating units. One sleeve is for the engine proper and the other for the accessory compartment. In this connection, the Contractor should provide a 4-1/4 inch diameter opening in the engine accessory cowling to admit heat from a ground heating unit. This type of engine cover is desired in connection with winterization requirements.

c. A container to hold a standard Army Medical Corps first aid kit shall be provided accessible to the crew.

d. The hydraulic supply tank is difficult to service in its present location. It is understood that the Contractor will investigate possible relocation of this tank.

e. It appears that the fuel tank filler cap covers may be susceptible to freezing in cold weather and thereby be difficult to remove. It is understood that the Contractor will investigate this matter and either redesign the method of attaching these covers or offer substantiating evidence that they will operate satisfactorily under all weather conditions.

f. The retaining straps for the gunner's seat in the pilot's compartment should be replaced by a more substantial hatch.

g. It appears that the two rear heater exhaust ports are so located that are liable to smudge the AAF insignia on the right hand side of the fuselage. It is understood that the Contractor will investigate this condition in flight and make such revisions as may be necessary.

h. Flexible hot air ducts shall be provided for spot defrosting the inside of the pilot's windshield, side windows and the gunner's windows.

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RFB/vb/70-2
9/3/42

i. Provisions shall be made to heat the gunner's compartment in the gun turrets from a ground heating unit.

j. The alcohol supply filler tank opening is so located and constructed that dirt can fall into the tank when the filler cap is removed. In the event that the present tank is retained in the production airplane this condition should be corrected. However, in connection with winterization requirements for these airplanes, it is understood that a larger alcohol tank will be provided which will be located in the compartment aft of the rear gunner's compartment. This item will be discussed in a separate letter.

6. Aircraft Structure.

a. A cover shall be provided over the control pulleys aft of the pilot's seat to eliminate the possibility of articles dropping into and fouling the controls.

b. The pilot's seat shall be made lockable in all positions.

c. A placard shall be provided for the operation of the landing gear and wing flaps.

d. The cockpit sliding window locks shall be revised to increase their serviceability.

e. A spring loaded catch for retaining access door into bomb bay in the up position shall be provided in lieu of straps with glove fasteners.

f. It is desired that the method of attaching the safety belt on the gunner's seat be improved to eliminate the necessity for the belt to be in a special position before the seat can be raised.

g. The use of the rubber bungee in the nose wheel retracting system should be eliminated.

h. It is desired that rods instead of spring loaded cable actuated plungers for the actuation of the emergency escape hatches. Means for the external operation of the escape hatches shall also be provided.

i. It is understood the Contractor will relocate the electrical switch panel above the pilot's head to provide as much clearance as possible.

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Douglas Aircraft Co.
Santa Monica, Calif.

EHB/vb/70-2
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j. It is understood that the Contractor will submit a proposal for a ring to be installed on the shock struts to provide for both forward and backward towing of the airplane.

k. The Contractor is requested to submit a mooring diagram.

l. More rigid attachment fittings for the wing flap hinge covers shall be provided.

m. Leveling brackets on the fuselage shall be provided.

n. The clearance between the main landing gear shock struts and the center enclosure door hinges should be increased.

o. Adequate protection for the control pedestal shall be provided against dirt and mud thrown up by the nose wheel.

7. Radio Installation.

a. Provisions shall be made for the installation of the SCR-595 radio in lieu of the SCR-535.

b. The mast for the SCR-595 radio shall be located on the bottom of the horizontal stabilizer.

c. The indicator lights for the SCR-595 radio shall be located in the vicinity of the receiver unit.

d. An "On-Off" switch for the SCR-595 set for use of the pilot shall be provided.

e. An emergency switch for the SCR-595 radio adjacent to the "On-Off" switch position for use of the pilot shall be provided.

f. A short mast in a further forward position shall be provided for the SCR-515 radio in place of the present 18 inch mast.

g. A third transmitter, BC-696, for the SCR-274 radio shall be installed underneath the present transmitters.

h. A FL-8 filter in place of the FL-5 filter and BC-345 switch box shall be provided.

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Santa Monica, Calif.

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i. The BC-366 jack box at the pilot's position shall be relocated to provide for removal of the attached plugs.

j. The SW-181 button for the SCR-515 radio shall be relocated in the vicinity of the control box.

8. Photographic Equipment Installation.

a. In view of the change from the bomber version to the attack and destroyer version in the airplane on the subject contract the camera installation in the bomb bay is not desired, however, it is desired that the hole in the bomb bay doors for the cameras be retained in the event that it should later be desired to install photographic equipment in the bomb bay.

b. The Contractor is requested to provide an orientation camera installation immediately aft of the rear turret access door with means for adjusting from rear oblique to vertical on the ground only. Provisions for the installation of the K-24, K-4 and K-21 cameras should be made. In this connection, representatives from the photographic laboratory at Materiel Center will be assigned to work with the Contractor on the details of the photographic installation, in view of the special nature of this installation. Certain of the detailed requirements were specified in the report of the photographic installation for the XA-26 airplane, copy which was furnished the Contractor.

9. Armament Installation.

a. It is understood that the Contractor will provide a de-icing system for the periscope windows for the gun sighting station.

10. The Contractor is requested to inform the Materiel Center of the action taken on the above comments.

For the Chief of Production Division:

E. M. Mabell Maj AC

O. E. COOK,
Colonel, Air Corps,
Chief, Production
Engineering Section.

cc - AAF Representative
AAF West.Dist.Suprv.
Contract Sec.
Exp.Engr.Sec.

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VAH:do:50

September 7, 1942

Chief, Aircraft Projects, Wright Field

Gun Armament Installations in the A-26 Airplane

1. The installation of four M-4 37 mm guns in the nose of the XA-26B airplane is being undertaken, primarily for the purpose of determining the relative effectiveness of this installation compared with one 75 mm cannon in the same airplane. OCI-302 dated August 6, 1941 directed that such a study be undertaken. Although this arrangement was originally intended only for use against air targets, it should also be effective against general unarmored or lightly armored ground targets.

2. The relative effectiveness of the 75 mm and 37 mm guns against armored targets is shown in the following tabulation:

Gun	Projectile	Muzzle Velocity (f.p.s.)	Thickness of Homogeneous Armor Penetrated at 400 Yds. at Normal Impact.
75 M-3	M-61	2050	3.9 in.
37 M1A-2	M-74	2900	2.7 "
37 M-4	M-80	1600	1.0 in.

It can readily be seen from this comparison that the 75 mm gun is a much better anti-tank weapon than either of the 37 mm guns. Hence, the discussion of which gun to use in the production airplane rests largely on what targets are to be destroyed. That is, if tanks are to be the normal target then the 75 mm gun should be used; but if other general targets are to be attacked, then the four M-4 37 mm guns are better suited.

3. The rate of fire of the M-4 is higher than that of the anti-tank 37 mm gun, and both the gun and its ammunition are lighter and smaller. Consequently, the four gun nose installation has an appreciable advantage over the two high velocity guns for general ground strafing in that (a) there are twice as many guns, each of which fires faster than the M1A2, (b) more ammunition can be carried and (c) if H.E. shells are used, the effectiveness is not improved materially by increased velocity.

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Chief, Aircraft Projects
Gun Armament Instal. A-26 Airplane
September 7, 1942

4. At present the Douglas Company expects to provide the following armament arrangements in the A-26:

a. Bomber nose
b. 75 mm nose
c. Multiple .50 caliber nose
d. Either the 4-gun 37 mm nose or a two gun 37 mm anti-tank belly installation.
e. A four gun 20 mm belly installation is being made for the XA-26A.

Douglas does not wish to undertake both of the 37 mm. projects due to shortage of engineering. Therefore, in view of the arguments presented above, it is suggested that they be advised to proceed with the four gun 37 mm nose project and not with the belly 37 mm installation.

D. L. PUTT,
Colonel, Air Corps,
Chief, Bombardment.

Atts:
Att. 1 - ICM to Chief, Aire. Proj. from Asst. Tech. Executive dated July 25, 1942
Att. 2 - ICM to Chief, Aire. Proj. from Bomb. Proj. dated July 16, 1942 with 3 inels.

A-73

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Signature _____

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(pg. 1/4)

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CONFIDENTIAL

Ref: RFS/vb/70-2

AIRMAIL

September 10, 1942

Subject: Contracts AC-21393 and AC-17946
Model A-26 and XA-26 Airplanes
Design Changes

To: Douglas Aircraft Company, Inc.
Santa Monica, California

21393

Through: AAF Resident Representative

Reference: a. Douglas letter F25-3551 dated July 23, 1942.
b. PES-TMX-430 dated July 17, 1942.
c. Materiel Center letter dated August 24, 1942.

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1. In regard to the design changes discussed under paragraph 2 of reference a, following information is furnished:

a. Bomb controls in the pilot's cockpit are required in view of the fact that the bomber's nose has been replaced by the 75 mm cannon nose. Since the production airplane will be different from the experimental XA-26B airplane in that the bomb bay installation will be provided, it is necessary that bombing control for the pilot be provided for low altitude bombing.

b. The Contractor was directed by reference b to change to the 75 mm cannon nose version for all production airplanes and to cancel the bomber nose, since it is desired to convert the 500 airplanes on the subject contract to the combination ground attack destroyer and low altitude bomber version. The nose for the 75 mm cannon version is to be the non-metallic type similar to that designed for the XA-26B airplane but without provisions for the optical or electrical range finder installation. In this connection, however, it is understood that the Contractor will give consideration to the possible future installation of electrical range finder equipment in the nose so that this airplane may also be used for airplane destroyer missions.

c. The Contractor's proposal for increased armor plate protection in conjunction with the conversion of this airplane to the ground attack version has recently been examined and the Contractor has been advised of the requirements for armor plate in a separate letter, reference c.

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CENTRAL FILES MDAC-190-WF-2-5-42-1 Mil.

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Douglas Aircraft Co.
Santa Monica, Calif.

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d. It is confirmed that the Contractor shall make provisions for the installation of SCR-535 and SCR-595 radio recognition equipment with alternate provisions for the SCR-515 radio equipment.

e. The Contractor shall proceed with the installation of the flexible gunsight de-icing equipment developed by the General Electric Company.

f. The Contractor shall provide a bullet sealing of 200 gallon capacity in the bomb bay as auxiliary part of the fuel system. This tank shall be installed in such manner as to be readily removable when desired.

g. The Contractor shall provide a non-bullet proof ferrying tank of approximately 650 gallon capacity to be installed in the bomb bay. These ferry tanks should be installed in all airplanes at the factory in order that they will be equipped for ferrying as they leave the factory.

2. The following comments are applicable to the changes discussed in paragraph 3 of reference a:

a. The Material Center has recently examined the Contractor's proposals for a four and a six .50 caliber gun nose and comments pertaining thereto were forwarded in a separate letter.

b. It is desired that the Contractor proceed with the development for the two high velocity 37 mm guns mounted on a rack underneath the bomb bay. However, the Contractor will be advised within a few days whether development work on the four 37 mm gun nose project should be stopped in favor of the above belly gun installation, in the event that the Contractor is unable to continue work on both projects at the same time, due to lack of sufficient engineering personnel as indicated in recent discussions.

c. In regard to the installation of an automatic boost control for the engines, the Contractor has been previously informed that complete information on the boost control unit on the engines is not available and the Contractor should therefore defer further investigation on this installation at this time.

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Cont. F. 21393
(pg. 3/4)

SUB CONFIDENTIAL

Douglas Aircraft Co.
Santa Monica, Calif.

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9/10/42

d. The Contractor shall proceed with the proposal for carburetor air filter installation in accordance with the latest Army Air Forces specifications for such installations. It is understood that the Contractor has already made some investigation on this installation and that a proposal for an engine cowl incorporating air filters with controllable air intake will be submitted in the near future. The Contractor is requested to inform the Materiel Center whether a cowl incorporating the filter installation with alternate air intake can be furnished with the airplanes on the subject contract or whether these units will have to be furnished at a later date for a service installation.

e. It is considered that the present protection afforded the elevator control cables against damage by gun fire will be satisfactory for the present airplanes on contract, but it is understood that the Contractor will study possible improvements in the control system with respect to decreasing the vulnerability of the control system from gun fire.

f. It is understood that the Contractor is conducting further studies to determine practicle means of protecting vital electrical circuits from being knocked out of action by gun fire and that duplication of wires in such vital circuits will be considered in the most practicable manner.

3. The Contractor is informed that the order of importance of the changes listed in paragraph 3 of reference a is satisfactory with the exception that the installation of the automatic boost control for the engines should be placed at the bottom of the list with the succeeding items moved up accordingly.

4. The Contractor is advised that there is no production procurement planned for the XA-26A night fighter type airplane at this time. In regard to the XA-26B type it is considered that the present configuration of the 75 mm cannon nose with the bomb bay installation for the production airplane is the production version of the XA-26B. In this connection the model designation of the production article will be changed from A-26 to A-26B. This action will be taken in a separate letter in the near future.

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Cont. F. 21393
(Pg. 4/4)

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Santa Monica, Calif.

RFB/vb/70-2
9/10/42

5. The Materiel Center desires to be kept informed of the Contractor's program on the engineering changes specified in the foregoing paragraphs and this Center will be pleased to receive proposals on these changes as soon as practicable.

6. The Contractor will be advised of the order of priority to be given in the design and development of the various alternate armament configurations proposed for the subject airplane as soon as determined by higher authority.

For the Chief of Production Division:

Signed Capt AC
for O. R. COOK,
Colonel, Air Corps,
Chief, Production
Engineering Section.

cc - AAF Representative
AAF Dist. Dist. Supv.
Contract Sec.
Aircraft Proj., E.E.S.

[redacted]

TELETYPE MESSAGE

REMOVE FROM RECORDS

DATE: September 7, 1942

FROM:

ATTENTION: EXECUTIVE

REMOVE ALL COPIES FROM RECORDS

PRS-T-425 . . . . . A-36 AIRPLANE.

1. THE DOUGLAS COMPANY HAS SUBMITTED DESIGN PROPOSALS FOR CERTAIN ARMAMENT INSTALLATIONS FOR THE A-36 AIRPLANE, BUT THEY HAVE INDICATED THAT DUE TO LACK OF SUFFICIENT ENGINEERING PERSONNEL IT WILL BE IMPOSSIBLE FOR THEM TO CONTINUE WITH THE DETAILED DESIGN OF ALL THESE PROPOSALS AT THE SAME TIME. IT IS THEREFORE DESIRED THAT AN ORDER OF PRIORITY FOR THE ARMAMENT INSTALLATIONS HEREINAFTER DISCUSSED BE ESTABLISHED IN ORDER THAT THE CONTRACTOR CAN BE ADVISED OF THE PRIORITY DESIRED FOR DETAIL DESIGN AND PRODUCTION.

2. THE THREE DESIGN PROPOSALS ARE:

A. A SIX .50 CALIBER GUN NOSE.

B. A FOUR 37 MM CANNON NOSE USING THE M-4 LOW VELOCITY CANNON.

C. A TWO 37 MM CANNON INSTALLATION ON AN EXTERNAL RACK UNDER THE BOMB BAY USING THE T-20 HIGH VELOCITY CANNON.

(Cont. on page 2)

30

MBAC-[illegible]

14

TELETYPE MESSAGE

EPS/wh/70-2

DATE: September 7, 1942

FROM: Prod. Engr. Sec.

O. R. COOK,
Colonel, A.C.

ATTENTION: EXECUTIVE

REMOVE ALL COPIES FROM RECORDS

PTI-T-425 (CONT.) . . . .

3. THE DEVELOPMENT OF THE FOUR 37 MM GUN NOSE WAS UNDERTAKEN IN CONNECTION WITH CTI-302 DATED AUGUST 6, 1941.

4. THE PROPOSAL FOR THE SIX .50 CALIBER GUN NOSE WAS REQUESTED IN ACCORDANCE WITH TELETYPE PE-572 OF MAY 16.

5. THE TWO 37 MM CANNON INSTALLATION ON A BOMB BAY BELLY RACK WAS PROPOSED BY THE CONTRACTOR, AND VARIOUS PERSONNEL HAVE INDICATED THAT THIS APPEARS TO BE A PRACTICABLE DEVELOPMENT.

6. THE A-26 AIRPLANE NOW ON PRODUCTION CONTRACT HAS BEEN BASICALLY CHANGED FROM THE MEDIUM BOMBER VERSION TO THE GROUND ATTACK AND DESTROYER VERSION BY VIRTUE OF THE CHANGE FROM THE BOMBER NOSE TO THE 75 MM CANNON NOSE IN ACCORDANCE WITH CTI-796, AND BY THE ADDITION OF INCREASED ARMOR PROTECTION AGAINST GROUND FIRE IN ACCORDANCE WITH TELETYPE PE-572. THE FOUR 37 MM AND SIX .50 CALIBER GUN NOSES NOTED ABOVE WOULD PROVIDE ALTERNATE ARMAMENT CONFIGURATIONS FOR ATTACK NOSES WHILE THE TWO 37 MM BELLY GUN INSTALLATION WOULD BE AN ALTERNATE TO THE BOMBING INSTALLATION

(Cont. on page 3)

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TELETYPE MESSAGE

KTB/vb/70-2

DATE: September 16, 1942

FROM Prod. Engr. Sec.

ATTENTION: EXECUTIVE

O. R. COCK,
Colonel, A.C.

REMOVE ALL COPIES FROM RECORDS

PES-T-425 (CONT.). . . . IN CONNECTION WITH THE 75 MM CANNON NOSE OR WITH ANY OF THE OTHER ATTACK NOSES.

7. THE FOUR 37 MM GUN NOSE WAS ORIGINALLY CONCEIVED FOR AIRPLANE ATTACK RATHER THAN FOR GROUND ATTACK, HOWEVER, IN CONSIDERING THIS NOSE AS AN ALTERNATE TO THE 75 MM NOSE FOR GROUND ATTACK MISSIONS, IT IS POINTED OUT THAT WHILE THE FOUR 37 MM LOW VELOCITY GUN NOSE WOULD NOT BE SO EFFECTIVE AGAINST ARMORED TANKS IT WOULD BE EFFECTIVE AGAINST LIGHTLY ARMORED EQUIPMENT AND FIXED INSTALLATIONS. THIS NOSE WOULD ALSO MAKE A HIGHLY EFFECTIVE AIRPLANE ATTACK CONFIGURATION.

8. THE SIX .50 CALIBER GUN NOSE IS ALSO CONSIDERED TO BE A HIGHLY EFFECTIVE GROUND ATTACK AND AIRPLANE ATTACK NOSE BY VIRTUE OF THE HIGH RATE OF FIRE AND THE 600 ROUNDS PER GUN AS PROPOSED.

9. THE TWO 37 MM BELLY GUN INSTALLATION USING THE HIGH VELOCITY T-20 GUNS IN COMBINATION WITH THE 75 MM CANNON NOSE WOULD PROVIDE MAXIMUM HITTING POWER AGAINST ARMOR EXCEPT THAT THE 37 MM T-20 CANNON HAS ONLY ABOUT 75 PERCENT OF THE ARMOR

(Cont. on page 4)

16.

TELETYPE MESSAGE

RFB/vb/70-2

DATE: September 7, 1942

FROM: Prod. Engr. Sec.

ATTENTION: EXECUTIVE

O. E. COOK,
Colonel, A.C.

REMOVE ALL COPIES FROM RECORDS

PES-A-425 (CONT.) . . . . PENETRATION POWER OF THE 75 MM M-3 CANNON . THE 37 MM BELLY GUN INSTALLATION WOULD BE ON A REMOVABLE RACK AND COULD THEREFORE BE USED AS AN ALTERNATE TO THE BOMBING INSTALLATION.

10. THE FOUR 20 MM BELLY GUN INSTALLATION ON THE XA-26A NIGHT FIGHTER WOULD ALSO BE APPLICABLE FOR THE ATTACK VERSION. BOTH OF THE ABOVE BELLY GUN INSTALLATIONS ADVERSELY EFFECT PERFORMANCE, HOWEVER.

11. THE CONTRACTOR INDICATES THAT ONLY TWO OF THE THREE GUN PROPOSALS SPECIFIED IN PARAGRAPH 2 CAN BE WORKED ON AT THE SAME TIME AND IT IS THEREFORE DESIRED THAT THE DIRECTORATES OF BOMBARDMENT AND MILITARY REQUIREMENTS INDICATE THE ORDER OF PRIORITY WHICH SHOULD BE GIVEN TO THE DETAIL DEVELOPMENT OF THESE PROJECTS.

12. AN EARLY REPLY IS DESIRED.

TECHNICAL EXECUTIVE

File: A-26 Airplanes

cc - Exp.Engr.Sec.-Aircr.Proj.

Cent. F. 452.1
(pg. 1/1)

170

PED-1985

[redacted]

Ref: RFB/vb/70-2

October 31, 1942

Commanding General
AAF Materiel Command
Washington, D. C.
Attn: Asst. Chief of Air Staff (P)

A-26 and A-32 Airplanes

X-452.1

Reference: a. IOM from Asst. Chief of Air Staff (P) to Production Division 9/19/42 (AFAMC-6), A-26 and A-32 Airplanes.

1. In reply to reference memorandum the following information is furnished.

2. A-26 Airplanes. Present indications are that the earliest production date for the A-26 airplanes will be July, 1943, however, in view of the contemplated production program for this airplane every effort will be made to better this date by at least two months if possible. The first six airplanes will be built with the XA-26 prototype article tooling as a means of expediting this program.

3. A-32 Airplanes. Information is furnished that the XA-32 prototype article will be ready for flight tests in February, 1943. Information is not yet available as to when a production line could be started, since it has not yet been determined in what factory this airplance will be built or in what quantities it will be desired.

Gwynne Capt AC
for O. R. COOK,
Colonel, Air Corps,
Chief, Production
Engineering Section.

cc - Aircraft Projects, E.E.S.

NOV 3 1942
JAMES M. DELANEY
Captain Air Corps
Ass't Technical Executive

SECRET - By Authority of
The Commanding General
Materiel Command, AAF
9-9-42 L.B.

[redacted]

DATE
CHF. DIV.
TECH. EXC.
ADM. EXC.
C.O.
BUD. OFF.
EXP. ENG.
PROD. ENG.
CONTRACT
INSP.
A. S. C.
I. P. S.
OTHERS
31

CONFIDENTIAL

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SRB:meb-70-1

December 4, 1942

SUBJECT: Engineering Personnel and Loading

TO: Mr. Donald Douglas,
Douglas Aircraft Company, Inc.,
Santa Monica, California.

THROUGH: AAF Resident Representative,
Douglas, Santa Monica.

1. Reference is made to your letter A-25-AN-71, dated November 18, 1942, above subject. The personnel breakdown included with that letter is not acceptable to the Materiel Center. The number of engineers, particularly tooling engineers, assigned to such projects as the DC-3, SB2, SB2D, C-74, and B-17F does not appear to be consistent with the number assigned to the A-26 project. It is desired that the production of the A-26 airplane be given the highest possible order of preference. A proper reassignment of the engineers under the above categories should expedite this project.

2. It is absolutely essential that the A-26 production schedules of both the Long Beach and Tulsa plants be accelerated at least four months to yield the following combined schedule: June, 1943 - 5; July - 11; August - 17; September - 35; October - 70; November - 100; December - 125; up to an ultimate rate of 500 per month.

3. In order to accomplish this objective the contractor is directed to transfer to the A-26 project at least two-thirds of the personnel now listed in each category of the above reference personnel breakdown on the C-74 project. Steps will be taken immediately to close out all work on the XCG-7 and XCG-8 Glider project. All effort on the various development armament arrangements of the A-26 airplane should be made secondary to the present version of the production airplane. Any engineers now being utilized on the three experimental A-26 airplanes whose efforts are not applicable to the A-26 production airplane should be transferred to the latter project. No engineers are to be utilized to accomplish improvements in crew comforts or arrangement in any Cargo airplanes except as specifically authorized by the Materiel Center.

4. The contractor is requested to forward to the Materiel Center, Department 3-3, a revision of the reference personnel breakdown on the fifth of each month. This report is to be as of the first of each month

[redacted]

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and should include a supplemental detailed breakdown of engineers on each phase of the experimental and production A-26 airplanes.

K. B. WOLFE,
Brig. General, U.S.A.,
Chief, Production Division.

cc; West. Dist. Super.
General Carroll
General Wolfe
Prod. Div. (Bomb. Br.)
Statistics Control Office
Dayton Douglas Repr. (Harry Adams)

Cont. F. 21393
(pg. 1/2)

CONFIDENTIAL

Address Reply to:
Chief, Engineering Division
Materiel Center
Reference:VRH:dc:50

Wright Field, Dayton, Ohio
December 5, 1942

Contracts AC-17946 and AC-21393
XA-26 and A-26 Series Airplanes
Various Proposed Armament Arrangements

Douglas Aircraft Company, Inc.
El Segundo Plant
El Segundo, California

21393 EX7021

Reference:Materiel Center letter SRB:maw:70-1 dated December 4, 1942.

checked Central

1. In view of the decision transmitted in the reference letter to expedite and expand the production of these airplanes, the contractor is advised that studies of all variations of armament arrangements, other than that of the production A-26B airplane mounting the 75 mm. cannon, must be curtailed until that airplane has reached a more advanced stage of production. When that stage has been reached it is requested that the contractor proceed with studies for the production of variations of fixed gun armament in the following order of priority:

a. Normal bombardier nose, similar to that of the present XA-26 airplane. At least two additional .50 caliber machine guns should be provided. These, however, may be provided as in b below.

b. Twin .50 caliber machine guns installed in removable racks mounted under the wing bomb racks. This study should extend to mounting one such unit under each of the four wing bomb stations such that a total of as many as eight wing guns can be carried.

c. A package installation of two 37 mm., T-20 cannons in a removable unit to mount under the bomb bay. This unit should be easily attachable to suitable points on the bomb rack supports.

d. An installation of six .50 caliber machine guns in a removable nose structure.

e. An installation of four 37 mm. M-4 aircraft cannon in a removable nose structure.

MX-73

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COM. GEN.
TECH. EXC.
ADM. EXC.
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EXP. ENG.
CONTRACT
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PROD. ENG.
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AAFMC-190-WF-5-20-42-2 Mil.

CENTRAL FILES

Cont. F 2393
(pg 3B)

67B

Douglas Aircraft Co., Inc.
Various Proposed Armament Arrangements
December 8, 1942

[redacted]

2. In order to supply auxiliary forward machine gun fire with the present 75 mm. production version, suitable provisions in the wings of the A-26B airplanes for the attachment of the wing rack mounted .50 caliber guns should be made. If this is not possible within the time available, two .50 caliber machine guns must be mounted on the left side of the cannon in the nose to provide the required covering fire.

3. It is thought possible to substitute the wing mounted .50 caliber guns for the six gun .50 caliber nose installation. However, confirmation of this point will be postponed for future correspondence.

For the Commanding General, Army Air Forces Materiel Center:

F. O. CARROLL,
Brig. General, U.S.A.,
Chief, Engineering Division

CC:
Ass't. AAF Res. Repr.
West. Dist. Super.
Prod. Engr. Sect.
Cont. Sect.
Insp. Sect.

Cent. F. 452.1
(pg. 1/1)

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EBW:EKG:70-A

Message to All Employees Working
on the A-26 Airplane.

452.1 December 9, 1942

Douglas Aircraft Company, Inc.,
Santa Monica, Calif.
Attention: Mr. Heineman.

1. In order to impress upon all those employees who are at present working on the A-26 airplane, the vital and urgent need to accelerate production on this model, I would appreciate very much your transmitting the following message from me to them at their next weekly get-together. I am very sorry that I cannot be there in person and talk to them amn to ran.

"This office speaking for the Armed Services wishes to emphasize the importance of expediting wherever possible the A-26 airplane.

Although you may not realize it, you men are working on the airplane that will take from the enemy any semblance of air supremacy they might think they have.

Think what could be accomplished today if General MacArthur and General Eisenhower had a few squadrons each of these airplanes.

Let's get them to these men; let's hurry the day of reckoning regardless of schedules and red tape; anything you can possibly do to expedite early delivery to our fighting men will be well appreciated and repayed a thousand fold in lives of men and an early victory. We, in the Armed Forces are pinning our hopes in you men to produce this airplane quickly and in great quantities, and we will go to any end to help you.

This is not merely another pep talk, but an urgent appeal to you men direct from your fighting men."

file cy
AC-21393

Sincerely,

K. B. WOLFE,
Brig. General, U.S.A.
Chief, Production Division

12-9-42
Read to Major Wilkins, Public Relations over phone to give his okeh. EKG.

34

Memorandum Report
NAB-M-77-C/16
December 30, 1942

C
O
P
Y

December 17th
1 9 4 2

A25-AN-86

Subject: Engineering Personnel and Loading

To: Commanding General, Army Air Forces
Materiel Center, Wright Field
Dayton, Ohio

Through: AAF Resident Representative

Reference: Chief, Production Division letter SRB:maw-70-1, dated December 4, 1942

1. The following steps have been taken towards accelerating engineering and tool design for the A-26 production airplanes:

a. All drafting personnel working on this model were informed of its extreme urgency some time ago and directed to push through to completion and release all drafting jobs remaining. The response has been very gratifying and it is expected that the complete airplane, except for recent changes, will be off the boards by tomorrow.

b. As of today, about 10%, namely, the last 10%, of the total engineering releases are flowing through Check (including Strength and Weight Check), Material Release, and Blueprint. The way this work has been clearing through these system departments is shown by the following figures:

Date	Released to System	In System	Released out of Engineering
10-28	90.67	28.66	52.01
11-11	92.14	28.95	63.19
11-25	92.68	22.48	70.20
12-11	97.38	13.46	83.92
12.18	99.0	10.0	89.0

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Draftsmen have been and are being transferred from the board into Check to help out there and Material Release card writers have been and are being transferred from the C-74 to the A-26 to assist there. It is anticipated that the last of the jobs now being released into the system will have cleared through it and out of engineering within the next three to four weeks.

c. A transfer is being arranged from the C-74 Engineering group into the A-26 Tool Design group of as many engineers as can be useful on tool design work. It is estimated that this will total around 40 men and that they will remain in Tool Design for from 60 to 90 days before returning to Engineering.

d. Flight test activities on the experimental XA-26 airplanes have been placed under the general direction of P. R. Collbohm, working out of Mr. Cover's office, in order to correlate engineering, shop, and piloting phases of this work and tie them into the company management and Army offices as closely as possible. This is being done because of the serious influence any changes disclosed as a result of flight test will have on the production schedule.

e. Recent changes requested by the Material Center, mainly those contained in its teletype 120120Z December, 1942, BWR (combination gun nose, wing guns, fragmentation racks) and its letters WTR/vb/70-2 of November 6th (radio loop), and RFB/vb/70-2 of November 19th (winterization) are being engineered, using the maximum feasible breakdown of work into individual jobs. These, together with future changes arising from tactical developments, shop requests, and flight test will require a quantity of men which is difficult to forecast but which will be adjusted to meet conditions as they arise, transferring engineers from the C-74 if indicated.

2. The directive contained in reference letter to transfer two thirds of the engineering personnel in each category from the C-74 to the A-26 cannot be carried out fully because of the advanced stage of A-26 engineering. The above steps represent the practical limit in this direction and are in the opinion of the contractor the most effective means at hand for accelerating the completion of engineering and giving such assistance as can be afforded tool design by the transfer of engineers. The Materiel Center may be assured that everything will be done along this line that is within reason, limited only by the volume of work.

a-1

3. The contractor will forward to the Materiel Center, Dept. 3-3, a revision of the November 16th personnel breakdown on the fifth of next month, as requested.

DOUGLAS AIRCRAFT COMPANY, INC.

A. E. Raymond
Vice President - Engineering

AER:lm

cc: D. W. Douglas
C. A. Cover
F. W. Conant
J. M. Rogers
E. Springer
E. H. Heinemann
G. A. Huggins
R. J. Wig
F. W. Herman
E. F. Burton

COPY

AAFMC-353-A-WF-5-20-42-100M

INTER-OFFICE MEMORANDUM

ARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding General

Wright Field, Dayton, Ohio
Date December 22, 1942

TO: Chief, Engineering Division, Wright Field

SUBJECT: Experimental A-26 Armament Program

1. Items which have been contracted for with Douglas:

a. XA-26 - Bomber nose w/2 .50 caliber guns

b. XA-26B - Night fighter w/4 20 mm. cannon and radar

c. XA-26C - 75 mm. bombardment destroyer and range finder (both optical and radar)

d. XA-26C - Alternate nose for XA-26B w/4 37 mm. M-4 cannon

e. A-26A - Production version w/75 mm. cannon. (This at present has no supporting .50 caliber guns)

2. Items in which an interest has been expressed to Douglas:

a. 75 mm. production version but w/2 supporting .50 caliber guns.

b. Bomber nose, but w/2 additional .50 caliber guns which need not be mounted in the nose.

c. Quickly attachable twin .50 caliber guns mounted under each wing bomb rack. (This may be the method used to secure the additional supporting fire in a and b above).

d. A "bathtub" mount under the nose bay containing two 37 mm guns.

e. A removable nose mounting six .50 caliber guns.

XA-73
XA-73A

Signature

36.

3. Present status of items under contract:

a. XA-26 - Bomber nose w/2 .50 caliber guns is flying. (Experimental engineering completed).

b. XA-26A - Four 20 mm. guns in belly mount. This airplane is nearly ready for flight. Radar not yet installed but engineering almost complete.

c. XA-26B (75 mm. w/range finders). Considerable work remains. It will probably fly about the first of February).

d. XA-26C (Four-gun 37 mm. nose for XA-26B). Only preliminary sketches made. Douglas has asked to have this item cancelled.

4. Instructions as now issued to Douglas on order of priority desired:

a. Place maximum possible emphasis on getting A-26B production airplane "rolling". This version, however, must have two .50 caliber forward firing guns to support the .75 mm cannon. These guns may be installed either as removable units under the wing bomb racks or in permanent installations in the nose).

b. After the first production version is "out of the woods", proceed with studies of the following armament arrangements in the order as shown:

1. Bomber nose with two additional .50 caliber guns which may be in wing racks.

2. Two wing rack .50 caliber gun installations.

3. The "bathtub" installation of two 37 mm. T-20 cannon under the bomb bay.

4. The six-gun .50 caliber nose unit.

5. The four-gun 37 mm. M-4 nose unit (XA-26C).

5. Of the above studies

1 has already been completed, experimentally, in the XA-26 except for the additional supporting fire.

2. should be completed in conjunction with the production version. Preliminary sketches only have been made.

3 - The 37 mm. "bathtub" now appears completely out of the picture, in view of the serious blast trouble encountered on the A-20 installation. It will, therefore, be deleted from the program.

4 - Only preliminary sketches have been made of the six-gun .50 caliber nose.

5 - The contract date for the four-gun 37 mm. (A-4) nose should be set back to agree with its place in the priority schedule.

6. No experimental work has been cancelled. However, Douglas has been advised of relaxed pressure, as per the above items, in order to expedite the production airplane. From time to time, however, it has been found that pressure on more or less minor items in connection with this program must be relaxed in order to comply with the spirit of the decision to expedite the A-20's.

B. E. [illegible],
Colonel, Air Corps,
Chief, Technical Staff,
Engineering Division.

CC: Prod. Engr. Sect. (Major Nixon)

21-73
21-75a

CONFIDENTIAL 68 (AFAM-A)

ARMY AIR FORCES

HEADQUARTERS OF THE MATERIEL COMMAND

WASHINGTON, D. C.

December 30, 1942.

TECHNICAL INSTRUCTIONS

Serial No.: CTI-943 - ADDENDUM NO. 1

Subject: Various Development of Noses for A-26 Airplanes.

To: Technical Executive
Materiel Center, Wright Field
Dayton, Ohio.

CONTRACT FILES

1. **Problem Presented:**

a. To definitely fix the development program and production of A-26 type airplanes.

NOTE: This directive supersedes existing directives with respect to the design and production of various armament features of the A-26 airplane, including CTI-796 dated July 18, 1942, and Addendum No. 1 dated July 28, 1942.

2. **Authority:**

a. Commanding General, Army Air Forces.

3. **Action Desired:**

a. Priority for the engineering of the requirements as indicated below, will be as follows:

No. 1 — 75 mm nose
No. 2 — Bombardier-Observer's nose
No. 3 — Six (6) .50 caliber machine gun nose.

b. Three (3) versions of the A-26 airplane will be engineered. These versions will be as follows:

(1) One (1) nose design containing one (1) 75 mm aircraft cannon. It is also desired that two (2) fixed free-firing .50 caliber guns be installed in this nose, if feasible.

(2) One (1) machine gun nose containing a minimum of six (6) .50 caliber free-firing machine guns.

[redacted]

CONFIDENTIAL 69 B

3840 1/14/43 OK.

Cont. F. 21393 (pg 2/3)

(3) A bombardier-observer's nose complete with the addition of a minimum of two (2) free-firing forward .50 caliber machine guns.

a. All provisions for the "M" Series bombsights, including mounting brackets, mounting, etc., will be installed.

b. Provisions will be made including mounting brackets for a drift sight.

c. Armor plate protection from ground firing will be provided. This protection should include a hinged bullet-proof glass or armor for the bombardier's window.

c. All versions of this airplane will include the following:

(1) Complete provisions for bomb release from the pilot's cockpit.

(2) Provisions for a torpedo director and releases.

(3) Provisions for installation of the modified N-3A low altitude combination bomb and gun sight, or the type N-6 sight. Auxiliary ring and bead sight will also be provided.

(4) Provisions will be made for mounting two (2) .50 caliber machine guns under each of the four (4) wing racks. These installations will be made so that they are completely contained and may be mounted or removed easily and at will.

(5) All versions of this airplane will contain provisions for and will have installed the C-1 automatic pilot.

(6) It is desirable that a bath tub arrangement containing two (2) 37 mm high velocity guns be engineered and produced for this airplane. However, in view of the results obtained with the A-20 airplane, this may not be feasible. It is desired, however, that a study be made to determine whether or not such an installation is feasible and satisfactory on this airplane, with a view toward procurement of same. If such an installation is satisfactory, it should be designed so that it can be removed or installed at will, and all provisions for the operation of this installation will then be completed in the airplane.

Already found unsatisfactory
no future study or expenditure

[redacted]

CONFIDENTIAL 70 B

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Cont. F. 2137
(pg 3/3)

d. For production planning purposes, the following numbers and ratios of the aforementioned three (3) versions of this airplane are established:

(1) The first 500 airplanes will be made for and with the 75 mm cannon nose.

(2) The following ratio is established for all airplanes after the first 500:

1: - Cannon nose version
8: - Bombardier-Observer's nose version
8: - Machine gun nose version

(3) The twin .50 caliber wing rack installation for each rack will be procured for all airplanes.

(4) If after the result of study as directed in paragraph e. (6), it is found feasible to fabricate and install a bath tub with two (2) 37 mm high velocity guns, procurement of this installation will be made for twenty-five percent (25%) of all airplanes.

By command of Major General ECHOLS:

John T. Murtha, Jr.
Colonel, Air Corps
Chief, Armament Section
B. W. CHIDLAW
Brig. General, U.S.A.
Assistant Chief of Staff (E)

1-7-43 - Dist. by Eng. Div.
Orig. - ~~Bombardment Branch~~ Prod. Div.
Cys. - Gen. Carroll
Tech. Staff
Airc. Proj. Sec.
Airc. Lab. (2)
Flt. Res. Lia. Br.
Armament Lab. (2)

1/14/43 - Dist. by Prod. Div.
Orig. & copy to Bombardment Branch
CC: Aero. Equipment Branch
Prod. Control Section
Chief, Airplane Projects
Ordnance Repr. (Col. C.H.Morgan)
Prod. Div. Adm. Staff File

K. B. WOLFE, Brig. Gen., U.S.A.
Chief, Prod. Division

NOTE: The original of this CTI, which was sent to Eng. Div. by T.E., was forwarded to Prod. Div. for action.

[redacted]

N-630

AAFMC-265-A-WF-5-28-42-750M

INTER-OFFICE MEMORANDUM

ARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding General

VRH:de:50

Wright Field, Dayton, Ohio
Date January 2, 1943

TO: Chief, Engineering Division, Wright Field

SUBJECT: Douglas Aircraft Co., Inc. Experimental Projects

1. The following is a list of the experimental projects being pursued by Douglas Aircraft Company, Inc:

a. Aircraft Projects

(1) XA-26 - The flight test data now being obtained on the XA-26 is of extreme importance to both the experimental and production airplanes.

(2) XA-26A - The XA-26A will also be used for some basic flight test data before the radar equipment is installed. Work on this job is so far along that nothing can be gained by stopping work on it.

(3) XA-26B - The XA-26B is being pushed now and will provide a flying test of the 75 mm installation which is to be used on A-26B's. The radar range finder will not be installed in this airplane until after the Eglin Field tests on the 75 mm gun.

(4) Work on the four gun 37 mm (low velocity) nose to replace the 75 mm gun on the XA-26B has been postponed until the production airplane is in better shape. (This is the XA-26C project).

(5) Numerous general items on all of the experimental airplanes are being curtailed in order to comply with the spirit of the decision to expedite production. These items include minor changes previously requested on the 609 inspection, engineering work needed to alter minor differences on drawings, etc.

(6) XC-53A - Should have been done in October. Progress is very slow. About 75 percent complete now.

Signature .....

b. Armament Laboratory

(1) A-20 with 75 mm gun. (This project pending). Douglas conceived project. Engineering is far along. Project dormant at present. Advantage to continuing would be that a test on the T-9 75 mm gun and the T-13 automatic feeder could be obtained. However, the T-9 gun can be tested in the XB-25G and no one else is now scheduled to use the T-13 feeder. B-25 cannon ships can probably be put into production before this one.

(2) A-20 with two 37 mm cannon and two .50 caliber guns. This project is conceived to replace the "bathtub". Engineering work is understood to be largely done. It looks like a good idea and should be continued unless no anti-tank guns are desired in A-20's. Another similar idea is to mount one 37 mm cannon in place of two .50 caliber guns in the A-20G. These two projects have been requested on CTI-403, addendum 1, dated December 26, 1942.

(3) A-20 with 4-1/2" rockets. Project MX-241. Progress almost complete. (Airplane delivered).

(4) Vertically dropping bombs. Douglas project in connection with Cal. Tech. We have loaned Douglas one B-18 and one A-20. Progress is not known.

(5) New torpedo director. This is a Douglas project and may be fostered by the Navy. Only a few engineers used on it. Progress is not known.

c. Power Plant Laboratory

(1) Turbine jet project. Contract AC-28114 for one dollar issued to cover loan of D-2 supercharger and purchase information on the use of a gas turbine as a prime mover. Progress not known.

d. Aircraft Laboratory

(1) A-20 with take-off jets. This is an Aero-Jet Corporation project. Douglas mounted jets on an A-20. Colonel Dane should be ready to return in this ship now. Further work apparently not required of Douglas.

(2) XCG-7 and XCG-8 Gliders. Project about 98 percent complete. Due to structural failures, the first articles (now built) will be accepted at reduced strength requirements. Rest of project is being discontinued.

(3) Full Span Flaps (A-17). 99-1/2 percent done. Airplane at Wright Field. Will close out project in a few days.

H. Z. BOGERT,
Colonel, Air Corps,
Chief, Technical Staff
Engineering Division

Cont. F 34433
(pg. 1/4)

1.

Douglas Aircraft Company, Inc.

Santa Monica, California

Cable Address "Douglasair"

In reply refer to File

A682-21393-32

MUTUAL HOME BUILDING
Dayton, Ohio

January 11, 1943

Subject: A-26 Manufacturing Program
Contracts AC-21393, AC-34433

To: Commanding General
AAF Materiel Center
Wright Field, Dayton, Ohio

Attention: Production Engineering Section

Reference:
a. Materiel Center's letter SRB:maw-70-1 dated December 4, 1942.
b. Contractor's letter A25-AL-98 dated December 17, 1942.
c. Materiel Center's PES-TWX-430 dated July 17, 1942.
d. Contractor's letter F25-4830 dated November 26, 1942.

1. Paragraphs (1), (3), and (4) of reference a have been covered by separate letter, reference b.

2. Considering the present development status of the A-26 airplane, it is not possible to meet the production schedule contained in paragraph (2) of reference a. The limiting factor at this time is one of tooling and factory development rather than design engineering. Design engineering has been the controlling factor to date but the initial phase of this work will be completed within the next thirty (30) day period. The chief problem at present is one of condensing the tooling and factory development into the shortest possible elapsed time period.

3. It was planned to complete the initial production airplane in July, 1943. To accomplish this program, it was necessary to complete engineering releases for production during the period from 7-15-42 to 12-31-42. It was further necessary to complete releases on certain functional units during this period progressively according to their assembly relation. Although it is estimated that the initial engineering releases for production will be completed during January instead of December, certain functional units are from three (3) to four (4) months behind schedule within the overall release period.

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4. An example of the condition outlined above is the fuselage structure. This unit was scheduled for engineering release on 7-15-42, but releases had not been completed at that time. Although this was a serious condition, it was believed that the delay could be picked up by squeezing subsequent operations and the ultimate schedule maintained. On July 17, 1942, the Contractor received a TWX from the Materiel Center, reference c., which quoted in part as follows, "Request Materiel Center be informed soon as possible of any delay involved in providing the seventy five m/m gun nose on all 500 A-26 airplanes on Contract 21393. Contractor is directed to take immediate action to provide the 75 m/m gun nose on all 500 A-26 airplanes on Contract AC21393." The Contractor immediately complied with this directive and as soon as a study could be made of the effect on ultimate delivery schedule, the Materiel Center was informed. This change required approximately 12,000 additional board hours in a schedule budget that was already overloaded. The net result was that the fuselage structure was delayed from 7-15-42 to a release period ranging from 10-1-42 to 1-15-43, which produced an average past due condition of about four (4) months.

5. Considering the fuselage structure as the limiting factor in the ultimate schedule, the Contractor estimated that initial airplane deliveries would be delayed by about three (3) months or until October, 1943. The Materiel Center was informed of this revised schedule on 11-26-42 by reference d.

6. In view of the urgency of this airplane program, the Contractor has requested that the 8-L schedule be set up to start in July, 1943 for Contract AC-21393 at the Long Beach Plant and in December, 1943 for Contract AC-34433 at the Tulsa Plant. Factory programs are set up on this basis and will be so maintained as long as possible. With respect to actual delivery commitments, however, it is necessary to consider present status as well as the tooling and factory development required from a realistic standpoint. Considering the preparation necessary for the high rate of production anticipated, the Contractor estimates that production deliveries will start in October, 1943 at the Long Beach Plant on Contract AC-21393 and three (3) months later or January, 1944 at the Tulsa Plant on Contract AC-34433. The Contractor cannot take the responsibility of promising earlier deliveries than the above in view of existing conditions. Attached is a comparative tabulation of 8-L schedules requested by the Contractor versus estimated delivery possibilities.

7. To clarify the statements above regarding flow time, the Contractor has prepared and enclosed two (2) comparative graphs, one each on the wing and fuselage structure illustrating the following:

a. Flow pattern necessary to produce initial airplane in June, 1943.

b. Flow pattern necessary to produce initial airplane in July, 1943.

CENTRAL FILE

c. Flow pattern indicated by present status of development.

8. The delivery acceleration shown in paragraph (2) of reference a. is greater than previous experience has shown is possible. Attached is a labor chart showing labor load based on acceleration shown in reference letter compared with loads required to produce Contractor's estimated delivery schedule. Also shown are historical records of actual contracts for comparison. In accordance with instructions from the Materiel Center the Contractor is planning on an ultimate acceleration of 500 airplanes per month.

9. The special rolled spar cap sections for wing beams is an outstanding example of critical material shortage existing as of this date. Potentially this program will be subject to the Chronic shortages existing in various commodities on all contracts as well as the unforseen procurement needs common to all development airplanes. This airplane, at present, has a #3 priority and it is essential that a higher priority and preference rating be assigned to insure against procurement delays, and our proposed delivery schedule is established considering that there will be no material delays.

10. It is noted that the 8-L schedule does not show Contract AC-21393 for 500 A-26 airplanes. This contract must be added to the 8-L schedule immediately if we are to obtain priority in delivery of material on outstanding purchase orders.

11. In the Contractor's opinion October is the earliest completion which may be reasonably anticipated for the initial production article. Furthermore, the maximum acceleration which may be anticipated is as set forth in the airplane delivery lay out comparison attached hereto entitled Douglas Delivery Estimate. However, every possible means of accelerating this program is being utilized, and the Contractor is bending every effort to meet the Center's desires wherein it is humanly possible to do so.

DOUGLAS AIRCRAFT COMPANY, INC.

by

JOHN M. ROGERS, VICE PRESIDENT
CONTRACT ADMINISTRATION

RFD:bam
cc: R.F.Dolan
H.Adams
F.Fleming
Raymond
MacDonald
T.Conant

CENTRAL FILE

FORM 62-76
(REV. 7-42)

Cont. F 34433
(Fig. 4/4)

4

SCHEDULE
REVISED 1-1-43
SUPERSEDES
SERIAL NO.
PAGE

PLANT: Santa Monica | LOCATION: A | DIVISION: Master Scheds.

AIRPLANE DELIVERY LAYOUT COMPARISON

MODEL A-26

Ac 34433

		Long Beach Plant AC-21393 (500)			Tulsa Plant AC-34433 (500)	
		Douglas * 8L		Douglas Delivery Estimate	Douglas * 8L	Douglas Delivery Estimate
1943	July	1	1			
	August	2	1			
	Sept.	4	2			
	October	8	3	3		
	November	15	5	6		
	December	21	10	13	1	
1944	January	29	21	21	3	1
	February	40		29	10	3
	March	49		40	18	10
	April	66		49	27	18
	May	90		66	37	27
	June	96		90	52	37
	July	79		96	69	52
	August			87	87	69
	Sept.				108	87
	October				88	108
	November					88
	December					

NOTE
Follow on Production planned to maximum acceleration of 104 per month

NOTE
Follow on Production planned for acceleration to 500 per month

CENTRAL FILE

*In accordance with Douglas proposal for 8L contained in W-642 of 11-17-42.

CONFIDENTIAL

Ref: EFB/vb/70-2

January 14, 1943

Subject: Contract AC-21393
Model A-26B Airplanes
Design Changes

To: Douglas Aircraft Company, Inc.
El Segundo, California

Through: AAF Resident Representative

Reference: a. Douglas letter 875-4830 dated November 26, 1942.
b. EFB-TAS-490 dated December 18, 1942.

1. The data submitted with reference a pertained to various design changes which have been made to convert the original A-26 bomber version airplane to the A-26B attack version. The Contractor was advised in reference b that the quotations for the change proposals covered by reference a were accepted and that the design changes appeared generally satisfactory, but that any pertinent comments pertaining to the technical details would be forwarded at a later date. These data have now been examined and the following comments pertaining thereto are forwarded for the Contractor's attention.

2. Installation of 75 mm. Cannon.

a. The means for adjustment of this gun in elevation is not shown on drawing 519013. Information is requested as to the amount of vertical adjustment provided for the gun and the method of accomplishing the same. In this connection, it is pointed out that the setting for the 75 mm. gun with respect to the horizontal reference line of the airplane will have to be determined from tactical tests in order to arrive at the desired setting. As a matter of preliminary information it is indicated that the desired speed will be about 300 m.p.h. However the range of adjustment should permit horizontal boresighting at speeds between 225 m.p.h. and 325 m.p.h. if possible.

b. Information is requested as to the means provided for adjustment of the gun in train for boresighting.

c. It is desired that provisions be made to remove the breech block from the bottom of the gun for cleaning and servicing of the breech block and gun. It is desired to know whether a door could be provided in the floor of the cockpit to permit the breech block to be removed in this manner.

[redacted]

CONFIDENTIAL

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Bomb. Br.
(Pg. 3/4)

D

Douglas Aircraft Co.
El Segundo, Calif.

MFB/vb/70-2
1/14/43

d. The Contractor has been previously advised that the T-9 cannon and T-13 mount would be furnished for all airplanes on contract in lieu of M-4 cannon and M-6 mount, and the Contractor may therefore design for the T-9 cannon and T-13 mount accordingly.

3. Armor Installation.

a. The armor installation shown on drawing 5191178 is satisfactory for release.

4. Relocation of Bombing Controls in Pilot's Compartment (Drawing 5191340).

a. The arrangement whereby the wing racks and bomb bay racks cannot be selected independently is extremely undesirable, and it is requested that the installation be changed to provide independent selection of either wing racks or bomb bay racks in order that bombs can be dropped from the bomb bay without first releasing the chemical tanks in the event that chemical tanks are carried in combination with bombs. Information is requested as to the method by which this change can be accomplished.

b. The bomb fusing selector switch should be marked "Nose" and "Tail" instead of "Delayed" and "Impact".

c. The bomb selector switch should be marked "On" and "Off" instead of "Open" and "Closed".

d. It is requested that a wiring diagram of the bombing circuit be submitted for examination.

5. SCR-595 and SCR-515 Radio Installation (Drawing No. 5191013).

a. The arrangement of the antenna for the SCR-595 and SCR-515 radio sets are in accordance with the locations previously requested. However, information is now furnished that, based on tests conducted at Materiel Center, the antenna mast for the SCR-595 radio could be located on the top side of the fuselage and close to the receiver. It was previously thought necessary to locate this mast on the under side of the airplane in order to obtain satisfactory results, but since this is no longer necessary it would be desirable for it to be located on top of the fuselage, which location would shorten the transmission line and simplify the installation. However, if the Contractor has already designed the installation as shown on the reference drawing, it is not necessary that this change be made at this time. Comments are requested.

[redacted]

Bomb. Br.
(pg. 3/4)

Douglas Aircraft Co.
El Segundo, Calif.

SPB/vb/70-2
1/14/43

b. In the event that the Contractor is able to relocate the antenna mast for the SCR-595 set as noted above, the forward transmitting antenna for the SCR-515 radio should be located on the under side of the fuselage [illegible] the bomb bay doors and lower gun turret. This antenna may be located up to 10° off of vertical. This change is not requested, however, unless the Contractor shall find it convenient to relocate the mast for the SCR-595 radio as discussed above.

c. In other respects the radio installation shown on drawing 5191013 is satisfactory.

6. Orientation Camera Installation.

a. The camera installation shown on Drawing 5056698 is satisfactory. A wiring diagram for this installation was not submitted and in this connection the Contractor is advised that Army Air Forces Drawing 8429169 should be used as basis for the wiring.

7. Installation of Production Type Turrets and Sighting Station.

a. The design changes in the fuselage structure necessary to accommodate the production type turrets and sighting station, as shown on the various drawings submitted with reference a, are satisfactory.

b. In connection with the Contractor's desire to have the mounting ring for the General Electric turrets redesigned so as to be rigid enough to provide for support at three points only, which request was informally relayed to the Material Center, information is furnished that this matter is being given consideration by the General Electric Company. It is proposed to have a discussion on this matter between Contractor's, General Electric and Material Center representatives in order to arrive at a practicable and satisfactory solution, since it is recognized that the present method of supporting the mounting ring at 24 points is unsatisfactory from a production installation standpoint. The Contractor has been informed of this action in a separate communication. Any changes made in the design of the turret mounting ring as a result of these discussions will not be incorporated in production turrets until such time as any structural modifications to the airplanes which may be necessary to provide for a different method of mounting the turrets can be incorporated in airplanes without any delay in production.

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Bomb. Br.
(Pg. 7/4)

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Douglas Aircraft Co.
El Segundo, Calif.

XEB/vb/70-2
1/14/43

6. The Contractor was advised in reference b that the cost quotations for accomplishing the above changes in the subject airplanes were accepted. A Change Order covering all these changes will be issued at a later date and will include other design changes previously approved for which change orders have not yet been issued.

9. The reduction in high speed at 17,000 feet from 372 m.p.h. to 361 m.p.h. by the increase in gross weight from 26,700 pounds to 27,900 pounds, as outlined in paragraph 17a of reference a, appears to be an excessive loss of speed for the amount of additional weight involved. It is noted that the high speeds quoted in this paragraph are based upon the airplanes equipped with the Hamilton Standard 6457A-6 propeller blades. Information is requested whether this reduction in speed of 11 m.p.h. may have been based upon the use of 6359A-16 propellers instead of 6457A-6 propellers, since it is understood that the former propeller which is now to be used will involve a reduction in high speed from the original figure of 372 m.p.h.

10. In regard to the delivery schedule outlined in paragraph 17e of reference a, the Contractor is advised that this delayed schedule starting in October, 1943, is not acceptable in view of the urgency of delivering airplanes to the Army Air Forces at the earliest possible time. The Contractor will be expected to comply with the S-L schedule established by the Joint Aircraft Committee. The Contractor is aware that the Materiel Center is making every effort to expedite the delivery of machine tools and materials in order to make it possible for the Contractor to meet this schedule and at the same time the Materiel Center has authorized the Contractor to delay engineering schedules on other Army Air Forces projects in order to accelerate delivery of A-20A airplanes. The Materiel Center therefore does not approve the Contractor's schedule as given in reference a.

For the Commanding General, Army Air Forces Materiel Center:

A. T. JONES,
Brig. General, U.S.A.,
Chief, Procurement Division.

cc - AAF Representative
AAF Asst. Dist. Supvr.

Contract Sec.
Aircraft Radio Lab.
Armament Lab.
Aero. Equip. Br., Arm. Unit
Prod. Cont. Sec., Follow-Up Br.

[redacted]

- 1 -

ADAC-282-WF-12-12-41-50M

ENGINEERING ORDER

WAR DEPARTMENT
AIR CORPS
MATERIEL DIVISION
WRIGHT FIELD DAYTON, OHIO

RFB/rp/70-2

30

Contract or P. O. No. W535-ac-21393

To: Douglas Aircraft Company, Inc.
El Segundo, California

Serial Number P-2962

Reference Number 6

Date December 12, 1942

Subject Model Designation Change

Affecting All 500 Airplanes on subject contract.
(Articles on Order)

Change model designation -

From: A-26

To: A-26B-1-DO

EL SEGUNDO
CORRESPONDENCE NUMBER
To

RECEIVED
DEC 21 1942
ASST. A.C.REP.
EL SEGUNDO

DEC 22 1942

Reason: Change in design of airplane from bomber version to attack version and to establish block system designation.

Recommended by: W.T. Piper, Major AC
for S.R. BRENTNALL, Colonel, A.C.
Chief, Production Engineering Section

Copies to:

Prod.Engr.Sec.	(1)	Air Force Sec.	(2)
Ch.,Contr.Sec.	(3)	Indus.Plan.Sec.	(1)
Project Engr.	(3)	CG, AAFMCommand	(3)
Inspection Sec.	(3)	Supply Officer	(1)
AAF Repr.	(1)	Aero Equip. Br.	(1)
AAF W.Dist.Suprv.	(1)		

Approved by:
Chief, Contracting Section
Wm. R. Schwindler, 1st Lt., A.C.
Contracting Officer

1st INDORSEMENT

TO: Chief, Materiel Division, Air Corps, Dayton, Ohio.
Contractor or Vendor hereby acknowledges the above and agrees to comply therewith on .....

Contractor to state quantity and/or serial numbers of articles affected.

Fixed fee and terms of delivery not affected.

Date January 19, 1943

DOUGLAS AIRCRAFT COMPANY, INC.
Contractor or Vendor

By JOHN M. ROGERS
VICE PRESIDENT
Signature of Official with Office Held

41

The original (carbon-backed) to be signed and dated by the contractor and returned to the Materiel Division, Wright Field, Dayton, Ohio. One copy to be retained by contractor.

190.

~~CONFIDENTIAL~~

VHK:de:50

January 22, 1943

Commanding General, Materiel Command
Headquarters, Army Air Forces
Washington, D. C.
Attn: Assistant Chief of Staff (E)

452.1

A-26B Airplanes - Various Development Noses

1. Reference is made to CTI-943, Addendum 1, dated December 30, 1942 which defines the development program for the armament arrangements of production A-26 series airplanes. The contractor is proceeding with work on this directive according to the following schedule:

a. The 75 mm nose for the first 500 A-26B airplanes. This version has no .50 caliber supporting guns contained within the nose.

b. Dual .50 caliber machine guns mounted in removable streamlined housings under the wing bomb racks. This will supply the desired supporting fire for both the 75 mm nose and the bombardier nose versions. Provisions will be made in all production airplanes for these guns, although the actual mounts may not be available for the first few airplanes.

c. The bombardier's nose is almost completely designed. It can be finished whenever necessary to provide it on production airplanes.

d. The six .50 caliber guns are provided in an all-purpose nose which includes provisions for each of the following arrangements:

(1) Six .50 caliber guns

(2) Four .50 caliber guns and one 37 mm T-20 cannon

(3) Two 37 mm T-20 cannon

(4) Two .50 caliber guns and one 75 mm cannon

Any of these arrangements may be selected in the field merely by installing the desired guns on brackets which are contained in this nose. The weight penalty incident to this feature is very small in comparison to the desirable flexibility gained. Provisions for mounting this nose

COM. GEN.
TECH. EXC.
ADM. EXC.
C. O.
BUD. OFF.
EXP. ENG.
CONTRACT
INSP.
PROD. DIV.
PROD. ENG.
PROD. CONT.
I. P. S.
A. S. C.
TECH. DATA
CIV. PERS.
OTHERS
42

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2159

AAFMC-190-WF-5-20-42-2 M.D.

CENTRAL FILES

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will be made on all production airplanes. The actual articles, however, may not be available for the first few airplanes.

e. Fragmentation racks will be provided for in all airplanes. These racks will carry parachute fragmentation bombs.

f. Work on the four-gun 37 mm nose has been postponed until the above program is in a more advanced stage of development.

2. By following the above program, it will be possible to mount either the bombardier-observer nose or the all-purpose nose on any airplane, either in the factory or in a field depot. All of the desired armament arrangements are thereby secured with only two noses, which arrangement promotes production and increases flexibility. Any version may be supported by the additional .50 caliber guns mounted under the wings.

F. O. CARROLL,
Brigadier General, U.S.A.,
Chief, Engineering Division.

V. R. RAUSEN,
Lt. Colonel, A. C.
Project Officer.

CHESTER D. SEFTENBERG
Major, Air Corps
Asst. Technical Executive

JAN 28 1943

cc - Production Div.

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Signature _____

CONFIDENTIAL

Ref: ETS/vb/70-2

February 22, 1943

Subject: Contracts AC-21393 & AC-34433
Model A-26B Airplanes
Procurement of Bomber Version

To: Douglas Aircraft Company, Inc.
El Segundo, California

Through: AAF Resident Representative

1. Higher authority has directed that the first 500 A-26 type airplanes be procured in the present A-26B version with the 75 mm. cannon nose and that airplanes after the first 500 be procured in the following ratio:

1: - Cannon nose version
5: - Machine gun nose version
8: - Bombardier-Observer nose version

2. This directive was based upon the original proposed development for a multiple machine gun nose to be separate from the 75 mm. cannon nose. In view of the fact that the Contractor is now developing an all-purpose gun nose in which six .50 caliber machine guns can be made an alternate installation to the 75 mm. cannon, the above 75 mm. nose version and the multiple machine gun nose version will be considered to be combined into the one type of airplane, namely, the A-26B type. In consideration of the fact that the all-purpose gun nose will provide for 37 mm. fire power, and in view of the ready interchangeability of the various armament configurations in the all-purpose gun nose, it is considered that a requirement for delivery of airplanes from the factory embodying the various armament configurations in various ration will be established at a later date. This will depend somewhat upon the point at which the all-purpose gun nose becomes available in the production line and upon satisfactory operation of the various armament arrangements.

3. The purpose of this communication is therefore to instruct the Contractor that for the second lot of 500 airplanes on Contract AC-34433 the ratio required for these airplanes shall be one-half of the A-26B attack version and one-half of the original A-26 type bomber version which shall be designated as A-26B. In this connection, the Contractor is instructed that the last 250 airplanes on Contract AC-34433 shall be made in the bomber version which shall be designated as Model A-26C.

CONFIDENTIAL

43.

CONFIDENTIAL

D

cont. Ex. pg. 2/3)

Douglas Aircraft Co., Inc.
El Segundo, California

RMB/vb/70-2
Feb. 22, 1943

4. It is desired that the bomber version incorporate the nose which the Contractor had already designed for this airplane prior to the change from the bomber version to the present low altitude attack version. It is understood that the design of the original bomber nose is now about 90% complete. The Contractor should therefore complete the design of the bomber nose but should incorporate the following changes:

a. Provide only for electrical release of bombs by bombardier. The present location of mechanical control of bombs and bomb doors in the pilot's cockpit shall be retained and shall not be returned to the bombardier's compartment. It is understood from previous discussions on this matter that the original electrical bomb control installation in the nose could be retained and could be connected into the bombing circuit by means of a plug at the nose attachment station. This would leave the bombing control set-up now provided in the pilot's compartment unchanged and would permit the present pilot's bombing controls to remain largely unchanged. Contractor's comments on this matter are requested.

b. Installation of C-1 automatic pilot with M-Series bomb sight to be provided. In this connection, while the Contractor has been previously instructed that an automatic pilot was not required for the low altitude attack bomber version, provisions for this pilot were to be retained in the basic airplane, since it is required in conjunction with the M-Series bomb sight to serve as A.F.C.E.

c. Installation of a Type S-5 drift meter is required in the bombardier's nose compartment.

d. Adequate armor plate protection for the bombardier from ground fire is required commensurate with the armor protection now provided for the pilot and the gunner in the ground attack version. This should include hinged bullet proof glass or armor for the bombardier's window.

[redacted]

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CONFIDENTIAL

- 3 -

Douglas Aircraft Co., Inc.
El Segundo, California

MFB/vb/70-2
Feb. 22, 1943

5. The Contractor is requested to submit design proposals for the bomber nose version of this airplane incorporating the changes discussed above at the earliest opportunity. The Contractor is also authorized to proceed with production planning to manufacture the last 250 airplanes on Contract AC-34453 in the bomber version. Quotations for accomplishing this change on Contract AC-34453 should be submitted as soon as practicable.

For the Commanding General, Army Air Forces Material Center:

A. E. JONES,
Brig. General, U.S.A.,
Chief, Procurement Division.

cc - AAF Representative
AAF West. Dist. Supvr.
Contract Sec.
Aero.Equip.Br.-Arm.Unit
Arm.Lab., Engr.Div.

CONFIDENTIAL

Cont. F. 21393
(89 1/1)

CONFIDENTIAL

Address reply to
Chief, Engineering Division
AAF Materiel Center
Att: Technical Staff
Reference VRH:do:50

Wright Field, Dayton, Ohio
February 22, 1943

Contract AC-~~17316~~, XA-26 Airplane
Contract AC-21393, A-26 Airplane
Armament ~~Arrangements~~

Douglas Aircraft Company, Inc.
El Segundo Plant
El Segundo, California

EX-0523

Reference Douglas letter F250-1212 dated January 30, 1943

1. The contractor's understanding of existing instructions as discussed in paragraphs 1 and 2 of the reference letter is confirmed. It is understood that, while the actual installation of multiple gun noses and wing guns cannot be made for the first of the production airplanes, provisions such that these units can be installed on all airplanes, when available, will be made. In view of the recently demonstrated effectiveness of the parachute fragmentation bomb, every effort should be made to equip early A-26 airplanes with fragmentation racks. Information has been repeatedly received from the field forces that the desired number of these bombs is 150 to 180.

2. The subject of the required quantity of the bombardier noses on subsequent production airplanes will be covered in separate correspondence.

3. No further effort need be expended on the installation of the 37 mm. high velocity cannons under the bomb bay. A recent test with one of these guns suspended below a B-25 airplane produced serious damage to the nose wheel doors and skin structure when the gun was fired. This confirms the similar observations made on an A-20 airplane.

4. Inasmuch as the construction of the four-gun 37 mm. nose is for purely experimental reasons and is in no way connected with any production quantity now contemplated, cancellation of the original contract change order in order to re-issue it on the production contract does not seem justified.

For the Chief of Engineering Division:

V. R. HAUGEN,
Lt. Colonel, A. C.
Project Officer

MX-73
MX-73A

H. L. ROGERT,
Colonel, Air Corps,
Chief, Technical Staff,
Engineering Division.

CONFIDENTIAL

CC:
Ass't AAF Res. Repr.
AAF West. Dist. Supvr.
Procurement Div.
Production Sect.
PROD. ENGR. SECT.

CENTRAL FILES

COM. GEN.
TECH. EXC.
ADM. EXC.
C. O.
BUD. OFF.
EXP. ENG.
CONTRACT
INSP.
PROD. DIV.
PROD. ENG.
PROD. CONT.
I. P. S.
A. S. C.
TECH. DATA
CIV. PERS.
OTHERS

44

FMC-190-WF-5-20-41-2M

AAFMC-265-A-WF-8-28-42-750M

CONFIDENTIAL

INTER-OFFICE MEMORANDUM

ARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding General

Bomb. Br. 19-1/21

RFB/vb/70-2
Wright Field, Dayton, Ohio

Date February 27, 1943

TO: Chief, Aero Equipment Branch
Production Engineering Section

SUBJECT: CTI-943, Addendum No. 1
A-26 Airplanes

1. Information is furnished that the Type C-1 automatic pilot will not be required for the A-26B airplane which is the low altitude attack version. Authority to delete the C-1 automatic pilot has been received subsequent to date of CTI-943, Addendum No. 1. Since the A-26B does not contain a bomb sight the C-1 pilot would serve as a flying pilot only and not as a bombing pilot for A.F.C.E. The C-1 pilot has therefore been deleted in the interest of simplification of airplanes, since it was not considered that an automatic flight pilot was necessary in this type of airplane.

2. In connection with the bomber version of the A-26 type airplane as established by CTI-943, Addendum No. 1, information is furnished that the C-1 automatic pilot and the M-Series bomb sight will be required for the bomber version which is to be designated as Model A-26C. In this connection, information is furnished that the last 250 airplanes on Contract AC-34433 will be produced as the Model A-26C bomber version.

3. Information is furnished that the C-1 automatic pilot, Specification No. XC-24755, is synonymous with "A.F.C.E. with Glide Bombing Attachment" as specified in the present Aeronautical Equipment List.

4. An Aeronautical Equipment Change Notice will be initiated shortly to delete the C-1 automatic pilot from all airplanes on Contract AC-21393.

5. The Aeronautical Equipment List for airplanes on Contract AC-34433 will be the same as for Contract AC-21393 with the exception that the C-1 pilot and M-Series bomb sight will be required on the last 250 airplanes only. Other minor items of electrical equipment may be affected by this change from attack version to bomber version on the last 250 airplanes. These matters will be discussed with personnel of Aeronautical Equipment Branch in the near future.

Signature .....

[redacted]

45

45.

Bomb. Br.
(Pg. 2/2)

15

INTER-OFFICE MEMORANDUM

ARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding General

RFB/vb/70-2
Wright Field, Dayton, Ohio

Date February 27, 1943

TO: Chief, Aero Equipment Branch
Production Engineering Section

SUBJECT: CTI-343, Addendum No. 1
A-26 Airplanes

6. Armament requirements for the multiple machine gun nose version of the A-26B type airplane will be established at a later date. The six .50 caliber gun nose together with other alternate armament configurations are under development for this airplane and have not yet been scheduled for production.

7. Information is furnished that Schedule 8-L has been revised by Case No. 3500 dated February 4, 1943, which shows the 500 A-26B airplanes on Contract AC-21393 will be manufactured at the Douglas Long Beach plant starting in October, 1942 and the 500 A-26B airplanes on Contract AC-34433 will be manufactured at the Douglas Tulsa plant starting January, 1944.

F. R. COOK,
Lt. Colonel, Air Corps,
Chief, Bombardment Branch.

Signature .....

[redacted]

Cont. F. 34433
(89.1/4)

1/1

(AFAMC-4A)
CMC:vmh

ARMY AIR FORCES
HEADQUARTERS OF THE MATERIEL COMMAND
WASHINGTON

MAR 9 - 1943

SUBJECT: Contract W 535 ac-34433
w/Douglas Aircraft Company, Inc.

TO: The Under Secretary of War
Attention: Colonel Park Holland
Section 5D, Room 725

1. Forwarded herewith recommending approval under provisions of the First War Powers Act, 1941, and Executive Order No. 9001, December 27, 1941, are two (2) cover pages and one (1) number of contract W 535 ac-34433 with Douglas Aircraft Company, Inc., Santa Monica, California, covering the proposed procurement of 500 Airplanes, Army Air Forces Model A-26B, Spare Parts and Data for a total estimated cost of $109,164,900.00, fixed fee of 4% included.

2. The following information is submitted in connection with the clearance of this contract:

a. Material:
Item 1 - 500 A-26B Airplanes
Item 2 - Spare Parts (38%)

b. Unit Estimated Cost:
Item 1 - $152,125.00 plus 4% fixed fee.
Item 2 - $28,903,750.00 " 4% " "

c. Total Estimated Contract Value:
$109,164,900.00 (fixed fee of 4% included)

d. Deliveries:

Item 1	Quantity	During Month Of	
	1	January	1944
	3 additional	February	1944
	10 "	March	1944
	18 "	April	1944
	27 "	May	1944
	37 "	June	1944
	52 "	July	1944
	69 "	August	1944
	87 "	September	1944
	108 "	October	1944
	88 remaining	November	1944

Item 2 - Spare Parts - Concurrently with and in proportion to the number of airplanes.

WF-9-15-42-20M

46.

Cont F 34433
(pg. 2/4)

15

AFAMC-4A
CMC:vmh

Subject: Contract W 535 ac-34433
To: The Under Secretary of War
Attention: Colonel Park Holland

3. The following additional information is submitted in connection with this proposed procurement:

a. Douglas Aircraft Company, Inc. is the designer and manufacturer of the airplanes proposed for procurement.

b. The airplanes proposed for procurement will be built in the contractor's Tulsa Oklahoma Plant.

c. This is the contract contemplated by Letter Contract Special Form dated October 21, 1942, and supersedes letter contract as provided in Article 43 of the contract.

d. Article 44A of the contract makes provision for additional plant facilities not to exceed a total of $3,577,967.07 to be furnished by the Government.

e. This is the second procurement of this type airplane, 500 A-26 airplanes having previously been procured on contract W 535 ac-21393. No production articles have been delivered on the previous contract, and no deliveries are anticipated by Schedule 8-L until late in 1943. Previous purchase was approved with an estimated unit cost of $134,000 for construction at Long Beach, California, and no actual production costs are available. The proposed procurement of 500 A-26B airplanes is to be built in the contractor's plant at Tulsa, Oklahoma. The estimated unit cost of this proposed procurement is $152,125.00 being $18,125.00 higher than the previous procurement. This increase in the estimated unit cost is due to the following:

(1) Engineering changes are to be incorporated in the airplanes over the previous procurement, which are estimated to cost $4,572.00 per airplane, made up of the following breakdown:

Labor	-	$ 784.00
Overhead	-	784.00
Materials and purchase parts	-	3,004.00

(2) In order to produce these airplanes at the rate desired, it will be necessary for the contractor to increase subcontracting from approximately 35% of the total unit estimated cost of the previous procurement to 70% of the estimated unit cost of the proposed procurement. This subcontracting will involve increased cost because of more tools, training, acceleration and getting under way

Subject: Contract W 535 ac-34433
To: The Under Secretary of War
Attention: Colonel Park Holland

expense of subcontracts, estimated to amount to an increase of $6,125.00 per airplane.

(3) Change in production location from Long Beach, California to the new plant at Tulsa, Oklahoma, involves training costs and increase in overhead rate from 85% to 100%, estimated to increase the unit cost $5,000.00.

(4) Increase in labor rate at Tulsa Oklahoma from $1.05 to $1.09, estimated to increase the unit cost $2,428.00.

In view of the above, the estimated unit cost and amount of fee are considered fair and reasonable.

4. Article 44 provides for advance payments as follows:

a. The amount proposed to be advanced is not to exceed $31,489,875.00 or 30% of the estimated cost of this contract, exclusive of the fixed fee, whichever amount may be smaller.

b. Subject contract was awarded without advertising and is based upon a fee of 4% to the Contractor.

c. Provisions for Repayment: The Government will have a lien upon the balance in the special account to secure the repayment of the advance.

d. The necessity for the advance is to aid in the financing of the purchase of materials, and in the employment of labor to perform the contract.

e. The security proposed is the special bank account and lien provision, provided for in the contract.

f. Procurement Authorities are:
AC 3005 P 110-09 A 0705-23
AC 3006 P 122-09 A 0705-23

g. Interest at the rate of 2½% will be charged against the outstanding unliquidated balance of all advance payments under subject contract in accordance with the Procurement Regulations.

h. This advance payment is necessary to expedite performance of this contract and is in the interest of the war effort, and it is therefore recommended that it be approved.

Cont. F. 34433
(pg. 4/4)

17

AFAMC-4A
CMC:vmh

Subject: Contract W 535 ac-34433
To: The Under Secretary of War
Attention: Colonel Park Holland

5. The contractor's letter dated February 10, 1943, quoting conditions and costs under which subject contract was negotiated, is forwarded herewith for ready reference.

6. Inclosed herewith are contractor's letters dated December 23, 1942 and February 24, 1943, quoting conditions for necessity of the advance payment. An advance copy of the contract is also inclosed for the Advance Payment and Loan Section.

O P Echols

O. P. ECHOLS
MAJOR GEN., U.S.A.
COMMANDING GENERAL
MATERIEL COMMAND

4 Incls.
1. Contr. ac-34433 (1) w/2 cover sheets
2. Ltr. 2-10-43
3. Statistical Report
4. Adv. Cy. Contr. for Advance Payment & Loan Section w/Ltrs. 12-23-42 & 2-24-43

40.315

ADDRESS REPLY TO
HEADQUARTERS OF THE ARMY AIR FORCES
WAR DEPARTMENT
WASHINGTON, D. C.

Orig, 452, 1-I, Bombers
A-26
6-(2/1 pp)
C7, AA7

13

SECRET

WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON

March 15, 1943

SUBJECT: A-26 Type Airplane

TO: Commanding General, Materiel Command

1. In confirmation of the actions taken by the Materiel Command and indicated in its letter of December 28, 1942, subject: "A-26B Airplanes--Development of Alternate Armament Configurations" and in order to provide for most expeditious engineering and accelerated production the following requirements are confirmed and established for the A-26 airplane. These instructions supersede those contained in letter December 16, 1942, above subject, and any other instructions in conflict herewith.

2. It is desired that the A-26 airplane be so engineered that variations of the basic type will be possible. These variations are:

a. A minimum of six (6) .50 cal. machine guns mounted in the nose.

b. A minimum of two (2) .37 mm high velocity cannon and the maximum practicable number of .50 cal. machine guns mounted in the nose.

c. One (1) .75 mm cannon and a minimum of two (2) .50 cal. machine guns mounted in the nose.

d. Bombardier-observer nose to include:

(1) Minimum of two (2) .50 cal. machine guns.

(2) Minimum provisions for bombsighting, release and for D. R. navigation.

(3) Adequate passive defense against ground fire for the bombardier-observer.

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

It is desired that the above variations be accomplished by means of interchangeable gun combinations so that not more than two (2) different types of noses are required.

SECRET

47

6-(2/24) 14 SECRET

3. The basic type airplane will include the following:

a. Complete provisions for bomb and torpedo release by the pilot to include a torpedo sight, modified gunsight for minimum altitude bombing and an auxiliary ring and bead sight.

b. Provisions for mounting one package containing two (2) .50 cal. machine guns on each of the four wing racks.

c. Provisions for carrying a minimum of eighty (80) 23 lb. parachute fragmentation bombs.

4. For the purposes of production planning the following ratios and numbers are established.

a. It is contemplated that the bombardier-observer nose will be required for 33 1/3 per cent of all airplanes produced.

b. The two .50 cal. package installation for wing racks should be procured for all airplanes.

5. The A-26 type airplane with the above provisions will satisfy the requirements established by the "Military Characteristics" of the light bombardment airplane submitted November 22, 1942.

By command of Lieutenant General ARNOLD:

Mervin E. Gross

MERVIN E. GROSS
Colonel, Air Corps
Acting Director of Military Requirements

SECRET

Contract No. 535 ac-34433

Contractor: DOUGLAS AIRCRAFT COMPANY, INC.

X

X

X

X

X

X

X

X

X

X

X

X

X

X

Approval Recommended
March 9, 1943

O P Echols

O. P. ECHOLS
Major Gen., U.S.A.
COMMANDING GENERAL
MATERIEL COMMAND

MAR 17 1943

Approved
By direction of the Secretary of War und
the provisions of the First War Powers A
of 1941 and Executive Order No. 9001, dat
December 27, 1941.

Phillips W. Smith

Phillips W. Smith,
~~Albertson Browning~~
Colonel, General Staff Corps
Special Representative of the
Under Secretary of War.

W 535 ac-36437
(9343)

P. F. F. FORM No. 3
Approved by The Assistant Secretary of War, Aug. 14, 1940
(Revised)

Contract No. _____

AA-1

ANMB Preference: _____

Allocation Classification System Symbols: USA _____

297191

AFP: _____

01-A 01-D

Allocation No: 0105

COST-PLUS-A-FIXED-FEE

SUPPLY CONTRACT

(Army Air Forces)

~~WAR DEPARTMENT~~

DOUGLAS AIRCRAFT COMPANY, INC.

Contractor: _____

~~500 A-26B Airplanes, Spare Parts and Data~~

Contract For: _____

~~104,966,250.00~~

Estimated cost: $ 4,198,650.00

Fixed-Fee: $ _____

Los Angeles, California

Payments to be made by The Finance Officer, U. S. Army, _____

The supplies and services to be obtained by this instrument are authorized by, are for the purpose set forth in, and are chargeable to the following Procurement Authorities, the available balances of which are sufficient to cover the cost of the same:

~~AC 3005 P 110-09 A 0705-23~~	$ 79,105,000.00
AC 3006 P 122-09 A 0705-23	30,059,900.00
	$109,164,900.00

This Formal Contract supersedes Letter Contract Special Form dated October 21, 1942.

Encl

APRIL 29, 1943

TO: COMMANDING GENERAL, MATERIEL COMMA.

ATTENTION: PRODUCTION DIVISION

PRIORITY

CONFIDENTIAL

FROM: ACAS/MMD/MATERIEL DIVISIO

SW

NOSES FOR A-26 AIRPLANES CTI-943 REFERENCE YOUR TELETYPE PES-T-455 DATED APRIL 15, 7943 AND OTHER CORRESPONDENCE RELTXXX RELATING THERE-TO. (AFDMA-4D-64) THE FIRST FIVE HUNDRED (500) A-26B AIRPLANES WILL BE PROCURED WITH ONE HUNDRED PER CENT GUN NOSES. IN ADDITION THERE WILL BE PROCURED ONE THIRD OR APPROXIMATELY ONE HUNDRED AND SIXTY SEVEN (167) BOMBARDIER-OVSERVER NOSES. AFTERHXXX AFTER THIS QUANTITY OF AIRPLANES AND NOSES ARE OBTAINED TWO THIRDS OF ALL A-26 AIRPLANES PROCURED WILL HAVE THE GUN NOSES AND ONE THIRD WILL HAVE THE BOMBARDIER-OBSERVER NOSES.

PES-T-449
5/5/43

CONFIDENTIAL

Bomb. Br. (pg. 1/1) MDAC-5-WF-3-5-42-500M

CONFIDENTIAL

17

Sent vm 5-6-43 15252

TELETYPE MESSAGE

RFB/vb/70-2 (F-4)

DATE: May 5, 1943

FROM Prod. Engr. Sec.

ATTENTION: MATERIEL DIVISION
PRODUCTION BRANCH

W. T. Rison Major AC
for S. R. BRENTNALL,
Colonel, Air Corps

GUN NOSES AND BOMBARDIER OBSERVER NOSES FOR A-26B AIRPLANES. ACTION IS BEING TAKEN TO PROCURE A-26B AIRPLANES WITH GUN NOSES AND WITH BOMBARDIER OBSERVER NOSES IN THE RATIO INDICATED IN TELETYPES AFDMA-4D-36 DATED APRIL 26, 1943 AND AFDMA-4D-64 DATED APRIL 29, 1943. CONFIDENTIAL. (PES-T-449). IN THIS CONNECTION IT IS POINTED OUT THAT THE GUN NOSE ON THE FIRST 500 AIRPLANES WILL CONTAIN THE 75MM CANNON ONLY AND WILL HAVE NO .50 CALIBER SUPPORTING GUNS. THE ALL-PURPOSE GUN NOSE UNDER DEVELOPMENT WHICH WILL HAVE ALTERNATE PROVISIONS FOR .50 CALIBER GUNS AND 37MM GUNS WILL NOT BE AVAILABLE BEFORE ABOUT THE 501ST AIRPLANE. HOWEVER, IT IS PROPOSED TO PROCURE A NUMBER OF THESE ALL-PURPOSE GUN NOSES FOR SERVICE INSTALLATION ON AIRPLANES OF THE FIRST LOT OF 500 WHICH WILL CONTAIN THE 75MM GUN ONLY. THESE NOSES FOR SERVICE INSTALLATION WILL NOT BE AVAILABLE UNTIL AFTER A NUMBER OF PRODUCTION AIRPLANES INCORPORATING THIS ALL-PURPOSE NOSE HAVE BEEN DELIVERED HOWEVER.

#83

PRODUCTION DIVISION

To be sent in code

File: A-26B Aps.

[redacted]

PES-4563

24 CONFIDENTIAL SECRET

Cat F. 452.1
(Pg. 1/3)

HFS/vb/70-x
(F-4)

May 10, 1943

Chief, Administrative Office
Production Division

Gun Noses for A-26B Airplanes 452.1

1. The following secret and confidential teletypes in connection with the subject matter are paraphrased for information as follows.

2. Secret teletype 6E-376 dated March 26, 1943. Military requirements has specified the following armament requirements for the gun noses for A-26 type airplanes.

a. Six .50 caliber guns.
b. Two 37mm. high velocity guns.
c. One 75mm. Cannon with two .50 caliber guns.
d. A bombardier observer nose with two .50 caliber guns.
e. The bombardier observer nose is required to have minimum provisions for dead reckoning navigation. It is also required to have adequate passive defense against ground fire for the bombardier.
f. The bombardier observer nose will be required for one-third of all airplanes produced.
g. The twin .50 caliber wing gun package installations are required for all airplanes, there being four packages or eight guns per airplane.

3. Secret teletype PES-T-452 dated March 31, 1943, replied to the above teletype 6E-376 as follows:

a. Information was requested whether the bombardier observer nose would be required as an alternate for one-third of the first 500 airplanes to be produced with the present 75mm. cannon only. It was pointed out that if the bombardier nose was required for one-third of the first 500 airplanes, it would be necessary to expedite the completion of engineering on this nose in order that it could be released for production at the earliest possible date.

COM. GEN.
TECH. EXC.
ADM. EXC.
C. O.
BUD. OFF.
EXP. ENG.
CONTRACT
INSP.
PROD. DIV.
PROD. ENG.
PROD. CONT.
P. S.
S. C.
TECH. DATA
CIV. PERS.
OTHERS
50

SECRET
AUTH: G.G. MATERIEL COMMAND
Date: 5-10-43
INITIALS: H.G.S.

CONFIDENTIAL SECRET

AAFMC-190-WF-5-20-42-2 Mil.

CENTRAL FILES

CONFIDENTIAL

25

PES-4563

SECRET

Cent. P. 452.1
(pg. 2/3)

NEB/vb/70-2
(F-4)

May 10, 1943

Chief, Administrative Office
Production Division

Gun Noses for A-26B Airplanes

b. It was stated that the Contractor was proceding with the development of the all-purpose nose which would accomplish the armament installations specified in teletype 6E-376. It was also stated that the Contractor had been instructed to incorporate the bomb release, navigation and armament provisions required in this bombardier-observer nose.

c. It was stated that the .50 caliber wing gun package installations would be procured for all airplanes.

d. It was stated that the all-purpose gun nose will not be available for production airplanes until about the 501st airplane, since this nose is still under development. It was stated, however, that it was proposed to secure a number of all-purpose gun noses for service installation on certain of the first 500 airplanes which will be delivered with the present airplanes containing the 75mm. cannon only.

4. Confidential teletypes AAFDMA-4-36 dated April 26, 1943 and AFDMA-4D-64 dated April 29, 1943 replied to teletype PES-T-452 to the effect that the bombardier-observer nose was desired for one-third of the first 500 airplanes and that for all airplanes after the first 500, one-third of the airplanes shall have the bombardier-observer nose and two-thirds shall have the all-purpose gun nose.

5. Confidential teletype PES-T-449 dated May 5, 1943 replies to the teletypes listed in paragraph 4 as follows:

a. Action is being taken to procure the bombardier-observer nose in the quantities specified.

b. The all-purpose gun nose will not be available before the 501st airplane.

SECRET
AUTH: C.G. MATERIEL COMMAND
Date: 5-10-43
INITIALS: [redacted] H.G.S.

CONFIDENTIAL SECRET

CONFIDENTIAL

26

OCS-4569

[redacted]

Cont. F. 452.1
(Pg. 3/3)

EPS/vb/70-2
(F-4)

May 10, 1943

Chief, Administrative Office
Production Division

Gun Noses for A-26B Airplanes

c. The all-purpose gun nose can be secured for service installation on airplanes in the first lot of 500 airplanes, but these noses will not be available until some time after production installation has started.

W. T. Rison Major AC
for S. R. BRENTNALL,
Colonel, Air Corps,
Chief, Production
Engineering Section.

cc - Ch., Airplane Projects
Aero. Equip. Br., P.E.S.
Prod. Cont. Sec.

[redacted]
Date: 5-10-43
INITIALS: [redacted]

[redacted]

AAFMC-265-WF-9-2-42-500M

63

Cent. F. 452.1
(pg. 1/1)

INTER-OFFICE MEMORANDUM

ARMY AIR FORCES
MATERIEL ~~CENTER~~ COMMAND
Office of The Commanding General

Ref: WTR/ies/70-2
(F-2)

Wright Field, Dayton, Ohio

Date 23 August 1943

TO: Chief, Flight Research Liaison Branch
Engineering Division, Wright Field

452.1

SUBJECT: Assignment of First Ten Production A-26B-1-DL Airplanes

1. The attached Forms 717 have been properly filled out for assignment of first ten production airplanes.

2. It is requested that the processing of these forms be expedited in that the first production article will be delivered in approximately one week or ten days.

3. Supervisory personnel at the Douglas Long Beach plant have done all within their power to expedite production of this airplane and it appears they will be approximately thirty days ahead of schedule. For this reason, it is desirous to remove the first three production airplanes at the Contractor's plant as quickly as possible in order to avoid any let-down of morale.

4. It is requested that this office be advised of action taken.

S. R. BRENTNALL,
Colonel, Air Corps,
Chief, Production
Engineering Section.

Encl.:
Forms 717 -- 6 sets

8.05

W. E. LAMAR,
Captain, A. C.
Chief, Flight Research
Liaison Branch

Signature

CENTRAL FILES
Rec'd 1 Sept 43

51

AAFMC-265-A-WF-8-28-42-750M

INTER-OFFICE MEMORANDUM

ARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding General

HAS:dbr:50

Wright Field, Dayton, Ohio

Date 23 August 1943

TO: Chief, Production Engineering Section, Wright Field
Attn: Specifications Br noh

SUBJECT: XA-26C Airplane

1. It is requested the model designation XA-26C be removed from the records as this project has been cancelled.

H. Z. BOBERT,
Colonel, Air Corps,
Chief, Technical Staff,
Engineering Division.

EI-73

Signature .....

52.

Cont. F. 452.1
(Pg. 1/2)

Wright Field, Dayton, Ohio
18 December 1943

COM. GEN.
TECH. EXC.
ADM. EXC.
C. O.
BUD. OFF.
EXP. ENG.
CONTRACT
INSP.
PROD. DIV.
PROD. ENG.
PROD. CONT.
I. P. S.
A. S. C.
TECH. DATA
CIV. PERS.
OTHERS

TI-1583

Douglas 452.1

A-26 Airplane, Design Studies and Possible Modification

Engineering Division.

1. Problem Presented:

a. To initiate design studies in regard to the A-26 Airplane.

2. Factual Data:

a. General Kenney has expressed his strong conviction that the A-26 should be provided with a co-pilot. This is contrary to his previous expressed opinion which he has altered as a result of further operational experiences.

3. Authority:

a. Commanding General, Army Air Forces, by letter dated 10 December 1943, same subject as above, from Chief, Development Engineering Branch, Material Division, Office, Assistant Chief of Air Staff, Material, Maintenance and Distribution.

4. Action Desired:

a. Design studies will be initiated to subject airplane for the following purposes:

(1) To determine possibility of providing a co-pilot in the A-26.

(2) To provide for all -.50 caliber nose for the subject airplane. The nose should contain a minimum of eight (8) but preferably ten (10) fixed guns. If possible it should be designed as a kit which can be placed on the airplane in the field.

53

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Cent. F. 452.1
(pg 2/2)

//////////// JHC:mah:HQP
Wright Field, Dayton, Ohio
18 December 1943

TI-1583 (Continued)

A-26 Airplane, Design Studies and Possible Modification

Engineering Division.

(3) In addition studies should be prepared in anticipation of a requirement for two pairs of external fuselage package guns.

By Command of Major General BRANSHAW:

T. A. BIMS,
Colonel, Air Corps,
Deputy Chief of Staff.

Distribution:
Production Division.
Air Service Command (3).

COM. GEN.
TECH. EXC.
ADM. EXC.
C. O.
BUD. OFF.
EXP. ENG.
CONTRACT
INSP.
PROD. DIV.
PROD. ENG.
PROD. CONT.
I. P. S.
A. S. C.
TECH. DATA
CIV. PERS.
OTHERS

Address reply & ENVELOPE to:

340

Commanding General
AAF Materiel Command
Engineering Division
Reference VRH:do:50
Wright Field, Dayton, Ohio

KV 2.1

cent. F.452.1
(pg. 1/3)

17923/641

24 January 1944

A-26B Airplanes - Design Studies re Installation of Co-Pilot and Additional Guns

Commanding General
Army Air Forces
Washington 25, D. C.

Attn: Asst. C/AS, M.M. & D.
Development Engineering Branch

1. TI-1583, dated 18 December 1943, directs that studies be initiated:

a. to determine the possibility of providing a co-pilot in the A-26B,

b. to provide for an all .50 caliber nose for the subject airplane (8 or 10 guns), and

c. to provide for the anticipated requirement of two pairs of external fuselage package guns.

Action on these studies is under way, but no definite recommendations can be made at this time. However, preliminary discussion, as contained below, is believed pertinent and may be of interest to the initiator of the action required by TI-1583.

2. Space is available to seat a co-pilot beside the pilot in all configurations except when carrying a 75 mm cannon. However, permanent provisions for a co-pilot will render the installation of the 75 cannon impossible, and will block off access to the bombardier's station when the bombardier's nose is fitted. Moreover, no solution to the problem of installing a permanent system has yet been found that does not involve a major redesign of the airplane. In view of these compromises, the installation of permanent co-pilot's provisions does not appear, at first glance, to be feasible. Hence, present activity is towards development of a kit which can be easily dismounted and stowed in flight. This kit consists of a co-pilot's wheel cantilevered off the top of the pilot's control column by a bean which is bowed up slightly to give adequate clearance above the throttles, and a pair of folding rudder pedals with necessary cables and pulleys.

COM. GEN.
TECH. EXC.
ADM. EXC.
C. O.
BUD. OFF.
EXP. ENG.
CONTRACT
INSP.
PROD. DIV.
PROD. ENG.
PROD. CONT.
S.
A. S. C.
TECH. DATA
CIV. PERS.
OTHERS
54

AAFMC-190-WF-5-20-42-2 Mil.

CENTRAL FILES

AC/AS, M.M. & D., Dev. Engr. Branch
A-26B Airplanes - Design Studies re Installation of Co-pilot and Additional Guns
24 January 1944.

3. The production A-26B airplanes will be provided with either a bombardier's nose or an "all purpose" gun nose. With either of these noses, any or all of the eight wing package guns may be carried. Hence, even with the bombardier's nose (which carries two fixed .50 cal. guns and one flexible gun), a total of ten guns may be carried fixed forward in addition to the two twin .50 cal. turrets and the single flexible nose gun. The all purpose nose carries the mounts and other provisions for the following selection of guns, any of which may be installed in a few minutes time:

a. 6 - .50 cal. guns

b. 4 - .50 cal. and 1 - 37 mm cannon

c. 2 - .50 cal. and 1 - 75 mm cannon

d. 2 - 37 mm cannon

e. 1 - 37 mm and 1 - 75 mm cannon

Consequently, the possible selections include one with fourteen fixed guns (nose plus wing) and two turrets of two guns each. The two upper turret guns can also be locked forward by the pilot, if desired. The arrangement described above is considered to provide rather devastating fire power -- particularly so when the airplane also carries a bomb load. The arrangement is believed to be most effective in that any gun, cannon, and/or bomb combination can be installed quickly, in the field, to combat whatever situation might arise. This flexibility is believed to be of utmost importance and should not be destroyed by the introduction of a new nose which does not have this feature.

4. Originally the design gross weight of the XA-26 airplane was 26,700 pounds. The airplane, as actually built, weighed 700 pounds less. No substantial structural change was made on the A-26B production airplane, but it was provided with so many flexible arrangements for carrying bombs, guns, cannon, and armor plate that the combination of all these loadings, if carried simultaneously, produced an airplane 10,000 pounds heavier than its design gross weight. Of course, not all of the various loads will be carried at once, but the normally considered combat weight is 33,400 pounds. Additional weight, in the form of fuselage package guns or more nose guns cannot be carried unless other parts of the pay load are deleted.

Cent. F. 452.1
(19.3/0.)

A^C/AS, M.M. & P[illegible]ev, Engr. Branch 36
A-26B Airplanes Design Studies re Installation of Co-pilot and Additional Guns
24 January 1944.

5. It is recommended that the above facts be brought to the attention of the office originating the request for these design studies.

For the Commanding General:

F. O. CARROLL,
Brig. General, U.S.A.,
Chief, Engineering Division.

CC: Prod. Div. (Capt. Bache)
Tech. Executive

3 FEB 1944

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S-1-1039

15

CONFIDENTIAL

BE REPLY AND ENVELOPE TO:

ANDING GENERAL
AAF MATERIEL COMMAND
PRODUCTION DIVISION
DEPARTMENT 70-2
WRIGHT FIELD, DAYTON, OHIO

Orig. 452.1 - T, Bombers
A-26
7 - (2 fl pk)
C 7, aa 7

ARMY AIR FORCES
MATERIEL COMMAND

Ref: RFE/ies/70-2
(P-3)

Wright Field, Dayton, Ohio

3 March 1944

1470

Subject: Armament Requirements for
A-26 Airplanes

To: Commanding General
Army Air Forces
Washington, 25, D. C.

Attention: Asst. Chief/Air Staff, M. M. & D.
Production Branch, Materiel Division

Reference: a. CTI-1597 dated 16 February 1944.

3/17/44

21st at L.B.
Est 16th at Tulsa

1. In accordance with reference a, action has been taken to have A-26B airplanes equipped with the all purpose gun nose delivered with the configuration of the six .50 caliber installed and to procure 200 kits of each of the alternate gun installations which will consist of 200 kits for four .50 caliber guns and 200 kits for two 37 mm. guns. These kits will be delivered to an AAF specialized depot. Office, Asst.Chief/Air Staff, M. M. & D., will be advised of the first airplanes on which the change from the original configuration of the 37 mm. gun and two .50 caliber guns to the new configuration of six .50 caliber guns will be accomplished, as soon as determined.

2. Reference a states that the external wing gun packages should be procured for 2/3 of the total airplane production including spares on the basis of AAF requirements, but that a higher ratio of wing gun packages may be required in the event that airplanes are later allocated to foreign governments. In this connection, it is recommended that the wing gun packages be procured for all airplanes for the initial 1000 airplanes on contract and that the matter be reviewed for a possible reduction in requirements prior to the time when production of the 2700 airplanes to be procured on the "J" program has started. This action is recommended since it will be much less difficult to reduce requirements for the wing gun packages at a later date than to increase requirements if the present indicated requirements of wing guns for 2/3 of total airplane production later proves to be insufficient. Action will be withheld on reducing present instructions to the contractor of one set of wing guns for each airplane pending further instructions to the Materiel Command in regard to the above recommendation.

16

C 3-520

C 1630

[redacted]

55

AAFMC-304-WF-7-10-43-26M

Armament Requirements for
A-26 Airplanes

3. In regard to the bombardier nose, the production schedule for this nose is not yet available but it is indicated that bombardier noses will not be available for production airplanes before September 1944. Action will be taken to schedule production of A-26 bombardier nose airplanes to reach a maximum of 2/3 of total production of airplanes as rapidly as possible after production of the bombardier nose is started.

E. P. WYNN,
Captain, Air Corps
Asst. Tech. Executive

[redacted]

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CONFIDENTIAL

70-2

Bomb. Br.
(pg. 1/1)

Ref: BFE/ies/70-2
(F-24)

Wright Field, Dayton, Ohio

2 March 1944

Contract W535 AC-21393
Model A-26B Airplanes
Technical Representative for Four Airplanes
for Special Project Assignment in 5th Air Force

Commanding General
Air Service Command
Patterson Field
Fairfield, Ohio

Attention: Technical Representatives Unit
Unit ASCMM1-A1, Colonel Dickerson

References: a. Douglas letter, C124/AAF-115/RAG, dated 2 Mar 44, to Commanding General, Air Service Command.

1. Four A-26B airplanes have been assigned to the 5th Air Force on Project No. 96469-R for tactical suitability evaluation tests. Since the A-26B is a new airplane and none have yet been delivered to the Southwest Pacific theater, it is recommended that service personnel familiar with the airplane and its equipment be authorized to accompany these airplanes to the theater in order that adequate maintenance can be provided.

2. In reference a, the Contractor has stated reasons why he considers it advisable to have a service representative thoroughly familiar with the A-26B airplane cover this project and the Contractor's opinions are concurred in by the Material Command.

3. It is strongly recommended that the service representative designated by the Contractor be authorized to accompany the subject airplanes on this assignment.

For the Commanding General:

GEORGE E. PRICE,
Colonel, Air Corps,
Chief, Production
Engineering Section.

Copy to:
Douglas Aircraft Co., Long Beach, Calif.

A26

3/9

CONFIDENTIAL

c 56

Orig, 452.02-14
Mod, A-26
- (1 pp)
C7, aa7

12

HEADQUARTERS ARMY AIR FORCES

SECRET

ROUTING AND RECORD SHEET

TALLY NO.	
FILE NO.	

SUBJECT: Modification of Airplanes

TO: General Echols
THROUGH: General Giles
FROM: General Arnold

DATE 3/13/44

COMMENT NO. 1

As a result of experience with the B-29's, it was apparent to me that we must have one man who has full authority to make decisions, move personnel, kick out the unfit and reward those who have done an excellent job.

The modification situation is disgraceful. Everybody is handling modifications and nobody is doing anything about modifications. It is being done at modification centers, at depots, at sub-depots and even in the squadrons. Nobody knew whether the parts were to be used or when they would arrive in the stations or whether, when they did arrive, they could be used for the airplanes. Civilians from factories were standing around doing nothing, while enlisted men were working 24 hours a day.

It was not until I personally landed at the scene and had a chart prepared showing every airplane, together with the movement of supplies necessary to put them into operating condition, that the log jam was broken. As a matter of fact, had not Meyers been with me and put on this special job, nothing would have been done yet.

Conditions in the A-26, while not as bad, are almost as bad. As we are moving now, the A-26 will be ready for the next war and not for this war. We cannot have more A-26's although we have plenty of fuselages, but not enough wings. We could build more wings if we had more spars, but we cannot build more spars due to difficult output of machinery. We might be able to build more wings if we were able to get more machinery, but whether we will be able to get more machinery I was unable to determine and nobody could give me the answer. One thing is certain: I want the A-26's for use in this war and not for the next war. If something drastic is not done, we cannot hope to replace the B-25's, B-26's and A-20's with the A-26.

In view of the above, let me have your plan for producing the A-26. I want this plan within the next few days.

H.H.A.

SECRET

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Au 0 8 1 S 2 1 1 3 1 3

3-1109 A.F.

452.02-H Hist. a-26 3-(1 pp) CF-aa 7

HEADQUARTERS ARMY AIR FORCES **SECRET**

ROUTING AND RECORD SHEET

TALLY NO.	
FILE NO.	

SUBJECT: Modification of Airplanes

TO: General Giles

DATE 16 March 1944

FROM: General Echols

COMMENT NO. 3 (cont'd) OPE/JJ/2128

2. With reference to the A-26, both this office and the Materiel Command have been endeavoring for many months to get the Douglas Company to take greater interest in the manufacture of this airplane. The Materiel Command spent a great many months locating and recommending to Douglas subcontractors to assist in the manufacture of this airplane, and urging Douglas to place his orders for tools and subcontracting. The Douglas Company seemed to have little interest in or little desire to manufacture this airplane.

At the present time it seems reasonable to expect the Douglas Long Beach plant to approximately meet its W-9 schedule for A-26's. The Tulsa plant is behind schedule due to the lack of wings which are to be manufactured by Beech Aircraft Corporation. The Beech Aircraft Corporation is behind schedule on wings, due to the delay in the delivery of the machine tools for the manufacture of the spars. I am informed that at the present moment we are 30 sets of spars behind schedule.

The additional machines required for the A-26 program are scheduled for delivery beginning March 20th and continuing until October. Based on present information, this will result in a delay of from two to three months in the W-9 Tulsa delivery schedule, unless additional spar milling capacity can be obtained to help the Douglas Company in the earlier stages of the program. There are only 30 spar milling machines in the United States, of which those at the Boeing Seattle, Boeing Wichita and Bell Marietta plants are suitable for the manufacture of A-26 spars. All possible action is being taken to expedite the delivery of the spar milling machines to the Douglas Company. The work load of these machines is now being studied with the view of allocating them a portion of the A-26 work until such time as the machines ordered for the A-26 program are delivered. A firm schedule on the A-26 cannot be furnished until this study is completed. The Commanding General of the Materiel Command has been directed to expedite this study and a schedule will be furnished your office at the earliest practicable date.

O/ Echols

O. P. ECHOLS,
Major General, U.S.A.,
AC/AS, MM&D

1 Incl.
Cy ltr fr XX Bomber Command to CG,AAF, Attn: Lt.Col.K.H. Gibson, dtd 15 Jan 1944.

[redacted] SECRET

Air AG 452.1 (1-13-44) 58

PAGE 4

S-1109 A.F.

Orig. 452-1-U
Bombers, A-26
8 (1/5 pp)
C 7 aa 7

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HEADQ[illegible]RS ARMY AIR FORCES

ROUTING AND RECORD SHEET

CONFIDENTIAL

TALLY NO.	
FILE NO.	

SUBJECT: Additional Tactical Range in A-26 Airplane

TO: AC/AS, OC&R, Requirements Division

DATE 22 March 1944

FROM: AC/AS, MM&D, Materiel Division

COMMENT NO. 1
Capt. W.H. Jones/mm/6330

1. Reference is made to an R. & R., subject as above, dated 13 January 1944. Quoted below is a report, subject, "Study of Additional Range in A-26 Airplane," dated 28 February 1944, as received from the Materiel Command, which is preliminary in nature. A final study will be supplied your office upon its receipt.

"(1) This is a resume of a preliminary study to determine the possibilities for additional tactical range in the A-26B airplane. It reviews the weight situation on the airplane and leads to general conclusions as to the amount of gasoline which can be carried with various bomb and gun loads without exceeding a certain maximum gross weight. The approximate ranges attainable with these loadings is shown for comparison purposes. A more detailed study is being conducted to establish the extended ranges with better accuracy.

"(2) Since there are so many quickly attachable items of armament, it is considered pertinent to list them here together with their weight.

a. Basic Airplane

Configuration	Weight Empty
Bomber	22,261
Attack (All purpose nose)	22,319
75 nose (First few aps. only)	22,213

b. Fixed Guns

	Weight
(1) 75 mm cannon & equipment	857 lbs.
20 rds 75 mm ammunition	400
	1257
(2) 75 mm cannon	857
Plus 2 - .50 cal. guns	128
20 rds 75 mm ammunition	400
800 rds .50 ammunition	248
	1633
(3) 6 - .50 cal. guns	384
2400 rds .50 ammunition	744
	1128
(4) 2 - 37 mm cannon & equipment	850
140 rds 37 ammunition	490
	1340

452.1 Bomber

Central Files
Files 45
Jos

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CONFIDENTIAL

8-.(2/5-44) 18

HEADQ[illegible]RS ARMY AIR FORCES

ROUTING AND RECORD SHEET

[redacted]

TALLY NO.	
FILE NO.	

SUBJECT: Additional Tactical Range in A-26 Airplane

TO: AC/AS, OC&R, Requirements Division

DATE 22 March 1944

FROM: AC/AS, MM&D, Materiel Division

COMMENT NO. 1 Cont'd
Capt.W.H.Jones/mm/6330

(5) 1 - 37 mm cannon		420
Plus 4 - .50 cal. guns		256
70 rds 37 ammunition		245
1600 rds .50 ammunition		496
		1417
(6) 2 - .50 guns (bomber nose)		128
800 rds .50 ammunition		248
		376
(7) Wing gun package complete with 2 - .50 cal. guns and 300 rds per gun.....	391 lbs. ea.	

(One package can be mounted on each of the four wing bomb racks)

c. Turret Guns

4 - .50 cal. guns & chargers	296
2000 rds. .50 ammunition	620
	916

d. Fuselage Bombs

56 Fragmentation bomb -	1400
Racks for above	300
	1700 lbs.

(Other bombs taken at nominal weight.)

Bombs	Max. No. in Front Bay	Max. No. in Rear Bay
1000 lb.	2 (one w/75)	2
500 lb.	2 (one w/75)	4
250 lb.	4 (Two w/75)	4
100 lb.	10 (5 w/75)	6

[redacted]

PAGE

8-(3/5th) 19

HEADQ[illegible]ERS ARMY AIR FORCES

ROUTING AND RECORD SHEET

[redacted]

TALLY NO.	
FILE NO.	

SUBJECT: Additional Tactical Range in A-26 Airplane

TO: AC/AS, OC&R, Requirements Division

DATE 22 March 1944

FROM: AC/AS, M&D, Materiel Division

COMMENT NO. 1 Cont'd

Capt. W.H. Jones/mm/6330

Bombs	Max. No. in Front Bay	Max. No. in Rear Bay
Para. Frags.	56 (32 w/75)	56

e. Wing Bombs

Any bomb up to 500 lbs. can be carried on each of the four wing bomb racks.

f. Fuel

600 gal. in Nacelles	3600 lb.
200 gal. in Wings	1200
125 gal. in fuselage tank	250
125 gal. fuel in fuselage tank	750
(Proposed) 200 gal. fuselage tank	300
200 gal. fuel in fuselage tank	1200

g. Crew

Bomber -	3	-	600 lb.
Attack -	2	-	400
75 mm -	3	-	600

"(3) From the above it is easily seen that, if too many of these items are installed simultaneously, an excessive airplane gross weight can result. In order to establish an upper limit of gross weight beyond which the airplane should not be loaded, it is only necessary to refer to page 11 of the inclosed booklet which shows that the performance and structural factors deteriorate to an impractical degree at weights heavier than about 34,500 lbs. Loadings heavier than this are not recommended for combat flying.

"(4) Sufficient space exists at the location of the present 125 gal. fuselage tank to substitute a 200 gal. tank. The design of this tank is largely complete inasmuch as it was originally built for the experimental airplane. Such a move adds 50 lbs. to the weight of the tank and 450 lbs. more fuel can be carried. No interference with any bomb loading results. In addition, if the entire front bomb bay is used for fuel, an additional, easily attachable 200 gal. tank can be carried. It may be possible to use a tank exactly similar to the suggested upper 200 gal. tank. When carrying both upper and lower fuselage tanks, only the rear bomb bay is available for bombs, where the following selection can be carried:

[redacted]

3 - (4/574) 20

HEADQ[illegible]RS ARMY AIR FORCES

ROUTING AND RECORD SHEET

[redacted]

TALLY NO.	
FILE NO.	

SUBJECT: Additional Tactical Range in A-26 Airplanes

TO: AC/AS, OC&R, Requirements Division DATE 22 March 1944

FROM: AC/AS, MM&D, Materiel Division COMMENT NO. 1 Cont'd
Capt. W.H. Jones/mm/6330

2 - 1000 lb. bombs
4 - 500 lb. "
4 - 250 lb. "
6 - 100 lb. "
56 - para. frags (1400 lbs.)

[illegible] weight of this lower 200 gal. tank and fuel will approximately compensate for the [illegible]ght of the bomb load it displaces.

"(5) Using the above data, a list of gross weights has been made up to illustrate the total loads which can be carried without exceeding a maximum weight of about 34,500 lbs. The 6 - .50 cal. gun combination in the all-purpose nose has been selected for this comparison. There is included in all of these loadings the following: the all-purpose nose, 6 - .50 cal. nose guns with 2400 rds. of ammunition, 4 - .50 cal. turret guns with 2000 rds. ammunition, crew of two.

Front Bomb Bay	Rear Bomb Bay	Wing Racks	Nacelle & Wing Fuel	Fuselage Fuel	Gross Wt.	Approximate Range (mi.)
a. With normal wing tanks plus fuselage tank (of 125 or 200 gal. capacity.)						
56 Frags.	56 frags.	-	800 gal.	-	33,105#	1500
"	"	-	"	125 Gal.	34,105	1690
"	"	-	"	200 "	34,605	1800
"	"	8-.50's & 2400 rds.	"	-	34,670	1400
"	"	"	"	125 "	35,670	1550
"	"	"	"	200 "	36,170	1650
b. With normal wing tanks, fuselage tank (of 125 or 200 gal.), and removable 200 gal. tank in front bomb bay.						
200 gal. fuel	56 frags.	-	800 gal.	125 Gal.	33,905	2100
"	56 "	-	800 gal.	200 Gal.	34,405	2200
"	"	8-.50's & 2400 rds.	"	125 Gal.	35,470	1900

[redacted]

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HEADQUARTERS ARMY AIR FORCES

ROUTING AND RECORD SHEET

[redacted]

TALLY NO.	
FILE NO.	

SUBJECT: Additional Tactical Range in A-26 Airplanes

TO: AC/AS, OC&R, Requirements Division

DATE 22 March 1944

FROM: AC/AS, MM&D, Materiel Division

COMMENT NO. 1 Cont'd
Capt.W.H.Jones/mm/6390

Front Bomb Bay	Rear Bomb Bay	Wing Racks	Nacelle & Wing Fuel	Fuselage Fuel	Gross Wt.	Approximate Range (mi.)
200 gal. fuel	56 frags.	8-.50's & 2400 rds.	800 gal.	200 Gal.	35,970	2000
"	-	"	"	"	34,270	2100
"	2 - 1000 Lb.	-	"	"	34,700	2200

"(6) Considering the above it is obvious that the substitution of the 200 gal. upper fuselage tank for the present 125 gal. tank and the addition of a 200 gal. lower fuselage tank in the bomb bay is all the fuel that can be added unless other parts of the disposable load is to be sacrificed. Even with this additional fuel, bomb loads must be reduced if the wing guns are carried. That is, when carrying both upper and lower fuselage tanks, the airplane can be used for an "all gun" mission with 14 fixed guns and no bombs, or for a bomb mission (any calibre) with the six fixed nose guns.

"(7) The contractor (Douglas, Long Beach) is working on a study to determine the actual maximum quantity of additional fuel which can be carried and the details of the necessary tankage and structure. Information on the outcome of this study will be transmitted when received.

R. A. LEGG,
Colonel, Air Corps,
Actg. Chief, Development Engineering Br.

[redacted]

Supplemental Agreement No. 13 to
Contract W 535 ac-21393 (5612)

Contractor: DOUGLAS AIRCRAFT COMPANY, INC.
Santa Monica, California.

X

X

X

X

X

X

X

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X

X

X

X

X

X

Approval Recommended
24 March 1944

O P Echols

O. P. ECHOLS
Maj. General, U. S. A.
Asst. Chief of Air Staff, M.M. & D.

Approved March 29, 1944
By direction of the Under Secretary of War under the provisions of the First War Powers Act of 1941 and Executive Order No. 9001, dated December 27, 1941.

PHILLIPS W. SMITH,
Colonel, G. S. C.,
ALBERT J. BROWN
Brig. General, General Staff Corps
Special Representative of the
Under Secretary of War

60
a 10

Supplemental Agreement No. 13 (S-3987)
to Contract No. W 535 ac-21393 (5612)

ANMB Preference: None

Classification: 01-A, 01-D

AFP: 234529

SUPPLEMENTAL AGREEMENT
TO
COST-PLUS-A-FIXED-FEE
CONTRACT
FOR SUPPLIES

(ARMY AIR FORCES)

WAR DEPARTMENT
LWD:op

CONTRACTOR:	DOUGLAS AIRCRAFT COMPANY, INC.
SUPPLEMENTAL AGREEMENT FOR:	1100 A-26B Airplanes, Spare Parts, Special Hand Tools and Data
CHANGE IN ESTIMATED COST:	Increase - $119,419,829.10
CHANGE IN FIXED FEE:	Increase - $ 4,776,793.16

Payments to be made by the Finance Officer, U. S. Army, 824 South Western Avenue, Los Angeles, California.

The supplies and services to be obtained by this instrument are authorized by, are for the purposes set forth in, and are chargeable to the allotment below enumerated under the heading "Debit", the available balance of which is sufficient to cover the cost thereof.

Debit

ACA 1942-44, 2-4005 P 110-09 A 212/40705

This Supplemental Agreement supersedes Letter Contract Special Form dated 3 November 1943, as revised 22 December 1943.

Encl 1 Encl 3

X

X

X

X

X

X

X

X

X

Approval Recommended
24 March 1944

O P Echols

O. P. ECHOLS
Maj. General, U. S. A.
Asst. Chief of Air Staff, M.M. & D.

Approved: March 29, 1944
By direction of the Under Secretary of War under the provisions of the First War Powers Act of 1941 and Executive Order No. 9001, dated 27 December 1941.

Phillips W. Smith

PHILLIPS W. SMITH,
Colonel, G. S. C.,
~~ALBERT J. BROWNING~~
~~Brigadier General, General Staff Corps~~
Special Representative of the
Under Secretary of War.

Encl 2

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SUPPLIES

(ARMY AIR FORCES)

WAR DEPARTMENT
IWD:lmr

CONTRACTOR:	DOUGLAS AIRCRAFT COMPANY, INC.
SUPPLEMENTAL AGREEMENT FOR:	1600 A-26B Airplanes, Spare Parts, Special Tools and Data.
CHANGE IN ESTIMATED COST:	Increase - $177,309,934.08
CHANGE IN FIXED FEE:	Increase - 6,948,062.79 / 184,257,996.87

Payments to be made by the Finance Officer, United States Army, Central Building, Tulsa, Oklahoma.

The supplies and services, if any, to be obtained by this instrument are authorized by, are for the purposes set forth in, and are chargeable to the allotments below enumerated under the heading "Debit", the available balances of which are sufficient to cover the cost thereof. The reduction, if any, in estimated cost and fixed fee under this instrument will result in credits to the allotments below enumerated under the heading "Credit".

Debit

ACA 1942-44, 2-4005 P 110-09 A 212/40705

This Supplemental Agreement supersedes Letter Contract Special Form dated 3 November 1943, as revised 22 December 1943.

9/23/43

2
Encl

CONFIDENTIAL

11 April 1944

AIR MAIL

SUBJECT: A-26 Type Airplane.

TO: Commanding General,
Army Air Forces,
Washington 25, D.C.

Attention: Assistant Chief of Staff,
M. M. & D.

THROUGH: Commanding General,
AAF, Materiel Command,
Production Division,
Wright Field, Dayton, Ohio.

1. Spar Caps.

a. Through March 1944, wing spar caps had been the governing factor in A-26 production. This airplane was designed around its wings, the construction of which is altogether different from that of any other aircraft. The wing spars, including eight inboard and eight outboard beams, form the backbone of these wings. The design of the eight inboard caps is such that special machinery was needed to turn them out in quantities, and to further complicate production, each of the eight caps is different and requires a separate machine set-up.

b. To provide sufficient facilities to produce these spars, it was decided to set up machine shops at the Douglas Location "S" in Santa Monica and at the American Seating Company, Grand Rapids, Michigan. Location "S" is to produce spars for wing fabrication at Long Beach and at Beechcraft until such time that American Seating can supply Beechcraft with sufficient quantities. Long Beach will supply Tulsa with 100 sets of wings from their own production line, to be delivered to Tulsa before August 1944. All wings built at Beechcraft will go to Tulsa.

c. Although Location "S" started production in May 1943, they had turned out only twenty-five complete ships sets by December of that year. The contractor stated that unforeseen difficulties in the machining operation entailed on these spars and the lack of sufficient machinery were the retarding factors. Since December 1943, additional machines have been received and installed, which, together with the contractor's instituting a detailed study of production, resulted in turning out twenty-six caps in February and forty in March 1944. American Seating Company will begin their test runs in approximately ten days, with the first spar being produced in June.

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CONFIDENTIAL

[redacted]

d. As of this date, spar caps are no longer a critical shortage. Ninety-five complete ships sets have been delivered to Long Beach for anodising and for checking of engineering deviations. Twelve of these ninety-five sets have been shipped to Beechcraft, leaving eighty-three available for the wing line at Long Beach; sixty-one sets of wing structures have been completed at Long Beach, thirteen of which were shipped to Tulsa. Thirty-eight sets of wings with nacelles joined, including installations, have been completed at Long Beach. Ship number 37 has its wings installed at the correct line position with ship number 32 to the ramp.

e. Although the contractor has issued a revised schedule of spar cap production that is quite favorable, this office is following production very closely.

f. The Ford, Rough River Plant, is conducting experiments in producing spar cap Part No. 5153627, using the Keller duplicator; however, relief from this source is doubtful at this time. Goodyear Rubber Company, Akron, is also conducting similar experiments.

2. Long Beach Production.

a. The A-26 airplane was accepted by the Army and delivery schedules set up before all design and tooling difficulties were alleviated. Generally speaking, each of these airplanes up to the present time has been a hand-made article, as tooling has been unable to catch up with the numerous changes in fabrication. These are not necessarily all major engineering changes, but small detail changes that are being made to make this production airplane. At one period during the past few months there were as many as thirty-five change orders a day on this airplane; however, the picture is somewhat brighter now.

b. Some of the engineering difficulties that have been encountered are sagging of the wings on two airplanes, failure of propellers to feather properly, undergage material in the conrol surfaces, poor visibility of the cockpit, improper functioning of the recoil machanism of the 75 mm gun, revision of the pilots escape hatch, faulty engine control panel, and vibration of the aircraft with the bomb bay doors open. All the above have been corrected and are operating successfully except the cockpit and control panel, which are still under study.

c. The first airplanes of this type to be modified for combat duty are numbers 17, 18, 19 and 20. Delivery of these four airplanes is anticipated approximately 1 May. Airplane number 33 is also undergoing modification on the line for another theatre.

d. Due to the termination of the C-47 contract and the desire of the contractor to utilize C-47 labor advantageously, it was requested that

[redacted]

[redacted]

100 ships worth of A-26 material be allocated during the third and fourth quarters of 1944; such labor and material to be used in fabrication of A-26 parts, which ultimately would be used in securing additional airplanes. This office secured subject material allocation through the Aircraft Scheduling Unit, Wright Field, at the rate of 17 airplanes per month.

e. Colonel Morgan, Wright Field, and Mr. Robert Hall, representing the contractor, have agreed upon a revision of scheduled production at Long Beach in April 1944 of 10; May, 15; June, 25; and returning to the W-9 Schedule in July.

3. Tulsa.

a. All experimental work on the A-26 airplane is to be carried on at Long Beach with the majority of production at Tulsa. All purchasing for both Long Beach and Tulsa has been through their offices located here on the West Coast.

b. Long Beach is supplying Tulsa with 100 sets of wings, nacelles, and wing installations. Beechcraft will supply Tulsa with wings for the majority of the contract.

4. Sub-Contractors.

a. Cancellation of contracts with sub-contractors has also threatened production. In January 1944, it was decided that Reed Roller Bit was unable to turn out landing gears in sufficient quantities, therefore, the contract was let to Cessna; Douglas having to produce 200 sets in the meantime.

b. John Deere's inability to produce sufficient quantities of control surfaces has resulted in Douglas initiating a new contract with Taylorcraft. Taylorcraft is to furnish two-thirds of the required surfaces and Tulsa the remaining.

c. All other vendors' and sub-contractors' schedules of deliveries to the prize contractor's plant are being investigated with a view to the increased production of aircraft.

D. F. STAGE,
Brig. General, U.S.A.
District Supervisor

[redacted]

REPLY AND ENVELOPE TO:
COMMANDING GENERAL
MATERIEL COMMAND
PRODUCTION DIVISION
DEPARTMENT 70-2
WRIGHT FIELD, DAYTON, OHIO.

Cent. F. 452.1
(pg. 1/2)

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ARMY AIR FORCES
MATERIEL COMMAND
OFFICE OF THE COMMANDING GENERAL

RFB/mgs/70-2
(F-2)

WRIGHT FIELD, DAYTON, OHIO

390-6995

24 April 1944

Subject: Development of Training Aids for A-26B Airplanes

To: Chief, Training Aids Division
One Park Avenue
New York 16, New York
Attn: Chief, Development Branch

Reference: a. Letter from Chief, Development Branch, TAD, D27/WBK (452.3 TAD F2569) dated 15 February 1944.

1. Training Aid Division is advised that it is considered that the development of the A-26B production airplane has reached the stage where training aids can be developed without risk of being rendered obsolete by drastic changes in the design of the airplane and equipment.

2. Following is a list of principal tactical production changes being incorporated on A-26 airplanes manufactured at the Douglas Tulsa and Long Beach plants with the effective points on which these changes are started:

	ITEM	DOUGLAS TULSA No. of Ap.	DOUGLAS TULSA Ser. No.	DOUGLAS LONG BEACH No. of Ap.	DOUGLAS LONG BEACH Ser. No.
a.	All Purpose Gun Nose	16th	43-22267	21st	41-39120
b.	External Wing Guns	16th	43-22267	21st	41-39120
c.	All Electric Bomb Release System	51st	43-22302	41st	41-39140

3. The all purpose gun nose specified above provides for interchangeable gun combinations of six .50 caliber guns, two 37mm guns and one 75mm cannon plus two .50 caliber guns. The external wing guns listed above are contained in four 2-gun packages mounted externally under the wings, which can be readily installed and removed in service. It is believed that it may be desirable to develop training aids in connection with these armament installations.

4. The all electric bomb release system differs considerably from the original installation and, in addition, provides for carrying 14 of the Type R-1 fragmentation bomb racks. It is believed advisable to consider this new bombing installation in the development of any training aids in connection with the bomb control system for the airplane.

AAFMC-212-WF

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CONFIDENTIAL

Letter to Chief, Training Aids Div.
24 April 1944
RTB/mgs/70-2 (P-2)
Page 2.

5. The A-26 airplane is at present being produced with only the all purpose gun nose noted above. However, a bombardier nose is being developed which will be incorporated in a bomber version of the airplane at a later date. It is expected that the first bombardier nose will be in production in October 1944. The bomber version of the airplane will comprise 2/3 of the total airplane production and the present attack version will then be decreased to 1/3 of total production. It would, therefore, appear advisable that a bombing training device should be considered for the bomber version of the A-26 airplane.

6. The specific features of the A-26 airplane which differ from current aircraft are the all purpose gun nose and the G. E. central station fire control system. It is understood, however, that fire control system training devices for the A-26 airplane comprising the sighting station and the upper and lower turrets have already been developed. No changes in the fire control system are contemplated at this time.

7. Information is furnished that a series of motion pictures on the maintenance and operation of the A-26 airplane have already been started by the Technical Data Laboratory at Wright Field. The Pilot's Handbook for the A-26 airplane has been published and distributed; however, it is undergoing a revision at this time to incorporate the all purpose gun nose and the all electric bomb release system as noted above. The Contractor has prepared an illustrated brochure of this airplane covering the salient features of the armament and equipment which can be available in quantity if desired and which might be of benefit in the training program.

8. The Materiel Command will be pleased to cooperate with Training Aids Division to the fullest extent in furnishing any information and material in connection with the development of training aids for the A-26 airplane.

For the Commanding General:

GEORGE E. PRICE,
Colonel, Air Corps,
Chief, Production
Engineering Section

cc: Eastern Dist. Supervisor

CONFIDENTIAL

Aug. 452-1-W
Bombers, A-26

26

ADDRESS REPLY TO
HEADQUARTERS OF THE ARMY AIR FORCES
WAR DEPARTMENT
WASHINGTON, D. C.

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By Authority of
The Commanding General
Army Air Forces
2C/5/44 [illegible]
Date Initials

WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON

C file 6/3/44

FILE 12 MAY 1944 AFRDB

MEMORANDUM FOR DEPUTY CHIEF OF THE AIR STAFF (BRIGADIER GENERAL TIMBERLAKE):

Subject: Introduction of A-26 Aircraft to the European Theatre.

1. Status of the project to dispatch eighteen (18) A-26 airplanes to United Kingdom for service test is outlined below:

a. Assistant Chief of Air Staff, Materiel, Maintenance and Distribution, has been requested to have ready for departure by 1 August 1944 eighteen (18) A-26's. The Ninth Air Force has stated its desire to have its A-26's in the proportion of one-third (1/3) bombardier noses and two-thirds (2/3) gun noses. The exact date when bombardier noses will be available is uncertain, but this proportion is to be met as closely as possible.

b. Assistant Chief of Air Staff, Training has been requested to have ready for departure by 1 August 1944 eighteen (18) trained crews. If possible without lessening potential training efficiency, pilots are to be selected from instructor pilots who already have some time in twin-engined aircraft. Since training time is limited, this action is desirable. Further, such personnel should be valuable in the conversion program in theater. After gaining combat experience, their caliber should be sufficiently high to permit their being used as flight leaders or squadron commanders to crews following them.

c. Colonel John R. Kelly, formerly A-3 of the 901st Army Air Force Air Base Unit (Tactical Wing) is project officer for this movement. He will monitor the project and go with the airplanes overseas.

2. The target date for this project was set at 1 August 1944, because of the following important considerations.

a. Assistant Chief of Air Staff, Materiel, Maintenance and Distribution cannot guarantee delivery prior to that date of airplanes having the re-worked pilot's canopy. Of the airplane's unsatisfactory features which have come to light here, one of the most vital is the restricted vision from the cockpit. The Proving Ground Command's report on the A-26 took cognizance of this and stated "the wide frames of the cockpit structure interfere with the pilot's vision to a considerable extent". Formation flying, at best, is difficult with the A-26, due to inherent visibility

452.1 Bombers

FOR VICTORY
BUY UNITED STATES WAR BONDS AND STAMPS

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limitations and, since the airplanes on this project are to be subjected to combat test, all possible improvements in visibility are believed mandatory. The removal of the wide canopy frames, which will be accomplished on the re-worked canopy, will be of pronounced value in this respect.

b. In the interval between the setting up of the project and the target date, Assistant Chief of Air Staff, Training estimates that only the minimum acceptable amount of training can be given the crews, and that an earlier date would result in a degree of training definitely unsatisfactory for combat crews. Training of crews in the United States is part of the program approved by the theater, as set out in paragraph 3c below.

c. By taking the first eighteen (18) A-26's available (without improvement in cockpit vision) it would be possible to get them to the theater somewhat sooner, by having them flown by the Air Transport Command. On examination, however, the seeming advantage in this alternative is not actual. Air Transport Command personnel are not yet familiar with the A-26, and therefore, a period of training for its pilots would be necessary. On arrival in the theater, a transition training period would be necessary for the B-26 combat crews in the theater. Two training periods for two separate groups of personnel would, it is believed, delay the combat test of the project beyond the time it can be expected under the present plan.

3. Conversion of the B-26 groups in the United Kingdom to A-26 type aircraft is to be accomplished in the following manner:

a. Four (4) A-26 Mobile Training Units, consisting of nine (9) to eleven (11) instructors and complete mockups, turrets, sighting stations, computers, hydraulic systems, etc., are en route to the United Kingdom along with four (4) A-26 aircraft which are to be assigned to one Group until the ground crew conversion is accomplished, after which they are to be moved along with the mobile training unit to the next group to be converted.

b. It is estimated that the first group will receive their sixty-four (64) complete war aircraft and crews, trained here, during the month of October and from then on there will be sixty-four (64) in December, seventy-five (75) in January 1945, ninety-three (93) in February, and one-hundred twenty (120) in March, which will complete the conversion of the eight (8) B-26 groups in the United Kingdom. It is then planned to convert the B-26 units in the Mediterranean theater.

c. There were two plans devised for the purpose of accomplishing the above mentioned conversion. Both were submitted to the theater by cable dated 21 December 1943, and the theater accepted the plan above. The other plan contemplated returning forty-eight (48) men each month, beginning in February 1944, from each B-26 group now in the theater, for training here and

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return. The plan accepted by the theater, it is believed, will work out with maximum effectiveness and efficiency, since it follows the accepted program of training combat crews in the continental Air Forces' Replacement Training Units, with no change in the present system.

Noted
Pns

PATRICK W. TIMBERLAKE
Brigadier General, U. S. A.
Deputy Chief of Air Staff

I Meeing

H. A. Craig
Major General, U. S. Army
Asst. Chief of Air Staff
Operations, Commitments & Requirements

[redacted]

AAFMC-265-A-WF-2-26-43-500M

17

INTER-OFFICE MEMORANDUM

ARMY AIR FORCES
MATERIEL ~~XXXXXX~~ COMMAND
Office of The Commanding General

Bomb. Br.
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VEG:ee:51
Wright Field, Dayton, Ohio

Date 18 MAY 1944

TO: Bombardment Branch, Production Engineering Section, Wright Field.

SUBJECT: Flight Restrictions of A-26B Airplanes.

1. The wing spar of the A-26B airplane failed in static test at slightly over 80 percent of ultimate load in the Positive Low Angle of Attack Condition, at a normal gross weight of 26,000 pounds.

2. As a result of this failure, all A-26B airplanes should immediately be restricted to a maximum flying weight of 26,000 pounds, a maximum limit load factor of 3.6 "g" and a maximum indicated air speed of 340 miles per hour.

Serial No. 1492
Assigned
Ackn.
Ans.
To Note
File
Cross Refs.

FRANK N. MOYERS,
Colonel, Air Corps,
Acting Chief,
Aircraft Laboratory,
Engineering Division.

(Modified by later R & R Sheet. RJB)

(26) A-26B

Signature .....

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INTER-OFFICE MEMORANDUM

ARMY AIR FORCES
MATERIEL CENTER
Office of The Commanding General

Lt. V.E. Greimann:es:51
Ext. 22253.

Wright Field, Dayton, Ohio
Date 13 JUN 1944

TO: Chief, Production Engineering Section, Wright Field.

Load Factor - Gr. Wt.

SUBJECT: Redesign of the Wings of the Douglas A-26B Airplane.

1. A series of seven static tests were conducted on the wings of the A-26B airplane in the Positive Low Angle of Attack Condition. In the first four tests, failures of either the wing or the fuselage carry-through structure occurred between 80 and 90 percent ultimate load, despite the fact that various reinforcements were made on the wings and fuselage. In the fifth test, the wings supported, then failed at 95 percent ultimate load. The reinforcement made before this test consisted of the following changes:

a. The wing attaching pins were changed to new pins with a smaller inside diameter.

b. The upper forward and upper aft fuselage carry-through members were reinforced with the addition of stabilizing blocks and the substitution of several bolts for rivets.

c. The 9 rivets securing the lower surface skin to the rear spar between the nacelle and the oil cooler exhaust vent were replaced with steel screws.

d. The rivets securing the lower surface skin assembly to the wing between the fuselage and nacelle were replaced with steel screws of the same diameter.

e. The bolts through the wing attach pins were replaced with 3/4 inch bolts with special washers on each end.

f. Fillets were increased at the inboard end of the front spar lower skin attachment flange.
(The reinforcements outlined above are now being incorporated on all A-26B airplanes.)

Two additional tests were conducted using further reinforcements designed by the Materiel Command in cooperation with the Contractor. These additional reinforcements, however, gave no additional strength to the wing, and in each case both the front and rear spars failed in tension. It must be deduced that the wing cannot be readily reinforced to support 100 percent ultimate loads and that some redesign is necessary to gain the desired strength.

Signature .....

66.

13 JUN 1944

"Redesign of the Wings of the Douglas A-26B Airplane."

2. Observations of the wing during the static tests have disclosed a number of poor detail design features. Although no attempt is made to enumerate all of these faults in detail design, a few examples are listed below:

a. The fillets at the junction of the shear web attachment flanges and the spar caps are considered to be too small. This is also true of the fillets at the junction of the skin attachment flanges and the spar caps.

b. The fillets at the termination of these flanges on the front spar are considered to be too small.

c. Holes have been drilled through the spar caps without any apparent consideration for reduced area and stress concentrations. This is particularly evident in the front spar at the nacelle and in the rear spar at the flap brackets.

d. The rear spar has been counterbored at the flap attachment brackets with insufficient filleting and with no apparent consideration for reduced area and stress concentrations.

3. In view of the need for a redesigned wing, it is recommended that the Contractor proceed, without delay, to make a redesign incorporating the following changes:

a. Increase the spar cap cross-sectional area of front and rear spars, upper and lower chord members by at least 10 percent each. It is recommended that at least a part of this increase in area be achieved by increasing the thickness of the skin attachment flanges and shear web attachment flanges, and by increasing the fillets of these flanges.

b. Eliminate the counterbore in the rear spar caps at the flap attachment brackets.

c. Give due consideration to all reduction in spar cap cross-sectional area due to bolt holes, and allow for stress concentrations at all holes.

d. Eliminate all other poor detail design features such as sharp corners, excessive tension pick-up in the skin, and unduely large clearances at the wing-fuselage attachment fittings.

13 JUN 1944

41.

Chief, Production Engineering Section, Wright Field.
"Redesign of the Wings of the Douglas A-26B Airplane"

4. The redesign outlined in paragraph 3 should be made immediately. However, it is recommended that the Contractor proceed, as planned, with a strain gage survey of the wing with a view to further redesign at a later date. It is well to bear in mind that in a wing of conventional design, the skin-stringer combination is easily reinforced to give added bending strength; however, the wings of the subject airplane are designed in such a manner that the spars must support the entire bending load. For this reason, reinforcement of the wing, without major changes, is virtually impossible when additional bending strength is required. While it is desirable to place the redesigned wing into production as soon as possible, it should not interfere with present production of A-26B airplanes with reinforced wings, as shown in paragraph 1 above.

Paul H. Kemmer
PAUL H. KEMMER,
Colonel, Air Corps,
Chief, Aircraft Laboratory,
Engineering Division.

Bomb. Br.
(P4.1/1)

22

C

Basic Communication - ICM from Aircraft Lab., (Lt.V.E.Greimann:es:51) dated 13 June 1944. Subj: Redesign of the Wings of the Douglas A-26B Airplane.

1st Ind.

Capt.R.F.Bache/Tel: 2-6157
lss/70-2 (P-26)

Chief, Production Engineering Section, Wright Field, Dayton, Ohio. 19 June 1944

To: Chief, Engineering Division, Wright Field, Dayton, Ohio. Attn: Chief, Aircraft Laboratory.

1. Information is furnished that the wing reinforcements outlined in paragraph 1 of basic communication are being incorporated in production in all A-26B airplanes effective as of 9 June 1944. In addition, kits of parts and a service bulletin are being prepared for these modifications to be incorporated in service airplanes at the earliest possible date.

2. When these modifications have been accomplished, the present restrictions as covered by Technical Order 01-40AJ-11 will be lifted.

3. It is understood that Aircraft Laboratory has prepared a Load Factor--Gross Weight--Speed Chart for the A-26B airplane based upon the actual strength of the airplane being 95% of design load and based upon the current gust factor of 25-feet per second.

4. The contractor has been requested to proceed with a redesign of the wing with a view to increasing the strength by about 10% and to eliminate the undesirable detail design features in the spar caps substantially as recommended in paragraph 3 of basic communication. The contractor has been requested to keep Materiel Command informed in detail of proposed design changes and all information pertaining to design changes will be forwarded to Aircraft Laboratory for examination and comments as received.

GEORGE E. PRICE,
Colonel, Air Corps,
Chief, Production
Engineering Section.

(26)
A-26

Bomb. Br.
(pg. 1/4)

~~Col. J. Cook~~ - see
~~Col. Rison~~ WR
A-26 Files

[redacted]

SEM/sw

29 July 1944

SUBJECT: Report on Operations, Maintenance and Tactical Suitability of Four (4) A-26B Airplanes Assigned to 5th Air Force.

TO: Commanding General
AAF Materiel Command
Wright Field, Dayton, Ohio

ATTENTION: Dept. 70-2

This report is based on first hand information obtained in combat operations in the Southwest Pacific. These airplanes were assigned to the 3rd Attack Group for combat tests. Three (3) of the airplanes were flown in combat for approximately fifty (50) hours each and the fourth for approximately twenty-five (25) hours, at which time it was grounded for lack of spare parts. Approximately ten (10) pilots and gunners participated in combat in the A-26 and the following report is based on the opinions of these crews:

1. Tactical Suitability:

a. Visibility: This one feature, lack of visibility, in the opinion of all pilots makes the A-26B absolutely unsatisfactory as an attack airplane. Inability to see to either side sufficiently makes it impossible to fly the tactical formations that are mandatory in low level tactics. This condition is so critical that personnel flying in combat consider it dangerous when flown in the accustomed attack manner.

b. Forward Fire Power: With the wing guns installed, all pilots were favorably impressed with the fourteen (14) forward firing guns. However, when the wing guns are installed performance is cut down to such an extent that the added speed and performance over older attack aircraft is nullified. It was found that speed was reduced by at least twenty-five (25) miles per hour. Without the wing guns the forward fire power is considered inadequate. The feature of only being able to charge the guns from the ground was considered unsatisfactory.

c. Controls: Elevator forces required for pullouts at high speeds and at low altitudes were considered too great. At low speeds all pilots agreed that aileron control was too sluggish and ineffective.

d. Range: The fuel capacity was considered inadequate, at least enough fuel for two (2) hours additional operation being desired.

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Bomb. Br. (P9-3/4)

e. Turrets: While the turrets were well liked, the bottom turret was felt unnecessary and it was desired that they be deleted from all airplanes to be used in attack.

f. Armor and Deflector Plate: No definite opinion was given with regards to the large amount of armor plate, both inside the airplane and wrapped on the outside of the fuselage. All pilots expressed a feeling of added security and safety with all the armor plates, but failed to make a firm statement as to whether they would like the wrapped deflector plate removed in order to decrease weight and possibly increase performance.

g. Life Rafts: The present location of the life raft is not considered satisfactory in that rapid removal in an emergency might be too difficult and even impossible in ditching operations.

2. Recommendations:

a. Visibility: It is recommended that the highest priority be given to the improving of the pilot's visibility. It is not felt that the removing of structure in the present canopy will be sufficient, but that some method must be provided that the pilot may see over the protruding engine nacelles.

b. Forward Fire Power: It is recommended that a new nose incorporating as many .50 caliber guns as possible be incorporated in production as soon as possible and that if possible internal wing guns be incorporated in lieu of the present wing gun packages. Some automatic charging device for all forward firing guns should be incorporated to allow the guns to be charged from the cockpit.

(No interest whatsoever was shown in the 75mm cannon in the all purpose nose and it is not desired. There was interest, however, in the 37mm gun configuration, but it was impossible to conduct any tests in combat due to the fact that no links were available.)

c. Controls: It is recommended that immediate steps be taken to lighten the elevator control forces, the incorporation of a servo-tab being a possible solution. The effectiveness of aileron control at low speeds should be improved in any possible manner.

d. Range: It is recommended that additional fuel be added to allow two additional hours operation.

e. Turrets: It is recommended that the bottom turret be deleted in production airplanes to be assigned to organizations employing lower level tactics.

f. Armor and Deflector Plate: In view of the fact that no definite recommendations were made by the activity conducting combat tests,

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Comb. Bn. (Pg. 3/4)

the following recommendation is a personal recommendation based on much more limited combat experience. It is recommended that all deflector plate in the sides and top of the fuselage be deleted, but that all armor plate internal in the fuselage be left as in the present airplane.

g. Life Raft: It is recommended that a thorough study be made to find a more suitable location for the life raft. A possible location is believed to be in the fuselage to the rear of the gunner's compartment with an automatic ejection control to be operated by the pilot.

3. Armament:

The following are the malfunctions found in the forward firing guns:

a. C-11 solenoids were always a source of much trouble and it is recommended that they be replaced by type C-4a solenoids.

b. Frequent jams were attributed to the link chutes and it is recommended that they be enlarged.

c. The Air-loc fasteners on the nose fairings were a source of much trouble requiring frequent replacements and requiring excessive time for removal and installation. These fasteners should be replaced by some better type.

d. The wing gun fairings were not satisfactory in that they were too difficult to install. A new design of the wing gun fairings providing more ease for installation and removal is recommended. A door should be provided on the rear of the fairing to permit removal of back plate and moving parts of the gun mechanism without necessitating removal of the entire fairing.

e. A sturdier type of gun charger should be used on all fixed guns, wing and nose, with pulleys placed so as to allow a clearer path for the charging cable.

4. Maintenance:

Ground personnel considered the airplane very satisfactory from the maintenance angle, but certain troubles were encountered and are noted below:

a. Electrical Trouble: The greatest source of trouble was found to be in the electrical system. Numerous failures were found in cowl flap motors, wing flap motors and oil cooler door motors. This is mostly attributed to the excessive amounts of moisture found in these units due to heavy rainfall and high humidity.

[redacted]

It is recommended that every effort be made to water-proof these units to eliminate future recurrences of this trouble.

b. Air Filters: It is mandatory that controllable air filters be incorporated in airplanes going to the theater in which these four A-26's were operating. Without these filters, engine life is entirely too short due to the extreme dusty conditions.

c. Fuel Selector Valves: Leaking fuel selector valves were a source of constant trouble and it is recommended that corrective action be taken to correct this unsatisfactory condition.

d. The following discrepancies are noted for information and corrective action:

(1) Carburetor heat actuating arms rub on exhaust stacks.

(2) Dust covers on inboard flap actuating arm rub spar webb cut-out.

(3) Nacelle door bearing in forward hinges were found to wear rapidly.

(4) Auxiliary tank filler wells were found to leak in several instances.

(5) Reports were prepared from records maintained on all airplanes by the squadrons to which the airplanes were assigned. These reports are attached hereto and are made a part of this report.

SAMUEL E. MC FADDEN
Captain, Air Corps
A-26 Liaison Officer

[redacted]

(pg. 7/2)

42

Lt. J. C. Solvason
pe:51 Ext. 25264

5 AUG 1944

Chief, Production Engineering Section, W.F.
Attention: Bombardment Branch.

A-26B Bomb Bay Investigations

452 Douglas

1. The following comments are given on Douglas Experimental Flight Test Division Technical Report No. E-67, entitled "Results of A-26B Bomb Bay Investigations" as requested in D&DTR No. B-45-436, dated 15 July 1944.

2. The referenced report contains the data from several flight investigations on the A-26B bomb bay. When the bomb bay doors in their present configuration were opened at speeds in excess of 240 mph I.A.S. an unsteady flow condition existed in the region of the bomb bay that caused objectionable pressure fluctuations in the rear compartment, buffeting of the bomb bay doors, vibration in the fuselage, and directional oscillations of the airplane. The Bombardment Branch of Production Engineering Section has confirmed the fact that these difficulties existed and were highly objectionable.

3. As a result of the investigation a spoiler system consisting of three 4 inch by 16 inch vertical plates mounted under the fuselage just forward of the bomb bay was selected as the production configuration. The two outboard spoilers reduced the door shaking and eliminated the directional oscillations. The center spoiler decreased the static pressure in the airplane and lessened the magnitude of the pressure fluctuations in the rear compartment.

4. The spoilers are fully retractable; therefore, in the bomb bay doors closed position, no reduction in speed is effected. With the doors open, the Indicated airspeed at 4500 feet density altitude at rated rpm and manifold pressure is decreased from 266 mph to 264.5 mph by the three 4-inch by 16-inch spoilers.

5. Metal patches were put over the lightening holes in the bomb bay doors to prevent the skin from pulling over the rivet heads.

6. Loads in the actuating arms on the rear bulkhead were recorded but they are only of casual interest.

7. A satisfactory solution to the open bomb bay flow problem was found in the three retractable spoilers.

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A. S. C.
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Chief, Production Engineering Section, W.P., Att. Bomb. Br.
A-26B Bomb Bay Investigations

5 AUG 1944

8. The data presented appear very comprehensive and are correctly interpreted in the referenced report.

9. It is recommended that the report be accepted.

Arthur L. Lowell

A. L. LOWELL,
Captain, Air Corps,
Asst. Dir., Aerodynamics Br.,
Aircraft Laboratory.

For PAUL H. KEMNEP,
Colonel, Air Corps,
Chief, Aircraft Laboratory,
Engineering Division.

44.

Ref: [illegible] F. B. Downey, Jr.
Telephone 2-6157
JM/70-2 (F-3)

70-2

Wright Field, Dayton, Ohio

16 August 1944

452.1

A-26B Airplanes
Design of 8 Gun Nose (.50 Caliber)

Commanding General
Army Air Forces
Washington 25, D. C.

Attn: AC/AS, Materiel and Services
Material Division

Ref: a. T. I. 1583 dated 18 December 1943

1. Douglas Aircraft Company has submitted an engineering proposal for an 8 gun nose for A-26B airplanes. The gun arrangement is shown on the attached photographs of the Douglas mock-up.

2. The A-26B 8 gun nose will incorporate the following features:

a. 400 rounds per gun.

b. Kidde pneumatic gun chargers.

c. Hughes form fitting flexible chuting.

d. M-1 link chute adapters.

e. Links and cases will be retained in the nose.

f. Alternate provisions for installation of the following all purpose nose armament configurations:

(1) One 75 mm cannon and four .50 caliber guns.

(2) One 75 mm cannon and one 37 mm cannon.

(3) Two 37 mm cannons.

g. It will not be possible to install .50 caliber guns in combination with a single 37 mm cannon.

18 AUG 1944

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AAFMC-190-WF-5-20-42-2 Mil.

CENTRAL FILES

45.

Commanding General
AAF Air Forces
Washington 25, D. C.

Ref: [illegible]
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Address reply & ENVELOPE to:

Commanding General
AAF Materiel Command
Engineering Division
Reference: Dept. 50
Wright Field, Dayton, Ohio

Orig. 452.1-aa
Bomber, A-26
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C T, RAF

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Col. V. R. Haugen
gc: Ext. 32353

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ARMY AIR FORCES
HEADQUARTERS OF THE MATERIEL COMMAND

29

CONFIDENTIAL

WRIGHT FIELD, DAYTON, OHIO
29 August 1944

Subject: A-26 Airplane - R-2800-22W Installation.

X452.13
Engines

FILE

To: Commanding General,
Army Air Forces,
Washington 25, D. C.

Attn: Ass't. C/AS, M. & S.
Development Engineering Branch

1. Reference is made to recent telephone conversations between representatives of the Development Engineering Branch, M. & S. and the Materiel Command relative to the opinion of the Materiel Command regarding the "C" series R-2800 engine in A-26 airplanes. This is to confirm that the Materiel Command is in favor of changing to the "C" engine at the earliest time that these engines become available. Below is listed a comparison of the performance of the airplane with the present "B" and with the "C" series engines. These values are extrapolated from the best available data correct to the powers and altitudes listed and should be considered as estimated data only.

a. High Speed (at 27,000 lbs. Gross Weight)

	True Speed	Alt.	H. P.	R.P.M.	M.P.	Blower
1. "B" Engine (M.R.P.)	342	SL	2000	2700	52	Low
	357	4000	2000	2700	52	Low
	363	15,000	1600	2700	47	High
(W.E.R.)	356	SL	2250	2700	58	Low
	363	2400	2250	2700	54	Low
	376	12,600	1900	2700	51	High

(20)

dc - 44204

[redacted]

AAFMC-804-WF-7-14-44-500M

70

32 43

Commanding General
A-26 Airplane - R-2800-22W
Installation
29 August 1944

12(2/3 Ab)

[redacted]

High Speed (at 27,000 lbs. Gross Weight

	True Speed	Alt.	H. P.	R.P.M.	M.P.	Blower
2. "C" Engine (M.R.P.)	353	SL	2100	2800	52	Low
	368	4000	2100	2800	52	Low
	380	19,000	1600	2800	47	High
(W.E.R.)	369	SL	2400	2800	58	Low
	376	2400	2400	2800	54	Low
	399	16,000	2000	2800	51	High

b. Rate of Climb at SL (at 32,000 lbs. Gross Weight

	H.P.	R/C
1. "B" Engine (M.R.P.)	2000	2350
(W.E.R.)	2250	2750
2. "C" Engine (M.R.P.)	2100	2775
(W.E.R.)	2400	3250

c. Take-Off Over 50 Feet (at 32,000 lbs. Gross Weight)

	H.P.	T.O.
1. "B" Engine (M.R.P.)	2000	2725
(W.E.R.	2250	2425
2. "C" Engine (M.R.P.	2100	2600
(W.E.R.	2400	2275

[redacted]

Commanding Gene[redacted]
A-26 Airplane - R-2800-22W
Installation
29 August 1944

12-(3/3044)

[redacted]

d. Service Ceiling

1. There will be very little change in service ceiling since the blower on the two engines are the same. The "C" engine will be slightly superior since it operates at higher R.P.M. for normal rated power.

e. Range

1. It is not possible to accurately show the range of the "C" engine version without protracted range calculations. However, there should be no significient difference between the two engines. Some slight improvement may accrue from the smaller cooling drag on the "C" engine installation if full advantage is taken of its better cooling characteristics.

2. It appears at present that if a go ahead were received soon all production engineering could be finished by December and "C" engines could be started in the line in March 1945.

For the Commanding General:

F. O. CARROLL,
Brig. General, U. S. A.,
Chief, Engineering Division.

V. R. HAUGEN,
Colonel, Air Corps
Assistant Chief,
Bombardment Branch
Aircraft Projects Section

[redacted]

Carbon, 452.1-AA
Bombers, A-26
13-(1/1 pp)
C 7, AA 7

32

[redacted] (1)

6 September 1944

original delivered by hand

MEMORANDUM FOR GENERAL GILES:

Subject: A-26's for General Kenney.

X201-0

1. While in New Guinea you asked me to make a note to send General Kenney six of our newest A-26's. As you remember we now have in the UK a squadron of eighteen A-26's for the purpose of determining their combat value. After discussing General Kenney's request with the agencies concerned in this Headquarters I recommend that we do not send the six A-26's to General Kenney at this time because:

a. The changes and modifications which are now proposed for the A-26 will not be completed until about 1 January.

b. General Kenney is now very much opposed to the A-26. In this frame of mind he will probably give an unfavorable report on the present A-26 which does not have all the changes which we propose to put on it.

c. The combat tests now being carried on in the UK with the eighteen A-26's should give us an excellent estimate of their value and assist us in making a sound decision as to the future of the A-26. If this test shows the A-26 to be the airplane we think it is, we will have a strong talking point in any discussions with General Kenney.

2. Recommend that you approve the attached radio.

WILLIAM F. McKEE
Colonel, A.C.,
Deputy Asst. Chief of Air Staff,
Operations, Commitments & Requirements

452.1 Bombers

1 Incl.

OFFICE SYMBOL	1 AFOCR	2 M&S	3	4	5	6
SIGNATURE OF RESPONSIBLE OFFICER	MMcKee	Gen Echols				
INTERNAL OFFICE COORDINATION		Concurred strongly by telephone				

71

[redacted]

10—20232-2 U. S. GOVERNMENT PRINTING OFFICE

Bomb. Br.
(pg. 1/1)

15

CONFIDENTIAL

Theater Comments on A-26 Type Airplanes

To: Chief, Production Section
Procurement Division

From: G.A. Hatcher,
Colonel, Air Corps

28 Sept 44
Col.G.A.Hatcher:mls
Ext. 2-2240

1

1. The A-26 is not desired as a replacement for present types of light and medium bombardment airplanes. In discussions with Colonel J. O'Neil, A-3 of the 14th Air Force at Kunming, it was pointed out that since spares are so critical in this theater, it would be foolish to replace the B-25's which are operating successfully.

2. General Kenny, Commanding General of the Far Eastern Air Force in Hollandia, was very outspoken on the subject. His exact words were, "We do not want the A-26 under any circumstances as a replacement for anything". These airplanes were thoroughly service tested by experienced crews and flown under actual combat conditions. They are unsuitable for formation work and cannot be flown close to the ground individually as a strafer airplane. The A-26's in that theater are all grounded at present or in permanent storage with the engine pickled.

G. A. HATCHER,
Colonel, Air Corps

To: TSBPR3I

From: TSBPR

Date 3 October 1944
Dict. By: Col. G. E. Price
/amo

Phone No.: 2-9105

2. 1. For comment.

GEORGE E. PRICE,
Colonel, Air Corps,
Chief, Production Section.

Serial No.	1243
Assigned	
Ackn.	
Ans.	
To Note	
File	
Cross Refs.	

[redacted]

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Bomb Ex. (F9-11)

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C

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TSBPR317/Capt.R.F.Bache/Tel: 29137/ies
(F-26) 30
DATE: ~~27~~ September 1944
FROM: Production Section

TO:
MATERIEL DIVISION
PRODUCTION BRANCH

GEORGE E. PRICE, Colonel, A. C.

TSBPR317-9-17. . . . . .NEW PILOT'S CANOPY FOR A-26 AIRPLANES, MCR 190. REFERENCE CTI-1737 DATED 8 JUNE 44. INFORMATION IS FURNISHED THAT THE NEW PILOT'S CANOPY WILL BE INCORPORATED IN PRODUCTION AIRPLANES AT THE LONG BEACH PLANT STARTING WITH 251ST AIRPLANE WHICH IS SCHEDULED FOR DELIVERY THE LAST WEEK IN OCTOBER. AN AIRPLANE INCORPORATING THE FIRST PROTOTYPE CANOPY WAS RECENTLY INSPECTED BY PERSONNEL FROM YOUR HEADQUARTERS DURING THE WEEK OF 17 SEPT 44. IN VIEW OF THE AMOUNT OF ENGINEERING DEVELOPMENT AND TOOLING REQUIRED FOR THIS CHANGE, THIS COMMAND CONSIDERS THAT THE EFFECTIVE POINT ESTABLISHED AT LONG BEACH IS SATISFACTORY.

INFORMATION HAS RECENTLY BEEN RECEIVED FROM THE DOUGLAS TULSA PLANT SPECIFYING THAT THE EFFECTIVE POINT FOR THE ABOVE CHANGE WILL BE THE 501ST AIRPLANE WHICH IS SCHEDULED FOR DELIVERY THE LAST WEEK IN JANUARY. THE CONTRACTOR HAS OFFERED THE FOLLOWING REASONS

(CONTINUED ON PAGE TWO)

Bomb. B1.
(pg. 2/4)

C

PAGE TWO

TSBPR317-9-17 CONTINUED. . . FOR THE 90-DAY DELAY IN EFFECTIVE POINT BEHIND THE LONG BEACH PLANT.

A. THE LONG BEACH PLANT GOT AN EARLY START BY TOOLING FOR PRODUCTION DURING DEVELOPMENT AND BY MOVING THE PROJECT DIRECTLY FROM DEVELOPMENT INTO THE PRODUCTION LINE. THIS WAS POSSIBLE DUE TO THE FACT THAT BASIC ENGINEERING WAS LOCATED AT LONG BEACH.

B. THE LOFT LINES, WHICH ARE BASIC TOOLING INFORMATION, WERE NOT RECEIVED IN THE TULSA PLANT UNTIL 26 AUG 44 AND THEREFORE FABRICATION TOOLS WILL NOT BE AVAILABLE FOR USE UNTIL THE FIRST WEEK IN OCTOBER.

THE AAFRR IS FOLLOWING THIS PROJECT VERY CLOSELY AND HAS CONCURRED WITH THE CONTRACTOR THAT THE 501ST AIRPLANE IS THE EARLIEST EFFECTIVE POINT WHICH CAN BE ESTABLISHED IN ORDER TO INSURE THAT THERE WILL BE NO DELAY IN PRODUCTION OF AIRPLANES.

THE CONTRACTOR AND AAFRR HAVE BEEN ADVISED OF THE EXTREME TACTICAL IMPORTANCE OF THIS CHANGE AND HAVE BEEN INSTRUCTED TO MAKE EVERY EFFORT TO IMPROVE THE EFFECTIVE POINT

(CONTINUED ON PAGE THREE)

Bomb. Br.
(09: 3/4)

C

TSBPR317-9-17 CONTINUED. . . . . NOTED ABOVE. UNOFFICIAL ADVICE HAS BEEN RECEIVED FROM THE CONTRACTOR TO THE EFFECT THAT IF THERE ARE NO DELAYS IN PROCUREMENT OF MATERIAL AND FABRICATION OF TOOLING THAT THE EFFECTIVE POINT MIGHT BE IMPROVED TO START WITH THE 401ST AIRPLANE WHICH WOULD BE DELIVERED ABOUT THE TENTH OF JANUARY.

IN VIEW OF THE FACT THAT THE ASSEMBLY LINE IS MOVING AT THE RATE OF 40 AIRPLANES PER WEEK DURING JANUARY, THE CONTRACTOR IN ESTABLISHING THE 501ST AIRPLANE AS THE EFFECTIVE POINT HAS ALLOWED HIMSELF AN AMPLE MARGIN OF TIME TO INSURE THAT ANY UNEXPECTED DELAYS IN PROCUREMENT OF MATERIAL AND FABRICATION OF TOOLING WILL NOT CAUSE A DELAY IN PRODUCTION OF AIRPLANES. HOWEVER, IN VIEW OF THE TACTICAL IMPORTANCE OF THIS CHANGE, IT IS RECOMMENDED THAT AUTHORITY BE GIVEN THIS COMMAND TO SPECIFY THE EFFECTIVE POINT AS THE 401ST AIRPLANE EVEN IF THIS ACTION WOULD CAUSE DELAY IN PRODUCTION. IT IS BELIEVED THAT IF THE EFFECTIVE POINT IS SET AT 401ST AIRPLANE, THE CONTRACTOR WILL MAKE A GREATER EXTRA EFFORT TO MEET THIS POINT WITHOUT DELAY IN PRODUCTION AND THAT IF ANY DELAYS IN

(CONTINUED ON PAGE FOUR)

PAGE FOUR

TSEPR317-9-17.CONTINUED. . . . . .PRODUCTION DO OCCUR, IT CAN BE MADE UP IN THE FOLLOWING MONTHS. IT IS BELIEVED THAT THE 401ST AIRPLANE AT TULSA IS A REASONABLE POINT FOR REQUIRING THIS CHANGE CONSISTENT WITH THE CONTRACTOR'S ABILITY TO MEET THIS POINT AND CONSISTENT WITH THE TACTICAL IMPORTANCE OF THE CHANGE. END. AATSC.

WOLFE-MEYERS, AIR TECHNICAL SERVICE COMMAND

CC - Chief, Aircraft Sub-Section

File: A-26 Airplanes

33

SECRET

Ltr Hq 9th Bombardment Div (M) dtd 2 Oct 44, subj: Report of A-26 Combat Suitability Missions.

1st Ind.

HEADQUARTERS, NINTH AIR FORCE, A.P.O. 696, U.S. Army, 5 October 1944.

TO: Commanding General, U. S. Strategic Air Forces in Europe, APO 633, U.S. Army.

1. The foregoing report of A-26 combat suitability missions is herewith approved and forwarded.

2. Attention is invited to the fact that the missions flown do not constitute a complete and conclusive test of the combat suitability of the aircraft. This report does establish the fact that the A-26 aircraft is a suitable replacement for B-26 and A-20 aircraft in the 9th Bombardment Division and that all units can be re-equipped with the A-26 airplane without lowering the unit's combat efficiency.

3. The A-26 aircraft were received in this Air Force at an inopportune time for complete and conclusive suitability tests. The principal difficulty was the lack of suitable targets for testing the airplane at low altitude and making maximum use of forward fire power. It is also felt that the test can be performed much more effectively by a combat unit equipped with the aircraft.

4. As is indicated in paragraph 1 of basic letter, a unit will be re-equipped with A-26 aircraft and missions assigned to this unit to provide a thorough and conclusive test of the combat suitability of the aircraft. An appropriate report will be rendered upon completion of the unit test.

HOYT S. VANDENBERG
Major General, USA
Commanding.

2nd Ind.

HEADQUARTERS UNITED STATES STRATEGIC AIR FORCES IN EUROPE, APO 633 US ARMY. OCT 8 1944

TO: Commanding General, Army Air Forces, Washington, D.C.,

Approved and forwarded.

FOR THE COMMANDING GENERAL:

[redacted]

74

"COPY"

FROM ARNOLD WASHINGTON DC 092201Z

TO DIR AAF ATSC WRIGHTFLD DAYTON OHIO GRNC

RESTRICTED PRIORITY WAR FOUR THREE EIGHT THREE FOUR WELL SUPPORTED OPINION IS THAT LITTLE CREDENCE SHOULD BE GIVEN TO THE MANUFACTURES EXPLANATIONS FOR DELAY IN MAKING THE A-26 PILOTS CANOPY CHANGE IN THE TULSA FACTORY /ATTENTION PRODUCTION SECTION TSBPR AFDMA-4C/ REFERENCE YOUR TELETYPE TSBPR317-9-17 DTD 30 SEPT 44 SUBJECT NEW PILOTS CANOPY FOR A-26 AIRPLANES MCR-190 THIS OPINION IS BASED ON THE FACT THAT THE CONTRACTOR HAS AN AIRPLANE WHICH MAKES SEVERAL WEEKLY TRIPS BETWEEN HIS VARIOUS PLANTS COORDINATING HIS ACTIVITIES AMONG THEM IT IS BELIEVED THAT THE CONTRACTOR HAD HE SO DESIRED AND EXERTED THE EFFORT OF WHICH HE IS CAPABLE COULD HAVE MADE T IS CHANGE IN PRODUCTION FAR MORE QUICKLY AND A FAR MORE SUITABLE AIRPLANE WOULD BE AVAILABLE FOR COMBAT IT HAS BEEN DEFINITELY ESTABLISHED THAT CORRECTION OF POOR VISIBILITY IN THIS AIRPLANE IS A FEATURE AFFECTING THE MILITARY UTILITY WHICH CAN BE RECKONED IN TERMS OF LIVES AND IN ABILITY TO USE THE AIRPLANE IN COMBAT UNITS. FROM EXAMINATION OF THE THREE AIRPLANES SENT TO THE AIR FORCES BOARD FOR COMBAT SUITABILITY TESTS VISITS TO THE FACTORY INSPECTION OF MOC UP CONVERSATIONS WITH MANUFACTURER REPRESENTATIVES AND FLYING OF THE FINAL MODIFIED VERSION IT EX IS CONCLUDED THAT THE CONTRACTORS EFFORTS IN CONNECTION WITH THIS AIRPLANE HAVE BEEN FAR FROM SATISFACTORY AND LITTLE SHORT OF REPREHENSIBLE. IT HAS BEEN DETERMINED THAT A DELAY IN DELIVERY OF FIVE AIRPLANES IN OCTOBER FIFTEEN AIRPLANES IN NOVEMBER AND TWENTY FIVE AIRPLANES IN DECEMBER CAN BE ACCEPTED IF THE NEW CANOPY INSTALLATION CAN BE EXPEDITED ON AIRPLANES FROM THE TULSA PLANT SO THAT THEY CAN BE USED IN COMBAT. AN IMMEDIATE INVESTIGATION ON THIS BASIS IS DESIRED AND THE RESULTS REPORTED TO THIS OFFICE PROMPTLY.

See TSBPR317-10-49 dtd 13 Oct 44 to M.& S.

See TSBPR317-10-48 dtd 13 Oct 44 to DSM.

Form 54
(Pg 1 of 1)

TELEGRAM

OFFICIAL BUSINESS—GOVERNMENT RATES

FROM: WAR DEPARTMENT

BUREAU Lt.F.B.Downey,Jr./ies
~~Tel: 29137 (P-26)~~

DATE: 13 October 1944

~~FROM: Production Section~~

MATERIEL DIVISION
PRODUCTION BRANCH

GEORGE E. PRICE, Colonel, AC
AFDMA-4C

TSEPR317-10-49. . . . .RS (A) AFDMA-4C 663 DTD 4 OCT 44; (B) WAR 43834 DTD 9 OCT 44; (C) TSEPR317-9-17 DTD 30 SEPT 44. A-26B & A-26C AIRPLANES. MCR-190, REDESIGNED PILOT'S CANOPY. DOUGLAS LONG BEACH HAD ADVISED PRIOR TO TIME THAT REFERENCE (C) WAS WRITTEN THAT ENGINEERING INFORMATION ON MCR-190 WAS BEING FORWARDED TO TULSA AS SOON AS AVAILABLE. DOUGLAS LONG BEACH HAD ALSO ADVISED THAT DUE TO THE TIME REQUIRED TO DEVELOP THE REDESIGNED CANOPY LOFT LINES WERE NOT AVAILABLE IN TIME TO REACH TULSA BEFORE 26 AUG 44. THE VERACITY OF STATEMENTS BY DOUGLAS REPRESENTATIVES WITH REGARD TO THE ABOVE IS BEING INVESTIGATED. DOUGLAS TULSA HAS REVISED THE PRODUCTION EFFECTIVE POINT FOR MCR-190 TO THE 401ST TULSA AIRPLANE WITHOUT DELAY IN DELIVERIES. APPROXIMATELY 50 ADDITIONAL CANOPIES WILL BE HAND BUILT TO MODIFY AS MANY PLANES AS POSSIBLE PRIOR TO THE 401ST WITHOUT DELAY IN DELIVERIES. ATSC IS INVESTIGATING THE ADDITIONAL IMPROVEMENT IN EFFECTIVE POINT THAT CAN BE OBTAINED IF DELIVERIES ARE DELAYED THE AMOUNT GIVEN IN REFERENCE (B). AN INVESTIGATION NOW UNDER WAY WILL CHECK ALL POSSIBLE REASONS FOR THE TULSA PLANT'S LAG BEHIND LONG BEACH. ADDITIONAL INFORMATION WILL BE FORWARDED AS SOON AS AVAILABLE. END. AATSC.

WOLFE-MEYERS, AIR TECHNICAL SERVICE COMMAND

CC - TSEPR3
TSTEX

Ans ATSC tel Oct 13, 44 (Downey-Price)

76.

Bomb. Br.
(pg. 1/1)

CONFIDENTIAL 16

SEM/ies (F-2)

Theater Comments on A-26 Type Airplane

TSBPR TSBPR317 16 October 1944
Capt. S.E. McFadden
29137

3

1. The 14th Air Force's desire to continue operation with the B-25 airplanes and not replace them with the A-26 airplanes is apparently based upon the spare parts situation in that theater, as it is not believed that personnel of that theater have enough knowledge of the A-26 to know whether it would be more or less suitable than the B-25 operationally.

2. As a result of combat suitability tests run on the A-26 in the Southwest Pacific, General Kenny advised several months ago that he did not want the A-26 as replacement for the A-20 and/or B-25. Poor visibility afforded pilot was the predominant objection.

3. Since that time, a new pilot's canopy has been developed and will be incorporated in production at Long Beach the latter part of October and at Tulsa around the first of January. An A-26 with the prototype new canopy has just completed a circuit from Long Beach to Washington to Eglin Field to Wright Field and back to Long Beach. Favorable comments on the new canopy were received from all who inspected and flew the airplane. Colonel Hennebry, C.O. of the Group that flew the A-26 in combat in the Southwest Packfic, and on whose recommendation General Kenny advised that he did not want the A-26, was in Washington and flew the new canopy A-26 when it was there. He was well pleased with the improved visibility and indicated that the airplanb should be operationally suitable in the Southwest Pacific theater. Comments from all the Eglin Field pilots that flew it were favorable.

4. Recommended changes such as internal wing guns, eight gun nose, added fuel and other more minor changes are in the development stages at present and will be incorporated as soon as possible.

W. T. RISON,
Lt. Colonel, Air Corps,
Chief, Bombardment Branch.

CONFIDENTIAL

c 77.

Carbon
45-2,1-AB
Bombers, A-26
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C 7,997

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SECRET

AFRDB
Maj Puckett/dr/72936
18 Oct 44
Rewrtn: AFOCR/JR/hn/73378
19 Oct 44

MEMORANDUM FOR THE CHIEF OF AIR STAFF:

Subject: Brief of a Report on A-26 Combat Suitability Missions in ETO

1. In compliance with your directive, there follows a condensation of a report submitted by the Ninth Air Force on A-26 combat suitability. This report is based upon eight combat missions performed by a detachment of 18 aircraft and crews sent to the UK this summer under Colonel John H. Kelly. These missions do not completely reflect combat suitability of the aircraft because no strafing attacks were performed and no attacks by enemy fighters were encountered.

2. Preliminary Flight Test Results. The following conditions were found most suitable for combat operations in this theater:

a. Climb. 400 to 800 FPM at 180 MPH indicated, bomb load up to 4,000 pounds.
b. Cruising. 220 MPH indicated with 2,050 RPM and 4,000-pound bomb load.
c. Altitude. Recommended 12,000 feet as most satisfactory operating altitude.
d. Bomb Loads. For economy of operation, maximum range, and best flying characteristics, it is recommended that an internal bomb load only be carried (4,000-pound maximum).
e. Formation. Poor pilot visibility necessitated stepping the wing men down to or below the level of the lead aircraft. Flights were also stepped down. This modification satisfactory. (Note: Present A-26's are equipped with a new canopy greatly improving pilot visibility.)

3. Combat Mission Operating Data.

a. Targets. Included heavy gun positions, an air field, a railway causeway, a marshaling yard, and German defensive positions.
b. Duration. Maximum 4 hours and 25 minutes, minimum 2 hours, from take-off to landing.
c. Bomb Load. All missions were flown with internal bomb load only totaling 4,000 pounds, the various loadings being 4 x 1,000 pounds, 12 x 250 pounds, and 6 x 500 pound bombs.

4. Combat Fuel Consumption. Fuel consumption was lower than anticipated for formation flying, averaging approximately 185 gallons per hour.

45-2,1-AB Bombers, A-26 5-(1/3 pt) C 7,997

OFFICE SYMBOL	1	2	3	4	5	6
SIGNATURE OF RESPONSIBLE OFFICER						
INTERNAL OFFICE COORDINATION						

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5. Combat Radius of Action. The radius of action of the A-26 was found to be greater than expected under conditions of operation in this theater. Results indicated radius of action of 450 miles for formations up to 18 aircraft and 400 miles for formations of 36 aircraft.

6. Enemy Opposition. No fighter opposition was experienced and flak was encountered on only two missions. Damage to the airplanes was superficial. One airplane lost an engine, due to flak, but returned safely to base with no difficulty.

7. Armament Equipment. Appears to be satisfactory but, as no fighters were encountered, no conclusive statement can be made.

8. Defensive Armor. Appears to be satisfactory. The deflector plate stopped a flak fragment in the one case experienced where the armor plate was hit.

9. Flying Characteristics. These are very good. Single-engine performance under various load conditions was excellent. The A-26 is very stable when operating with an internal bomb load. With an external bomb load, the flying characteristics are adversely affected, the airplane becoming slower and less maneuverable.

10. 2,000-Pound Bombs. It is recommended that provisions be made for carrying these. (Note: A study of this installation in the A-26 will be completed by 30 October by Materiel Division, Wright Field.)

11. Crew Composition. It is recommended that both a navigator and a bombardier be used in all lead airplanes. Both were comfortably carried in the bombardier nose A-26's along with the "Gee" radio. Wing airplanes were easily handled by crew of only pilot and gunner.

12. Maintenance. The A-26 is comparatively easy to maintain. Only slightly more maintenance was required than is normally required on B-26 aircraft.

13. Refueling and Bomb Loading. This requires only slightly more time than the B-26.

14. Conclusion. The A-26 is very effective as a medium altitude bomber. Its large and more variable load makes it superior to the A-20, while the range exceeds both the A-20 and B-26. Its superior single-engine performance is a very important asset. Its speed advantage over other medium bombers, plus its flying qualities and its maneuverability and ease of maintaining formation, permit longer missions with less crew fatigue. A strong asset is the saving of flying personnel requirements. Excellent visibility in the bombardier nose is one of the greatest advantages. It is concluded that, as a medium altitude bomber, the A-26 airplane has met successfully the tests imposed by combat conditions in ETO.

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SIGNATURE OF RESPONSIBLE OFFICER						
INTERNAL OFFICE COORDINATION						

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16. Modifications. (Note: A detailed list of recommended modifications is included with this report. Most of the major modifications mentioned have been the subject of previous study or action, such as the incorporation of larger wheels and brakes. Requirements for several major items and a large number of small items were reported for the first time and will require appropriate action. At the present time, Colonel John Kelly, who took the A-26 project to ETO, Colonel Ben Funk of AC/AS, OCAR, Requirements Division, Bombardment Branch, and the Materiel Command A-26 Project Officer from Wright Field, are at the Douglas Plant seeing what can be done to initiate all modifications for ETO as indicated to be necessary.)

Signed

H. A. Craig
Major General, U. S. Army
Asst. Chief of Air Staff
Operations, Commitments & Requirements

OFFICE SYMBOL	1 AFOAR	2 AFDAT	3	4	5	6
SIGNATURE OF RESPONSIBLE OFFICER	Craig					
INTERNAL OFFICE COORDINATION			- 3 -			

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(pg. 1/1)

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SIGNAL CENTER
BASE SIGNAL OFFICE, HQ. ASC
PATTERSON FIELD, OHIO

1944 OCT 22 01 25

GREENWICH TIME

Col Rison
Capt Dowell

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14/8

KBW

A.S.C. ACTION	INFOR.	A.G.O. INFOR.
CEP		

1742d

2-25 1944 OCT 21 PM 9:44

RD V WARH NR16 WD

FROM ARNOLD WASHINGTON DC 212249Z

TO DIR AAF AIR TECH SERV COMD WRIGHT FLD DAYTON OHIO ATTN GEN WOLFE
GRNC

attached with our reply to work also to Donald Douglas

no cy in C.F.

AFAMS-2 6141 PD REPRESENTATIVES OF THIS HEADQUARTERS HAVE RECENTLY INSPECTED THE DOUGLAS TULSA AND LONG BEACH PLANTS REGARDING A-26 PRODUCTION REFERENCE IS MADE TO TELETYPE 43834 DATED 9 OCTOBER ON THIS SUBJECT IT IS THE OPINION OF THIS HEQDQUARTERS THAT THE DIVISIONAL MANAGERIAL SET-UP AT DOUGLAS TULSA AND LONG BEACH WITH THE ENGINEERING CONCENTRATED AT THE LATTER PLANT WILL CONTINUALLY RESULT IN THREE TO SIX MONTHS DELAY OF PRIORITY PRODUCTION CHANGES AT THE TULSA PLANT. SINCE IT IS NOT FEASIBLE AT THIS TIME TO MAKE TULSA THE PRIMARY ENGINEERING SOURCE THE ONLY ALTERNATIVE APPEARS TO BE TO PROVIDE STRONGER LIAISON PERSONNEL FOR TULSA AND POSSIBLY STRONGER PRODUCTION TOOLING PEOPLE. THIS MATTER WAS DISCUSSED INFORMALLY WITH MR CONANT AND HE STATED THAT THE MATTER WOULD BE INVESTIGATED. IT IS DIRECTED THAT THE ATSC FOLLOW UP ON THIS MATTER.
0037Z

AFAMS-2 6141 A-26 43834 9

XXXX See letr to AC/AS, M & S, 8 Nov 44 79
(F-2)

To, Procurement
necessary action
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PS 12-72

Bomb Br.
(pg. 1/2)

23

S

26 October 1944

A-26B & A-26C Airplanes
Malfunction of Nose Gear Down Lock

W. T. LARSON,
Major General, U.S.A.,
Commanding General,
3rd Air Force.

1. The following is a report of action taken by this Command to improve operation of the nose gear down lock on A-26 airplanes.

2. During the course of accelerated service tests and winterization tests on A-26 airplanes, some difficulty was experienced in getting the nose gear to lock in the down position. No accidents resulted because in every case the pilot was finnally able to get the gear locked. On 17 June 44, this Command requested Douglas to take action to improve operation of the down lock. Douglas accomplished a revision to the nose gear down lock mechanism under MCR 248. This change was incorporated in production on the 65th Long Beach airplane, Serial No. 41-39164 and subsequent, and the 28th Tulsa airplane, Serial No. 43-22279 and subsequent. Airplane No. 41-39164 was delivered from the factory on 27 June 44 and airplane No. 43-22279 was delivered from the factory on 17 July 44.

3. The description of MCR 248 given by Douglas is as follows:

REASON: To improve operation and prevent malfunctioning of nose gear down lock mechanism for the protection of personnel and aircraft.

DETAILED DESCRIPTION: To prevent possible interference between pin and slot, controlling dimension has been added to slot and tolerances on parallelism of slot to axis added. To eliminate possibility of threads of screws bottoming on latch pin, dog point set screw has been replaced by dog point hex head bolt. To avoid possibility of pin being restrained from rotation sufficiently to prevent

(17) A-26

80.

engagement, tolerance on slot in pin has been decreased and the dog on screw reduced in diameter. In addition, the tensile strength of the screw was increased by different heat treatment. To avoid possible sticking of the pin in upper link, tolerances on eccentricities were added and the pin chrome plated. To reduce possibility of malfunction in service, the adjusting screw has been replaced by the hex head bolt and initial adjustment accomplished by laminated shims under the bolt head.

4. Douglas has advised that parts for the service change will become available approximately 7 Nov 44. A service bulletin is being completed and will be supplied with kits of parts as soon as possible, in order to make the change on the 91 service airplanes which do not yet incorporate MCR 218.

5. As a result of telephone conversation with Capt. Gordon Fulton, Supervisor of Maintenance for the 3rd Air Force Bomber Command, MacDill Field, Tampa, Florida, and Lt. Saunders of the Office of Flying Safety, Winston-Salem, North Carolina, it was learned that there have been a total of six cases of nose wheel failures on B-24 aircraft in the 3rd Air Force between 15 June 44 and 13 Oct 44. Of these six cases, the gear failed to lock in the down position on five airplanes, AAF Serial Nos. 44-[illegible], 44-[illegible], 44-[illegible], 42-[illegible] and 44-[illegible], and the nose gear collapsed upon landing. In these five cases, the indicator showed that the gear was in the down and locked position. In all of these airplanes, a change had been accomplished to remedy an initial faulty installation which allowed the indicator to show the nose gear down and locked when the lock pin was not fully engaged. This change consisted of replacing the toggle switch with a micro-switch; however, in view of the above accidents, it appears that the Douglas engineered micro-switch installation can also give a false indication. Action will be taken to correct this condition on production and service airplanes. On one airplane, Serial No. 42-[illegible], it was reported that the nose wheel did not come out of the wheel well. Pilot landed airplane with main gear down, nose wheel up. Further detailed information is not available at this time.

6. The Douglas Aircraft Company Service Representative, Mr. Curtiss Filmore is enroute to Wright Field this date from the Marianna Air Base. Mr. Filmore has been with this group of airplanes for a long period of time and it is expected that detailed information on the nose gear difficulties together with information on further corrective action can be obtained upon Mr. Filmore's arrival.

K. B. WOLFE,
Brigadier General, U.S.A.,
Chief of Engineering & Procurement,
Air Technical Service Command.

Bomb. Br. 19. 1/1)

33

C

Capt.R.R.Russell/ies/Tel: 26157 (F-26)

DATE: 28 October 1944
FROM: Production Section

MATERIEL DIVISION
PRODUCTION BRANCH

GEORGE E. PRICE
Colonel, Air Corps

TSEPR3 17-10-114. . . . .RE AFDMA-4B 5041 DTD 18 OCT 44. CONTRACTS W535 AC-21393 & AC-34433. A-26B & A-26C AIRPLANES. MCR 190, REDESIGNED PILOT'S CANOPY. IN TELEPHONE CONVERSATION 24 OCT 44 WITH PERSONNEL OF TULSA AAFRR'S OFFICE, ATSC WAS ADVISED THAT REVISED PILOT'S CANOPY WILL BE INSTALLED IN MODIFICATION ON 351ST AIRPLANE SCHEDULED FOR DELIVERY APPROXIMATELY LAST OF DECEMBER 44. IN ADDITION, EVERY EFFORT WILL BE MADE TO INSTALL SPECIAL HAND BUILT CANOPIES ON AS MANY AIRPLANES AS POSSIBLE BETWEEN 301ST & 351ST AIRPLANES. INVESTIGATION IS BEING CONTINUED AND DATA ARE BEING ASSEMBLIED FOR FORWARDING TO YOUR OFFICE IN NEAR FUTURE. END. AATSC.

WOLFE-MEYERS, AIR TECHNICAL SERVICE COMMAND

CC - TSEPR3
TSTEX

File: AC-21393 & AC-34433

Ltr ATSC to Comdg Gen, AAF: 9 Nov 44 (F-24)

(26) A-26
1 up

81.

AAFMC-144-WF-8-15-42-200M sets of 3

10

B-m-l Bn. (19-1/2)

FROM: WAR DEPARTMENT

BUREAU ~~Lt.Col.W.T.Bloom/ace~~
Tel: 31,314 (F-2)
DATE: 22 November 1944
FROM: KNUDSEN, ATSC

TELEGRAM

OFFICIAL BUSINESS—GOVERNMENT RATES

AAF RESIDENT REPRESENTATIVE
DOUGLAS AIRCRAFT COMPANY, INC.
SANTA MONICA, CALIFORNIA

H. A. SHEPARD
Colonel, Air Corps

T2SPR317-11-1OR. . . .RE CONTRACTS AC-21393 & AC-31433, A-26B & A-26C AIRPLANES. ESTABLISHMENT OF A-26 COMMITTEE. CONFIRMING RECENT CONVERSATIONS WITH ATSC AND CONTRACTORS' PERSONNEL, IT IS DESIRED TO ESTABLISH A COORDINATING OR PROGRAM OFFICE FOR THE PURPOSE OF INSURING MORE EFFICIENT COORDINATION OF PRODUCTION BETWEEN THE DOUGLAS LONG BEACH, TULSA AND SUB-CONTRACTORS' PLANTS. IT IS UNDERSTOOD THAT MR. W. S. FRYER OF THE SANTA MONICA OFFICE WILL BE GIVEN THE SOLE RESPONSIBILITY OF FORMING THIS COMMITTEE AND INITIATING ITS OPERATION. IT IS CONSIDERED UNNECESSARY TO ORGANIZE A FORMALIZED COMMITTEE SINCE EXPERIENCE WITH SIMILAR ORGANIZATIONS WHERE ONLY TWO PRIME FACILITIES ARE INVOLVED HAS PROVEN THAT THE SIMPLEST POSSIBLE STRUCTURE PRODUCES THE DESIRED RESULTS. A SUGGESTED ORGANIZATION FOR SUCH A "PROGRAM OFFICE" IS AS FOLLOWS: IN ADDITION TO MR. W. S. FRYER AND A REPRESENTATIVE OF THIS HEADQUARTERS, STAFF ASSISTANTS TO THE MANAGEMENT OF LONG BEACH AND TULSA SHOULD BE ASSIGNED ON A FULL-TIME BASIS. ALSO ASSIGNED AND REPORTING TO EACH OF THESE STAFF ASSISTANTS SHOULD BE MEMBERS FROM TULSA AND LONG BEACH OF THE VARIOUS LINE ORGANIZATIONS, SUCH AS ENGINEERING, TOOLING, MANUFACTURING, PRODUCTION CONTROL, MATERIEL, SUB-CONTRACTING, ETC., WHOSE RESPONSIBILITY WILL BE TO SECURE REQUESTED INFORMATION AND COMMITMENTS FROM THE RESPECTIVE LINE ORGANIZATIONS. IT IS DESIRED THAT ALL QUESTIONS REGARDING THE COORDINATING OF PRODUCTION OF A-26 AIRPLANES IN THE LONG BEACH AND TULSA PLANTS PASS THROUGH THIS PROGRAM OFFICE, WITH THE EXCEPTION OF CONTRACTUAL AND FISCAL MATTERS, AND THAT SUFFICIENT AUTHORITY BE DELEGATED TO THIS OFFICE SO THAT IT CAN PROPERLY

(Continued on Page Two)

(2) 19.16

82

AFMC-14A-WF-8-15-42-200M sets of 3

FROM: WAR DEPARTMENT

BUREAU

TELEGRAM

OFFICIAL BUSINESS—GOVERNMENT RATES

TSAPR3 X/-11-108 CONTINUED. . . . . .

FUNCTION. A REPRESENTATIVE OF THIS HEADQUARTERS WILL PROCEED TO SANTA MONICA IN THE NEAR FUTURE FOR THE PURPOSE OF REACHING AN AGREEMENT ON THE FORM OF ORGANIZATION TO BE EMPLOYED. SIGNED, PROCUREMENT DIVISION.

File: AC-21393
AC-34435

CC - West.Dist.,ATSC
Mids.Dist.,ATSC
AAFHR, Douglas Tulsa
AAFHR, Douglas Long Beach
Douglas Aircraft Co.,Tulsa,Okla.
Douglas Aircraft Co.,Long Beach,Calif.
TSAPR3B, attn: Mr. Coburn
TSHQCl, attn: Lt.Col.Meffler

37

SECRET

ADDRESS REPLY TO
HEADQUARTERS OF THE ARMY AIR FORCES
WAR DEPARTMENT
WASHINGTON, D. C.

Orig. 452.1-AC, Bombers, A-26
16-(1/2pp)
e 7, e 47

SECRET
By Authority of
The Commanding General
Army Air Forces
26 Nov '44 BHEJ
Date Initials

WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON

AFRDB

26 NOV 1944

MEMORANDUM FOR THE CHIEF OF AIR STAFF

Subject: A-26 Conversion Program

I. Discussion

1. There will be a substantial surplus of B-25 and A-26 aircraft unless a decision is forthcoming as to the extent of conversion to A-26 aircraft.

2. A firm basis is required upon which to formulate future production plans for the A-26 and B-25 aircraft.

3. Present plans convert all European A-20 groups and all but three B-26 groups (occupational Air Force) to A-26 aircraft by the end of July 1945. This will result in eleven A-26 groups.

4. The FEAF frequently reiterated their non-requirement for A-26 aircraft. It is not felt that their extreme prejudice against the A-26 is justified when the nature of the four A-26B aircraft that were furnished them for operational test is considered. These were four of the first production aircraft and incorporated a number of undesirable features which have since been corrected. It is possible to furnish the FEAF at the proper time A-26 aircraft modified to include an improved vision cockpit and canopy, an eight-gun nose with six internal wing guns, and engines having increased power.

5. Plans are progressing to convert all B-25 groups in other theaters based on the availability of A-26 aircraft.

6. On present allocation and production schedules there will be a surplus of approximately six hundred B-25's as of 1 September 1945, if the war with Germany continues. This surplus will start to accrue in December 1944, unless immediate action is taken to curtail production. There will commence to be a surplus of A-26 aircraft in the latter part of 1945, if the FEAF does not convert to the A-26.

7. It is considered most desirable that the conversion to A-26's be accomplished without exceptions. The A-26 is not only the best medium

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

[redacted]

16-(2/2/42)

or light bomber in sight, but the conversion will permit standardization of crew training and a simplification of supply problems.

II. Action recommended:

1. That all light and medium bombardment units be converted to A-26 aircraft as rapidly as availabilities permit, in the following priority, and that B-25 production be adjusted accordingly.

(1) ETO
(2) MTO
(3) CBI
(4) AAFPOA
(5) FEAF
(6) North Pacific (maintain B-25's as long as possible)

Donald Wilson

DONALD WILSON
Brigadier General, U. S. Army
Asst. Chief of Air Staff
Operations, Commitments & Requirements

SPS 452.1 (1515)

ADDRESS REPLY TO
COMMANDING GENERAL, ARMY AIR FORCES
WASHINGTON, D. C.

10

AFMSR-4/2

Cont. F 6340
(pg. 1/4)

A.P. 3571

WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON, D. C.

30 November 1944

SUBJECT: Contract W 33-038 ac-5140

TO: Special Representative of the
Under Secretary of War,

1. Herewith one number and two cover sheets of Contract W 33-038 ac-5140 forwarded recommending approval under the provisions of Paragraph 305.2, Procurement Regulations No. 3, the First War Powers Act, 1941 and Executive Order No. 9001 dated 27 December 1941.

2. The following information is submitted in conformity with P. R. 305.4:

a. Contractor: Douglas Aircraft Company, Inc., Santa Monica, California.

b. Location of plant in which supplies are to be furnished: Tulsa, Oklahoma.

c. Material:

Item 1: 2000 AAF Model A-26C light bombardment airplanes.

Item 2: Spare Parts for airplanes called for under Item 1 (15%).

d. Prices: (Estimated)

	Unit Cost	Total Cost	Fixed Fee
Item 1:	$79,008.00	$158,016,000.00	$5,925,600.00
Item 2:		23,702,400.00	888,840.00

Total Estimated Cost -	$181,718,400.00
Fixed Fee at 3.75% -	6,814,440.00
	$188,532,840.00

e. Deliveries:

All of the airplanes called for under Item 1 shall be delivered to the Government in accordance with the following schedule:

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

Cont. F. 5140
(Pg. 8/4)

Quantity		During Month of	
173		August	1945
350	additional	September	1945
350	additional	October	1945
350	additional	November	1945
350	additional	December	1945
350	additional	January	1946
77	remaining	February	1946
2000	airplanes		

All of the Spare Parts called for under Item 2 shall be delivered in accordance with Appendix No. 1 attached to the Contract.

f. The Contractor is the designer and developer of the A-26 series of airplanes and has previously manufactured several thousand airplanes of similar type with satisfactory and timely performance and production efficiency.

g. Deliveries are not conditional upon additional facilities being provided.

h. Contract placement policies were considered and applied. Competition was not invited for the reason that the contractor is the principal source for the A-26 series of airplanes. Allocation was approved by the Joint Aircraft Committee. Tulsa, Oklahoma where the work will be performed is in a Group III Labor Shortage Area. Established facilities exist and labor has been specially trained. The work cannot be placed with any other source with assurance of obtaining satisfactory performance and timely deliveries. No increase in employment will result.

i. The Contract has been placed on a cost-plus-fixed-fee basis because: (1) Prior contracts with the contractor have been on that basis; (2) the uncertainty of segregating inventories between cost-plus-fixed-fee contracts and fixed price contracts; and (3) complications in accounting. All other similar contracts at the contractor's Tulsa plant are on a similar basis.

Article 20 of the Contract - Authorization and Assistance - is a deviation from P. R. 335.6 which has been approved by your office (Mr. Kenyon) for use in cost-plus-fixed-fee contracts with Douglas.

j. Contractor's letter dated 21 August 1944 submitting its quotation on Proposal Form No. 43-1 dated 19 August 1944 and its letter dated 7 September 1944 are forwarded herewith for ready reference.

Cont. # 5140
(Eng. 3/4)

Negotiations were carried on with the contractor from approximately 20 July 1944 to 6 September 1944 based on the contractor's quotation dated 19 August 1944. The contractor was requested to furnish information on the current hourly rates and overhead and while it was contended that the quotation included an excess of approximately 1000 direct labor hours, the contractor was able to substantiate these objections. After considering the amount of subcontracting involved, the Procuring Agency recommended a fee of 5.75% of the estimated cost which was agreeable to the contractor.

Similar articles have been procured in the past from this facility, as follows:

Contract Number	Item	Quantity	Unit Price
W 535 ac-34433	A-26	500	$152,125.00
		1600	97,089.00

The reduction under the prior procurements is due to increased quantities resulting in increased efficiencies. Prices under the proposed contract have been reviewed and approved by the Price Analysis Branch, AAF - Air Technical Service Command, and are considered fair and reasonable.

k. Contractor's quotation dated 19 August 1944 forwarded herewith indicates that it is contemplated that 56% of the work to be performed under the proposed contract consisting of assembled units and machining operations will be subcontracted. A list of the proposed subcontractors with the articles to be subcontracted is set forth on Page 7A of said quotation.

l. No royalty charges are included in the estimated cost.

m. Controlled materials are involved and are expected to be available to meet the requirements of the scheduled production.

n. Spare Parts will be priced in accordance with Paragraph E-7 of AAF Specification AN-M-9 as provided in the Spare Parts Provisioning Appendix, a part of the Contract.

o. Articles are required and being procured in the interest of the War Effort and are listed for procurement under the "K" Program, Fiscal Year 1945.

3. The following information is submitted in connection with the Advance Payment Article:

a. Article 44 of the Contract provides that sums not to exceed $54,515,520.00 or 30% of the estimated cost of the Contract (exclusive of fixed fee) may be advanced to the contractor from time to time.

Ltr. to Special Representative of the
Under Secretary of War
Subj: Contract W 33-038 ac-5140

AFDPR-4/2
30 Nov 44

Cont. F. 5140
(PG-4/4)

h. The outstanding balance of advanced payments will bear interest at the rate of 2-1/2% per annum.

i. The security proposed is the special bank account and lien provisions provided for in the Advance Payment Article. It is believed that the security proposed is adequate protection for the Government against loss.

j. The Advance Payment Article deviates from the standard form to the extent that the contractor is permitted to commingle funds received under this Contract with funds received under other contracts. The provisions which are incorporated in sub-paragraph (j) of the Advance Payment Article are the same as those incorporated in previous Douglas contracts.

k. All withdrawals from the special bank account will be subject to the prior written approval of a Contracting Officer.

l. Since contractor's latest balance sheet is already on file in your office, no further comment is made in this connection.

m. Contractor's character, production ability and financial condition are well known to the AAF, through the processing of advance payments and other dealings; therefore, no comment is made in this connection.

n. The advance payment is necessary to expedite the performance of the Contract and is in the interest of the War Effort.

o. There is inclosed for ready reference contractor's letter of request dated 8 September 1944. Performance bond has been waived.

For the Commanding General, Army Air Forces:

W. F. Volandt

3 Incls:
Incl. 1 - Cont. W 33-038 ac-5140
(1 Number and 2 Cover Sheets)
Incl. 2 - Contr.'s Ltrs. & Quotation
Incl. 3 - Contr.'s Ltr. of Request, dtd
8 Sept 44.

W. F. VOLANDT
Colonel, Air Corps
Asst. Chief, Procurement Division
Office, Assistant Chief of Air Staff
Materiel and Services

ADDRESS REPLY TO
COMMANDING GENERAL, ARMY AIR FORCES
WASHINGTON, D. C.

Cont. F. 5141
(pg. 1/5)

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AFDPR-4/2

A.P. 3570

WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON, D. C.

30 November 1944.

SUBJECT: Contract W 33-038 ac-5141

TO: Special Representative of
the Under Secretary of War

1. Herewith one number and two cover sheets of Contract W 33-038-ac-5141 forwarded recommending approval under the provisions of Paragraph 305.2, Procurement Regulations No. 3, the First War Powers Act, 1941 and Executive Order No. 9001 dated 27 December 1941.

2. The following information is submitted in conformity with P.R. 305.4:

a. Contractor: Douglas Aircraft Company, Inc., Santa Monica, California.

b. Location of plant from which supplies are to be furnished: Long Beach, California.

c. Materials:

Item 1: 400 AAF Model A-26B light bombardment airplanes.

Item 2: Spare Parts for the airplanes called for under Item 1 (20%)

Item 3: Special hand tools and special ground equipment for the airplanes called for under Item 1 (1%).

Article 1A: Aircraft Data.

d. Prices: (Estimated)

	Unit Cost	Total Cost	Fixed Fee
Item 1:	$86,354.00	$34,541,600.00	$1,381,664.00
Item 2:		6,908,320.00	276,332.80
Item 3:		345,416.00	13,816.64

Total Estimated Cost	-	$41,795,336.00
Fixed Fee (4%)	-	1,671,813.44
		$ 43,467,149.44

Spfg 095 Douglas Aircraft, Co., Inc.

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

WF-8-10-43-5M

85

Cont. C.5141 (PO-2/5)

19

AFD 1-4/2

e. Deliveries:

All of the airplanes called for under Item 1 shall be delivered to the Government in accordance with the following schedule:

Quantity	During Month of
60	November 1945
130 additional	December 1945
130 additional	January 1946
80 remaining	February 1946
400 airplanes	

Items 2 and 3: To be delivered in accordance with provisions of Appendix No. 1 attached to the Contract.

Article 1A: To be delivered in accordance with provisions of Article 1A of the Contract.

f. The Contractor is the designer and manufacturer of this particular type of airplane and has previously manufactured several thousand airplanes of similar type with satisfactory and timely performance and production efficiency.

g. Deliveries are not conditional upon additional facilities being provided.

h. Contract placement policies were considered and applied. Competion was not invited for the reason stated in paragraph (f) above. Allocation was approved by the Joint Aircraft Committee, Long Beach, California where the work will be performed is in a critical Labor Shortage Area controlled by an Area Production Urgency Committee. Established facilities exist and labor has been specially trained. The work cannot be placed with any other source with assurance of obtaining satisfactory performance and timely deliveries. This is a continuation of the production of articles of the same character as those already being produced by the contractor for the Government. No increase in employment will result. However, approval for the placement of the Contract was obtained from the Chairman, Area Production Urgency Committee, Los Angeles, California on Form DO-861 under date of 5 September 1944.

i. The Contract has been placed on a cost-plus-fixed-fee basis because: (1) Prior contracts with the contractor have been on that basis; (2) The uncertainty of segregating inventories between cost-plus-fixed-fee contracts and fixed price contracts; and (3) Complications in accounting. All other similar contracts at the contractor's Long Beach plant are on a cost-plus-fixed-fee basis.

Cont. F.
(pg. 3/5

Mr. to Under Secretary of War
Page No. 3

Article 20 of the Contract - Authorization and Assistance - is a deviation from P.R. 335.6 which has been approved by your office (Mr. Kenyon) for use in cost-plus-fixed-fee contracts with Douglas.

j. Contractor's letter dated 21 August 1944 submitting its quotation on Proposal Form No. 43-1 dated 19 August 1944 is forwarded herewith for ready reference. Negotiations for this procurement started approximately 30 July 1944 and ~~were~~ concluded 6 September 1944. Conferences were held between representatives of the contractor and the Procuring Agency and as a result the quotation dated 19 August 1944 was submitted. Questions were raised as to hourly and overhead rates and also with respect to the manhours required in the production of the airplane. The contractor has verified the rates and hours used. In addition, projections were made based on known factors and the estimated cost, as submitted by the contractor, was satisfactorily established from such projections. The quotation reflected a reasonable decrease from the previous procurement of airplanes from the contractor's Long Beach plant. Based on the information obtained, the Procuring Agency considered that the quotation was fair and reasonable. The estimated costs were reviewed and approved by the Price Analysis Branch, A.F., Air Technical Service Command. The reasonableness of the estimated cost and the amount of subcontracting was taken into consideration in establishing the fixed fee.

Similar articles have been procured in the past from this facility as follows:

Contract Number	Item	Quantity	Unit Price
W 535 ac-21393	A-26	500	$134,037.00
		1100	92,002.95

The reduction in the estimated cost for this procurement over the prior procurements is due to increased quantities resulting in increased efficiencies.

k. Contractor's quotation dated 19 August 1944 forwarded herewith indicates that it is contemplated that 30% of the work to be performed under the proposed contract, consisting of assembled units and machined parts, will be subcontracted. While no subcontracts have even been partially negotiated, a list of the anticipated subcontractors with the articles to be subcontracted is setforth on Page 7A of said quotation.

l. No royalty charges are included in the estimated cost.

m. Controlled materials are involved and are expected to be available to meet the requirements of scheduled production.

n. Spare Parts as finally selected as well as the quantity and kind of tools, will be listed and priced by the contractor and will be

ubj: Contract W 33-038 ac-5141
tr. to Under Secretary of War

Cont. # 5141
(pg. 4/5)

separately negotiated in accordance with Paragraph E-7 of AAF Specification AN-E-9 as provided in the Spare Parts Provisioning Appendix, a part of the Contract.

c. The articles are required and are being procured in the interest of the War Effort and are listed for procurement under the "X" Program, Fiscal Year 1945.

3. The following information is submitted in connection with the Advance Payment Article:

a. Article 44 of the Contract provides that sums not to exceed $12,538,600.00 or 30% of the estimated cost of the Contract (exclusive of fixed fee) may be advanced to the contractor from time to time.

b. The outstanding balance of advanced payments will bear interest at the rate of 2-1/2% per annum.

c. The security proposed is the special bank account and lien provisions provided for in the Advance Payment Article. It is believed that the security proposed is adequate protection for the Government against loss.

d. The Advance Payment Article deviates from the standard form to the extent that the contractor is permitted to commingle funds received under this Contract with funds received under other contracts. The provisions which are incorporated in sub-paragraph (j) of the Advance Payment Article are the same as those incorporated in previous Douglas contracts.

e. All withdrawals from the special bank account will be subject to the prior written approval of a Contracting Officer.

f. Since contractor's latest balance sheet is already on file in your office, no further comment is made in this connection.

g. Contractor's character, production ability and financial condition are well known to the AAF through the processing of advance payments and other dealings; therefore, no comment is made in this connection.

h. The advance payment is necessary to expedite the performance of the Contract and is in the interest of the War Effort.

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AFDPR-4/2

Subj: Contract W 33-038 ac-5141
To: Special Representative of the Under Secretary of War.

1. There is inclosed for ready reference contractor's letter of request dated 8 September 1944. Performance bond has been waived.

For the Commanding General, Army Air Forces:

W. F. VOLANDT
Colonel, Air Corps
Asst. Chief, Procurement Division
Office, Assistant Chief of Air Staff
Materiel and Services

3 Incls:
1. Cont. W 33-038 ac-5141 (1 No. & 2 cover sheets)
2. Contr's ltr. and Quotation
3. Contr's ltr of Request.

55

File

CONTRACT No. W 33-038 ac-5140

CONTRACTOR: Douglas Aircraft Co., Inc.
Santa Monica,
California

X

5140

X

X

X

Approval Recommended:
1 Dec 1944

W. F. VOLANDT
Colonel, Air Corps
Asst. Chief, Procurement Division
Office, Assistant Chief of Air Staff
Materiel and Services

APPROVED: DEC 8 1944
By direction of the Under Secretary of War under the provisions of the First War Powers Act of 1941 and Executive Order No. 9001, dated 27 December 1941.

CHARLES CARSHIDE
Colonel, General Staff Corps
Special Representative of the
Under Secretary of War.

86.

W. P. B. F. FORM NO. 3
(Revised)

Contract No. W 33-038 ac-5140 (13355)

ANMB Preference: None

Allocation Classification
System Symbol: USA None

AFP: 364319

Classification: 01-A, 01-D

COST-PLUS-A-FIXED-FEE

SUPPLY CONTRACT

By authority of the War Production Board the ... ratings indicated are assigned to ... on the purchase order or contract.

(Army Air Forces)

WAR DEPARTMENT
RCH:mlh

Contractor: DOUGLAS AIRCRAFT COMPANY, INC.

Contract For: AAF Model A-26C Airplanes, Spare Parts

Estimated Cost: $ 181,718,400.00

Fixed-Fee $ 6,814,440.00

Payments to be made by The Finance Officer, U. S. Army, Central Building, Tulsa, Oklahoma.

The supplies and services to be obtained by this instrument are authorized by, are for the purpose set forth in, and are chargeable to the following Procurement Authorities, the available balance of which are sufficient to cover the cost of the same.

ACA 1942-45, 502-5150 P 110-09 A 212/50705

a

10/30/43

4B

Form 1-1

C. P. F. F. FORM NO. 3
(Revised)

Contract No. W 33-038 ac-5141-(13356)

APPROVED: December 8 1944
By direction of the Under Secretary of War under the provisions of the First War Powers Act of 1941 and Executive Order No. 9001, dated 27 December 1941.

/s/ Charles Garside
CHARLES GARSIDE
Colonel, General Staff Corps
Special Representative of the
Under Secretary of War.

ANMB Preference: None

Allocation Classification
System Symbol: USA None

AFP: 384320

Classification: 01-A, 01-D

COST-PLUS-A-FIXED-FEE
SUPPLY CONTRACT
(Army Air Forces)
WAR DEPARTMENT

RCH:vmd

Approval Recommended:
30 November 1944
/s/ W. F. Volandt
W. F. VOLANDT
Colonel, Air Corps
Asst. Chief, Procurement Division
Office, Assistant Chief of Air Staff
Materiel and Services.

Contractor: DOUGLAS AIRCRAFT COMPANY, INC.

Contract For: AAF Model A-26B Airplanes, Spare Parts, Tools and Equipment and Data Therefor

Estimated Cost: $ 41,795,335.00

Fixed-Fee $ 1,571,813.44

Payments to be made by The Finance Officer, U. S. Army, 824 South Western Avenue, Los Angeles 5, California

The supplies and services to be obtained by this instrument are authorized by, are for the purpose set forth in, and are chargeable to the following Procurement Authorities, the available balance of which are sufficient to cover the cost of the same.

ACA 1942-45, 502-5150 P 110-09 A 212/50705

10/30/43

RRR/ies/F-2

Contracts W535 AC-21393 & AC-34433
Models A-26B & A-26C Airplanes

TSCAD
attn: Major E.H.Wynn

TSBPR317

26 Dec 44
Capt.R.R.Russell
26157

1. Thru: TSBCO

1. a. At the present time, the Douglas Long Beach plant is building A-26 airplanes with gun noses and the Tulsa plant is building airplanes with both gun noses and bombardier noses. By the first of the year all Tulsa production will have been converted to the bombardier nose type aircraft. This will result in a ratio of approximately two bombardier nose aircraft to one gun nose aircraft on future production.

b. By building bombardier nose aircraft at the Tulsa plant and gun nose aircraft at the Long Beach plant no difficulty in allocations is anticipated. There has been a recent inquiry from the Office of Asst. Chief of Air Staff, Materiel & Services, as to the possibility of securing additional bombardier noses. Although the actual requirement has not yet been furnished ATSC, additional bombardier noses would have to be installed on airplanes either at the Long Beach plant or by service activities, since all the Tulsa capacity will already have been converted to the bombardier nose version.

2. The present effective point for the change to internal wing guns at the Long Beach plant is the 621st airplane which is scheduled for delivery approximately 6 March 1945. It is felt that this is probably the earliest effective point that could be expected for a major development change of this nature. The Tulsa plant has not yet established a definite effective point since it has been necessary for them to coordinate the change with Beech who builds wings for Tulsa. From preliminary information received, it appears that the Tulsa change point will be sometime in May 1945. This will probably be the earliest effective point that Beech will commit to, unless sufficient pressure can be brought to bear on Beech by higher authority. Experience in the past has indicated that Beech lacks aggressiveness in scheduling changes, particularly on the installation of water injection provisions and the engine fire extinguisher system. A change of this type is much too extensive to make in a Modification Center; therefore, the above effective points will have to be accepted.

B. L. BOATNER,
Colonel, Air Corps,
Acting Chief, Procurement
Division.

CC - TSBPR3, Col. Mitchell
TSBCO, Lt.Col.F.C.Smith

(See R & R from TSBCO to TSBPR dtd 12/22/44 (F-2)

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I.F. 452.1
(9-1/3)

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[redacted]

SECRET
By Authority of
CG, 9th Bomb Div (M)
Initials:
Date 4 Jan 45

9TH BOMBARDMENT DIVISION (M)

APO 140, US Army
4 January 1945

General H. H. Arnold
Commanding General, U.S. Army Air Forces,
Washington, D. C.

(Through: Commanding General, Ninth Air Force, APO 696, U S Army)

Dear General Arnold:

Knowing your great interest in the A-26 aircraft, I am taking the liberty of writing you personally in order that you may have first-hand knowledge of the 9th Bombardment Division's experience with this aircraft to date.

We now have two Groups (the 409th and 416th) fully equipped with gun-nosed A-26 aircraft. The gun-nosed aircraft are led in combat by a bomb-nosed A-20. This arrangement works satisfactorily but has the disadvantages of reducing radius of action and decreasing the speed of the formation. To date we have flown 935 A-26 sorties, have had 4 A-26's shot down in combat, and 128 A-26's battle-damaged as follows: category A, 101; category AC, 14; category B, 9; categorn E, 4. This experience does not constitute a complete battled test but is sufficient to provide a fairly firm basis for judging the A-26's capabilities and limitations.

You will, I am sure, be particularly interested in one mission conducted on 1 January 1945. On this date we sent six A-26's into the immediate battle area. They were accompanied by eight P-47's. The P-47's were to be voctered on to a target by the SCR 584, were to bomb the target placing marker bombs for the A-26's, who would than also bomb and then go down and strafe. This mission was not a success, since the P-47's did not have marker bombs and the target selected was in a thickly wooded area where the A-26'scould not pick it up due to their limited visibility and the poor visibility approximately two miles, in the battle area on that day. Of the six A-26's sent out one was shot down and the other five received battle damage of varying seriousness. We did learn from this operation that a formation of six A-26's can not stay with a formation of eight P-47's even though the fighters are making what they consider gentle turns. As a result, two P-47's are being attached for temporary duty with an A-26 Group. They will run tests in conjunction with the A-26's to determine tactics to be employed when they operate together on bombing and strafing missions. A second mission of this sort will be run as soon as weather permits.

In general the A-26 is very satisfactory aircraft. Pilots take to it quicker than they took to either the A-20 or the B-26, and once they become familiarywith the A-26 consider it superior to anything they have flown before. One major reason for the pilots liking the aircraft is its superior single-engine performance. Recently a pilot of the 409th Ground took off with four 1,000-lb. bombs and a full load of fuel aboard. He lost an engine at approximately thirty feet but had no trouble at all. In fact, he did not just circle and land immediately, but gained altitude and circles the field until the remainder of the formation had taken off for their mission. We have experience no trouble with aircraft returning from

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X-39527-B

To: General H. H. Arnold, CG, USAAF.

the battle area on a single engine.

The aircraft belly-lands very well when the bell-landing is predetermined and the pilot has sufficient time to cut engines and fuel supply prior to touching down. Under these circumstances, damage sustained requires only about one-fourth the man hours for repair as is required to repair the average damage sustained by an A-20 or B-26 when it belly-lands. However, we have recently had three aircraft belly-land immediately after take-off. In these cases the pilot did not have time to cut his fuel supply although he did cut his engines. In each case the aircraft caught fire at the base of the engine nacelle just forward of the fuel tank. This was apparently caused by arcing of severed battery leads which ignited fuel which had been released from broken fuel lines, all of which pass through the nacelle at the point where fire originated. The exact cause for these belly-landings immediately after take-off has not yet been determined. Conditions were, however, ideal for icing on that day. The wing of the A-26 is the laminar flow type. It was found in England during last winter that leading edge ice is critical with this type wing. On the day our aircraft belly-landed they all had trouble getting into the air and these three were unable to stay in the air. Conditions for icing were ideal and although the wings were defrosted prior to take-off, we suspect that ice formed on the leading edge during taxi-out and take-off and that this was the cause of the crashes. The only way we can prevent such icing is by application of a British compound to the leading edge of the wing. However, this compound is a paste and when applied forms a layer about one sixteenth inch thick along the leading edge, and this disrupts air flow. We have requested information from USSTAF whether or not the wing is too critical to warrant use of this compound.

Formation flying presents no great problem with this aircraft. Pilots are at first rather timid about gettin in close because the high engines impair visibility. Once they are used to this condition they fly as tight formation as they flew with the A-20 or B-26. They must however be particularly alert and drop down quickly when they are on the inside of a turn. If they do not do this they completely lose sight of their leader and must pull out of formation.

As you know, Wright Field established 31,000 lbs. as maximum landing weight. It was felt that the gear would not stand up under any greater weight. We have, however, on several occasions landed planes with four 1,000-lbs bombs and 700 gallons of fuel aboard. This makes a landing weight of approximately 33,200Ø lbs. As yet no gears have collapsed. This is not, hoever, standard practice and is done only in emergency since we feel that continuous landings with an over-lead would cause fatigue and eventual collapse of the landing gear. It does increase the pilot's confidence to know that in an emergency he can land with an over-lead with the expectation that the landing gear will not collapse.

As is natural with a new aircraft, we have uncovered several deficiencies which hamper combat operations and should be eliminated if possible. Many of these have been reported formally to the Air Staff and to Wright Field, but for your information I will cover briefly a few of the major items.

a. Canopy frosting. While frosting is probably no worse in this aircraft than in the A-20 and B-26, it presents a greater problem because the visibility from this aircraft is at all times less than the visibility from the A-20 or the B-26. We believe that an electric panel similar to that installed in some automobile windshields should be installed in the canopy of the A-26 to insure some visibility

Aut. F. 452.
(pg. 3/5)

[redacted]

at all times.

b. Brakes. The major seal of the brakes fails rather frequently with the result that no braking is possible even though the air bottle is used. We have recommended substitution of a 49-inch wheel for the present 47-inch wheel and are convinced that if this substitution is made all major brake trouble will be eliminated.

c. Phonelic valves. The phenol sections in hydraulic equipment sell due to absorption of hydraulic fluid under that heat and pressure with the result that seizing occurs and the hydraulix system becomes inoperative. We have recommended replacing the phenol with another phenol which will not swell or with metal parts.

d. A-4 release unit. On climbing to altitude moisture condenses in this unit and under present operating temperatures freezes, causing failure of the unit. This in turn prevents release of bombs and has caused us to bring many bombleads back to our airdromes. We believe that heaters such as those used on guns should be installed to prevent this.

e. Gunner's escape hatch. At present the gunner can escape only through the bomb bays and only if bombs have been released. This is a source of great wory to all gunners and we believe two things should be done to eliminate this worry. First, an escape hatch should be provided on the left side of the fuselage where the camera part is now located. Second, a compressed air system for actuating the bomb bay doors should be installed with controls so located that the system can be actuated by either the pilot or the gunner.

In closing I would like to emphasize that the airplane is a superior bombing platform, It is much more stable than the A-20 and more stable than the B-26. It would be an excellent instrument aircraft if the cockpit arrangement were modified so that the pilot could more readily read his instruments. We have recommended such a modification and I would only point out that the modification recommended is one indorsed by all of our pilots.

With best wishes to you and all of our Air Force for success in the new year, I remain

Yours sincerely,

SAMUEL E. ANDERSON
Major General, USA

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X-39527 B

Comf. Br.
(pg 1/2)

S

RRR/mgs/F-2

Summary of the A-26 Program for 1944

TSBUY .
Attn: Col. Boatner

TSBPR317

6 Jan 1945
Capt.R.R.Russel
2-6157

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1. The A-26 airplane first saw action against the enemy in the year 1944 and has been designated as the airplane which will replace the A-20, B-25 and B-26 airplanes. The A-26 has been used successfully on medium altitude bombing missions in the European theatre by the 9th Air Force.

2. 682 airplanes have been delivered during 1944 from the Douglas Long Beach and Tulsa Plants of which 572 were the A-26B gun nose version and 110 the A-26C bombardier nose version. During 1944 action was taken to convert the entire Tulsa production to bombardier nose airplanes and by the end of the year this had been accomplished. Long Beach will continue to build gun nose airplanes only.

3. Approximately 245 master changes were established during 1944 and about one half of them were introduced into production. Included in the changes and improvements made to the A-26 airplanes during 1944 were the following:

a. New Pilot's Canopy Permitting Better Version
b. Bombardier Nose Version
c. Strengthening of Wings
d. All Electric Bomb Release System
e. 75 MM Cannon in Nose Replaced by six .50 Cal. Machine Guns
f. Additional Carburetor Heat
g. An All-Purpose Gun Nose
h. Providing Fragmentation Bomb Racks
i. Deletion of Camouflage
j. Providing Spoilers to Prevent Buffetting when Bomb Bay Doors are Open.
k. Rearrangement of Instrument Panel
l. Improvements to Nose Gear
m. Installation of G.E. Ignition System on Engines to reduce Radio Noise

4. All modification work has been accomplished on the airplanes at the factory prior to final delivery. This work has been accomplished without hinderence to the W-Series schedules. The Modification project engineer is Mr. V. S. Byers.

5. At the start of the year there was only one Officer handling the A-26 Project, namely Capt. R. F. Bache. By the end of the year, Capt. Bache, because of his experience, had been transferred to the Engineering Division

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RRF /mgs/F-2

Summary of the A-26 Program for 1944

TSBUY
Attn: Col. Boatner

TSBPR317

6 Jan 1945
Capt. R. R. Russell
2-6157

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to assist in development of new attack type aircraft. The project office had grown until it included 5 Military personnel and 3 civilians. The present project Officer is Capt. R. R. Russell, and the assistant project Officer is Lt. F. B. Downey, Jr.

H. A. SHEPARD,
Colonel, Air Corps,
Acting Chief, Production Section
Procurement Division

Dead Cr.
(19.11)

A-26 Airplanes — Power Plant Rework

TSEMP TSBPR317 16 Jan 45 1

Attn: Major E.H. Wynn

1. With regard to paragraph 15.b. of the minutes of the Division Chief's meeting, 11 Jan 45, the following information is submitted regarding A-26 power plant rework and effect on tactical availability:

a. On 9 Jan 45, the AAFRR, Douglas Long Beach, advised Procurement Division via telephone that Douglas did not desire to deliver any additional A-26 airplanes from Long Beach or Tulsa until 7 items of power plant rework were accomplished. These items involve changes to reduce possibilities of fires and prevent engine cut-out during take-off. Douglas had recommended these changes as result of investigation of several accidents.

b. Immediate verbal approval was given the Douglas recommendations, and this was confirmed by teletype. Approval of Engineering Division was obtained.

c. At the time deliveries were stopped, the contractor estimated that they could be resumed 12 January. Deliveries at Long Beach were resumed 12 Jan 45 and were resumed the following day at Tulsa. Tactical availability during the first two quarters has been adversely affected by bad flying weather and the above changes. For the entire month, however, the overall tactical availability will not be affected by these changes. Materiel Division, M & S, has been advised that the overall monthly tactical availability will not be affected by subject rework.

d. Maintenance Division has been in direct contact with the contractor regarding the changes and has issued teletype instructions on the two most urgent items which involve disconnecting the emergency preheat and inspection of fuel hose and connections. Technical Orders will be issued on these and the remainder of the Douglas changes considered sufficiently important by Maintenance Division.

e. In addition to changes already accomplished at the factories, Douglas is taking action to replace aluminum alloy fuel lines with steel lines and use improved aromatic resistant fuel hose. This program will not involve further delivery delays.

ORVAL R. COOK
Brig. General, USA
Chief, Procurement Division

Attached:
CY wire TSBPR317-1-123
dtd 16 Jan 45

Lt. R.L. Stone/jm/F22
Tel: 29137

(22) A-26

c 91.

"In Reply Please
Refer To
ATS/VRH/ P29A-2

Cont. F. 452
(M-1/2)

4 CONFIDENTIAL

HEADQUARTERS
AIR SERVICE COMMAND
UNITED STATES STRATEGIC AIR FORCES IN EUROPE
A.P.O. 633
(Rear)
Director of Technical Services

VRH/mlb

25 January 1945

SUBJECT: Design Deficiencies - A-26 Series Aircraft.

TO : Director, Air Technical Service Command, Wright Field, Dayton, Ohio.
Attn: Captain R.F. Bache, Aircraft Projects, Engineering Division

1. Information furnished in this letter will supplement that recently obtained by Captain S.R. McFadden, and is merely to add emphasis to certain troubles reported by activities not investigated by Captain McFadden.

2. Considerable difficulty has been reported from all service activities with failure of the nose wheel to extend. The principle cause for these failures appears to be the freezing of mud and water on various moving parts after the airplane is airborne. With the present design of landing gear doors, which are open in the wheels down position, great quantities of mud is splashed on to the gear mechanism during taxying and take-off. This subsequently freezes, and thus locks the doors and gear in the up position. It is understood thatasmall mud guard over the nose wheel has been tried with some success, however, the complete solution appears possible only by having the doors closed in the wheels down position. Request that you take this matter up with Douglas, Long Beach, to determine the best solution.

3. A new Vickers airplane, the Windsor, was recently inspected and found to have landing gear doors designed to close in the wheels down position in a very ingenious manner. The idea appears useable on a nose wheel of the A-26. A section of the fairing is mounted on the shock strut in such a manner that it is flush with a skin line when the wheel is in the up position. Another smaller piece of fairing is mounted on the shock strut approximately at right angles to the first piece of fairing in such a manner that it is flush with the door skin line when the wheel is in the down position. The regular doors close and open in rear of the above fairing and hence do not interfere with the shock strut as the wheel is being raised or lowered.

4. The ohmite resistors in the fuel boost pump circuits are burning out due to water leaking thru the canopy on to the resistors when the airplane is on the ground. None of the activities reporting this trouble have airplanes equipped with the new raised canopy. The service activities desire cockpit covers to help keep water out of the cockpit.

5. Ground equipment for the airplane is almost entirely lacking. The engines are being changed by using hoists designed for A-20's. These hoists are not sufficiently rugged and are giving considerable trouble on this account. Trouble is being reported by service activities in ground testing the various electric equipments on the airplane. This appears to cause very heavy drain on the batteries which consequently have very short life. Complete details on this report are lacking - it is not known for instance, whether full use is being made of auxiliary power sources or whether the engines are being run up to the point where the voltage regulator throws in before heavy loads are drawn from the battery.

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5 CONFIDENTIAL

6. Many miscellaneous hydraulic troubles are being experienced. Principally, the plastic poppet valves in the pressure regulators, and in some of the selector valves, are swelling and sticking, usually in the open position.

Victor R. Haugen
V.R. HAUGEN,
Colonel, A.C.

Noted: J.E. Williams, Maj. A.C.
for H.G. BUNKER,
Colonel, A.C.,
D/Tech. Services.

cc: Mr. F. Herman, Douglas
Aircraft Co., Long Beach,
Calif.
and
Mr. Cannon, Douglas Rep.,
London.

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COPY

RF V WI 205

FROM HARRIS ATSC MW WICHITA KANS 1945 FEB 072120Z
TO DIRECTOR, ATSC, WF, DY, O
ATTN...GENERAL COOK

MWDCG-T-19695....REFERENCE TELEPHONE CONVERSATION GENERAL COOK AND GENERAL HARRIS 6 FEB 1945, FOLLOWING ACTION HAS BEEN TAKEN BY DOUGLAS TULSA TO IMPROVE PROD ACCEPTANCES OF A-26 APS AT PLANT.

1. FIELD OPERATIONS CHANGED 3 FEB FROM "STALL" POSITIONS, WHERE ALL FIELD OPERATIONS PERFORMED BY SPECIFIED CREW AND INSPECTION PERSONNEL ASSIGNED TO EACH STALL, TO "POSITION" OPERATION, WHERE OPERATIONS PERTAINING ONLY TO EACH POSITION PERFORMED BY FIXED CREW.
2. INCREASED NBR OF STATIONS IN PROD LINE TO REDUCE WORK PREVIOUSLY REQUIRED AT EACH STATION TO MEET PROBLEM PRESENTED BY LARGE LABOR INCREASE, MOST OF WHICH WITHOUT EXPERIENCE SEMICOLON TOOLING HAS BEEN COMPLETED FOR THE ADDITIONAL STATIONS.
3. FACTORY SCHEDULE CALLS FOR SIX APS PER DAY UNTIL 19 FEB., SEVEN PER DAY BEGINNING 19 FEB., FOLLOWED BY AN INCREASE OF ONE PER DAY EVERY SUCCEEDING THREE WEEKS UNTIL REACHING A MAXIMUM OF TWELVE PER DAY.
4. MR. PEARSON, MGR., DOUGLAS, OKLA CITY, TOGETHER WITH STAFF, ARRIVED THIS PLANT 6 FEB. FOR SUCH LENGTH OF TIME AS NECESSARY TO FURNISH ASSISTANCE TO LOCAL PERSONNEL.
5. REPLACED COMPANY CHIEF INSPECTOR, WHICH THIS O BELIEVES WILL HAVE BENEFICIAL EFFECT.
6. HAS MADE CHANGES IN FACTORY ORGANIZATION TO EFFECT BETTER PLANNING AND SCHEDULING, FOR MANUFACTURING.
7. HAS INITIATED ACTION TO SECURE ADDITIONAL ENGINEERING PERSONNEL, PARTICULARLY LIAISON ENGINEERS.
8. HAS INFORMALLY DISCUSSED GOING ON A TEN HOUR, SIX DAY WEEK PERIOD, WHICH WILL BE CONTINGENT ON A REQUEST THEREFOR FROM THE AFF AND APPROVAL BY SANTA MONICA.
9. HAS INITIATED ACTION FOR ADDITIONAL GAGES TO FACILITATE INSPECTION PROCEDURE.
10. REDUCED IN QUANTITY OF APS OUTSIDE FACTORY DOOR WILL BE MADE AT RATE OF TWO PER DAY IN ADDITION TO DAILY FACTORY COMPLETIONS.
11. THE CONTRACTOR HAS SCHEDULED HIS OPERATIONS TO BECOME CONCURRENT WITH W-12 ACCUMULATIVE IN OCT 1945.

IT CAN BE EXPECTED BY ALL CONCERNED TT IN THE CHANGING OVER OF FIELD OPERATIONS, A DROP IN THE DAILY ACCEPTANCES MAY OCCUR ON FEB 8, 9, AND 10, WITH A RESUMPTION OF THEIR SCHEDULE FOLLOWING SHORTLY AFTERWARDS. THIS O BELIEVES TT THE FOREGOING ACTION SHLD RESULT IN DEFINITE IMPROVEMENT IN CONTRACTOR'S OPERATION AT THIS PLANT, BUT THE EXTENT OF SUCH IMPROVEMENT CANNOT BE DEFINITELY DETERMINED MUCH BEFORE THE LATTER PART OF FEBRUARY. END.

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SECRET
By Authority of
The Commanding General
Army Air Forces
2/9/45 HEH
Date Initials

9 February 1945

SUBJECT: Report on A-26 Airplane Operations from Commanding General, Ninth Bombardment Division.

TO: Director, AAF Air Technical Service Command,
Wright Field, Dayton, Ohio
Attention: TSTEX

1. Inclosed herewith for your information and file is a copy of a letter on the above subject to the Commanding General, Army Air Forces dated 4 January 1945.

2. The following comments are furnished regarding specific deficiencies mentioned in General Anderson's letter:

(a). Regarding canopy frosting, it is understood that an electric panel installation is not the ideal solution to the problem because of the effect of vibration on the pilots eye-sight. The Ninth Air Force definitely does not desire a heater in the A-26. Therefore, it is directed that a study be made to devise a simple method for prevention of windshield frosting on A-26 aircraft. It has been suggested that a simple cold air vent might offer a possible solution. A priority of 2-A is assigned this work. A higher priority should be requested if needed, in order to get this modification into combat airplanes before next winter.

(b). Brakes, phenolic valves, and a new gunner's escape hatch have been the subjects of previous actions, and consequently it is understood that suitable corrective action is underway at the present time.

(c). Malfunctioning of [illegible]-4 release units because of icing has been reported in other communications and has been investigated. Complete investigation and solution should be expedited.

(d). It is understood that some work is in progress on the arrangement of the instrument panel. Any studies of this arrangement should be expedited and efforts directed towards simplification of the pilots instrument and control arrangement in the A-26.

(e). The inclosed letter mentioned fires in the engine nacelles caused by broken fuel lines and arcing of the battery leads whenever the A-26 is belly landed without sufficient time to shut off the fuel supply. This information should be utilized in connection with studies to eliminate power plant fires in the A-26.

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SECRET
By Authority of
The Commanding General
Army Air Forces

3. It appears that all other remarks concerning A-26 alternations contained in the inclosure have been covered by some of the previously conducted engineering studies. Consequently no other action concerning new equipment is desired in response to this communication except where noted above.

By command of General ARNOLD:

1st Hockett.

J. A. GIBBS
Colonel, Air Corps
Chief, Aircraft Projects Branch
Materiel Division
Office of Ass't Chief of Air Staff
Materiel and Services

1 Incl.
Ltr fr. Hdqs. 9th
Bombardment Division dtd
4 Jan 45

[redacted]

X-39527

14 February 1945

Major General Bennett E. Meyers
Air Technical Service Command
Wright Field, Dayton, Ohio

Dear Benny:

As I told you the beginning of the month I would give you a report on the 15th, I am enclosing copy of telephone conversation with Colonel Strauss and Mr. Jerrems, the Douglas manager, which is self-explanatory.

There is one contributing factor which has not been given much consideration in the past. We have allowed our own, as well as contractors' designers, to commit to production defective, incomplete, and improperly designed airplanes and their components and accessories. Too often we allow a contractor to build a prototype by hand, many times with a placard at several locations in the airplane giving the name of some equipment yet to be either designed or produced.

This airplane is then presented to higher authority and possibly the combat people as an answer to their prayers. Naturally the airplane being "hot off the griddle" incorporated a lot of things which are most desirable. Everyone is sold on the idea and instructions are issued that we produce a lot in a hurry.

Actually the airplane as a whole is not ready for production and after an extended period of tooling, we begin to discover a lot of manufacturing defects. These defects did not show up before because it was a handmade job. Often we find that some designer has incorporated into the handmade job shapes which cannot be made on machines. We also find that in order to get a little more range or a little larger bomb load they have reduced the weight of all the parts to an absolute minimum. Of course it is highly desirable that we have both maximum range and bomb load; however, we usually find that to obtain these results the designer has incorporated a weak part in the airplane somewhere. Later on when we start production this particular part shows up and airplanes are grounded until it is corrected. Often the correction will cause defects to show up in another place.

I remember the first twin engine airplanes we bought from Lock-

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(pg. 2/2)

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head. I believe the designation was O-40. They were supposed to be exactly 100% "off-the-shelf". Lockheed quoted a delivery date of 30, 45, and 60 days from date of contract for the first three airplanes. He intended to select one of his commercial jobs, paint the Army serial number and insignia on it and deliver it to us. Shortly before the airplane left the production line someone decided that it should have either an Air Corps starter or generator, I've forgotten which. It just happened that this particular part stuck out a little farther or was a little larger in diameter than the commercial item and there was a structural member in the way. This change went through the entire airplane and caused a several months' delay.

We should require complete as well as better design before we allow the airplane to be committed to production. The A-26 is a wonderful example of the things I have mentioned above. We are concentrating all of our efforts on it and although I was told today that it did not seem possible to get more than 100 this month, I am going to insist on the 130 I told you we would get and we will do everything within our power to make it.

Speaking of design, the canopy on the A-26 has been redesigned either three or four times and I understand is still the cause of a considerable portion of the present delay. It might be well every time higher authority has occasion to criticize the production people, at the same time to raise just as much hell with the designers. There are enough headaches on purely production matters without having to be responsible for design.

With best wishes, I am

Sincerely,

RAY G. HARRIS
Brigadier General, U.S.A.

Encl.

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(pg. 1/2)

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TELEPHONE CONVERSATION

14 FEBRUARY 1945

11:00 A.M.

BETWEEN: BRIG. GEN. RAY G. HARRIS, Commanding General, Midwestern District, Wichita, Kansas

COL. STRAUSS, Tulsa, Oklahoma, Douglas Company.

MR. JERREMS, Tulsa, Oklahoma, Douglas Company.

SUBJECT: Tulsa Production

GENERAL HARRIS: General Harris.

MR. JERREMS: Jerry Jerrems.

GEN. H.: Hello, Jerry.

COLONEL STRAUSS: This is Strauss, General.

GEN. H.: How are you this morning?

COL. S.: Pretty good.

GEN. H.: I want to start in immediately right now and run a blitz on your airplanes outside the door, organize a crew composed of the qualified contractor and Air Forces personnel, go to each individual airplane by serial number, starting in at the low number and make on a separate page of paper, write down the exact things which prevent that particular airplane by serial number as of this date from being accepted. I want two copies up here. Then let somebody be responsible for taking that same list back in to the factory away at the beginning of the production line and see that somebody puts that thing on the airplanes now going through. I'll tell you what has happened. I have been bawled out by General Knudsen, by General Meyers, and By General Wolfe, by General Cook, with a statement that we don't know what the hell we're doing down here. Let's run a blitz and clean up the outside. I don't care if cleaning up the outside makes a thousand people idle in the plant, either now or next month, but clean up outside and get them out and then tell them at the beginning of the month exactly what we're going to do next month, and let's do it. I know that they've got a lot of problems, but what we've got to do now is get mad and kick the damned desk over and get it done. We've been losing all of the credit that we have accumulated in the past over a job there that I think if we get down and run a blitz on it, we can clean it up. What do you think about it, Colonel Strauss?

COL. S.: We can do that.

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Bomb. Br.
(pg. 2/2)

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GEN. H.: How about you, Jerry?

MR. J.: Yes, we can do that very definitely and I might say that we are attempting that at the present time, but I'll give it another check and we'll make certain that we carry out your thought on it.

GEN. H.: I have told them in the beginning of this month that although the schedule is 159, we were definitely going to make 130. I want to make 130 airplanes down there if we've got to work 24 hours a day and seven days a week for overtime. Money is no object. Nothing is any object except to get the airplanes. Work Saturday and Sunday 12 hours a day if necessary for each shift or whatever is necessary to get the job done. Don't let overtime or idle time in the future stand in the way of it. I want, as I said before, to receive a separate sheet of paper on each serial number airplane on that exact thing which prevents them from being accepted. Let's be realistic on it. If somebody is holding it up somewhere, let's say who it is and what for. How long would it take to get me such a list?

MR. J.: I think probably we could have such a list in the hands of the Air Corps sometime during the night.

GEN. H.: Okay. Let's forget the clock and forget everything and get the job done. Okay.

MR. J.: We'll get in touch with you if anything holds us up.

GEN. H.: Thank you. Bye.

ATSC Form No. 45
(16 Sep 44)

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(Pg 1/3)

SECRET

Basic Communication: Ltr. AC of Engs. AAF, Washington, D. C. (AFTSM-4B) dated 18 Jan 45. Subj: Technical Difficulty on the A-26 Airplane as Reported by the United States Strategic Air Forces in Europe

COORDINATION

DIRECTOR OR DEP.

AIR INSPECTOR

MGT. CONTROL

CHIEF OF ADMIN.

SPECIAL STAFF

FMD/EMS/mgs
TSNPT3.17

1st Indorsement

Hqs., Air Technical Service Command, Wright Field, Dayton, Ohio
22 February 1945.

To: Commanding General, Army Air Forces, Washington 25, D. C.
Attn: AC/AS, Materiel and Services, Production Branch, Materiel Div.

1. The following information is submitted regarding A-26 service difficulties reported in U. S. Strategic Air Forces in Europe letter AAF-379 dated 9 January 1945:

CHIEF, ENG. & PROC.

CHIEF, SUPPLY & MAINT.

PERS. & BASE SERV. DIV.

MAINT. DIV.

SUPPLY DIV.

ENGINEERING DIV.

PROCUREMENT DIV.

READJUST DIV.

OTHER

A. Moisture and Corrosion Difficulties:

1. Water leaking into cockpit: Contractor is now fabricating cockpit covers for both pilot's and gunner's compartments. In addition the Contractor has been directed to improve the seal around the cockpit enclosure to prevent water from leaking inside the airplane.

2. Fuel Booster Pump Rotary Selector: Contractor has installed a deflector shield that protects switch from water. This shield is installed effective on the 251st Long Beach airplane and the 176th Tulsa airplane. Contractor is now investigating the possibility of replacing the Paul Henry Type Switch with an improved switch.

3. Radio Connector Plugs: Improvement of the seal about the cockpit enclosure will prevent water from entering the airplane and leaking onto the radio connector plugs. Contractor is also investigating the use of a suitable sealing compound to be applied to connector plugs. In addition "drip loops" are to be provided in the wiring entering the connector plugs to keep water from reaching the connections.

4. A-1 Bomb Release Receptacle: It is believed that the failure of the A-1 bomb release receptacle to transfer to the next station is due to insufficient contact pressure rather than corrosion of the contact points. Very early bomb release receptacles manufactured by the P. R. Mallory Company did not have as strong a contact pressure as later production items. If it is found in pre-flight test of the bomb release system that an A-1 bomb release receptacle is defective, it is recommended that it be replaced by one manufactured by Aladdin Incorporated or Sparks Whittington Manufacturing Company.

Ryon
R F Bache
F B Downey
E MASKINDER
RUSSELL SPROWLS

Route to

UNCLASSIFIED SECRET

A

X-18618

97

W. Area B-10-14-44-500M

CENTRAL FILE COPY

ATSC Form No. 41
(18 Sep 44)
Cent. F. 452.1
(Pg 2/3)

SECRET

RED/ams/mgs
TSEP4317

COORDINATION
DIRECTOR OR DEP.
AIR INSPECTOR
MGT. CONTROL
CHIEF OF ADMN.
SPECIAL STAFF
CHIEF, ENG. & PROC.
CHIEF, SUPPLY & MAINT.
PERS. & BASE SERV. DIV.
MAINT. DIV.
SUPPLY DIV.
ENGINEERING DIV.
PROCUREMENT DIV.
READJUST DIV.
OTHER

The contacts of the A-1 bomb release receptacle are made from fine silver and it is therefore doubtful that corrosion has taken place. It is requested that, if possible, a sample of the defective bomb release receptacle be forwarded to ATSC for investigation.

5. Bomb Door Safety Switch: With regard to the reported corrosion of bomb bay door safety switches, Douglas has been requested to replace the present MCR-1902 and MCR-1904 switches with AN-3210-1 switches. In addition, the AN-3210-1 switches will be encased in a moisture proof housing.

6. Action Switches in Sighting Station: Under MCR-417 Contractor is improving the seal around the gunners enclosure hatch to prevent water leakage. In addition, the plastic casing surrounding the action switch has been redesigned to prevent water from coming in contact with the working parts. This change has already been incorporated into production aircraft. T. O. 00-65-24, pp3475, has been issued covering work to be accomplished in the field to protect the old type of action switch from water.

7. Corrosion of Battery Disconnect Relays: New B-4A relays have been subjected to severe weathering and corrosion tests with satisfactory results. It is suggested that present defective B-4 relays be replaced with B-4A relays. Change to B-4A relays in production is being initiated. Method of water-proofing present relays is also under investigation by the Contractor.

8. Landing Gear Position Indicator Switches: Contractor changed from toggle type landing gear position indicator switch to micro type switch in an attempt to prevent moisture from entering switches. The presence of moisture in these switches, however, still presents a problem which the ATSC and Contractor are endeavoring to remedy.

9. In addition to the above, Douglas has initiated a general water proofing program under MCR-374. Where practical, improvements developed under this program will be incorporated in Service airplanes.

10. A-4 Release Units:

The reported freezing of moisture in the A-4 bomb rack release is under extensive investigation by ATSC. Conditions of freezing of the release has been duplicated under severe conditions and a method of preventing the entrance of moisture into the releases already in service is being studied. As soon as a definite

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WF. Area B-10-14-44-500M
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X-18612

[redacted] FWD/SMS/mcs
TSMF3517

COORDINATION
DIRECTOR OR DEP.
AIR INSPECTOR
MGT. CONTROL
CHIEF OF ADMN.
SPECIAL STAFF
CHIEF, ENG. & PROC.
CHIEF, SUPPLY & MAINT.
PERS. & BASE SERV. DIV.
MAINT. DIV.
SUPPLY DIV.
ENGINEERING DIV.
PROCUREMENT DIV.
READJUST DIV.
OTHER

solution for preventing the entrance of the moisture into the release is found, it will be forwarded to service activities. Enclosing of the switch inside the bomb rack release is being investigated and will be incorporated in the new A-5 bomb rack release if it is found to be the solution to the freezing problem.

C. Nose Gear:

It is concurred that the use of a mud guard over the nose wheel would be impracticable for the reasons stated. Contractor is actively studying a complete redesign of the nose gear door interlocking mechanism to eliminate the present system of links, levers and cams and to replace same with a mechanically operated sequence valve. In this manner, there would be only a minimum of exposed working parts and these could readily be protected from exposure to mud and slush by suitable covers or baffles. In addition, measures are being taken to shield the nose gear down lock mechanism from mud and water.

D. Main Landing Gear:

Contractor is proceeding with design of a mechanical up lock release for the main gear, and this change will be incorporated in production as soon as a satisfactory design has been accomplished.

E. Bomb Shackle Suspension Hook Latches:

Double type latches AAF Dwg. 43B12983 have been installed in production effective on the 201st Long Beach Article Serial No. 41-39300 and the 136th Tulsa Article Serial No. 43-22387. These latches are identical to those now incorporated in the B-26 airplane. This change is not practical on service airplanes inasmuch as it was necessary for Douglas to change the bomb rails to accommodate the double type latches.

F. Hydraulic Pressure Regulator and Selector Valves:

Contractor is now installing hydraulic pressure regulator and selector valves incorporating poppets of Formica "LH" compound which do not swell objectionably. A Technical Order will be issued to cover the replacing of the present poppets in Service airplanes with poppets of the "LH" compound.

For the Director:

Incl: n/c

H. F. MULLINS
Major, Air Corps
Office, Chief of Administration

[redacted]

UNCLASSIFIED

WF. Area B-10-14-44-600M
CENTRAL FILE COPY

32419

RESTRICTED

Bomb. Br.
(M-3's)

FBD/WHC/gh-E

23 February 1945

Fires in the nacelles of the
A-26 Airplane.

Aircraft Div.

TO: Director, AAF Air Technical Service Command, Wright Field, Dayton, Ohio.
(Attention: AAF Board Liaison Office)

Reference Supplementary Analysis No. 40, "A-26 Fires in Air", Office of Flying Safety, Winston-Salem, N. C., request information on modifications made to prevent fires in the nacelles of the A-26 Type airplane.

FOR THE PRESIDENT:

GUSTAV A. [redacted]
Lt. Col., AAF
Recorder



UNCLASSIFIED [redacted] RESTRICTED

98

RESTRICTED

Ind. Bn. (Pg. 113)

Basic: Letter from AAF Board, Orlando, Florida, dated 23 Feb 45
Subject: Fires in the Nacelles of the A-26 Airplane

1st Ind. TSEPE[illegible]/[illegible]/[illegible]/[illegible]

HQS AAF [illegible], Wright Field, Dayton, Ohio, 4 April 1945

To: The President, Army Air Forces Board, Orlando, Florida, Attn: Aircraft Division

1. Action has been taken by AFSC and by Douglas on recommendations of referenced "Supplemental Analysis No. 40" as follows:

a. An engine fire extinguisher system in accordance with Specification 40690 has been designed and will be installed in April in A-26B airplane No. 44-34333 and subsequent and somewhat later in A-26C airplane No. 44-35938 and subsequent.

b. The Contractor has been directed to comply with T. O. 04-1-17 in installing and inspecting fuel hose and hose connections in the fuel system. Non-aromatic resistant hose assemblies of the AN-855 and AN-856 type used in the A-26 fuel system has been removed and replaced with standard AN-864 hose using hose clamps and nipples. Daily inspection is still desirable to insure that all connections remain tight.

c. Relocation of fuel lines and assemblies is not necessary because the carburetor heat system has been sealed off completely and flames from this source thus have been prevented from leaking into the accessory section. The emergency carburetor preheat system has been completely removed from current production airplanes and T. O. 01-40AJ-50 covers the modification of service aircraft. The Douglas Aircraft Company is relocating ventilation louvres in the engine mount to further prevent entrance of exhaust gas or flames.

d. As stated above, the emergency carburetor heat system has been completely eliminated and will not be reinstalled. The normal carburetor heat system has not been a source of fires and will not be changed.

e. Patch cover plates have been installed over the openings between the carburetor air scoop and the adjacent engine mount structure.

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Ex. 22 / A-26 v 4B

c

RESTRICTED

Bomb. Br.
(99-3/3)

1st Ind. to AAF Board, Orlando, Florida

f. The Douglas Aircraft Company has been sealing the openings in the relay junction boxes with tape and has been requested by ATSC to design more permanent covers.

g. The main fuel line between the fuel pump and carburetor has been more securely attached by use of an additional Adel clip at each end. Self-sealing hose is a passive defense requirement, but the use of quick-attachable end fittings on this hose is being considered.

h. As noted in paragraph h above, the lines mentioned in recommendation No. 8 have been replaced with AE-684 hose. The aluminum line between the primer solenoid and oil dilution solenoid was replaced with stainless steel at Long Beach and AE-684 hose at Tulsa.

i. Factory replacement of all dural lines with stainless steel has not been accomplished because stainless steel tubing is not available and also because this change is being studied in connection with a fire test stand which Douglas is now setting up to study causes and effects of fires in the nacelle. Further production changes may be predicated upon the results of these tests.

For the Director:

E. A. [redacted]
Colonel, Air Corps
Acting Chief,
Production Section
Procurement Division

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[redacted]

RESTRICTED

Comt. Rx. (Pg. 1/1)

11

S

Comments on Exerpts from Report of Inspection of Production Section, 12 Mar 45

TSBPR3R
attn: Capt. Fletcher

TSBPR317

13 Mar 45

1

1. In accordance with your recent verbal request, there is submitted herewith comments of this office regarding subject report.

2. In connection with the increase in the SCBHA Pool, it should be pointed out that the production schedule at the Douglas Tulsa Plant has accelerated very rapidly since last July and will continue to do so until late this summer. For this reason, an increase in the size of the pool could be expected. The large number of airplanes in the pool at the present time is rapidly being reduced as a result of a number of specialists being transferred to Tulsa from the Douglas Oklahoma City Plant to assist in clearing up field operations.

3. With regards to a Coordinating Officer for the A-26 Program, this office has been working on a plan since the early part of December 1944 to establish an informal committee within the Douglas organization to improve the liaison between Douglas Long Beach and Douglas Tulsa. The Contractor submitted a counter proposal outlined essentially as follows:

a. Establishement of a Change Control Panel within each plant.
b. Assignment of Douglas Tulsa personnel to the Long Beach Plant to more readily obtain detailed information concerning proposed changes.
c. Assignment of Douglas Long Beach engineer to the Tulsa Plant to aid that facility in interpreting data received from the Long Beach Plant.

This arrangement has just started functioning recently and it is believed that, in general, the plan could be successful. However, this office has recommended to the Douglas Aircraft Company that the number and quality of personnel assigned to Long Beach from Tulsa be greatly extended

4. It is considered that such a plan as outlined above will eliminate the necessity for a Coordinating Officer as suggested in the Inspection Report.

W. T. RISON,
Lt. Colonel, Air Corps,
Chief, Bombardment Branch.

RRR/ies/F-2
Ext. 26157

99.

ADDRESS REPLY TO
COMMANDING GENERAL, ARMY AIR FORCES
WASHINGTON, D. C.

AFDPR-4/5

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3. 75

WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON, D. C.

5 April 1945

SUBJECT: Contract W 33-038 ac-5140

TO: Special Representative of the
Under Secretary of War.

1. Herewith one number and two cover sheets of Supplemental Agreement No. 7 to Contract W 33-038 ac-5140 submitted under the provisions of P.R. 305.2 and recommending approval under the provisions of the First War Powers Act, 1941, and Executive Order No. 9001, dated 27 December 1941.

2. The following information is submitted in conformity with P.R. 305.4:

a. Contractor: Douglas Aircraft Company, Inc., Santa Monica, California.

b. Location of plant from which supplies are to be furnished: Tulsa, Oklahoma.

c. Materials:

Item 3: 1250 AAF Model A-26 Light Bombardment Airplane.

Item 4: Spare parts for the airplanes called for under Item 3 (12%).

Item 5: Special maintenance tools and ground handling equipment for the airplanes called for under Item 3 (1%).

Item 6: Data for the airplanes called for under Item 3.

FOR VICTORY
BUY UNITED STATES WAR BONDS AND STAMPS

100.

d. Prices: (Estimated)

	Unit Cost	Total Cost	Fixed Fee
Item 3	$ 72,476.	$90,595,000.	$3,397,312.50
Item 4		10,871,400.	407,677.50
Item 5		905,950.	33,973.13

Item 6 - Estimated Cost included in Item 3.

Total Estimated Cost	$102,372,350.00
Fixed Fee at 3.75%	3,838,963.13
	$106,211,313.13

e. Deliveries:

	Quantity	During Month of	
Item 3	299	March	1946
	312 additional	April	1946
	324 additional	May	1946
	300 additional	June	1946
	15 remaining	July	1946
Items 4 & 5	In accordance with Appendix No. 1 attached to the contract, as amended.		
Item 6	In accordance with Article 1B of the contract, as amended.		

f. The contractor is the designer and developer of the A-26 series of airplanes and has received orders for several thousands of airplanes of similar type with satisfactory and timely performance and production efficiency.

g. Deliveries are not conditional on additional facilities being provided.

h. Contract placement policies were considered and applied. Competition was not invited for the reason that the contractor was the principal source for the A-26 series of airplanes. Allocation was approved by Joint Aircraft Committee. Tulsa, Oklahoma, where the work will be performed is in a Group III Labor Shortage Area. This is a "continuation" of a production of articles of the same character as those already being produced by the contractor for the Government. Established facilities exist and labor has been specially trained. The work cannot be placed with any other

source with assurance of obtaining satisfactory performance and timely delivery. No increase in employment will result.

i. This Supplemental Agreement has been placed as an expansion to an existing contract on a cost-plus-fixed-fee basis because: (1) Contractor requested this procurement be handled to supplement the existing contract W 33-038 ac-5140 which is on a CPFF basis; (2) The uncertainty of segregating inventories between CPFF contracts and fixed-price contracts; (3) Complications in accounting. All similar contracts in contractor's Tulsa plant are on a CPFF basis.

j. Contractor's letter dated 27 January 1945 submitting its original quotation and estimated cost breakdown on Proposal Form No. 43-1, and its letters dated 8 February and 12 March 1945 submitting revised quotations are forwarded herewith for ready reference. Negotiations were carried on with the contractor from approximately 19 January to 10 March 1945. The contractor's original bid was made on the basis of a projection from the last block of airplanes produced at its plant. However, this block of airplanes included in the hourly cost figures several major specification changes such as the pilot's canopy, the bomb nose, the installation of the C-1 Automatic Pilot, a change in the nose gear and many minor power plant changes. The original bid was not satisfactory to the procuring agency and additional information was requested. The contractor revised its bid on four different occasions starting with an estimate of $70,683, the second was $73,565, the third was $75,476 and the final accepted quotation was $72,476, plus a negotiated fixed fee of 3.75%. Before the original bid was received by the procuring agency, it was withdrawn by the contractor who stated that it had been made in error and that certain elements of cost, including a wage adjustment approved by W.L.B. and the increased cost of subcontracting, had not been included in the original draft. In the final revised bid, the contractor recalculated its shop hours on actual experienced costs on the airplane on which the bid was drafted. The prior procurement of like airplanes under the prime contract is on the basis of a unit estimated cost of $79,008. Considering the increase in labor rates and the extra cost of subcontracting, the final quotation at a unit cost of $72,476 was accepted by the procuring agency. Prices have been reviewed and approved by the Price Analysis Branch, AAF Air Technical Service Command, and are considered fair and reasonable.

k. Comparisons of previous procurements of A-26 series under prior contract are as follows:

Contract	Quantity	Estimated Unit Cost
W 535 ac-34433	500	$ 152,125 (4%)
W 535 ac-34433 Sup.	1600	93,914 (4%)
W 33-038 ac-5140	2000 ✓	79,008 (3.75%)

The reduction in price for current procurement is due to the increased quantity with consequent reductions to be realized thereby.

l. The contractor's quotation indicates that it is contemplated that 88% of the work to be performed under the Supplemental Agreement consisting of assembled units and machining operations will be subcontracted. A list of the subcontractors with the articles to be subcontracted, with items, quantities and prices, is forwarded herewith for ready reference.

m. No royalty charges are included in the estimated cost.

n. ANMB Preference AA-1 (C-1) has been assigned to deliveries under this procurement. Controlled materials are involved and are expected to be available to provide for the requirements of the scheduled production.

o. The articles are required and are being secured in the interests of the war effort and are listed for procurement under the "K" Program, Fiscal Year 1945.

p. An extra copy of the Supplemental Agreement marked "advance copy" is forwarded and may be retained.

q. Article 44 of the prime contract provides that sums not to exceed $54,515,530 or 30% of the estimated cost of the contract (exclusive of fixed fee) may be advanced to the contractor from time to time. By Ninth Section of the Supplemental Agreement, Article 44 in prime contract is amended to provide for advance payments not to exceed $80,180,607.50 or 29% of the estimated cost.

r. The Seventh Section of proposed Supplemental Agreement provides for payment to contractor of any unpaid balance of fee upon completion and acceptance of the work called for under each Item of Article 1(a) of said contract and each change order calling for work not included in any specific item, except that any unpaid balance of fee for the work called for by all Items of Article 1(a) aforesaid added by the latest supplemental agreement to the said contract, shall be paid upon completion of performance of contract.

s. It is noted that proposed Supplemental Agreement amends Article 1A - Data - Aircraft (Revisions), and also adds Article 1B - Data - Aircraft (Revisions).

t. This Headquarters has been advised that certain data in support of the aforesaid amendment of the Advance Payment Article, is being forwarded to it by Headquarters, Air Technical Service Command. Upon receipt thereof, said data will be forwarded to your office promptly for your information and ready reference.

For the Commanding General, Army Air Forces:

6 Incls:
1. S.7 W33-038 ac-5140 (1 No. 2 Cov.Sheets)
2. Contr's ltr 1-27-45 w/incls.
3. " " 2-8-45
4. " " 3-13-45 w/incls.
5. Adv. Cpy W33-038 ac-5140
6. Statement of SubContracting.

for A. E. JONES
Brig. General, U.S.A.
Chief, Procurement Division
Office, Assistant Chief of Air Staff
Materiel and Services

Rec. Unit. Proc. Div.
(1941) 331-G
X

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Approval Recommended
4 April 1945

/s/ A. E. Jones
A. E. JONES
Brig. General, U. S. A.
Chief, Procurement Division
Office, Assistant Chief of Air Staff
Materiel and Services.

SUPPLEMENTAL AGREEMENT NO. 6

to CONTRACT W 33-038 ac-5141

APPROVED: April 13 1945
By Direction of the Under Secretary of War under the provisions of the First Ac Powers Act, of 1941, and Executive Order No. 9001, dated 27 December 1941.

/s/ William C. Foster
WILLIAM C. FOSTER
Special Representative of the
Under Secretary of War.

Supplemental Agreement No. 6 (S-11051)
to Contract No. W 33-038 ac- 5141 (13356)

ANMB Preference AA-1 (C-1)

Classification 01-A, 01-D

AFP 348077

I.O.M. dated 5 March 1945, TSBPR318

A-26

SUPPLEMENTAL AGREEMENT
TO
COST PLUS A FIXED FEE
CONTRACT
for
SUPPLIES

(ARMY AIR FORCES)

WAR DEPARTMENT
ESS:mls

CONTRACTOR: DOUGLAS AIRCRAFT COMPANY, INC.

SUPPLEMENTAL AGREEMENT FOR: 350 A-26 D Airplanes, Spares, Tools and Data

CHANGE IN ESTIMATED COST: Increase - $32,061,603.00

CHANGE IN FIXED FEE: Increase - $ 1,282,464.12

Payments to be made by the Finance Officer, United States Army, 824 South Western Avenue, Los Angeles 5, California.

The supplies and services, if any, to be obtained by this instrument are authori[redacted] by, are for the purpose set forth in, and are chargeable to the allotments below enumerated under the heading "Debit", the available balances of which are sufficient to cover the cost thereof. The reduction, if any, in estimated cost and fixed fee under this instrument will result in credits to the allotments below enumerated under the heading "Credit".

Debit

212/50705, 502-5150 P 110-09 S 33-038

This Supplemental Agreement supersedes Letter Contract dated 15 January 1945, as amend[ed]

By authority of the War Production Board the preference ratings indicated are assigned to the deliveries on this contract.

C

ADVANCE COPY - FOR INFORMATION ONLY

ADDRESS REPLY TO
COMMANDING GENERAL, ARMY AIR FORCES
WASHINGTON, D. C.

CONFIDENTIAL

14

UNCLASSIFIED

WAR DEPARTMENT
HEADQUARTERS OF THE ARMY AIR FORCES
WASHINGTON, D. C.

35

AFDMA-4B

17 April 1945

SUBJECT: Change in Nose Ratio for A-26 Production Line

TO: Director - AAF Air Technical Service Command
Wright Field, Dayton, Ohio
Attention: TSTEX

Reference: (A) MM&D Teletype No. AFDMA-4D-3649 dated 15 February 1944

1. Reference (A) established the present requirement for equipping 66 2/3 percent of A-26 airplanes with bombardier noses in the production line. Due to the expected employment of A-26's in Pacific Areas and reduction in demand for bombardier noses resulting from the progress in the European Theaters, it has been determined that a change in the production ratio of gun nose and bombardier nose aircraft will be necessary. Therefore, it is directed that arrangements be made as soon as possible without delaying airplane production, to provide 66 2/3 percent gun noses and 33 1/3 percent bombardier noses on airplanes coming from the factory. Proposed schedules for this change should be furnished this office as soon as available.

BY COMMAND OF GENERAL ARNOLD:

1C

H. G. Bunker

H. G. BUNKER
Colonel, Air Corps
Chief, Aircraft Projects Branch
Materiel Division
Office of Ass't Chief of Air Staff
Materiel and Services

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS



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X-108681

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Bomb. Br.
(Pg. 1/4)

3

RFB/ies/F-17

TSBPR3B7

17 April 1945

Contracts W535 AC-21393 & AC-34433
Models A-26B & A-26C Airplanes
Landing Gear Failures and Malfunctions

Douglas Aircraft Company, Inc.
Long Beach 1, California
and
Tulsa 2, Oklahoma

Through: AAF Plant Representative

1. The ATSC regrets the necessity of having to further call the Contractor's attention to the extremely unsatisfactory service record of the landing gear installation on A-26 airplanes. The Contractor is undoubtedly aware of the many failures and malfunctions which have occurred to date from the many letters and Unsatisfactory Reports which have previously been forwarded from this Command, as well as from the many reports covering same from the Contractor's field service personnel.

2. This situation has become a matter of great concern to this Command in view of the fact that the number and frequency of failures and malfunctions in airplanes in service have resulted in numerous abortive sorties in both combat and training operations, as well as in considerable damage to equipment with consequent effect on operations through having airplanes out of commission for repairs. This Command has been severely criticized by operating activities, both domestic and overseas, over the generally unsatisfactory performance of the landing gear. In addition, many criticisms have been made within the Command pertaining to the same. The Contractor will recognize that the reputation of the A-26 airplane suffers considerably when difficulties of this nature occur repeatedly.

3. For the Contractor's information, there is attached herewith a list of recent accidents involving main and nose gear failures or malfunctionings. In addition, there is also attached a copy of Training Intelligence Report No. 3010, which deals largely with A-26 landing gear difficulties. Some of these difficulties border on the ludicrous.

4. It is considered that the various changes, which have so far been made to correct the numerous failures and malfunctionings

DLB-9-3867,4 (F-17)
[illegible]-2870,5/4 (F-17)

F-17
a-26

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which have occurred, have been in the nature of piecemeal changes, and that no serious attempt has been made to accomplish a thorough and sound redesign of the whole installation which is certainly warranted on the basis of service records. This is hardly in keeping with the usual Douglas practice of good engineering.

5. This Command has preliminary knowledge of two major design changes affecting the nose gear now in progress, namely, MCR 486 - "Strengthening Nose Gear Strut Mechanism and Supporting Structure" - and MCR 516 - "Redesigning Nose Gear Release Mechanism and Nose Wheel Door Mechanism". It is noted that these changes have been in development for several months, but it appears that not much progress has been made. It is believed that these changes are basic redesigns of the entire nose gear installation along the lines desired. It is, therefore, requested that engineering and development work on these changes be expedited to the fullest practicable extent in order that the designs may be released for production at the earliest possible date.

6. It is further noted that there are several minor changes affecting both the nose gear and the main gear which have not yet been incorporated in production. While most of these changes are stop-gap changes which may be absorbed or superseded by major redesigns to be accomplished later, it is requested that all of these changes be immediately reviewed from the standpoint of expediting the effective points in production all possible. It is noted that many of them are necessary to correct serious design deficiencies still existing in the landing gear installations.

7. While most of the changes discussed above pertain to the nose gear installation, it is pointed out that the main gear installation is still far from being entirely satisfactory, and certain recent difficulties in connection therewith which have not yet been officially discussed with the Contractor will be the subject of separate correspondence at an early date.

8. Contractor is requested to acknowledge receipt of this letter and to advise at the earliest possible date of action which will be taken to expedite incorporating the various corrective

design changes on the landing gear in production airplanes. This information is desired from both the Long Beach and Tulsa plants. Reply by teletype is desired.

For the Director:

ORVAL R. COOK,
Brigadier General, U.S.A.,
Chief, Procurement Division.

Encl.:
List of A-26 Accidents
T.I. Rpt #3010

CC - AAFPR, DLB
AAFPR, DT
CG,WDATSC, Prod. Div.
CG,MWDATSC, Prod. Div.
DAC, Santa Monica, Calif.,
attn: Mr. A. E. Raymond

Bomb. Dr.
(19-4/6)

6

LIST OF RECENT A-26 ACCIDENTS INVOLVING LANDING GEAR.

DATE	AIRPLANE MODEL	SERIAL NO.	LOCATION	FAILURE
23 Mar 45	A-26B	41-34236	Long Beach, California	Nose gear buckled while taxiing.
23 Mar 45	A-26C	44-35250	Memphis, Tenn.	"
26 Mar 45	A-26B	44-34245	Palm Springs, Calif.	"
2 Feb 45	A-26B	41-39551	Kissimmee, Florida	"
5 Apr 45	A-26B	44-34185	Columbia, S. C.	"
19 Mar 45	A-26B	41-39159	Marianna, Florida	Nose gear buckled while running up engines.
11 Jan 45	A-26B	41-39432	Marianna, Florica	"
23 Mar 45	A-26C	43-22403	Florence, S. C.	"
11 Apr 45	A-26C	43-22590	Lake Charles, La.	"
15 Nov 44	A-26B	41-39448	Long Beach, Calif.	"
5 Apr 45	A-26C	43-22700	Columbia, S. C.	"
8 Apr 45	A-26B	44-34161	Columbia, S. C.	"
14 Mar 45	A-26B	44-39522	Columbia, S. C.	Nose gear collapsed on landing.
23 Mar 45	A-26B	41-39165	Lake Charles, La.	"
24 Mar 45	A-26B	41-39442	Marianna, Florida	"
27 Mar 45	A-26B	44-34162	Dallas, Texas	"
23 Mar 45	A-26C	43-22538	Marianna, Florida	Both main gears wouldn't extend.
16 Nov 44	A-26B	43-22286	E.T.O.	Left main gear wouldn't extend.
13 Jan 45	A-26B	41-39210	E.T.O.	Right main gear wouldn't extend.
29 Dec 44	A-26B	41-39133	Florence, S. C.	Nose gear wouldn't extend.

Orig: 452.1 Vol 6
Bombers, A-26
18 - (1/2 pp)
C7, AA7

SAVE

SECRET 40

WAR DEPARTMENT
THE ASSISTANT SECRETARY FOR AIR
WASHINGTON, D. C.

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

9 May 1945

MEMORANDUM FOR THE DEPUTY COMMANDER, ARMY AIR FORCES

With the formal declaration of V-E Day and cessation of hostilities in Europe, I believe it would be wise to examine again aircraft and aircraft engine schedules in the light of anticipated requirements in the Pacific Theater. The programming and scheduling has, in my opinion, been well done and it appears that a satisfactory balance between requirements and production has been attained in WX and WY schedules with the possible exception of two current types. In these types the question which now arises is one of timing with respect to accelerated cutbacks so as to avoid the possibility of creating unnecessary stocks of the end product.

I suggest, therefore, that the O.C.& R. Division, and particularly the Program Control Section, be asked to review again the production scheduled for B-17s and A-26s set up in the present WX-9 schedule. In the B-17 production the cutback presently provided stabilizes production beginning in July at 100 a month. In view of the fact that this type of plane is not used in any considerable quantity in the Pacific Area I raised the question as to whether we should not make the cutback sharper and stabilize the production at a substantially lower figure beginning in July.

With respect to the A-26 production, WX-9 provides for an increase in this type until a rate of approximately 400 a month is reached in August of this year. From that peak the production declines until it reaches 250 a month in February 1945 at which point it stabilizes. I suggest that this schedule be re-examined in the light of strategic plans in the Pacific and the combat uses of this relatively short range plane. It would appear from the experience to date that production of this article might be reduced more quickly and stabilized at a lower figure.

There is one other aircraft production item which it might be well to re-examine in the light of British requirements for the war against Japan and our own inventory of current types. At present the P-51D is in substantial production and WX-9 continues this to June 1946. The P-51H now coming into production is scheduled for 350 in October and it stabilizes at that figure. Naturally, British requirements have an important bearing on this problem but I suggest that

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104

18.(2/24)

41

SECRET

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the combined production be restudied by the Program Control Office after you have had a chance to investigate the stated requirements in the light of Pacific developments.

We must be prepared to justify to the Office of War Mobilization and Reconversion our proposed production in the light of the task assigned us under the strategic plans of the Joint Chiefs of Staff. The soundness of our case depends in large part on our voluntary foresight in relating our planned production to actuality. We should take the lead in this and not be put in the position of being forced to make realistic adjustments.

ROBERT A. LOVETT
Assistant Secretary of War for Air

[redacted]

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Orig. 45 S.T. - Vol. 6
Bombers, A-26

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SECRET

ADDRESS REPLY TO
COMMANDING GENERAL, ARMY AIR FORCES
WASHINGTON 25, D. C.

19- (1/2 pp)
C7 ATTENTION: aa 7

SECRET
By Authority of
The Commander
Army Air Forces
15 May 45 H.J.
Date

FOR VICTORY
BUY
UNITED STATES
WAR
BONDS
AND
STAMPS

HEADQUARTERS, ARMY AIR FORCES
WASHINGTON

16 MAY 1945

MEMORANDUM FOR THE DEPUTY COMMANDER, ARMY AIR FORCES:

file 17/45

Subject: B-17 and A-26 Requirements and Production

I. Discussion

1. Reference is made to your R&R, subject, "Re-study of Airplane Production Programs," dated 9 May 1945, inclosing a memorandum from the Assistant Secretary of War for Air. A re-study is being or has been made of the production and requirements for B-17 and A-26 aircraft and is submitted herewith.

2. B-17's

A study is now being conducted to determine what percentage of B-17 aircraft returning from the U.K. can be modified and restored for use in the Pacific combat theatres. When this study is completed, and it is anticipated it will be within the next month, a separate recommendation will be submitted.

3. A-26's

a. The A-26 requirements have been calculated on the following assumptions:

(1) Seven (7) A-26 groups will be redeployed in the Pacific, including one (1) Pathfinder group.

(2) All medium and light groups deployed against Japan, except three FEAF B-25 groups, will be reequipped with A-26's this year. Attrition assumed is 12% of unit equipment per month.

(3) B-25 groups in FEAF will be continued on B-25's until B-25 stocks are used up after which time units will be converted to A-26's. There will be sufficient B-25's available to support FEAF groups through 1946, provided no unforeseen lend-lease commitments are made.

(4) No A-26's will be given away under lend-lease. There are no firm commitments involving lend-lease of A-26's at this time.

(5) Flow of A-26's as attrition replacements for O.A.F. groups now equipped with B-26's will begin in June 1946 to sustain unit equipment and 25% reserve. Attrition rate assumed was 5% of unit equipment per month.

b. A comparison of A-26 production and requirements using these assumptions is shown below. (See Tab A for detailed breakdown by months.)

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SECRET 43

	Over 1 May	1 May'45 1 Jan'46	1st half 1946	2nd half 1946
Requirements		1386	725	780
W-14 Production (Former WX-9)		2763	1520	1500
Over		1377	795	720
Cumulative Over	+352	+1729	+2524	+3244

c. The requirements indicated above are less than previous statements of requirements for the following reasons:

(1) No provision is made for lend-lease.

(2) Provision is not made for conversion of FEAF B-25 groups.

II. Conclusion

It is concluded that A-26 production should immediately be reduced to approximately one hundred fifty (150) aircraft per month. In view of the low attrition rate assumed and the fact that no provision has been made for lend-lease, a small margin (approximately twenty-five (25) aircraft per month) is allowed in the future production schedule for unforeseen contingencies.

III. Recommendation

It is recommended that the attached R&R to AC/AS, Materiel and Services, be approved and forwarded.

Donald Wilson

DONALD WILSON,
[illegible] General, U. S. Army,
Asst. Chief of Air Staff,
Operations, Commitments & Requirements

2 Attachs.
1-Tab A
2-R&R: "B-17 and A-26 Prod."

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[redacted] SPS 453.1 (1661)

CPFF - Total
Part

FW

5/50

ARMY AIR FORCES
HEADQUARTERS
AIR TECHNICAL SERVICE COMMAND

SSR/tg/TSRTE5A
WRIGHT FIELD, DAYTON, OHIO
31 May 1945

Letter Termination Notice
Contract No. W 33-038 AC-5140
Docket No. 18348

Douglas Aircraft Company, Inc.,
Tulsa, Oklahoma

1. This letter will confirm the Government's telegram TSRTE- 5-5-131 to you dated 28 May 1945 from William M. Howell, 1st Lt., Air Corps, Contracting Officer, terminating in its entirety your Contract No. W 33-038 AC-5140 pursuant to Article 9 thereof for the convenience of the Government.

2. The effective date of termination is the date upon which compliance with reference telegram first requires you (1) to reduce or stop deliveries under subject contract, or (2) if no deliveries are being made or are called for under subject contract, to reduce or stop performance under such contract.

3. Attention is directed to instructions on the reverse of this page. The office named below will be in charge of the settlement of your claim, and should be consulted as to any matters not covered by this Notice or by the Instructions.

AAF Plant Representative
Attn: Termination Officer
Address: At your plant

WILLIAM M. HOWELL
1st Lt., Air Corps
Contracting Officer

Incl: Instructions to Contractors
Instructions to Subcontractors
Standard Settlement Forms

106

Bomb. Br. (Pg. 1/1)

12

5

A-26 Airplanes, Cut-Back of Tulsa Schedule.

TSEPR TSEPR387 5 June 1945 1
attn: Col. Shepard

THRU: TSEPR3, Col. Mitchell

1. As a result of recent cut-backs and terminations of the A-26 program, a conference was held at Wright Field on 30 & 31 May 1945 with representatives of the Douglas Aircraft Company to determine program to be followed in the incorporation of changes in the remaining A-26 aircraft to be built at the Douglas-Tulsa facility. In general, it was agreed that the following factors would govern this program:

a. Since Tulsa production has been terminated at article No. 1753, all changes which were not scheduled to be incorporated until subsequent to this point shall be cancelled. An exception to this is MCR 200, Installation of 8-Gun Nose, which shall be made effective on article No. 1601.

b. All changes for which effective points have not yet been selected at Tulsa shall be considered for cancellation. The greater majority of changes in this category will be cancelled. However, it is conceivable that some of these changes may be of a safety or tactical nature and may be required. The Contractor will immediately submit a list of those MCR's falling within the group for a review and decision by ATSC.

c. The Contractor will submit to the ATSC for approval a list of changes for which the effective point has been set in the approximate area of articles 1601 to 1753, and which Contractor desires to cancel due to difficulties presently being encountered in their incorporation. ATSC will advise which of these changes may be cancelled.

2. The above program was deemed necessary since the bulk of the remaining A-26's to be built at Tulsa will be delivered during the next three months, and changes which cannot be incorporated within the period are scarcely worth further consideration unless they are of the nature of a safety or tactical necessity change. In addition, the Engineering Department and Tooling Department personnel will soon be moved out of the Tulsa plant, leaving only the Assembly and Fabrication Groups to complete the airplanes on contract. For this reason, it may be necessary to make use of the Modification Center at Tulsa for any late changes which may be required.

W. A. DAVIS,
Lt. Colonel, Air Corps,
Acting Chief,
Bombardment Branch.

RRR/ies/F-2
Ext. 26157

107

Bomb. Br.
(pg. 1/1)

29

D

ROUTINE

7 June 1945

MILLER, ATSC

COMMANDING GENERAL
ARMY AIR FORCES
WASHINGTON 25, D. C.

H.A.SHEPARD, Col.,AC, Actg. Chief,
Production Sec., Procurement Div.

ATTN: AC/AS, M & S, Materiel Div.

29137/RLS/jm/F-10

TSEPR3B7-6-42 Cont. W535-ac-21393 A-26D AIRPLANES. INSTALLATION OF R-2800-83 "C" ENGINE, MCR-110. EFFECTIVE POINT OF "C" ENGINE IN A-26D AIRPLANES HAS BEEN SET BACK FROM 1166TH LONG BEACH ARTICLE TO 1456TH ARTICLE DUE FOR DELIVERY FIRST WEEK OF NOVEMBER. DELAY WAS DUE TO DESIGN DIFFICULTIES WITH EXHAUST STACKS AND INDUCTION SYSTEM. AVAILABILITY OF "B" ENGINE INSTALLATION PARTS FROM TULSA CUT-BACK MADE DELAY POSSIBLE, OTHERWISE CONTRACTOR STATED THAT LINE STOPPAGE WOULD HAVE BEEN IMINENT. "C" ENGINE CHANGE WILL NEVER BE MADE AT TULSA, SIGNED, PROCUREMENT DIVISION.

cc - TSTEX

F-10
A-26 gb

108

Bomb Br.
(pg. 1/1)

13

S

Difference Between A-26B and A-26C Airplanes

TSXBA TSBPR3B7 30 June 45 #1

1. In reply to FSF/20-25 letter dated 27 June 1945, the following information is submitted:

The A-26B and C Airplanes are similar to each other with the exception that the former is the gun nosed airplane while the latter incorporates a bombardier nose. Both have the Pratt & Whitney R-2800 Series "B" engine installed.

The A-26B will be a gun nosed airplane, similar to the A-26B, with the exception that new R-2800 Series "C" engines will be incorporated. This will include new engine mounts, cowling, carburetors, generators, and other corresponding power plant improvements.

H. A. SHEPARD,
Colonel, Air Corps,
Chief, Production Section,
Procurement Division

SMS/mgs/F-2
3-0144

109

A-26
F-2

Original, 1.191, A-26
Prod., Gen.
27 - (1/1 pt)
Avic. Proj. Sect.,
AC/AS-4

WAR DEPARTMENT
CLASSIFIED MESSAGE CENTER
INCOMING CLASSIFIED MESSAGE

UNCLASSIFIED [redacted] TOT

PRIORITY

(PARAPHRASE NOT REQUIRED)

From: CG, Far East Air Forces, Manila, Philippines.

To: War Department

Nr: A 77219 15 July 1945

From COMGENFEAF sgd Kenney to COMGENAIR personal attention General Arnold from Kenney A 77219.

The A 26 with the 8 gun nose and without the belly turret has proven highly satisfactory as a replacement for the A 20 and later on for the B 25. Request the reequipping of the 3rd and 417th Groups with the A 26 be expedited.

Some minor modifications can be made at the factory without interference with production. The information on these modifications is being sent to Douglas by his representatives here. If minor modifications interfere with immediate deliveries, we will do the work out here until the factory can take over. Can you give me a schedule of arrival of A 26s in this theater on which to base my planning?

End.

A-26
Gen.
1.192

ACTION: CG AAF

INFO : OPD

CM-IN-15126 (15 Jul 45) DTG: 151131Z ngr

AAF
ACTION
ROM-A
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AEI

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COPY No. 22 110

THE MAKING OF AN EXACT COPY OF THIS MESSAGE IS FORBIDDEN

ATSC Form No. 80-502 (2 NOV 44)

CONFIDENTIAL

1 JAN 45-2400

Cent F
1/5

Major W.M.Barstow
ear:TSTEX:5-4141

ARMY AIR FORCES
HEADQUARTERS
AIR TECHNICAL SERVICE COMMAND

Wright Field, Ohio
24 July 1945

TECHNICAL INSTRUCTIONS

ORIG. TYPE COPIES TO: INITIALS
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EXTRA COPY
DETAILS
VALUE OF PAPER CHECK ONE
PERMANENT ☑ TRANSITORY ☐

Serial No.: TI-2026, ADDENDUM NO. 84

Subject: Modification of A-26 Airplanes for Photo Reconnaissance Use

To: Procurement Division

1. Problem Presented:

a. To modify eight (8) A-26C Aircraft for use as photo reconnaissance (FA-26) Type Aircraft on expedited basis in accordance with the following requirements:

(1) GENERAL: All armament and sighting equipment will be removed from the aircraft. Bombing equipment not required for the release of photo flash bombs can be removed. The cameras will be installed in the nose and/or rear camera well positions in such a manner that there will be no masking of the photographic image by the camera windows or any object inside the fuselage, and such that there will be an absolute minimum of masking of the photographic image by any structure outside the fuselage. The installation, deletion, or relocation of the standard equipment in the airplane, which will not adversely affect the structural or aerodynamic characteristics but which will improve the photographic performance of the airplane, will be permitted.

(2) CAMERAS: Provisions will be made in the aircraft for the installation of the following aerial cameras:

(a) Nose Installation: One (1) K-19 12" vertical camera.

(b) Rear Camera Well Position: Two (2) K-19 12" cameras, mounted as split verticals, each camera tilted equally from the vertical so as to provide two inch (2") overlap of the resulting images. The photo-electric cells will be mounted in a position adjacent to the split vertical cameras.

(3) SPARE MAGAZINES: Provisions will be made for the stowage of one (1) spare magazine, to be located in the nose.

(4) CAMERA MOUNTS:

(a) Standard Mounts: None.

452.1- A-26 Douglas

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M-15382-A

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Serial No.: TI-2026, Add. No. 84

Subject: Modification of A-26 Airplanes for Photo Reconnaissance Use

(b) Special Mounts: Each single and multi-camera installation will be mounted in an integral mount, shock-mounted to the fuselage. The angular relationship of the cameras will be such that the optical axis and one (1) pair of fiducial marks of each camera will lie in a plane or planes that are parallel to a lateral vertical plane. Provisions for aligning and maintaining the angular relationship of the cameras will be made. The cameras will be installed so that the film will progress in the same direction and be parallel to the line of flight. The split vertical installation will be adjustable for fore and aft correction to compensate for a nose high condition up to four degrees (4°). The mounts will be so designed that they can be easily removed from or installed in the aircraft, and so that the cameras can be easily removed from or installed in the mount. The magazine locks of each camera will be easily accessible when the camera is in operating position in order that the magazines may be readily removed.

(5) CAMERA CONTROLS: Suitable selector switches, indicator lights, intervalometers, and operating controls will be provided for the photographic - navigator.

(6) ELECTRICAL SYSTEM: Necessary additions and modifications to the airplane electrical system will be accomplished to provide satisfactory operation of the photographic and flash equipment.

(7) CAMERA VACUUM: Vacuum lines will be run to all camera stations. Sufficient vacuum (volume and pressure) will be provided to maintain at the focal plane back, the maximum differential pressure available at maximum altitude. An automatic, solenoid operated, vacuum valve will be provided in the vacuum line. Gum rubber or a substitute synthetic rubber tubing will be used to the camera magazines.

(8) DRAFT SEAL: Selected plate glass, in accordance with AAF Specifications, will be used for the camera windows. Provisions will be made for the easy accessibility to and removability of the camera windows from outside the airplane, in order that they be inspected, cleaned and replaced when broken.

(9) HEAT: Heating system will be provided to assure adequate defrosting of the camera windows. The camera compartments will be insulated where possible.

(10) ARMOR: All existing armor and bulletproof glass will be retained. Removable flak curtains will be provided for protection against anti-aircraft fragments in the bomb bay when photo flash bombs are carried.

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W-15382-A-

Serial No.: TI-2026, Add. No. 84

Subject: Modification of A-26 Airplanes for Photo Reconnaissance Use

(11) RADIO AND RADAR:

(a) Two (2) Loran Receivers, AN/APN-9, will be installed in the aircraft, one in the nose and one in the rear navigator's station.

(b) AN/APN-3 Shoran equipment will be installed in the rear navigator's station with PDI furnished the pilot.

(c) AN/APN-19 Rosebud Beacon will be installed in the pilot's compartment.

(d) AN/APN-1 Low Altitude Radio Altimeter will be installed for pilot's use.

(e) AN/ARC-3 (Eight-- channel) VHF radio will be installed, if not already accomplished.

(f) An additional control switch for operating the trailing antenna reels will be installed at the photo-navigator's position.

(12) NAVIGATION: A gyro-fluxgate compass will be installed with a master indicator switch at the photo-navigator's position and repeater indicator on pilot's instrument panel.

(13) SPECIAL NIGHT PHOTOGRAPHIC EQUIPMENT: Provisions will be made in the airplane for carrying photo flash bombs and/or D-5 Electric Flash equipment in the following combinations:

(a) Electric flash operation with auxiliary gasoline tank. This tank is for range extension and the installation should be similar to that made in airplane, number 43-22576 mentioned previously.

(b) Flash bomb operation with twelve (12) bombs and auxiliary gasoline tanks.

(c) Flash bombs operation with eighteen (18) flash bombs, auxiliary gasoline tank omitted.

The D-5 Electric Flash Unit will be installed in the bomb bay in such a manner that it can be readily removed, in order to convert the airplane to photo flash bomb operation. The electric flash lamp will be installed in the tail of the aircraft in such a manner that vibration will be held to an absolute minimum in order to prevent failures in flight.

[redacted]

Serial No.: TI-2026, Add. No. 84

Subject: Modification of A-26 Airplanes for Photo Reconnaissance Use

(14) OXYGEN: Oxygen will be installed in the aircraft sufficient to sustain three (3) hours' operation at 20,000 ft. for three (3) crew personnel. Four (4) oxygen outlets will be provided, one at the rear navigator's station, one at the pilot's station, one at the photographic - navigator's station, and one in the nose.

(15) CAMOUFLAGE: This aircraft will be camouflaged for night operations, glossy black finish.

(16) CREW: The crew will consist of one (1) Pilot, one (1) Photographic-Navigator, and one (1) Shoran - Navigator.

(17) INSTRUMENT LIGHTS: An additional fluorescent light will be installed at the pilot's station to adequately light the electrical instrument panel.

(18) FUEL LEVEL WARNING LIGHT: A fuel level warning light will be installed on the pilot's instrument panel and so wired through the fuel selector valve that an indication of low fuel condition can be given for the tank in current operation.

(19) FLIGHT TESTS: This aircraft will be flight tested to insure that all installations called for above perform satisfactorily.

2. Factual Data:

a. Reference is made to previous modification of A-26 Airplane serial no. 43-22576, which was modified for night photographic purposes under the supervision of the Engineering Division at Bedford, Mass. The engineering secured from this modification can be utilized to some extent for this project, however, there are numerous additional modifications required in these eight (8) aircraft which are not incorporated in the Bedford airplane.

b. The theater has requested delivery of the airplanes on this project by 1 September 1945 and although this date appears impossible to meet, every effort must be made by all concerned at this Command to expedite the completion of this project as soon as possible.

c. A preliminary verbal estimate of ninety (90) days was made when this project was first indicated to this Command. This estimate however, was based on a much more simplified list of requirements than that listed in Problem Presented above. The Office, Assistant Chief of Air Staff, Materiel and Services, therefore, has requested that they be furnished an estimate based on the revised requirements which should be prepared and forwarded through this Office as soon as possible.

Cent. F 5/5

CONFIDENTIAL

Serial No.: TX-2026, Add. No. 84

Subject: Modification of A-26 Airplanes for Photo Reconnaissance Use

d. As preliminary discussions have indicated that the work on these eight (8) airplanes will be done at Tulsa which is already engaged in a 1-B priority for Pathfinder aircraft, and since this project also carries a 1-B priority, AC/AS, M&S should be notified through this Office, if any conflict develops between the two 1-B projects so that a decision may be obtained to eliminate any interference. AC/AS, M&S should also be notified of the effect of this directive on other lower priority work already underway on theater projects.

e. Emergency procurement has been authorized on the D-5 Electric Flash equipment if such action is deemed necessary. Also, use of presently available parts for D-3 and D-4 Electric Flash units is authorized in assembling D-5 units for this project.

3. Authority:

a. CG, AAF by letter dated 19 July 1945, subject: "Modification of A-26 Aircraft for Photo Reconnaissance", from Chief, Materiel Division, AC/AS, M&S.

4. Action Desired:

a. That the Procurement Division take immediate action to modify eight (8) A-26C Aircraft in accordance with the above listed requirements and advise the Office, Assistant Chief of Air Staff, M&S, through this Office, concerning the revised estimate for delivery of these eight (8) aircraft.

b. That the Engineering Division assist the Procurement Division in the modification of these airplanes and provide any engineering drawings, information or assistance that may be required in order to expedite completion of this project.

c. This project has been assigned a 1-B priority.

By Command of Major General KNERR:

for K. H. BITTING
Colonel, Air Corps
Chief of Administration

cc: Engineering Division (Action Copy)
Maintenance Division
Supply Division
Tech. Liaison Office
Flight Test

W-15382-A

C-251-C
5-10-43)

A. G. P.	
PRIORITY	
ROUTINE	X
MULTIPLE ADDRESS	

TELETYPE MESSAGE

AIR SERVICE COMMAND TELETYPE NETWORK

RRR/mgs/F-30B

FROM: ATSC

DATE: 9 August 1945

H. A. SHEPARD, Colonel, A.C.
Chief, Production Section,
Procurement Division
NAME, RANK AND TITLE OF AUTHENTICATING OFFICER

TO: "MULTIPLE ADDRESS"
AAF PLANT REPRESENTATIVE
DOUGLAS AIRCRAFT COMPANY, INC.,
TULSA, OKLAHOMA

CLASS:

AND

TELETYPE AAF PLANT REPRESENTATIVE
DOUGLAS AIRCRAFT COMPANY, INC.,
SANTA MONICA, CALIFORNIA

TSBPR3B7-8-69 . . . . CONTRACT AC-32123, MODEL A-26B AIRPLANES. TOW TARGET MODIFICATIONS. CONFIRMING CONFERENCE AT WRIGHT FIELD 8 AND 9 AUGUST 1945 WITH CONTRACTOR'S PERSONNEL, IT IS REQUESTED THAT TOW TARGET MODIFICATIONS BE UNDERTAKEN BY YOUR FACILITY IN EIGHT A-26B AIRCRAFT. EARLY INDICATIONS WERE THAT THESE EIGHT AIRPLANES WOULD COME FROM STORAGE. HOWEVER, IT IS NOW KNOWN THAT THEY WILL BE OBTAINED FROM A GROUP OF AIRPLANES RETURNED TO THIS COUNTRY FROM ETO. MODIFICATIONS REQUIRED INCLUDE INSTALLATION OF TOW-REEL EQUIPMENT AND SIMPLIFIED OXYGEN SYSTEM. MODIFICATION DIRECTIVE WILL BE REVISED TO REFLECT THESE REQUIREMENTS. THESE EIGHT AIRPLANES HAVE BEEN ORDERED TO YOUR FACILITY AND SHOULD ALL ARRIVE WITHIN TEN DAYS. ORIGINAL REQUIREMENT WAS THAT THESE EIGHT AIRPLANES BE COMPLETELY MODIFIED BY 5 SEPTEMBER 1945, HOWEVER IT IS REALIZED THAT THIS DATE CANNOT BE MET. REQUEST YOUR COMMENTS AND EARLIEST POSSIBLE DELIVERY SCHEDULE BE FORWARDED TO THIS OFFICE, SIGNED, PROCUREMENT DIVISION

cc: WDPR
TSBUY2D
TSEAL2 - Mr. Beirise
TSBPR3E3 - Maj. Kinsey

TSBUY2D

COORDINATION

C. G. OR C. O.	CONTROL OFFICE	MAINTENANCE	P & T	SUPPLY	BUDGET & FISCAL	OTHERS

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ASC-20-C
(15-10-...)

A.C.P.	
PRIORITY	
ROUTINE	XX
MULTIPLE ADDRESS	

TELETYPE MESSAGE

AIR SERVICE COMMAND TELETYPE NETWORK

TSBPR3B7/RRR/ies/F-30A

FROM: ATSC DATE: 10 Aug 45

H. A. SHEPARD, Colonel, A. C.
Chief, Prod. Sec., Proc. Div.
NAME, RANK AND TITLE OF AUTHENTICATING OFFICER

TO: MULTIPLE ADDRESS:
AAFPR, DOUGLAS AIRCRAFT CO., INC.
LONG BEACH, CALIFORNIA

CLASS: AAFPR, DOUGLAS AIRCRAFT CO., INC.
SANTA MONICA, CALIFORNIA
ATTN: MR. W. S. FRYER

TSBPR3B7-8-83. . . . RE CONTRACTS AC-21393 & AC-32123, A-26B AIRPLANES. MODIFICATIONS OF NIGHT INTRUDER. IT IS REQUESTED THAT 96 AIRPLANES ON PROJECT 97369 BE MODIFIED AS NIGHT INTRUDER AIRCRAFT BY INCORPORATING THE FOLLOWING:

(1) STANDARD "UCIP" MODIFICATIONS (EXCEPT STANDARD AAF CAMOUFLAGE)

(2) MAXIMUM FUEL IN SELF-SEALING TANK IN ONE-HALF OF BOMB BAY. 2500 MILES RANGE IS DESIRED WITH AS MUCH FUEL AS POSSIBLE CARRIED INTERNALLY.

(3) EFFECTIVE FLAME DAMPENING EQUIPMENT. (CONTRACTOR'S COMMENTS REQUESTED REGARDING POSSIBILITY OF INSTALLING COMPLETE ALL AROUND FLAME DAMPENERS.)

(4) AN/APN-1 RADIO ALTIMETER.

(5) FLASH HIDERS FOR ALL GUNS.

(6) ADEQUATE COCKPIT LIGHTING TO ELIMINATE ALL GLARE OR LIGHT REFLECTIONS.

(7) PAINT ENTIRE COCKPIT AREA INCLUDING CONTROLS WITH NON-REFLECTING BLACK PAINT.

(8) STANDARD GLOSSY BLACK NIGHT CAMOUFLAGE.

(9) TAXI LIGHT ON NOSE WHEEL.

(10) INSTALL LORAN AN/APN-9 GROUP "A" AND "B" PARTS AVAILABLE TO CO-PILOT IF POSSIBLE. ADVISE THIS OFFICE IF THIS INSTALLATION WILL BE SATISFACTORY.

(11) INSTALL SIMPLIFIED OXYGEN SYSTEM WITH ONE OUTLET PER CREW STATION. OXYGEN SUPPLY SHOULD BE ADEQUATE FOR 3 HOURS DURATION AT 15,000 FT.

(CONTINUED ON PAGE TWO)

BUY 2 D

COORDINATION

C. G. OR C. O.	CONTROL OFFICE	MAINTENANCE	P & T	SUPPLY	BUDGET & FISCAL	OTHERS

113

Tel[illegible] WSEPR3B7-8-83 dtd 10 Aug 45.
(CONFIDENTIAL)

MODIFICATION DIRECTIVE WILL BE REVISED IN NEAR FUTURE TO REFLECT ABOVE REQUIREMENTS. REQUEST THIS OFFICE BE ADVISED IF ANY DELAY IN AIRCRAFT DELIVERIES ARE INVOLVED AS RESULT OF THESE MODIFICATIONS, SIGNED, PROCUREMENT DIVISION.

File: AC-21393
AC-32123

CC - WDDPR

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PRIORITY

T E L E G R A M

FROM: KNERR, ATSC

13 AUGUST 1945 DKT. # 22634

Lt. L.D.McKinley:ah:TSRTE5A
Ext. 25102

TO: MULTIPLE ADDRESS

TO: DOUGLAS AIRCRAFT CO., INC.
SANTA MONICA, CALIFORNIA

TO: DOUGLAS AIRCRAFT CO.INC.
TULSA, OKLAHOMA

TO: COMMANDING GENERAL
WESTERN DISTRICT, ATSC
ATTN: TERMINATION SECTION

WILLIAM M. HOWELL
CAPTAIN, AIR CORPS
CONTRACTING OFFICER

TO: AAF PLANT REPRESENTATIVE
DOUGLAS AIRCRAFT CO., INC.
TULSA, OKLAHOMA

TO: COMMANDING GENERAL, ARMY AIR FORCES
WASHINGTON 25, D. C.
ATTENTION: OC/AS M & S
RESOURCES DIVISION

TSRTE- 5-8 79 . . . . . YOUR CONTRACT(S) LISTED BELOW HEREBY TERMINATED TO THE EXTENT STATED. IMMEDIATELY STOP ALL WORK, TERMINATE ALL SUBCONTRACTS AND PLACE NO FURTHER ORDERS EXCEPT AS TO ADDITIONAL WORK OR MATERIAL REQUIRED TO COMPLETE ANY UNTERMINATED PORTION OF YOUR CONTRACT(S), OR THAT YOU OR A SUB-CONTRACTOR WISH TO RETAIN AND CONTINUE FOR YOUR OWN ACCOUNT. LETTER AND INSTRUCTIONS FOLLOW.

1. CONTRACT(S) W 53[illegible] AC-34433 — canceled before transmission

2. EXTENT OF TERMINATION : IN ITS ENTIRETY, EXCEPT THAT TECHNICAL DATA REQUIREMENTS ARE EXCLUDED FROM THIS TERMINATION.

3. DOCKET NO. 22634

SIGNED WILLIAM M. HOWELL, CAPTAIN, AIR CORPS

CONTRACTING OFFICER.

TSBUY20

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PRIORITY

T E L E G R A M

TO: MULTIPLE ADDRESS

TO: DOUGLAS AIRCRAFT CO., INC.
SANTA MONICA, CALIFORNIA

TO: COMMANDING GENERAL
WESTERN DISTRICT, ATSC
ATIN: TERMINATION SECTION

TO: DOUGLAS AIRCRAFT CO., INC.
TULSA, OKLAHOMA [illegible]

TO: AAF PLANT REPRESENTATIVE
DOUGLAS AIRCRAFT CO, INC.
TULSA, OKLAHOMA

FROM: KNERR, ATSC

CAPT. W. M. HOWELL, 25102
TSRTE-5A:mf
28 August 1945

WILLIAM M. HOWELL
CAPTAIN, AIR CORPS
CONTRACTING OFFICER

TSRTE5-8-277 . . . . REFERENCE TERMINATION DOCKET 22634, CONTRACT AC-34433 TELEGRAPHIC NOTICE OF TERMINATION TSRTE5-8-79 DATED 13 AUG 1945 AND CONFIRMING LETTER TERMINATION NOTICE DATED 21 AUG 1945 ARE HEREWITH AMENDED BY EXCLUDING ONE A-26C AIRPLANE WITH SERIAL NO. 44-35946 FROM SAID TERMINATION. THIS AMENDMENT IS MADE IN ORDER THAT THIS AIRPLANE MAY BE APPLIED ON THE A-26 PATHFINDER PROGRAM. ALL OTHER PROVISIONS OF THE REFERRED TO TELEGRAPHIC NOTICE REMAIN THE SAME AND IN FULL FORCE AND EFFECT.

SIGNED WILLIAM M. HOWELL, CAPTAIN, AIR CORPS, CONTRACTING OFFICER.

TS 80420

INTER-OFFICE MEMORANDUM

ARMY [redacted]
MATERIEL CENTER
Office of The Commanding General

TSESS-21/LAS:km

Wright Field, Dayton, Ohio
Date 13 August 1945

TO:

TSEPR
Aircraft Radio & Radar Subdivision
Attn: Colonel H. R. Yeager

SUBJECT:

Contract W535 AC 21395
Acceptance Inspection of XA-26F Airplane.

1. An engineering safety acceptance inspection is to be held at Douglas Aircraft Company, Long Beach, California on Douglas Model XA-26F Airplane. The inspection is to be taken care of by representatives from the Aircraft, Equipment, Power Plant Laboratories, and the Production Section who are assigned to the C&S inspection of the XB-42 airplanes, which is to be held during the week of 27 August at Douglas, Santa Monica plant.

2. This is a standard A-26F airplane with the rear gunners compartment, upper and lower turrets, and a General Electric I-16 power unit installed in the rear of the fuselage.

for
MARCUS F. COOPER
Colonel, Air Corps
Chief, Aircraft Projects Section
Service Engineering Subdivision
Engineering Division

Signature

115

[redacted]

17 August 1945

MEMO TO: Lt. Colonel W A. Davis
Chief, Bombardment Branch

SUBJECT: Report of Trip to Southwest Pacific Theatre in Connection with Instroduction of A-26B Airplanes in FEAF

1. Pursuant to Letter Orders A5-24-57, the writer proceeded to the Southwest Pacific Area to contact the 3rd Bombardment Group (L), 5th Bomber Command, to which twenty-five (25) A-26B airplanes had been assigned for tactical and operational suitability tests. The writer was accompanied by Mr. G L. Farquhar. Douglas Project Engineer on A-26 airplanes, and Mr. W J. Morrisey, Douglas Test Pilot, Experimental Flight Test Division.

2. I arrived in Manila, Luzon, on 3 July 45. and proceeded to Hqs 5th Air Force, Clark Field. Upon presenting orders and stating purpose of mission, I was assigned on temporary duty to 5th Bomber Command, and then reassigned to 3rd Bombardment Group with headquarters at San Jose, Mindoro.

3. Nineteen (19) of the twenty-five airplanes had been delivered when I arrived at San Jose and a number of pilots had been checked. No missions had been run, only test hops and familiarization flights; therefore, the date of my arrival was well timed. Colonel John Kelly, who was sent from this Command on temporary duty as operations liaison officer, had arrived about 10 days earlier, and he was instrumental in checking out pilots and in familiarizing personnel with the operation of the airplanes and equipment.

4. Combat Operations.

a. During the first 10 days of my stay five missions consisting of about 40 sorties were run against targets on Formosa. A detailed report covering these operations is contained in a general report on the tactical and operational suitability of the airplane prepared by the 3rd Bombardment Group. Excellent results were obtained on the targets attacked, which consisted of railroad yards, warehouses and light shipping. The only damage sustained on all missions was one bullet hole in a wing leading edge apparently from a ricochet, and one other bullet hole in a wing panel from small arms fire. Some flak was encountered, but it was scattered and inaccurate. No air interception was encountered. All pilots expressed themselves as highly pleased over the destructive power of the fourteen forward firing .50 caliber guns. It was stated that the swath of destruction cut by these guns was amazing.

[redacted]

b. Sweeps over the target were made at about 300 m.p.h. at about 100 ft. altitude using about 2400 r.p.m. and 38" m.p. One abortive pass resulted on one mission through malfunction of a switch in the bomb circuit due to moisture, but bombs were released on a second pass.

c. Flights to the target were made at 1900 r.p.m. using sufficient manifold pressure, about 35" to attain 205 m.p.h. IAS. Return from target was made at about 1800 r.p.m. at same airspeed. These power settings gave an average fuel consumption of about 2.0 miles per gallon.

d. Bomb loads were 3000 lbs. consisting of either six 500 lb. or twelve 250 lb. general purpose demolition bombs. Four double clusters are carried in the latter case to give twelve bombs on eight stations. Parachutes from the 23 lb. para-frag bombs are installed on the demolition bombs, two on the 250 lb. and four on the 500 lb. to slow the bombs down and prevent ricochet when released from a low altitude. The parachute cans are nested in between the fins of the bombs by means of adapters plate attached to the fin mounting flange.

e.

e. The gross weight of the airplanes at take-off with 1050 gallons of fuel, 3000 lbs. bomb load and full complement of ammunition was about 36,300 lbs. Take-off characteristics were entirely satisfactory at this weight on a steel matting airstrip of about 6000 ft. length.

f. No missions were run using the external wing tanks, but test flights made with these tanks indicated satisfactory operation. The Group was well satisfied with the external fuel tank installation.

g. Water injection was not used at an time because the Group was not particularly interested in it, and did not feel the need of it for take-off or for operation over the target. However, they intend to try it out and develop an operating technique for using it.

5. Operations were curtailed on about 19 July 45 due to the fact that the Group was moving to Okinawa. Since this move would require about two to three weeks before operations could be resumed and since the airplanes were accepted enthusiastically, there appeared to be no further need for me to remain in the Theatre. I therefore proceeded to return to Wright Field on ~~17~~ 25 July 45.

Richard F. Bache

RICHARD F. BACHE,
Captain, Air Corps,
TSBPR3B7.

UNCLASSIFIED

[redacted]

RESTRICTED

Bomb. B.
(pg. 1/1)

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WDDEN

WDDEN/WNO/djg

AIR MAIL

18 August 1945

SUBJECT: Progress Report,
Contract No. W535 AC-21393,
Project X-32823 (XA-26F),
Installation of I-16 Power Plant
in A-26B Airplane, Serial No. 44-39586.

TO: Chief, Engineering Division,
AAF, Air Technical Service Command,
Wright Field, Dayton, Ohio.

Attention: Service Engineering Section,
Aircraft Projects (TSEES-2).

1. On 17 August, personnel from this Section contacted Mr. S. Kreisler of the Douglas Aircraft Company regarding the status of the subject model project.

2. According to Mr. Kreisler, all work has been stopped on this project because of the termination of the subject contract. All work being done on this project was charged to the A-26 production contract. Douglas personnel stated that at present they are awaiting clarification of the status of this airplane.

3. According to Douglas personnel the air scoop was 90% complete. The other remaining major items before completion of this airplane are to install the I-16 engine and piping and to clean up the airplane for inspection and flight test. Douglas personnel estimated that approximately two weeks work would be required to complete the airplane. In addition, Douglas personnel estimated that the first flight date would be approximately 17 days after notification is received to continue work on the project and that a 689 or a safety inspection can be held approximately 12 days after notification is received to continue work on this project.

4. The wings have been attached to the fuselage. According to Douglas personnel propellers have not been installed, however, three bladed 6443 Hamilton Standard propellers are scheduled to be installed. Douglas personnel stated that sensitive tachometers, sensitive temperature indicators, and a Lewis type switch are required to complete the flight test instrumentation.

FOR THE COMMANDING OFFICER:

CHARLES R. HAWKS,
Major, Air Corps,
Chief, Eng. Section, Prod. Div.

cc: AAFPR, Douglas, Long Beach
AAFPR, Douglas, Santa Monica.
CG, AAFATSC, W.F. Attn: TSTXX.
CG, AAFATSC, W.F. Attn: TSBPR3B (Capt. Bache.

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TSBCONT Form No. 7F
(12 June 45)

CPFF—Total
Partial

8E PN

IN REPLY ADDRESS BOTH COMMUNICATION AND ENVELOPE TO ATTENTION OF FOLLOWING OFFICE SYMBOL:

TSRTE5A

HEADQUARTERS AIR TECHNICAL SERVICE COMMAND

TSRTE5A:LDM:jo

WRIGHT FIELD, DAYTON, OHIO

27 August 1945

Subject: Letter Termination Notice
Contract No. W33-038 AC-5141
Docket No. 22633
Class No. 01-A

To: Douglas Aircraft Co., Inc.
Long Beach, California

1. This letter will confirm the Government's telegram TSRTE-5-8-66 to you dated 13 August 1945 from William M. Howell, Captain, Air Corps, Contracting Officer terminating in its entirety your Contract No. W33-038 AC-5141 pursuant to Article No. 9 thereof for the convenience of the Government.

2. The effective date of termination is the date upon which compliance with reference telegram first requires you (1) to reduce or stop deliveries under subject contract, or (2) if no deliveries are being made or are called for under subject contract, to reduce or stop performance under such contract.

3. Attention is directed to instructions on the reverse of this page. The office named below will be in charge of the settlement of your claim, and should be consulted as to any matters not covered by this Notice or by the Instructions.

AAF Plant Representative
Attn: Termination Officer
Address: At your plant.

Cy to Douglas, Santa Monica.

WILLIAM M. HOWELL
Captain, Air Corps
Contracting Officer

Incl: Instructions to Contractors
Instructions to Subcontractors
Standard Settlement Forms

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TSBCONT Form No. 7F
(12 June 45)

107

CPFF—Total
Partial
PN

~~WRIGHT AIR DEPOT~~

IN REPLY ADDRESS BOTH COMMUNICATION AND ENVELOPE TO ATTENTION OF FOLLOWING OFFICE SYMBOL:

TSRTE5A

HEADQUARTERS, AIR TECHNICAL SERVICE COMMAND

TSRTE5A:LDM:jo

WRIGHT FIELD, DAYTON, OHIO

27 August 1945

Subject: Letter Termination Notice
Contract No. W535 AC-21393
Docket No. 22632
Class No. 01-A

To: Douglas Aircraft Co., Inc.
Long Beach, California

1. This letter will confirm the Government's telegram TSRTE-5-8-80 to you dated 13 August 1945, as amended by TSRTE-5-8-196 to you dated 21 August 1945, from William M. Howell, Captain, Air Corps, Contracting Officer, terminating in its entirety pursuant to Article No. 4 thereof except for Technical Data requirements and work called for under Contract Change Notification No. 184(N-39997), Master Change No. 587, Project X-32823.

2. The effective date of termination is the date upon which compliance with reference telegram first requires you (1) to reduce or stop deliveries under subject contract, or (2) if no deliveries are being made or are called for under subject contract, or reduce or stop performance under such contract.

3. **Attention is directed to instructions on the reverse of this page.** The office named below will be in charge of the settlement of your claim, and should be consulted as to any matters not covered by this Notice or by the Instructions.

AAF Plant Representative
Attn: Termination Officer
Address: At your plant.

Cy to Douglas, Santa Monica.

WILLIAM M. HOWELL
Captain, Air Corps
Contracting Officer

Incl: Instructions to Contractors
Instructions to Subcontractors
Standard Settlement Forms

119
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Bomb. Br.
(pg. 1/1)

14

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TSBPR3B7/RFB/ies/F-2

30 August 1945

MEMO TO: Major D. O. Waterbury
TSBPR3B8

SUBJECT: Informal Agreement between A-26 Unit and Douglas Long Beach Plant

1. Pursuant to information stated on memorandum from Colonel Mitchell relating to the A-26 post war program, action has been taken by this office with Douglas along the following lines:

a. Upon verbal request, Mr. F. W. Herman, Chief Engineer, Douglas Long Beach, came to Wright Field to discuss various changes to be incorporated in post war A-26Z airplane.

b. Mr. Herman, together with personnel from this office, has contacted all the major Engineering Division laboratories in regard to the recommended changes to be incorporated in such an airplane.

c. Douglas has been verbally informed of the contemplated A-26 program. This office has been informed that a prototype airplane was contemplated for completion in July 1946 with production airplanes to start possibly in November 1946.

d. Douglas was informed that all such negotiations at this time were purely informal and that no definite commitments could be made, but that the purpose of these discussions was to formulate a tentative specification for a post war airplane with a purpose of making it the best airplane possible, while retaining the present external configuration.

e. Douglas was verbally informed that any costs incurred in engineering development of an A-26Z airplane could probably be incorporated in the contract for the post war procurement program if such a program materialized, but, in the event that no such program did materialize, no commitment could be made to reimburse the Contractor for any costs incurred in design studies.

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F-2
a-26

R. F. BACHE,
Captain, Air Corps,
TSBPR3B7.

120.

Bonds Br.
(pg. 1/1)

15

S

A-26Z Airplane - Proposal for

TSBPR3B7 3 Sept 45 1

TSENG
Attn: All Laboratories and Branches concerned

1. A program for the production of an A-26Z airplane has been established tentatively. The prototype airplane is expected to be ready for AAF inspection by 1 July 1946. It is intended that the A-26Z airplane shall remain essentially an A-26 airplane, but shall incorporate features that Engineering Division feels are necessary to make the A-26Z the best possible fighting airplane of the A-26 configuration.

2. This program has been discussed with the various laboratories of Engineering Division in conferences the week of August 27 - 31st, at which Mr. Fred Herman, Chief Engineer, Douglas Aircraft Co., Inc., Long Beach, California, and personnel of TSBPR3B7 were present. It is requested that this office be forwarded a list of features for incorporation in the A-26Z airplane. This list will contain essentially the same items which were discussed in the various conferences mentioned above.

3. There is no restriction on use of new GFE. The latest developments should be used.

4. Each Laboratory's list of features should be as general as possible since the information is to be incorporated into an airplane specification at a very early date. Details will be discussed upon acceptance of the specification. Each Laboratory shall be given the opportunity to comment on the proposed airplane specification before acceptance.

H. A. SHEPARD
Colonel, Air Corps
Chief, Production Section
Procurement Division

FAS/jf/F-2
Ext. 29137

F-2
A-26

121

Bomb. Br.
(pg. 1/1)

RESTRICTED

34

MNO/pjj

WDEEN

3 October 1945

AIR MAIL

SUBJECT: Progress Report,
Contract No. W535 AC-21393,
Project X-32823 (XA-26F),
Installation of I-16 Power Plant
in A-26D Airplane, Serial No. 44-39586.

TO: Chief, Engineering Division,
Air Technical Service Command,
Wright Field, Dayton, Ohio.

Attention: Service Engineering Section,
Aircraft Projects (TSESE-2).

1. On 2 October, personnel from this office contacted Mr. Stineman of the Douglas Aircraft Company regarding the status of the subject model airplane.

2. According to Mr. Stineman, the air scoop will be completed 2 October. The engine piping is being installed and is scheduled to be completed 3 or 4 October. Tension patches are scheduled to be put on 3 October. These patches are to be used in conjunction with the static and pressure test which is scheduled to occur 5 October. Mr. Stineman stated that a ground run of the I-16 unit probably will be made on 10 or 11 October if no unforeseen difficulties are encountered. It was also stated that the airplane probably will be given a functional flight test with the I-16 unit inoperative approximately one week after the ground runs are made. Mr. Stineman further stated that Wright Field would be notified by Douglas one week in advance of the flight date.

CHARLES R. HAWES,
Major, Air Corps,
Engineering Division Liaison Officer.

cc: AAFPR, Douglas, Santa Monica.
AAFPR, Douglas, Long Beach.
C.G., ATSC, W.F., Attn: TSTEX.
C.G., ATSC, W.F., Attn: TSBPR3B (Capt Bache).

C.G., ATSC, Wright Field, Attn: TSBPR3B (Capt. Bache)

F-10
4-26

[redacted]

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Cent. F
(Pg. 1/5)

XX

Douglas Aircraft Company, Inc.

Santa Monica, California

Cable Address "Douglasair"

In reply refer to File

OCT 3 '45

C250-AN-1620

Address Reply to
Douglas Aircraft Company, Inc.
Long Beach Plant
Long Beach 1, California

Subject: Proposal on A-26Z Airplane

To: Commanding General
Air Technical Service Command
Wright Field
Dayton, Ohio
ATTENTION: Col. W. T. Rison -
Aircraft Section,
Procurement Division

1. The Douglas Aircraft Co., Inc., hereby submits a proposal to supply to the Army Air Forces the model A-26Z airplane and one alternate arrangement thereof. The proposed airplane, which is fully described in model specification DS-1010, is a thoroughly modern low altitude attack airplane with provisions for use as a medium altitude bomber.

2. The basic airplane, Spec. DS-1010 is substantially identical to this company's A-26 series airplanes which gave such outstanding service in the European and Pacific theatres. However it has been revised to incorporate those changes in basic design that were dictated by service experience. The new design also incorporates up to date radio, radar, armament, and other GFE items together with the latest model 2800 series engines. Among the more important changes are included the following:

a. Pilots' canopy raised to the height of the upper turret. Since this will permit raising the pilot and co-pilot approximately seven (7) inches, their vision will be greatly improved.

10-31-45

LAW

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b. Rearrangement of the cockpit to provide better access to all installations for both pilot and co-pilot. Since practically all radio and radar sets are remotely controlled these have been removed from the space aft of the pilot to the rear of the fuselage.

c. An entrance hatch will be provided thru the nose wheel well, which will greatly facilitate entrance to the cockpit. An emergency exit is installed on the co-pilots side of the fuselage similiar to that called for under MCR #680 but with a larger opening. Emergency exit from the cockpit thru the bomb bay is also available. The cockpit canopy is permanently installed to eliminate leakage. An escape exit thru the canopy aft of the plexiglas is provided for use after ditching.

d. The airplane is designed to a load factor of 4.5 for a gross weight of 32,000 lbs.

e. Provision is made for wing tip type droppable fuel tanks for long range operation. The bomb bay tank has been increased from 125 to 200 gallon capacity.

3. An additional proposal is offered on an airplane identical to that described in Spec. DS-1010 except that it incorporates an I-16 jet unit in the fuselage in the location occupied by the rear turrets and sighting station on the basic airplane. The I-16 jet unit can be replaced by the interchangeable I-20 unit when the latter becomes available. Protective armament for the rear zone is provided by two .50 cal. machine guns, one mounted in the rear end of each nacelle. These guns are controlled by a remote sighting station located in the rear of the pilots' compartment and operated by the co-pilot. The sighting station retracts into the fuselage when not in use, and is extended to scan over the air scoop during combat. Drawing #5280643 shows the general arrangement.

Cert. F.
(P9 3/5)

4. This company has just completed the installation of an I-16 jet unit in an A-26D airplane. This installation, which is now undergoing preliminary test is identical to that offered under this proposal, insofar as the installation of the unit is concerned. Attention is invited to the fact that the arrangement proposed here will furnish an outstanding airplane for low level attack and medium altitude bombing. Flash performance, including a sea level high speed in excess of 415 mph, is available for a duration of 20 minutes at an expenditure of 125 gal. of fuel by the jet unit. Since the bomb bay fuel tank has been increased in capacity by 75 gal. this will result in only a 50 gal. reduction in fuel for any given mission as compared to the present A-26 type airplane. This, coupled with the reliability and cruise performance of the standard R-2800 engine installation makes this proposal highly attractive. It should be noted that this arrangement can be produced at practically no change in combat weight as compared to the basic airplane. Also the drag of the scoop for the jet unit is no greater than that of the two turrets so that performance of the airplane with the normal power plants will not be adversely affected.

5. The estimated prices of the airplanes described above are as follows:

Basic airplane, Spec. DS-1010, each	$145,000
Airplane with jet unit, Dwg. 5280643, each	150,000

These approximate figures are based on a quantity of about 125 airplanes with delivery starting in the summer of 1946 and building up to a maximum of 10 airplanes per month by the end of 1946. It is impractical at this time to offer a firm quotation on a fixed price basis in view of the unknown factors concerning the use of the Long Beach facilities. Rental of the factory and existing A-26 tooling is involved as well as the plant overhead should the C-74 contract be terminated. If the Army Air Force is interested in further exploration of this proposal, the company will be glad to negotiate a fixed price contract with provisions covering these contingencies.

DOUGLAS AIRCRAFT CO., INC.

F. W. Conant
Vice President

FWH:mAd
Encl. 1 copy of DS-1010 1 copy of dwg. 5281857, 5281806,
1 copy of F-76-1 5281907, 5281851,
1 copy of LB-10081 5281850, 5280643
1 copy of 5307 Report 2 copies of performance summary

4

AIRMAIL

TSAGD5-NO.46

1945 OCT 31 14:45

TSBPA3

TSBPA3/TPG/jb

31 October 1945

A-26Z Airplane Proposal

Douglas Aircraft Company, Inc.
Long Beach Plant
Long Beach 1, California

Thru: A.A.F. Plant Representative

Ref: Douglas letter C250-AN-1620, dated 3 October 1945.

1. The ATSC has reviewed the A-26Z airplane proposal and concurs with the Contractor that the A-26Z represents a distinct improvement over current A-26 airplanes. At the present time, however, there is no requirement in the AAF for additional airplanes of this type.

2. The ATSC appreciates the Contractor's desire toward improving the A-26 airplane and thanks the Contractor for his efforts in compiling specifications and drawings for the subject proposal.

For the Commanding General:

W.T. Rison Col. A.C.
for G. A. [illegible]
Colonel, Air Corps
Chief, Aircraft Section

cc:
CG, West. Dist., ATSC
Attn: Prod. Div.
TSEAL-2 - Col. Moyers
TSESE-2A- Mr. H.A.Sullivan

AIRMAIL

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TMC-190-WF-12-17-43-800M

CENTRAL FILES

COM. GEN.
TECH. EXC.
ADM. EXC.
C. O.
BUD. OFF.
EXP. ENG.
CONTRACT
INSP.
PROD. DIV.
PROD. ENG.
TP GERRY
DAVIS
PROD. CONT.
I. P. S.
A. S. C.
TECH. DATA
CIV. PERS.
OTHERS
Rec 10/3

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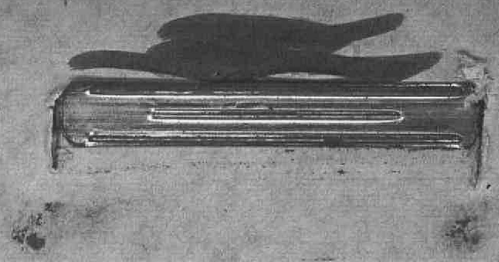

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