

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

Mat. Com. (F) had submitted to AC/AS, MMED (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.

452-1-26
Bomber, A-26
(185-4p)
aa7

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HEADQUARTERS 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/ 75 nose (First few aps. only)	22,319
	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
452-1
for

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8 - (2/5 pb)

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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
	<u>1417</u>

(6) 2 - .50 guns (bomber nose)	128
800 rds .50 ammunition	248
	<u>376</u>

(7) Wing gun package complete with
2 - .50 cal. guns and 300 rds
per gun..... 394 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
	<u>916</u>

d. Fuselage Bombs

56 Fragmentation bomb -	1400
Racks for above	300
	<u>1700 lbs.</u>

(Other bombs taken at nominal weight.)

<u>Bombs</u>	<u>Max. No. in Front Bay</u>	<u>Max. No. in Rear Bay</u>
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

8- (3/5th)

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COMMENT NO. 1 Cont'd

Capt. W.H. Jones/mm/6330

<u>Bombs</u>	<u>Max. No. in Front Bay</u>	<u>Max. No. in Rear Bay</u>
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:

8 - (4/54)

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HEADQUARTERS ARMY AIR FORCES

ROUTING AND RECORD SHEET

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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.)

The weight of this lower 200 gal. tank and fuel will approximately compensate for the weight 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.)
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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

ROUTING AND RECORD SHEET

TALLY NO.	
FILE NO.	

SUBJECT: Additional Tactical Range in A-26 Airplanes

TO: AG/AS, OC&R, Requirements Division

DATE 22 March 1944

FROM: AG/AS, MM&D, Material Division

COMMENT NO. 1 Capt'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.