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# TACTICAL PLANNING

## Characteristics & Performance Chart

BOMBER

CARGO

FIGHTER

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PUBLISHED BY AUTHORITY OF THE COMMANDING GENERAL,  
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MATERIEL COMMAND, WRIGHT FIELD, DAYTON, OHIO

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**BOMBERS**

**CARGO**

**FIGHTERS**

# PRACTICAL PLANNING

## Characteristics & Performance Chart

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FOREWORD

This chart replaces the Monthly Chart of Airplane Characteristics and Performance EE-306-1, "Production". The latter was frequently misinterpreted and therefore general distribution was discontinued on directive from higher authority. This issue covers typical models now in theater operation and the list will be increased from month to month as rapidly as the data can be compiled.

Data contained herein are not to be considered guaranteed performance nor optimum performance as established by test flight but are to be considered official "Practical" characteristics and performance to be used for planning purposes for the average pilot.

All data includes service allowances based on theater experience. Individual airplanes may vary appreciably due to age and service changes. Data printed in red are preliminary and subject to revision after flight check. Data printed in black have been derived from information obtained in flight but are not actual flight test results. For detailed planning see Technical Orders listed as references.

WARNING

THESE CHARTS CONTAIN CONSERVATIVE AVERAGES FOR TACTICAL PLANNING AND ARE NOT SUITABLE FOR AERODYNAMIC ANALYSIS.

PREPARED BY TECHNICAL DATA LABORATORY OF THE ENGINEERING DIVISION.

"THIS REPORT SUPERSEDES PREVIOUS EE-393 PUBLICATIONS; SUPERSEDED PUBLICATIONS, IF NO LONGER OFFICIALLY REQUIRED, WILL BE DESTROYED IN THE MANNER PRESCRIBED IN PARAGRAPH 23, A.R. 380-5, DATED 28 SEPT. 1943.

Performance is based on the requirements of AAF Spec. 40107B, "Pilots' Handbooks, Flight Operation Instructions", which sets forth specific allowances for practical service operation. Take-off and landing distances are 125% of optimum on hard surface, no wind, standard temperature. Weights are "Basic" weight plus crew, oil, full ammunition, fuel and bombs, cargo, passengers or troops as applicable. For bombers and cargo, "Recommended Limit" and "War Maximum" weights are based on limiting applied positive maneuver factors of 2.67G and 2.00G respectively unless otherwise specified. Time to climb is minimum within published engine limits. In future issues speed and climb with "Military Power" will be replaced with "War Emergency" when applicable. Range and endurance are based on the following assumptions:

- a. Allowance for warm-up, taxi, run-up, take-off, and landing, (equal to ten minutes at rated power.)
- b. Allowances for fuel consumed in climb. Distance and time to climb are included in range and endurance.
- c. Allowance for carrying bombs and droppable tanks entire flight.
- d. Allowance of 10% net ideal range for miscellaneous differences in airplanes, equipment, pilot technique, atmospheric conditions other than wind, unusable fuel, weight and balance and similar variables. (For example, range varies day and night due to fuel expansion prior to take-off.)
- e. Other than the above, no allowance for wind, assured reserve, combat nor formation flight.



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DEFINITIONSCHARACTERISTICS

SUPERCHARGER: "TURBO" INDICATES EXHAUST DRIVEN TURBINE WITH SINGLE SPEED INTEGRAL DIFFUSER.

BHP/ALT.: BRAKE HORSEPOWER PER ENGINE AT CRITICAL ALTITUDE WITH RAM.

T: MAXIMUM POWER FOR TAKE-OFF.

M: MAXIMUM POWER FOR COMBAT AT ALTITUDE SHOWN, (usually limited to 15 min. duration)

we: WAR EMERGENCY POWER FOR COMBAT AT ALTITUDE SHOWN, (limited to 5 min. duration only)

C: MAXIMUM POWER FOR CONTINUOUS OPERATION.

Note: Max. cruise power is the maximum power for unlimited operation with lean mixture.

SIZE: APPROX. DIMENSIONS FOR STORAGE PLANNING.

LENGTH: DOES NOT INCLUDE PROTRUDING GUNS.

HEIGHT: MAXIMUM IN THREE POINT POSITION.

WING AREA: STANDARD AERODYNAMIC SURFACE AREA.

TREAD: CENTER TO CENTER MAIN WHEELS:(OUTBOARD IF DUAL).

WEIGHTS: APPROXIMATE AVERAGES FOR PLANNING PURPOSES

B: BASIC WEIGHT INCLUDES WEIGHT EMPTY, TRAPPED FUEL AND OIL, EQUIPMENT, ARMAMENT, ETC. BUT DOES NOT INCLUDE DISPOSABLE FUEL, OIL, DROPPABLE TANKS, AMMUNITION, BOMBS, CARGO, NOR CREW.

C: COMBAT WEIGHT IS BASED ON LATEST CONFIRMED INFORMATION FROM THEATERS AND USUALLY INCLUDES FULL BUILT-IN FUEL, FULL AMMUNITION, AND AN ARBITRARY BOMB OR CARGO LOAD.

R: RECOMMENDED LIMIT ON GROSS WEIGHT WHICH WILL ALLOW A LIMIT APPLIED POSITIVE MANEUVER FACTOR OF AT LEAST 2.67g.

W: WAR MAX. WEIGHT FOR SPECIAL MISSIONS ONLY.

FUEL: STANDARD FUEL TANKAGE AND CAPACITIES.

ARMAMENT: RESUME OF INFORMATION IN THE "ARMAMENT & BOMB INSTALLATIONS" (CHART EE-306A)

BOMBS: MAXIMUM RACK CAPACITY FOR STANDARD SIZES.

CARGO: CARGO, PASSENGER OR TROOP CAPACITIES.

MAX. LOAD: ONE SIZE ONLY ON EACH BOMB RACK (in some cases a reduction in fuel load is required) PRACTICAL TOTAL CARGO BASED ON GR. WT.

RADIO: RESUME OF TYPICAL MODELS INSTALLED.

PERFORMANCE

RED PRINT: PRELIMINARY ESTIMATES OR CALCULATED DATA

TAKE-OFF & LANDING: VALUES ARE AT LEAST 125% OF OPTIMUM  
(At 3000' RUNWAY ALT.)

GROSS WEIGHT: TO CLEAR 50': ARBITRARY VALUES FOR REFERENCE ONLY DISTANCES REPRESENTATIVE OF MINIMUM AIRPORT REQUIREMENTS.

GROUND RUN: DISTANCES REPRESENTATIVE OF MINIMUM RUNWAY REQUIREMENTS.

LANDING SPEED: PRACTICAL MINIMUM FOR AVERAGE PILOT.

HIGH SPEED & CLIMB: VALUES ARE FOR CLEAN NEW AIRPLANES

MILITARY POWER: FOR LIMITED PERIODS OF COMBAT OPERATION

WAR EMERGENCY POWER: (Performance with War Emergency ratings are shown when applicable)

MAX. CONTINUOUS: FOR UNLIMITED PERIODS OF OPERATION INCLUDING EMERGENCY HIGH-SPEED CRUISING.

TIME OF CLIMB: MINIMUM TIME TO CLIMB FROM SEA LEVEL BASED ON MILITARY POWER CLIMB FOR ALLOWABLE TIME AND MAXIMUM CONTINUOUS POWER CLIMB FROM THEN ON.

RANGE & ENDURANCE: SEE DISCUSSION IN "FOREWORD", PAGE I.

TAKE-OFF WEIGHT: BRIEF LIST OF TYPICAL GROSS WEIGHTS.

BOMBS, ETC.: TYPICAL LOADINGS COMBINED WITH VARIOUS TANK CAPACITIES. NO CONSIDERATION IS GIVEN TO LOADINGS REQUIRING PARTIALLY FILLED TANKS.

NOTE: Take-off weights with corresponding load and fuel quantity applies to all values to the right on the same line.

MAX. CONT. POWER: HIGH SPEED CRUISING WITH RICH MIXTURE ( For emergency cruising only )

MAX. CRUISE POWER: MAXIMUM CONTINUOUS OPERATION WITH LEAN MIXTURE SETTING.

LONG RANGE: PRACTICAL MAXIMUM RANGE FOR PLANNING PURPOSES UNDER ALL CONDITIONS SET FORTH.

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BOEING (SEATTLE) "BO"

MODEL & BLOCK-NO.	ARMAMENT			BOMBS			FUEL U.S. GAL. (MAXIMUM)
	NO GUNS & CALIBER	RDS. PER GUN	LOCATION & TYPE	INTERNAL	EXTERNAL	MAX. LOAD LB.	
				NO & SIZE	NO & SIZE		
B-17F-BO (-1 thru -27)	1-.30 2-.50 2-.50 2-.50	500 a 300 400 565	NOSE...FLEX. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	2-2000 6-1600 6-1000 12- 500 16- 250 24- 100	NONE	9600	2550
B-17F-BO (-30 thru -50)	NONE 1) 2) 2) 2)	NONE 300 b 300 400 500 565	NOSE...FLEX. RADIO COMPART. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	2-2000 6-1600 6-1000 12- 500 16- 250 24- 100	2-4000 2-2000 2-1600 2-1000	6-1600 2-4000x	AS ABOVE 17600
B-17F-BO -55 thru 1st.30(-85)	2) 1) 2) 2) 2)	300 300 300 400 500 565	NOSE...FLEX. RADIO COMPART. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	A S A B O V E			2550 (-55 thru 1st.73-80 3630 (Last 27 -80 & SUB.
B-17F-BO Last 70(-85) thru -130	3) 1) 2) 2) 2)	300 300 300 400 500 565	NOSE...FLEX. RADIO COMPART. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	AS ABOVE EXCEPT THAT EXTERNAL BOMB RACKS DELETED AFTER 15th.(-95)			3630
B-17G-BO (-1 thru -60)	2) 2) 1) 2) 2) 2)	300 c 365 300 500 d 400 500 565	CHEEK...FLEX. CHIN TURRET RADIO COMPART. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	2-2000 6-1600 6-1000 12- 500 16- 250 24- 100	PROVISION FOR RACKS	9600	AS ABOVE

NOTES: a NOSE GUN DELETED ON LAST 35 (-27). d EARLY B-17G MODELS CARRY 300 RDS./GUN.  
b RADIO COMPART. GUN ADDED AFTER 16th.(-30).  
c CHEEK GUNS ADDED AT MOD. CENTER. x EXTERNAL

DOUGLAS (LONG BEACH) "DL"

MODEL & BLOCK-NO.	ARMAMENT			BOMBS			FUEL U.S. GAL. (MAXIMUM)
	NO GUNS & CALIBER	RDS. PER GUN	LOCATION & TYPE	INTERNAL	EXTERNAL	MAX. LOAD LB.	
				NO & SIZE	NO & SIZE		
B-17F-DL -1 thru 1st.13(-10)	1-.30 2-.50 2-.50 2-.50	500 a 300 400 500 565	NOSE...FLEX. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	2-2000 6-1600 6-1000 12- 500 16- 250 24- 100	NONE	9600	2550
B-17F-DL Last 12(-10) thru -20	2) 1) 2) 2) 2)	300 300 300 400 500 565	NOSE...FLEX. RADIO COMPART. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	AS ABOVE			PROV. FOR EXTERNAL RACKS ON -20 & SUB.
B-17F-DL -25 thru 1st.21(-35)	A S A B O V E			AS ABOVE			PROV. FOR EXTERNAL RACKS
B-17F-DL Last 19(-35) thru -65	3) 1) 2) 2) 2) 2)	300 300 300 400 500 565	NOSE...FLEX. RADIO COMPART. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	A S A B O V E			AS ABOVE
B-17G-DL (-1 thru -40)	2) 2) 1) 2) 2) 2)	300 365 300 500 d 400 500 565	CHEEK...FLEX. CHIN TURRET RADIO COMPART. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	A S A B O V E			AS ABOVE

NOTES: a NO NOSE GUN ON 1st.13(-10) b NOT CARRIED ON -1 & -5.  
c CHEEK GUNS ADDED AT MOD. CENTER. x EXTERNAL

VEGA (BURBANK) "VE"

MODEL & BLOCK-NO.	ARMAMENT			BOMBS			FUEL U.S. GAL. (MAXIMUM)
	NO GUNS & CALIBER	RDS. PER GUN	LOCATION & TYPE	INTERNAL	EXTERNAL	MAX. LOAD LB.	
				NO & SIZE	NO & SIZE		
B-17F-VE (-1 thru -10)	1-.30 CAL.(300 RDS.)	NOSE GUN	NOSE GUN	2-2000 6-1600 6-1000 12- 500 16- 250 24- 100	NONE	9600	2550
B-17F-VE (-15 & -20)	2) 1) 2) 2) 2)	300 300 300 400 500 565	NOSE...FLEX. RADIO COMPART. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	AS ABOVE			EXTERNAL RACKS ON Last 31 (-20)&SUB.
B-17F-VE (-25 & -30)	A S A B O V E			AS ABOVE			b 2-4000 6-1600 2-4000x 2-1600 2-1000 17600 (B-17F-25 (B-17F-30)
B-17F-VE (-35 thru -50)	3) 1) 2) 2) 2)	300 300 300 400 500 565	NOSE...FLEX. RADIO COMPART. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	AS ABOVE			NONE 9600 3630
B-17G-VE (-1 thru -40)	2) 2) 1) 2) 2) 2)	300 c 365 300 500 d 400 500 565	CHEEK...FLEX. CHIN TURRET RADIO COMPART. SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. TAIL...FLEX.MT.	AS ABOVE			PROVISION FOR RACKS AS ABOVE AS ABOVE

NOTES: a NOT ON B-17F-1 & -5. d EARLY B-17G MODELS CARRIED 300 RDS./GUN.  
b EXTERNAL BOMB RACKS DELETED ON LAST 4(-30).  
c CHEEK GUNS ADDED AT MOD. CENTER. x EXTERNAL

## GENERAL NOTE:

LATEST INVESTIGATION SHOWS THAT 6x1600 LB. ARMED PIERCING BOMBS MAY BE CARRIED, BUT BOMB RAIL LOAD FACTORS AND CLEARANCES ARE REDUCED AND MANEUVERING OF AIRPLANE MUST BE LIMITED ACCORDINGLY.

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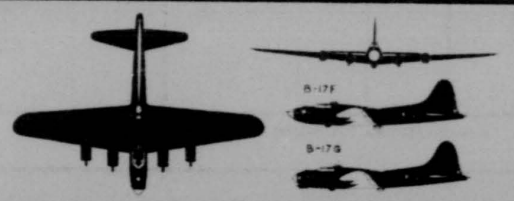
TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																
MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE	
	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT R-RECD LIM W-WAR MAX			TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS. PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY			MAX. LOAD LB.
B-17F	WRIGHT R-1820-97 TURBO HAMILTON STD. 11" DIA. - 3BL. F.F., HYDROMATIC	T 1200/S L M 1200/27000 C 1000/30000	S 103'9" L 74'4" H 19'11" T 21'2" W 1120 SQ. FT.	B 36000 C 55000 R 56000 W 61000	9	MAIN - WINGS BOMB BAY	6-1730 2x 410 2550 TOT	2) 300 2) 300 1) .50 2) 300 2) 500 2) 565	NOSE - FUEL. SIDE WAIST-PL. RADIO COMPART. UPPER TURRET LOW BALL TURRET TAIL-FLX. MT.	2-2000 6-1600 2-2000 12-500 16-250 2-100	2-1000 2-1600 2-1500 2-1000	C 6-1600 b 2-1000 17600	SEE NOTE (B)	TECHNICAL ORDER 01-208P-1. (1 OCT. 1943) EXTERNAL BOMBS ON SOME MODELS ONLY.		
B-17F (WITH WING TIPPED TANKS)	AS ABOVE	AS ABOVE	AS ABOVE	B 38000 C 55000 R 56000 W 61000A	9	MAIN - WINGS WING TIPS BOMB BAY	6-1730 2x 540 2x 410 3630 TOT	3) 300 2) 300 1) .50 2) 300 2) 500 2) 565	AS ABOVE	A S	A B O V E	AS ABOVE	AS ABOVE	A S A B O V E A - SEE FOOTNOTE (A)		
B-17G	AS ABOVE (SEE e)	AS ABOVE	AS ABOVE	B 38000 C 55000 R 56000 W 61000A	9	AS ABOVE EXCEPT PROVISIONS ONLY FOR THE BOMB BAY TANKS	6-1730 2x 540 2x 410 3630 TOT	3) 300 2) 300 1) .50 2) 300 2) 500 2) 565	AS ABOVE EXCEPT PROVISIONS ONLY FOR THE BOMB BAY TANKS	AS ABOVE	PROV. FOR EXTERNAL RACES	AS ABOVE	NOTE (B) plus RC-103	TECHNICAL ORDER 01-208P-1. (1 OCT. 1943) LATEST B-17G'S HAVE NEW TYPE SUPERCHARGER (B-22) GIVING INCREASED ALTITUDE PERFORMANCE. LATER MODELS HAVE 600 RDS./GUN; EARLY MODELS 300 RDS./GUN. LENGTH INCREASED 5" ON LATER MODELS TO 74'4".		

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND				HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT						RANGE & ENDURANCE STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE					
	TO CLEAR 50 FT.		GROUND-RUN		WEIGHT	STD. ALT.	MIL. POWER		MAX. CONTIN. POWER		TAKE OFF WEIGHT	BOMBS CARGO PASS.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE								
	T.O. DIST.	LAND. DIST.	T.O. DIST.	LAND. DIST.			HIGH SPEED	RATE OF CLIMB	HIGH SPEED	RATE OF CLIMB				RANGE	ENDUR.	RANGE	ENDUR.	RANGE	ENDUR.	RANGE		ENDUR.	RANGE	ENDUR.		
B-17F	40000	-	3900	90	-	2000	30000	298	400	272	175	54.2	65500	NONE	2550	1250	5.5	1100	5.6	1850	9.1	1950	8.9	2600	17.2	
B-17F (WITH WING TIPPED TANKS)	50000	-	4750	100	-	2700	25000	299	725	274	150	36.2	59500	NONE	1730	900	3.9	950	4.0	1300	6.6	1350	6.3	1800	11.1	
B-17G	55000	3950	5200	104	3050	3050	20000	288	850	266	266	26.8	65500	6000	1730	850	3.7	900	3.8	1200	6.1	1250	5.9	1700	10.5	

NOTES: (B) 24 VOLT RADIO SYSTEM

SCR-211	FREQUENCY METER	RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK
SCR-2690	RADIO COMPASS	MILITARY POWER AVAILABLE FOR 5 MINUTES ONLY
SCR-271N	COMMAND SET	(A) TREATY REPORTS INDICATE LOADINGS IN EXCESS OF 65000 LB. ARE BEING USED WITH INCREASE IN AMMUNITION & HEAVIER BOMB-FUEL COMBINATIONS THAN LISTED UNDER "RANGE & ENDURANCE". DETAILS & RESULTANT PERFORMANCE ARE UNDER INVESTIGATION.
SCR-287A	LIAISON SET	(C) LATEST INVESTIGATION SHOWS THAT 5x16000 LB. ARMOR PIERCING BOMBS MAY BE CARRIED, BUT BOMB RAIL LOAD FACTORS AND CLEARANCES ARE REDUCED & MANEUVERING OF AIRPLANE MUST BE LIMITED ACCORDINGLY.
SCR-535	SET (or SCR-595 or SCR-695)	
SCR-578	EMERGENCY TRANSMITTER	
RC - 32	FILTER EQUIPMENT (Or RC-198)	
RC - 36	INTERPHONE AMPLIFIER	
RC - 43B	MARKER BEACON	
RC - 103	BLEND LANDING (Provisions only)	
SCR-522	COMMAND SET	

MANUFACTURED BY BOEING - DOUGLAS - VEGA



**B-17**  
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CONSOLIDATED (SAN DIEGO) "CO"

MODEL & BLOCK-NO.	ARMAMENT			BOMBS			FUEL U.S. GAL. (MAXIMUM)
	NO GUNS & CALIBER	RDS. PER. GUN	LOCATION & TYPE	INTERNAL NO. & SIZE	EXTERNAL NO. & SIZE	MAX. LOAD LB.	
B-24D-CO D thru 1st. 94(-15)	1) 2) .50 2)	200 400 400	NOSE.....FLEX. UPPER TURRET TAIL TURRET	4-2000 8-1000 12- 500 12- 250 20- 100	NONE	8000	2364
B-24D-CO Last 36(-15) thru -20	1) 2) .50 1) 2)	200 400 100 400	NOSE.....FLEX. UPPER TURRET TUNNEL...FLEX. TAIL TURRET	A S	A B O V E		2364 Last 36(-15) 3614 -20 & sub.
B-24D-CO -25 thru 1st. 25(-140)	3) 2) 2) .50 1) 2)	100 250 400 100 400	NOSE.....FLEX. SIDE WAIST..FL. UPPER TURRET TUNNEL...FLEX. TAIL TURRET	4-2000 8-1600 8-1000 12- 500 12- 250 20- 100	NONE	12800	3614
B-24D-CO Last 9(-140) thru -170	3) 2) 2) .50 2) 2)	100 250 400 508 400	NOSE.....FLEX. SIDE WAIST..FL. UPPER TURRET LOW.BALL TRR. TAIL TURRET	A S	A B O V E		AS ABOVE
B-24J-CO (-1 thru -140)	2) 2) 2) .50 2) 2)	400 250 400 508 400	NOSE TURRET SIDE WAIST..FL. UPPER TURRET LOW.BALL TRR. TAIL TURRET	A S	A B O V E		AS ABOVE

NOTES: a NOT ON B-24D-25.

CONSOLIDATED (FT. WORTH) "CP"

MODEL & BLOCK-NO.	ARMAMENT			BOMBS			FUEL U.S. GAL. (MAXIMUM)
	NO GUNS & CALIBER	RDS. PER. GUN	LOCATION & TYPE	INTERNAL NO. & SIZE	EXTERNAL NO. & SIZE	MAX. LOAD LB.	
B-24D-CF (-1 & -5)	3) 2) 2) .50 1) 2)	100 250 400 100 400	NOSE.....FLEX. SIDE WAIST..FL. UPPER TURRET TUNNEL...FLEX. TAIL TURRET	4-2000 8-1000 12- 500 12- 250 20- 100	NONE	8000	3614
B-24D-CF (-10 thru -20)	A S	A B O V E		4-2000 8-1600 8-1000 12- 500 12- 250 20- 100	NONE	12800	AS ABOVE
B-24J-CF (-1 thru -20)	2) 2) 2) .50 2) 2)	400 250 400 508 400	NOSE TURRET SIDE WAIST..FL. UPPER TURRET LOW.BALL TRR. TAIL TURRET	A S	A B O V E (SEE a)		AS ABOVE
B-24H-CF (-20 thru -30)	2) 2) 2) .50 2) 2)	400 250 400 508 400	NOSE TURRET S.WAIST-46 MT. UPPER TURRET LOW.BALL TRR. TAIL TURRET	A S	A B O V E		AS ABOVE
B-24J-CF (- ? )	A	S	A	B	O	V	E

NOTES: a B-10 SHACKLES FOR 8-1600 LB. BOMBS START ON 2101st. FORD KNOCK-DOWN SET.  
B-24H-CF AIRPLANES RECEIVE NEW B-24J DESIGNATIONS WHEN C-1 AUTOMATIC PILOT & M-9 BOMB SIGHT REPLACE A-5 AUTOMATIC PILOT & S-1 BOMB SIGHT.

DOUGLAS (TULSA) "DT" and

FORD (WILLOW RUN) "FO"

MODEL & BLOCK-NO.	ARMAMENT			BOMBS			FUEL U.S. GAL. (MAXIMUM)
	NO GUNS & CALIBER	RDS. PER. GUN	LOCATION & TYPE	INTERNAL NO. & SIZE	EXTERNAL NO. & SIZE	MAX. LOAD LB.	
B-24H-DT (-1 thru -15) (DOUGLAS)	2) 2) 2) .50 2) 2)	400 250 400 508 400	NOSE TURRET SIDE WAIST..FL. UPPER TURRET LOW.BALL TRR. TAIL TURRET	4-2000 8-1600 8-1000 12- 500 12- 250 20- 100	NONE	12800	3614
B-24H-FO (-1 thru -15) (FORD)	A S	A B O V E		A S	A B O V E		AS ABOVE
B-24H-DT & FO (-20 thru -30)	2) 2) 2) .50 2) 2)	400 250 400 508 400	NOSE TURRET S.WAIST-46 MT. UPPER TURRET LOW.BALL TRR. TAIL TURRET	A S	A B O V E		AS ABOVE
B-24J-DT & FO (- ? )	A	S	A	B	O	V	E

NOTES: a B-10 SHACKLES FOR 8-1600 LB. BOMBS STARTS ON 2101st. FORD KNOCK-DOWN SET.  
B-24H-DT & FO AIRPLANES RECEIVE NEW B-24J DESIGNATIONS WHEN C-1 AUTOMATIC PILOT & M-9 BOMB SIGHT REPLACE A-5 AUTOMATIC PILOT & S-1 BOMB SIGHT.

NORTH AMERICAN (DALLAS) "NT"

MODEL & BLOCK-NO.	ARMAMENT			BOMBS			FUEL U.S. GAL. (MAXIMUM)
	NO GUNS & CALIBER	RDS. PER. GUN	LOCATION & TYPE	INTERNAL NO. & SIZE	EXTERNAL NO. & SIZE	MAX. LOAD LB.	
B-24G-NT (-1 thru -15)	3) 2) 2) .50 2) 2)	230 TOT. 250 400 508 400	NOSE.....FLEX. SIDE WAIST..FL. UPPER TURRET LOW.BALL TRR. TAIL TURRET	4-2000 8-1000 12- 500 12- 250 20- 100	NONE	8000	3614
B-24G-NT (-1 thru -5)	2) 2) 2) .50 2) 2)	400 250 400 508 400	NOSE TURRET SIDE WAIST..FL. UPPER TURRET LOW.BALL TRR. TAIL TURRET	A S	A B O V E		AS ABOVE
B-24G-NT (-10 thru -15)	A S	A B O V E		4-2000 8-1600 8-1000 12- 500 12- 250 20- 100	NONE	12800	AS ABOVE
B-24J-NT (-1 thru -5)	A	S	A	B	O	V	E

NOTES: a LOWER BALL TURRET ON 5th. & SUBSEQUENT; NO TUNNEL GUN ON 1st. 4 ARTICLES.  
B-24G-20-NT AIRPLANES ARE DESIGNATED B-24J-1, ETC. WHEN C-1 AUTOMATIC PILOT & M-9 BOMB SIGHT REPLACE A-5 AUTOMATIC PILOT & S-1 BOMB SIGHT.

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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																
MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.		FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO		REMARKS & REFERENCE
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP. MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT R-RECD LIM W-WAR MAX.	COMBAT CREW	TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY	MAX. LOAD LB.	TYPE	
B-24D	4	PRATT-WHITE R-1830-13 TURBO HAMILTON STD. 11'7" DIA. - 3BL. F.F. HYDROMATIC	T 1200/3 L M 1200/25000 C 1100/25000	S 110'0" L 66'4" H 18'0" T 25'8" W 104'8" SQ. F.	B 31500 C 56000 R 56000 W 64000	8	MAIN - WINGS	12-2364	3) 100 2) 250 2) 400 1) 100 2) 400	.50	NOSE - FLEX. SIDE WAIST-FL. UPPER TURRET TUNNEL - FLEX. TAIL TURRET	4-2000 8-1600 8-1000 12- 500 12- 250 20- 100	NONE	12800	SEE NOTE (B)	TECHNICAL ORDER 01-58C-1 (10 NOV. 1943)
B-24D (WITH BOMB BAY TANKS)	4	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	8	MAIN - WINGS BOMB BAY	12-2364 2x 400 3164 TOT	3) 100 2) 250 2) 400 508 400	.50	NOSE - FLEX. SIDE WAIST-FL. UPPER TURRET LOW BALL TURRET TAIL TURRET	A S	A B O V E	AS ABOVE	AS ABOVE	A S A B O V E
B-24D (WITH WING TIP TANKS)	4	AS ABOVE EXCEPT R-1830-65 ENGINE IN LINE OF-13 ON B-24D-20-CF & B-24D-135-CO thru -170-CO.	1200/3 L 1200/26500 1100/27000	AS ABOVE	B 36500 C 56000 R 56000 W 64000A	8	MAIN - WINGS BOMB BAY WING TIPS	12-2364 2x 400 2x 225 3614 TOT	A S	A B O V E	A S	A B O V E	AS ABOVE	AS ABOVE	AS ABOVE	A S A B O V E (A) SEE FOOT NOTE "A"
B-24C,H&J	4	AS ABOVE EXCEPT R-1830-65 ENGINE IN LINE OF-13 ON B-24D-5-WT & subs; B-24H-5-CF subs; B-24J SERIES.	AS ABOVE	S 110'0" L 67'2" H 18'0" T 25'8" W 104'8" SQ. F.	B 37500 C 56000 R 56000 W 64000A	8	AS A B O V E	2) 400 2) 250* 2) 400 508 400	.50	NOSE TURRET *SIDE WAIST-FL. UPPER TURRET LOW BALL TURRET TAIL TURRET	A S	A B O V E	AS ABOVE	AS ABOVE	AS ABOVE	A S A B O V E * BEING INCREASED TO 500 RDS; NO EFFECTIVE POINT YET. * FOR EXTERNAL BOMB RACKS BEING INSTALLED AT MOD. CENTERS * (K-6) MOUNT AT SIDE WAIST POS. ON B-20 COMBS. (CF, DT & PO)

MODEL & BLOCK NO.	TAKE OFF & LANDING				HIGH SPEED & CLIMB				RANGE & ENDURANCE										REMARKS ON PERFORMANCE							
	HARD SURFACE - NO WIND				AT NORMAL COMBAT WEIGHT				STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE																	
	GROSS WEIGHT LB.	TO CLEAR 50'		LANDING SPEED M.P.H.	GROUND-RUN		STD. ALT. FT.	MIL. POWER HIGH SPEED FT./MIN.	MAX. CONTIN. POWER HIGH SPEED FT./MIN.	TIME OF CLIMB MIN.	TAKE OFF WEIGHT LB.	BOMBS CARGO PASSES LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER AT 10000 FT.		MAX. CRUISE POWER AT 10000 FT.		LONG RANGE AT 10000 FT.								
		T.O. DIST. FT.	LAND. DIST. FT.		T.O. DIST. FT.	LAND. DIST. FT.								RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES		ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS		
B-24D	40000	-	3300	90	-	2800	30000	278	850	278	700	35.0	53000	NONE	2364	900	4.0	1000	3.9	1850	9.5	1950	8.9	2350	15.0	
B-24D (WITH BOMB BAY TANKS)	40000	-	3300	90	-	2800	25000	303	1050	297	850	25.8	58000	5000	2364	900	4.0	1000	3.9	1850	9.5	1950	8.9	2350	15.0	
B-24D (WITH WING TIP TANKS)	40000	-	3300	90	-	2800	20000	290	1100	284	900	19.9	65000	NONE	3164	1200	5.1	1300	5.1	2400	12.1	2500	11.5	3100	20.3	*MAX. FERRY RANGE MAY BE RESTRICTED BY INSUFFICIENT OIL IF ENGINE IS NOT IN BETTER THAN AVERAGE CONDITION OIL CONSUMPTION 3 QT. to 3 GAL./HR. DEPENDING ON TIME SINCE OVERHAUL.
B-24C,H&J	40000	-	3300	90	-	2800	15000	277	1150	272	950	14.3	61000	3000	2814	1050	4.6	1150	4.6	2050	10.9	2200	10.4	2700	18.4	
	40000	7550	-	-	-	5100	10000	254	1035	246	860	10.6	61000	5000	2364	850	3.9	900	3.8	1600	9.0	1500	7.4	2050	12.5	** PERFORMANCE DATA ABOVE 65000 LB. NOT YET AVAILABLE; SEE NOTE (A)


NOTES: (B) 24 VOLT RADIO SYSTEM

SCR-211	FREQUENCY METER	SCR-522	COMMAND SET
SCR-2690	RADIO COMPASS		
SCR-271W	COMMAND SET		
SCR-287A	LIAISON SET		
SCR-535	SRT (or SCR-995 or SCR-695)		
SCR-578	EMERGENCY TRANSMITTER		
RC - 32	FILTER EQUIPMENT (or RC-198)		
RC - 36	INTERPHONE AMPLIFIER		
RC - 138	MARKER BEACON		
RC - 185	BLIND LANDING (Provisions only)		
AN (AER-1)	(Installed in some models)		

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK

\* MILITARY POWER AVAILABLE FOR 5 MINUTES ONLY.

(A) THRUSTER REPORTS INDICATE LOADINGS IN EXCESS OF 65000 LB. ARE BEING USED WITH INCREASE IN AMMUNITION & HEAVIER BOMB-FUEL COMBINATIONS THAN LISTED UNDER "RANGE & ENDURANCE". DETAILS & RESULTANT PERFORMANCE ARE UNDER INVESTIGATION.



**B-24**  
"LIBERATOR"

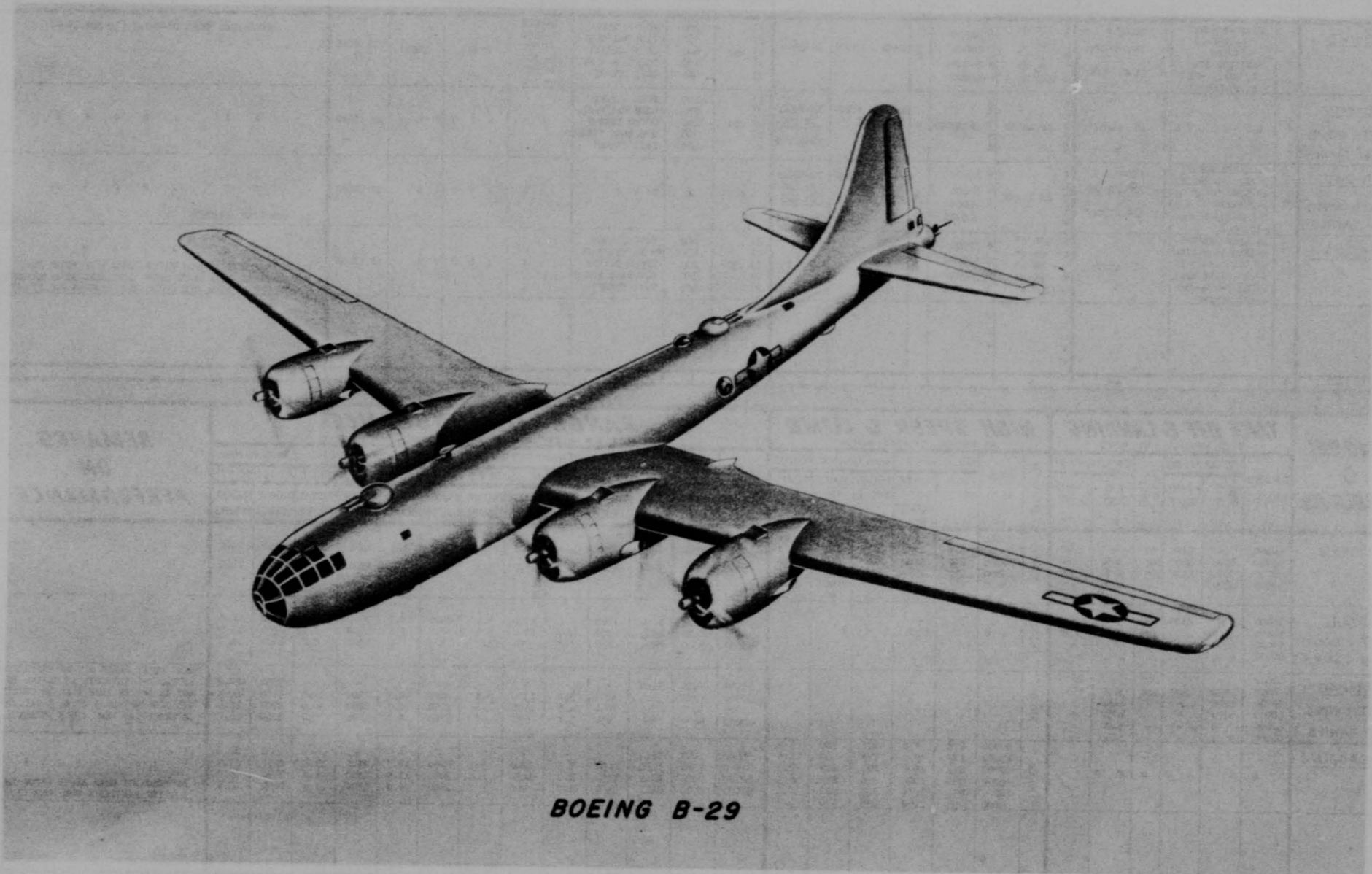
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BOEING B-29

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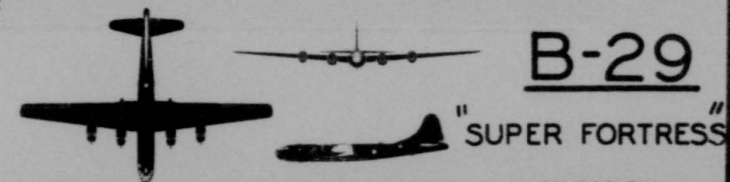
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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																
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MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE	
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA			B-BASIC C-COMBAT R-RECD LIM W-WAR MAX.	TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE			EXTERNAL NO. & SIZE
B-29-BW -I TO -10 INCL	4	WRIGHT B-3350-23 TURBO HAMILTON STD. 16" DIA. - 4 BL. F.F., HYDROMATIC	T 2200/5 L M 2200/25000 C 2000/25000	S 111'3" L 99'0" H 27'9" T 31'6" W 1739 SQ. FT.	B 71000 C 105000 R 120000 W - W	10	OUTBD. -WINGS 11-2735 INBD. -WINGS 8-2873 BOMB BAY 4x 640 8168 TOT	1-20MM 2) 2) .50 2)	100 1000 1000 1000 1000	TAIL-M2, TYPE B UPPER REAR TER. UPPER REAR TER. LOWER REAR TER. LOWER REAR TER. TAIL-POWER MT.	1-1000 2-2000 12-1000 12-1000 10-500 56-250 b 80-100 b	NONE	20000 SER (A)	SCR-211, 2590, 2714 287A, 578, & 695A. RC-56, L5B & 103 r	TECHNICAL ORDER 01-20EJ-1. (20 AUG. 1943) b-DELETED ON B-29-10-BW and SUBSEQUENT MODELS. r-RC-103 NOT ON B-29-1-BW. s-OUTBOARD TREAD-31'6"; INBOARD TREAD-25'8". w-DUE TO INCREASE OF ORIGINALLY PLANNED BASIC WEIGHT COMBAT & RECOMMEND. WT. ARE BEING INCREASED; NO DATA.	
			T M C	S L H T W	B C R W											
			T M C	S L H T W	B C R W											
			T M C	S L H T W	B C R W											
			T M C	S L H T W	B C R W											
			T M C	S L H T W	B C R W											

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND						HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT						RANGE & ENDURANCE STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE				
	TO CLEAR 50'		LANDING SPEED	GROUND-RUN		STD. ALT.	MIL. POWER			MAX. CONTIN. POWER			TAKE OFF WEIGHT	BOMBS-CARGO-PASS.	TOTAL FUEL	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE							
	T.O. DIST.	LAND. DIST.		T.O. DIST.	LAND. DIST.		HIGH SPEED	RATE OF CLIMB	HIGH SPEED	RATE OF CLIMB	TIME TO CLIMB	AT 10000 FT.				AT 25000 FT.	AT 10000 FT.	AT 25000 FT.	RANGE	ENDUR.	RANGE	ENDUR.		RANGE	ENDUR.		
B-29-BW -I TO -10 INCL	90000 105000 120000	3150 4500 6100	3500 4400 -	100 110 120	2200 3150 4500	2500 3000 -	105000	30000 25000 20000 15000 10000 5000	372 360 345 332 317 303	520 740 900 1040 1160 1250	360 317 334 320 307 293	340 550 715 850 970 1060	10.0 29.0 21.0 15.0 10.0 5.0	120000 120000	NONE 9000	6888 5608	1800 1500	6.8 5.5	2000 1600	6.8 5.5	3500 2800	15.2 12.2	2900 2200	10.9 8.1	4200 3300	21.5 16.9	* MOST OF FLIGHT REQUIRES THAT MAX. CRUISE POWER BE EXCEEDED SLIGHTLY BY USING AUTO. RICH MIXTURE.

NOTES: (A) INCREASE IN BASIC WEIGHT PROHIBITS USE OF MORE THAN 2 OF THE 4 BOMB BAY TANKS OR MORE THAN 9000 LB. BOMBS WITH FULL MAIN FUEL WITHOUT EXCEEDING RECOMMENDED LIMIT OF 120000 LB. WEIGHT. 20000 LB. MAX. BOMB LOAD POSSIBLE WITH PARTIALLY FILLED MAIN FUEL TANKS ONLY.

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK



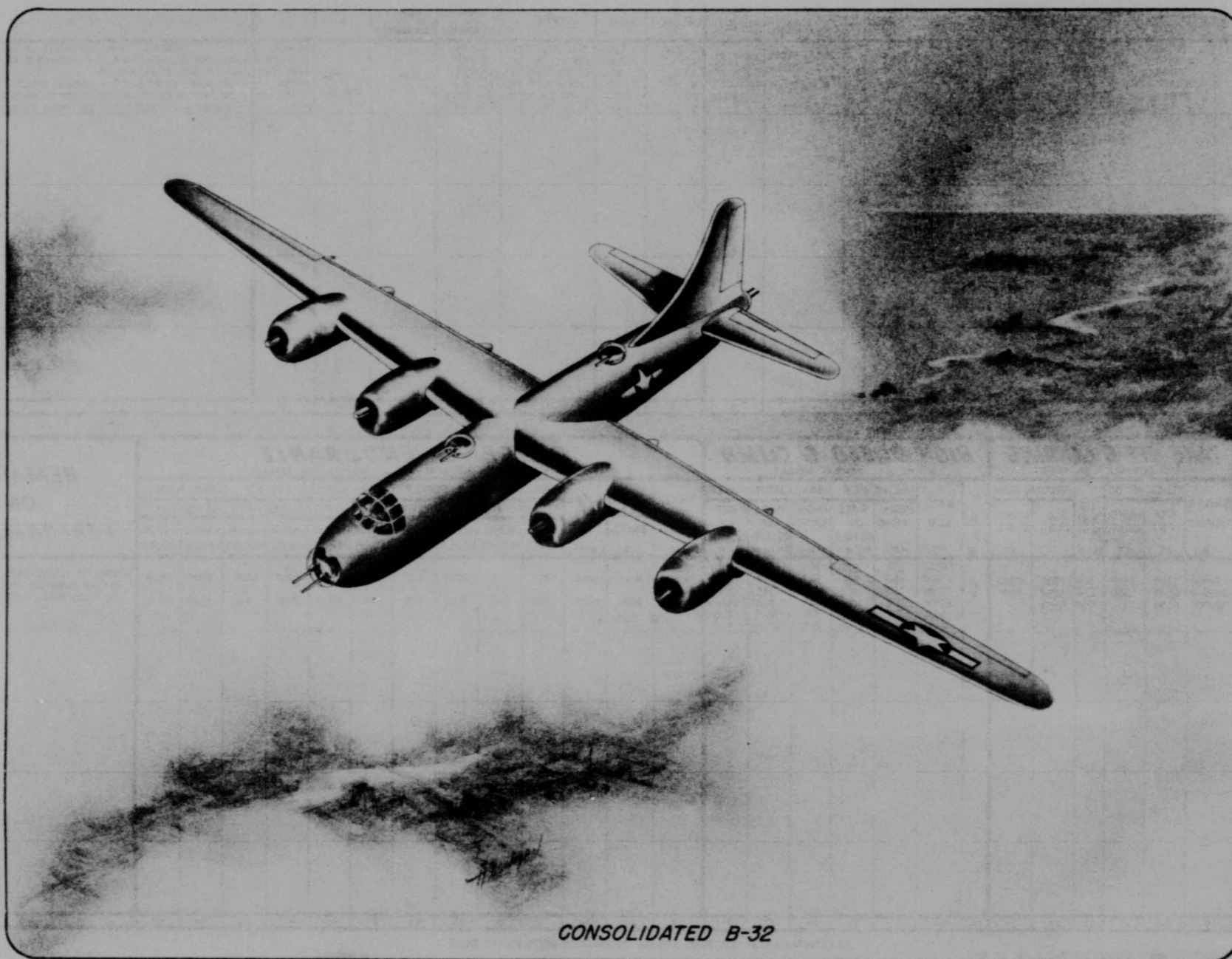
**B-29**  
"SUPER FORTRESS"

MANUFACTURED BY BOEING (WICHITA) "BW"

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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																
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PAGE 11 AS OF: DATE 21 MAR 1944																
MODEL & BLOCK NO.	NUMBER	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE
		ENGINE MFR. MODEL	B.H.P./ALT.	L-LENGTH	B-BASIC			TANK TYPE OR LOCATION	NO. TANKS & CAPACITY	NO. GUNS & CALIBER	RDS PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY		
B-32-CF	L	WRIGHT R-3350-23 TURBO CURTISS 16'8" DIA. - LBL. CONST. SPD. - ELECT.	T 2200/3 L M 2200/30000 C 2000/32500	S 135' 0" L 82' 11" H 28' 0" T 28' 0" W 112' 2" sq. ft.	B 62570 C 100000 R 102800 W 123250		INND. (INNER CENTER) (OUTER CENTER) (INNER CENTER) (OUTER CENTER) (SEE #)	2 2 2 2 5226 TOT	a 365 400 400 550 1000	NOSE TURRET FRONT TOP THR. REAR TOP THR. LOW BALL THR. TAIL TURRET	4-4000 8-2000 8-1600 16-1000 10-500	NONE	20000	SCR-271A, 211, 259, 287, 522, 695 & 718. RC-36, 103 193 & 198	(MANUFACTURER'S PRELIMINARY ESTIMATES) a 365 RDS./GUN (NORMAL); SPACE PROVISIONS FOR 600 RDS./GUN b MAXIMUM WING TANK CAPACITY-5226 GAL.; OVERLOAD CONDITIONS WITH 8226 GAL. ASSUMES 3000 GAL. CARRIED IN FUS. c RADIO LISTED FOR EXP. PLANES & FIRST FEW PROD. ARTICLES.	
				S L H T W	B C R W											
				S L H T W	B C R W											
				S L H T W	B C R W											
				S L H T W	B C R W											
				S L H T W	B C R W											
COLUMN 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17																

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND					HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT					RANGE & ENDURANCE STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE					
	TO CLEAR 50'		LANDING SPEED	GROUND-RUN		STD. ALT.	MIL. POWER		MAX. CONTIN. POWER			TAKE OFF WEIGHT	BOMBS CARGO PASS.	TOTAL FUEL	MAX. CONTINUOUS POWER			MAX. CRUISE POWER				LONG RANGE				
	T.O. DIST.	LAND. DIST.		T.O. DIST.	LAND. DIST.		WEIGHT	HIGH SPEED	RATE OF CLIMB	HIGH SPEED	RATE OF CLIMB				TIME TO CLIMB	AT 10000 FT.	AT 25000 FT.	AT 10000 FT.	AT 25000 FT.	AT 10000 FT.		AT 25000 FT.	RANGE	ENDUR.	RANGE	ENDUR.
B-32-CF	95000	1550	3600	113	3650	2000	25000	360	1150	310	900	10.0	123250	a 5265	8226	2300	8.6	2650	8.6	1400	18.7	-	-	5750	30.3	
	100000	1150	3950	118	4100	2150	20000	343	1300	332	1050	15.3	118000	NONE	8226	2325	8.6	2675	8.6	1500	18.4	-	-	6000	32.1	a CARGO ONLY.
	110000	6250	4150	134	5000	2350	15000	327	1400	315	1150	11.2	118950	20000	5226	1150	5.4	1650	5.4	2800	11.6	-	-	3690	19.5	b INCLUDES 20000 LB. BOMBS PLUS 4300 LB. CARGO.
	123250	7700	-	-	6150	-	10000	310	1500	300	1250	6.5	123250	b 21300	5226	1150	5.4	1625	5.4	2750	11.8	-	-	3550	18.8	
							5000	296	1550	286	8	3.2	100000	2000	5150	1150	5.3	1650	5.3	2800	11.5	3150	11.2	4000	22.1	
							S L	282	1600	273	8	0.0	100000	20000	2272	600	2.3	650	2.3	1150	12.8	1250	14.5	1650	9.3	

NOTES:

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK  
/ MILITARY POWER AVAILABLE FOR 5 MINUTES.



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NORTH AMERICAN (INGLEWOOD) "NA"  
(KANSAS CITY) "NC"

MODEL & BLOCK NO.	ARMAMENT			BOMBS			FUEL U.S. GAL. (MAXIMUM)
	NO GUNS & CALIBER	RDS. PER. GUN	LOCATION & TYPE	INTERNAL	EXTERNAL	MAX. LOAD LB.	
				NO & SIZE	NO & SIZE		
B-25C-NA (-1 thru -20)	1) 1) 2).50	300 300 200	NOSE...FLEX. NOSE...FIXED UPPER TURRET	1-2000 3-1000 6- 500	1-2000 T 6- 325 8- 250	3-1000 8- 250 x	1599 (B-25C)
B-25D-NC (-1 thru -15) *	2) 2)	200 200	LOWER TURRET	8- 250 12- 100	8- 100	5000	1684 (B-25D)
B-25C-NA (-25) B-25D-NC (-20 thru -35)	AS ABOVE EXCEPT NO LOWER TURRET ON 210(D-20), -25, -30 & -35.			1-2000 2-1600 3-1000 6- 500 8- 250 12- 100	1-2000 T 6- 325 8- 250 8- 100	2-1600 8- 250 x 5200	1524 (B-25C) 1649 (B-25D)
B-25G-NA (-1 thru -10)	1-75MM 2-.50 2-.50 2-.50	21 400 200 200	NOSE CANNON M1 NOSE...FIXED UPPER TURRET LOWER TURRET	A S	A B O V E		1649
B-25H-NA (-1 thru -10)	1-75MM 4-.50 4-.50 2-.50 2-.50 2-.50	21 400 400 200 200 500	NOSE CAN. T13B1 NOSE...FIXED NOSE...PACKAGE UPPER TURRET SIDE WAIST-FL. TAIL...POWER MT.	1-2000 2-1600 3-1000 6- 500 8- 250 12- 100	1-2000 T	3200	1624
B-25J-NC (-1 thru -10)	4) 1) 2).50 2) 2)	400 300 300 200 600	NOSE...PACKAGE NOSE...FIXED NOSE...FIXED SIDE WAIST-FL. UPPER TURRET TAIL...POWER MT.	A S	A B O V E		AS ABOVE

NOTES: \*B-25C-1 & D-1 ARMAMENT SAME AS B-25C & D. o NO LOWER TURRET ON 78(G-5) & -10.  
T TORPEDO a NO LOWER TURRET ON 80(B-25D-15) ONLY. d SOME B-25H-1's HAVE ONLY  
x EXTERNAL b NOT CARRIED ON 1st.157(B-25C-1). 2 NOSE PACKAGE GUNS.

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MARTIN (BALTIMORE) "MA"  
(OMAHA) "MO"

MODEL & BLOCK NO.	ARMAMENT			BOMBS			FUEL U.S. GAL. (MAXIMUM)
	NO GUNS & CALIBER	RDS. PER. GUN	LOCATION & TYPE	INTERNAL NO. & SIZE	EXTERNAL NO. & SIZE	MAX. LOAD LB.	
B-26B-MA (B thru -4)	1-.30 1-.30 2-.50 2-.50	600 600 1500 400	NOSE...FLEX. TUNNEL...FLEX. TAIL...FLEX.MT. UPPER TURRET SIDE WAIST-FL.	2-2000 2-1600 4-1000 8- 500 16- 250 30- 100	1-2000 (TORPEDO)	2-1600 1-2000 5200	1162
B-26B-MA (-10 thru -20) B-26C-MO -5 thru 1st. 75(-30)	1) 1) .50 2) 2) 400	200 270 210 250 200 800 400	NOSE...FLEX. NOSE...FLEX. SIDE WAIST-FL. U.FUS.-PACKAGE L.FUS.-PACKAGE *TAIL-POWER MT. UPPER TURRET	A S	A B O V E		1962
B-26B-MA -25 thru 1st. 150 (-50) B-26C-MO 1st. 125(-30)	A S	A B O V E		2-2000 2-1600 4-1000 6- 500 10- 250 20- 100	AS ABOVE	AS ABOVE	1162
B-26B-MA Last 50(-50) & -55 B-26F-MA -1 & -2 B-26C-MO -46	1) 2) .50 2) 2)	270 210 250 200 800	NOSE...FLEX. SIDE WAIST-FL. U.FUS.-PACKAGE L.FUS.-PACKAGE TAIL-POWER MT. UPPER TURRET	AS ABOVE EXCEPT THAT B-26F-1 & -2 HAVE THE TORPEDO DELETED.			AS ABOVE
111(B-10): AT-23A 1st. 109(B-15) " 3(C-25): AT-23B 71(C-30): AT-23B (C-35 & -40): AT-23B 1st. 26(C-45) "	ALL GUNS & ARMAMENT ITEMS REMOVED FROM THESE MODELS; MODIFIED FOR TOW TARGET USE & DESIGNATED AT-23A & B.			N	O	N	1962 3(C-25) 1162 (Balance)

NOTES: T-TORPEDO      \* SIDE WAIST GUNS ADDED TO LAST 111(-4) ONLY.  
\* B-26B-10, -15 & C-5 HAVE SAME TAIL GUN INSTALLATION & RDS./GUN AS B-26B-MA.

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DATE 27 MAR 1944

TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																
MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.		COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT R-RECD LIM W-WAR MAX	TANK TYPE OR LOCATION		NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS PER GUN	LOCATION & TYPE	INTERNAL NO & SIZE	EXTERNAL NO & SIZE	MAX. LOAD LB.		
B-26B-MA B-2, 3 & 4	2	PRATT-WHITNEY R-2800-5e 2 SPD. SUPERCH. CURTISS 13'6" DIA. - 4 BL. E.P. ELECTRIC	T 1850/8 L M 1850/2700 C 1500/14000 1500/7800 1150/13000	S 55'0" L 58'3" H 19'10" T 22'0" W 602 sq. ft.	B 23500 C 35000 R 36500 W 36500	6	MAIN - WINGS AUX. - WINGS B. BAY - (FORE)	2 x 360 2 x 121 2 x 250	1-.30 1-.30 2-.50 2-.50	600 600 1500 400	NOSE - FLEX. TUNNEL - FLEX. TAIL - FLEX. MT. UPPER TURRET SIDE WAIST - FL.	2-2000 2-1600 4-1000 6-500 15-250 30-100	1-2000 (TORPEDO)	2-1600 1-2000T	SEE (A)	TECHNICAL ORDER 01-352A-1. (5 MARCH 1943) a- SIDE WAIST GUNS ADDED TO LAST 111 (-4) ONLY. b- B-26B-MA HAS -5 ENGINE; B-26B-2-MA HAS -11 ENGINE & B-26B-3 & -4 HAS -13 ENGINE.
B-26B-MA -10 TO -20 INCL B-26C-MO -5 TO -25 INCL	2	PRATT-WHITNEY R-2800-13 2 SPD. SUPERCH. CURTISS 13'6" DIA. - 4 BL. E.P. ELECTRIC	T 1920/8 L M 1920/3200 C 1500/11300 1190/11300 1360/11600	S 71'0" L 58'3" H 21'6" T 22'0" W 699 sq. ft.	B 25300w C 37000 R 37500 W 38200(C)	6	MAIN - WINGS AUX. - WINGS BOMB BAY - (FORE & REAR)	2 x 360 2 x 121 4 x 250	1) 1) 2) 2) 2)	270 270 240 250 200 400 800	NOSE - FLEX. NOSE - FLEX. SIDE WAIST - FL. U. FUS. - PACKAGE L. FUS. - PACKAGE UPPER TURRET TAIL - POWER MT.	2-2000 2-1500 4-1000 6-500 10-250 20-100	A S A B O V E	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-352B-1. (25 DEC. 1943) a- B-26B-10; -15 & C-5 HAVE FLEX. TAIL MOUNT INSTEAD OF POWER MOUNT. & HGS./GUN SAME AS B-26B-2-MA. b- BASIC WEIGHT OF B-26B-15 IS 21500 LB.
B-26B-MA -25 TO 55 INCL B-26C-MO -30 & -45 INCL	2	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	6	MAIN - WINGS AUX. - WINGS BOMB BAY - (FORE ONLY)	2 x 360 2 x 121 2 x 250	A S A B O V E	A S A B O V E	2-2000 2-1500 4-1000 6-500 10-250 20-100	1-2000 (TORPEDO)	2-1600 1-2000T	NOTE (A) plus RC-103 & SCR-522	AS ABOVE	REFERENCE AS ABOVE a- FIXED NOSE GUN DELETED ON LATEST B-26B's and B-26C-15. b- ALL MODELS EXCEPT lat. 75 (B-26C-30) CARRY LESS BOMBS DUE TO DELETION OF 2 REAR BOMB BAYS. c- RC-103 & SCR-522 ADDED TO LATER MODELS ONLY.
B-26F-MA -1 & -2	2	AS ABOVE	AS ABOVE	71'0" 56'1" 20'4" 22'0" 658 sq. ft.	25300 37000 37500 38200(C)	6	MAIN - WINGS AUX. - WINGS BOMB BAY - (FORE ONLY)	2 x 380 2 x 120 2 x 250	1) 2) 2) 2) 2)	270 240 250 200 400 800	NOSE - FLEX. SIDE WAIST - FL. U. FUS. - PACKAGE L. FUS. - PACKAGE UPPER TURRET TAIL - POWER MT.	2-2000 2-1500 4-1000 6-500 10-250 20-100	NONE	4000	AS ABOVE	TECHNICAL ORDER 01-352C-1. (15 FEB. 1944)

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND						HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT						RANGE & ENDURANCE STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE	
	TO CLEAR 50'		GROUND-RUN		WEIGHT	STD. ALT.	MIL. POWER		MAX. CONTIN. POWER		TAKE OFF WEIGHT	BOMBS CARGO	TOTAL FUEL	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE						
	T.O. DIST.	LAND. DIST.	T.O. DIST.	LAND. DIST.			HIGH SPEED	RATE OF CLIMB	HIGH SPEED	RATE OF CLIMB				TIME TO CLIMB	RANGE	ENDUR.	RANGE	ENDUR.	RANGE	ENDUR.	RANGE	ENDUR.		
B-26B-MA B-2, 3 & 4	24000	-	2300	110	-	1600	20000	270	300	265	200	26.5	34000	NONE	1162	950	3.5	-	-	-	-	-	2000	11.0
B-26B-MA -10 TO -20 INCL B-26C-MO -5 TO -25 INCL	28000 32000 35000 36000	- 3250 4000 4300	2300 3500 - -	110 130 - -	- 2350 2600 -	2100 2600 -	35000 10000 5000 S L	270 298 291 294 281	300 750 1000 1150 1500	265 288 288 283 265	200 11.0 7.7 3.4 0.0	34000 35500 36000 35000	NONE 1500 2000T 4000	1162 1162 1162 962	950 900 - 550	3.5 3.5 - 2.2	- - - -	- - - -	- - - -	- - - -	- - - -	1950 1900 1250	10.7 10.5 7.0	
B-26B-MA -25 TO 55 INCL B-26C-MO -30 & -45 INCL	24000 28000 32000 35000 36000	- - 3050 3900 4400 6100	1950 2200 2100 - -	134 135 136 - -	- - 2600 2850 3640	1050 1200 -	37000 20000 15000 10000 5000 S L	282 - 278 285 270	- - - 1000 1300	320 271 269 250	28.6 11.2 4.1 0.0	38200 37800 38200 36300 38100	NONE NONE 1500 2000T 4000	1162 1162 1162 962 962	1000 650 - 650	4.2 2.6 - 2.7	- - - -	- - - -	2375 1725 1700 1050	11.7 8.5 8.5 5.4	- - - -	- - - -	2500 1825 1800 1075	14.7 10.2 10.2 6.0
B-26F-MA -1 & -2	28000 32000 35000 36000 38200	2350 3100 3850 4200 5350	2200 2100 2600 2650 2750	135 135 136 137 -	1500 2050 2550 2750 3350	1050 1200 1300 1350 1400	37000 25000 15000 10000 5000 S L	280 271 275 285 275	- - 271 268 1120 275	390 560 560 4.0 0.0	24.0 11.2 4.0	38000 36200 31200 38200	NONE NONE 1000 4000	1500 1850 675 1000	1050 875 675 675	4.3 3.6 2.7 2.8	- - - -	- - - -	1775 1500 1175 1100	8.8 7.2 5.6 5.6	- - - -	- - - -	1875 1600 1300 1125	10.6 9.0 7.3 6.3

NOTES: (A)

24 VOLT RADIO SYSTEM

SCR-211 FREQUENCY METER  
SCR-2690 RADIO COMPASS  
SCR-2748 COMMAND SET  
SCR-287A LIAISON SET  
SCR-535 SET (or SCR-595 or SCR-695)  
SCR-578 EMERGENCY TRANSMITTER  
RC - 32 FILTER EQUIPMENT (or RC-198)  
RC - 36 INTERPHONE AMPLIFIER  
RC - 138 MARKER BEACON

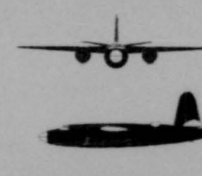
RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK

MILITARY POWER AVAILABLE FOR 5 MINUTES ONLY.

(B) TORPEDOES BEING USED IN LIMITED QUANTITIES ONLY; WITH MAXIMUM BOMB LOAD SHOWN TORPEDO MUST BE DROPPED FIRST.

(C) LIMITED TO 38200 LB. BY FLYING CHARACTERISTICS.

GENERAL NOTES: SOME MODELS MODIFIED FOR TOW TARGET USE BY REMOVAL OF GUNS AND ARMAMENT ITEMS; FOR DETAILS SEE PAGE OPPOSITE. THESE MODELS HAVE BEEN REDESIGNATED AT-23A &amp; B.



B-26

"MARAUDER"

MANUFACTURED BY MARTIN (Baltimore) "MA" &amp; MARTIN (Omaha) "MO"

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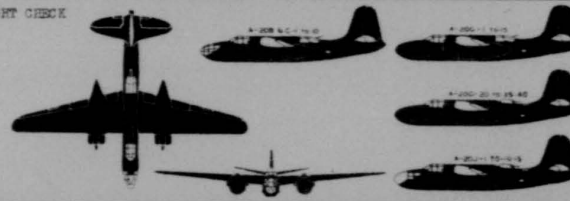
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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																
CONFIDENTIAL																
PAGE 17 AS OF: DATE 29 MAR. 1944																
MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.		COMBAT CREW	FUEL		ARMAMENT		BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE	
	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT R-RECD LIM. W-WAR MAX.	TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.		NO. GUNS & CALIBER	RDS. PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE STATION	EXTERNAL NO. & SIZE CAPACITY	MAX. LOAD LB.		TYPE	
A-20B-DL	2	WEIGHT R-2600-11 2 SPD. SUPERCH. HAMILTON STD. 11 1/2" DIA. - 3 BL. P.T. HYDROMATIC	T 1600/3000 M 1600/1500 C 1350/5500 1275/12000	S 61' 1/4" L 48' 0" H 18' 1" T 17" W 465 sq. ft.	B 15600 C 22000 R 25000 W 27000A	4	MAIN - WINGS FUSELAGE BOMB BAY	4 - 390 1 x 100 2 - 590	1-.30 2-.30 1-.50 2-.50	500 1000 200 200	TUNNEL - FLEX. L. & M. NACELLES REAR COCKPIT NOSE - FIXED	1-1000 1-500 4-250 10-100	(SEE C) 1-2000 T 2-500 4-250 4-100	1000	SCR-27LN SCR-535 MN-26C RC-51	TECHNICAL ORDER 01-1040-1. (1 DEC. 1942) * SOME MODELS ONLY.
A-20C-DO -1 TO -10 INCL.	2	AS ABOVE EXCEPT FOR CHANGE TO R-2600-23 ENGINE	T 1600/3000 M 1400/10000 C 1350/5000 1275/11500	S 61' 1/4" L 47' 1/4" H 18' 1" T 17" W 465 sq. ft.	B 16300 C 23000 R 25200 W 27000A	4	INT'D. WINGS OUT'D. WINGS PUS. (BOMB B.) BOMB BAY (SEE B)	2 x 136 2 x 64 2 x 70 or 4 - 680	1) 2) .30 4) a	500	TUNNEL - FLEX. REAR COCKPIT NOSE - FIXED	4-500 4-250 4-100	(SEE C) 1-2000 T	2000	AS ABOVE	TECHNICAL ORDER 01-1040-1. (10 FEB. 1942) b NO TORPEDO PROVISIONS ON A-20C-1. c FOR ALTERNATE INSTALLATIONS SEE EE-306-A.
A-20G-DO -1 TO -15 INCL.	2	AS ABOVE	AS ABOVE	S 61' 1/4" L 48' 0" H 18' 1" T 17" W 465 sq. ft.	B 17200 C 24000 R 25200 W 27000A	3	AS ABOVE	AS ABOVE	1(.30 or 1-.50 6-.50	500 500 350	TUNNEL - FLEX. REAR COCKPIT NOSE - FIXED	4-500 4-250 4-100	(SEE C) 1-2000 T	2000	SCR-27LN SCR-535A SCR-695A MN-26C RC-36 RC-120r194	TECHNICAL ORDER 01-1040-1. (30 JULY 1943) a ARMAMENT FOR A-20G-1 IS (2) .50 CAL. FIXED NOSE GUNS OF 350 RDS. EACH & (4) 20MM NOSE CANNON, TYPE M2 OF 60 RDS. EACH; MAJORITY ALLOCATED TO FOREIGN POWER.
A-20G-DO -20 TO -40 INCL.	2	AS ABOVE	AS ABOVE	S 61' 1/4" L 48' 0" H 18' 1" T 17" W 465 sq. ft.	B 17700 C 26000 R 26000 W 27000A	3	INT'D. WINGS OUT'D. WINGS PUS. (BOMB B.) PROP. - EXT. (SEE B)	2 x 136 2 x 64 3 - 325 1 x 274	1) 2) .50 6)	400 400 350	TUNNEL - FLEX. UPPER TURRET NOSE - FIXED	4-500 4-250 4-100	(SEE C) 1-2000 T 4-500 4-250 4-100	4-500 4-500 4-500 4-1000	SCR-27LN SCR-535 SCR-695A MN-26C RC-36 RC-138	REFERENCE AS ABOVE
A-20J-DO -1 TO -15 INCL.	2	AS ABOVE	AS ABOVE	S 61' 1/4" L 48' 0" H 18' 1" T 17" W 465 sq. ft.	B 17800 C 26000 R 26000 W 27000A	4	AS ABOVE	AS ABOVE	1) 2) .50	400 400 350	TUNNEL - FLEX. UPPER TURRET NOSE - FIXED	AS ABOVE	AS ABOVE	4-500 4-500 4-500 4-1000	SCR-27LN SCR-695A MN-26C RC-36 RC-198 SCR-535	TECHNICAL ORDER

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND						HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT						RANGE & ENDURANCE STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE			
	TO CLEAR 50 FT.		LANDING SPEED	GROUND-RUN		STD. ALT.	MIL. POWER		MAX. CONTIN. POWER		TAKE OFF WEIGHT	BOMBS CARGO	TOTAL FUEL	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE								
	T.O. DIST.	LAND. DIST.		T.O. DIST.	LAND. DIST.		HIGH SPEED	RATE OF CLIMB	HIGH SPEED	RATE OF CLIMB				AT 10000 FT.	AT 25000 FT.	AT 10000 FT.	AT 25000 FT.	RANGE	ENDUR.	RANGE	ENDUR.	RANGE		ENDUR.		
	FT.	FT.	M.P.H.	FT.	FT.	FT.	M.P.H.	FT./MIN.	M.P.H.	FT./MIN.	LB.	LB.	U.S. GAL.	MILES	HOURS	MILES	HOURS	MILES	HOURS	MILES	HOURS					
A-20B-DL	17000	-	2150	88	-	1500	25000	280	370	277	290	22.6	23600	NONE	1080	850	3.3	1150	4.9	1500	7.0	-	-	2100	13.4	
A-20C-DO -1 TO -10 INCL.	18000	-	2550	91	-	1600	25000	275	300	274	270	23.9	24500	NONE	1080	875	3.3	-	-	1500	6.6	-	-	2300	12.0	
A-20G-DO -1 TO -15 INCL.	19000	-	2700	95	-	1650	25000	275	260	274	240	25.3	25300	NONE	1080	975	3.5	1650	6.8	1700	7.3	2000	9.1	2300	12.4	
A-20G-DO -20 TO -40 INCL.	21000	3600	2900	102	2650	1850	20000	302	760	298	690	11.6	26000	2000	725	625	2.3	*950	*4.3	1075	4.6	*1250	*5.7	1300	6.6	FLIGHTS ABOVE 10000 FT. REQUIRE SPECIAL PROVISIONS FOR OXYGEN.
A-20J-DO -1 TO -15 INCL.	27000	6500	-	-	4700	-	26000	302	1900	285	-	0.0	26000	4000	400	300	1.2	*125	*2.0	505	2.3	*550	*2.5	650	3.3	

NOTES: (A) CRITICAL FLIGHT CHARACTERISTICS RESULT ABOVE 27000 LB. (B) FUSELAGE TANKS ARE CARRIED IN BOMB BAYS WITHOUT AFFECTING BOMB LOAD CAPACITY. (C) PROVISIONS ONLY, FOR TORPEDO; A-20 SERIES NOT BEING USED FOR TORPEDO MISSIONS AS PER MILITARY REQUIREMENTS POLICY NO. 37 DATED JULY 3, 1943. RANGE VALUES WITH TORPEDO ARE SHOWN FOR COMPARATIVE REFERENCE.

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK  
\* MILITARY POWER AVAILABLE FOR 5 MINUTES ONLY.  
T TORPEDO; (REPLACES INTERNAL BOMBS WHEN CARRIED)  
X EXTERNAL



A-20  
"HAVOC"

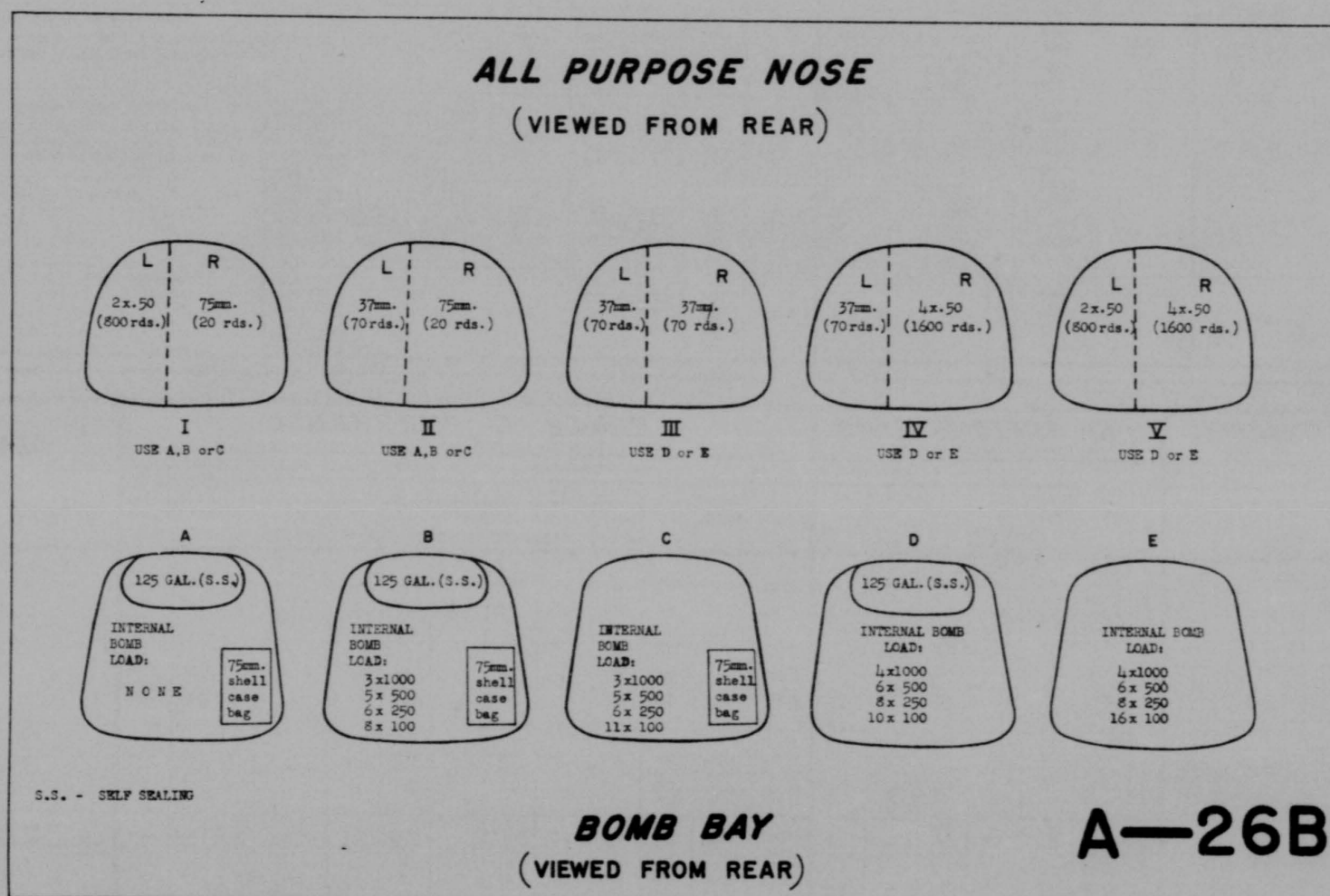
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PAGE 19  
AS OF  
DATE 21 MARCH 1944

TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																	
MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.		COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE	
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP. MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT R-RECD LIM W-WAR MAX.	TANK TYPE OR LOCATION		NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS. PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY	MAX. LOAD LB.	TYPE		
																	1
A-26B -1 & -5	DL DT	2	PRATT-WHITNEY R-2600-27 SINGLE ST.-2SPD. HAMILTON STD. 12" DIA.-3BL. F.F., HYDROMATIC	T 2000/8 L M 2000/1500 C 1600/6500 1150/11600	S 70' L 50'6" H 18'6" T 19'6" W 54'0" sq. ft.	B 21100 C 35000 R 35000 W 37000	2 2 3 0	MAIN - WINGS AUX. - WINGS BOMB RAY (SS) B. RAY (PKERRY)	2 x 300 2 x 100 1 x 125 1 x 675	1-75MM 2-.50 2-.50	20 500 500	*NOSE CAN, 113E1 UPPER TURRET LOWER TURRET	b 4-1000 b 6-500 b 8-250 b 16-100	b 2-2000T 4-500 4-250 4-100	4-1000 4-500 4-500 b 6000	SCR-274W SCR-595 MN-266 RC-36	TECHNICAL ORDER 01-104J-1. (10 NOV. 1943) a PARTS WILL BE PROVIDED FOR SERVICE INSTALLATION OF ALL-PURPOSE NOSE AS SHOWN ON PAGE OPPOSITE. b SEE PAGE OPPOSITE FOR BOMB LOAD CARRIED WITH 75MM. GUN. c NORMAL CREW (2) ; CREW (3) WITH 75MM. CANNON. f NO SELF SEALING BOMB RAY TANK ON A-26B-1-DL ONLY. TECHNICAL ORDER 01-104J-1. (10 NOV. 1943) g SEE PAGE OPPOSITE FOR ALL-PURPOSE NOSE INSTALLATIONS.
A-26B -10	DL DT	2	AS ABOVE	AS ABOVE	AS ABOVE	B 23600 C 35000 R 35000 W 37000	2	AS ABOVE		6-.50 2-.50 2-.50	400 500 500	*NOSE UPPER TURRET LOWER TURRET	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	SEE PAGE OPPOSITE FOR ALL-PURPOSE NOSE INSTALLATIONS.

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND						HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT						RANGE & ENDURANCE STATUTE AIR MILES-NO WIND-NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE				
	TO CLEAR 50'		GROUND-RUN		WEIGHT	STD. ALT.	MIL. POWER		MAX. CONTIN. POWER		TAKE OFF WEIGHT	BOMBS CARGO-PASS.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE									
	T.O. DIST.	LAND. DIST.	T.O. DIST.	LAND. DIST.			HIGH SPEED	RATE OF CLIMB	HIGH SPEED	RATE OF CLIMB				TIME TO CLIMB	RANGE	ENDUR.	RANGE	ENDUR.	RANGE	ENDUR.	RANGE	ENDUR.		RANGE	ENDUR.		
A-26B -1 & -5	DL DT	25000	-	2650	96	-	1750	20000	329	260	326	100	31.1	*35000	NONE	1600	-	-	-	-	-	-	-	3110	16.1	* STRIPPED TO 35000 LB. FOR FERRYING. NOTE: WHEN 3 EXTERNAL WING PACKAGE GUNS ARE CARRIED HIGH SPEED WILL BE DECREASED APPROX. 13 MPH. AND RATE OF CLIMB 150 FT./MIN.	
		29000	2900	2950	101	2100	2000	15000	341	720	333	580	15.3	31100	NONE	925	770	2.5	1160	4.2	1560	6.7	-	-	1830		9.5
		32000	3700	3250	109	2550	2150	10000	337	1010	327	560	7.0	31100	3000	925	790	2.5	1030	4.0	1500	6.9	-	-	1630		8.3
		33000	4000	3250	111	2730	2250	5000	346	1510	319	477	8.7	31600	1000	800	660	2.2	850	3.4	1270	5.9	-	-	1360		6.9
		34000	4500	-	-	2850	-	S L	325	2030	399	4	0.0	32500	(5) WING GUNS	925	660	2.3	-	-	1080	5.0	-	-	1580		8.0
A-26B -10	DL DT	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE

NOTES: (A)

3 REMOVABLE .50 CAL. PACKAGE GUNS MAY BE MOUNTED ON WING BOMB RACKS IN PLACE OF BOMBS.

NEW FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK

MILITARY POWER AVAILABLE FOR 5 MINUTES ONLY.

T-TURBO  
X-EXTERNAL



A-26

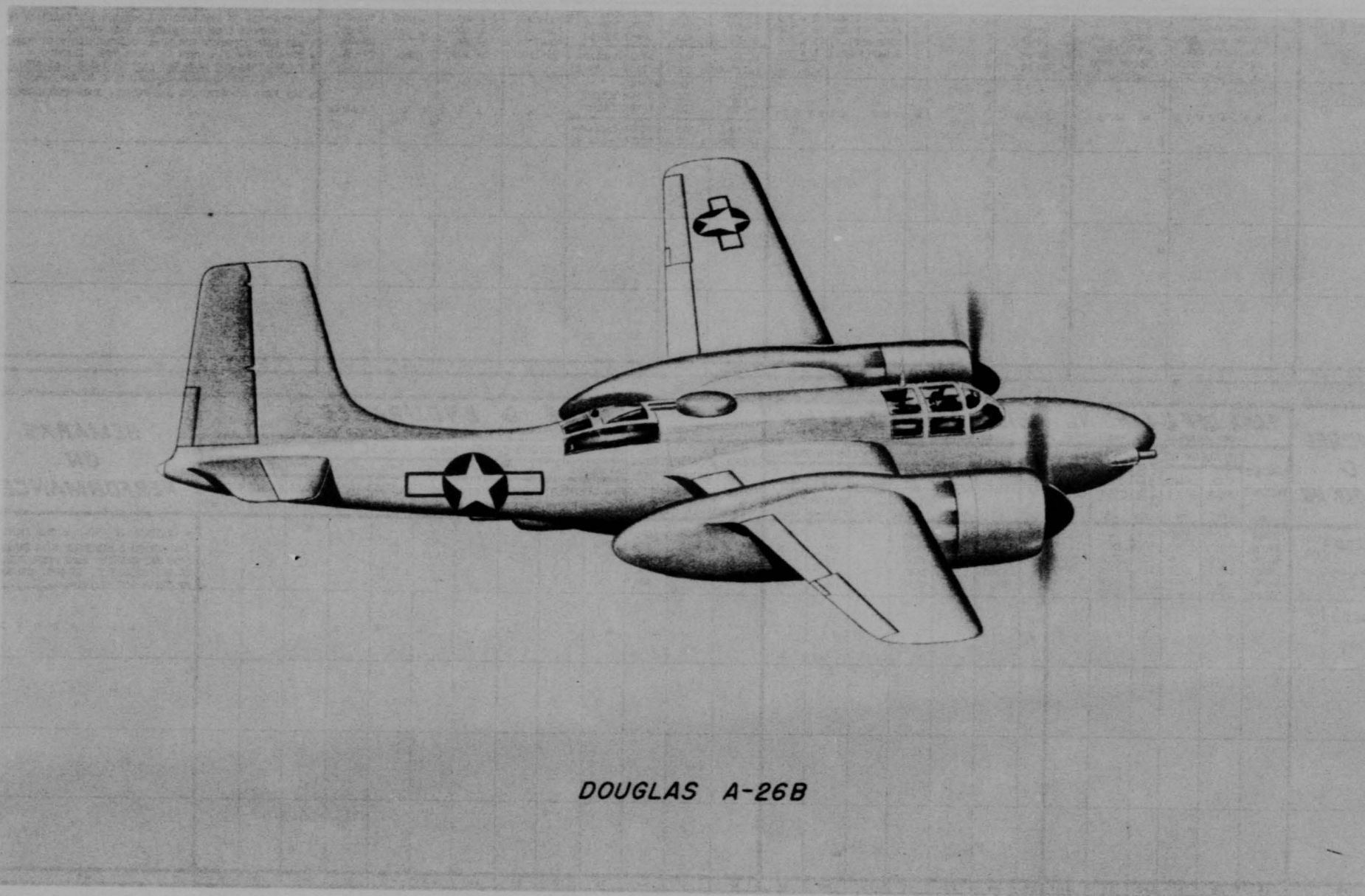
"INVADER"

MANUFACTURED BY DOUGLAS (Long Beach) "DL" and DOUGLAS (Tulsa) "DT"

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DOUGLAS A-26B

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PAGE 21  
DATE 20 MAR. 1944

### TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART


MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS		RADIO	REMARKS & REFERENCE
	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING-AREA	B-BASIC C-COMBAT R-RECD.LIM W-WAR MAX.	TANK TYPE OR LOCATION		NO.TANKS & CAPACITY U.S. GAL.	NO.GUNS & CALIBER	RDS PER GUN	LOCATION & TYPE	INTERNAL NO.&SIZE OR STATION	EXTERNAL NO.&SIZE OR CAPACITY	MAX. LOAD LB.	TYPE	
A-36 A-NA	ALLISON V-1710-67 SINGLE SPEED CURTISS 10'9" DIA. - 3BL. CONST. SPD. ELECT.	T 1325/S L M 1325/4400 W* 1500/2500 C 1100/6600	S 37' 0" L 32' 3" H 12' 2" T 11' 10" W 233 SQ. FT.	B 7100 C 10000 R 10700 W -	1	MATH - WING EXT. - WINGS	2 x 90 2 x 75 or 2 x 150 180 TOT.	2-.50 4-.50	200 200	NOSE - FIXED WING - FIXED	NONE	2-500 2-250	1000	SCR-271A SCR-535 SCR-595**	TECHNICAL ORDER 01-608B-1. ( 10 JULY 1943) ** WAR EMERGENCY RATING. ** LAST 599 ONLY.

COLUMN — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND						HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT						RANGE & ENDURANCE STATUTE AIR MILES-NO WIND-NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE						
	GROSS WEIGHT LB.	TO CLEAR 50'		LANDING SPEED MPH	GROUND-RUN		WEIGHT LB.	STD. ALT. FT.	MIL. POWER		MAX. CONTIN. POWER		TAKE OFF WEIGHT LB.	BOMBS-CARGO-PASS LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER				MAX. CRUISE POWER				LONG RANGE					
		T.O. DIST. FT.	LAND. DIST. FT.		T.O. DIST. FT.	LAND. DIST. FT.			HIGH SPEED MPH	RATE OF CLIMB FT/MIN	HIGH SPEED MPH	RATE OF CLIMB FT/MIN				TIME TO CLIMB MIN.	AT 10,000 FT.		AT 25,000 FT.		AT 10,000 FT.			AT 25,000 FT.		RANGE MILES	ENDUR. HOURS		
		FT.	FT.		FT.	FT.			MPH	MPH	MPH	MPH				MIN.	MILES	HOURS	MILES	HOURS	MILES	HOURS		MILES	HOURS	MILES	HOURS	MILES	HOURS
A-36 A-NA	9000 10000 11000	2800 3400 4100	3000 3500 -	- - -	2050 2600 3200	2100 2400 -	10000 15000 20000	288 295 305	500 1025 1525	277 285 293	300 300 300	16.6 9.1 5.1	11000 10000 9000 10000	NONE NONE NONE 1000	480 330 180 180	1400 1000 550 500	5.6 3.8 2.0 2.0	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	2100 1500 850 800	10.4 7.7 3.9 3.7	* WITH 2-500 LB. EXTERNAL BOMBS.			

18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

NOTES: RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK  
\* MILITARY POWER AVAILABLE FOR 15 MINUTES.



**A-36**  
"MUSTANG"

MANUFACTURED BY NORTH AMERICAN (Inglewood) "NA"

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**TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART**

PAGE 22  
DATE 20 MARCH 1944

MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE		
	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT R-RECD LIM. W-WAR MAL.			TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS. PER GUN	LOCATION & TYPE	INTERNAL	EXTERNAL			MAX. LOAD LB.	TYPE
												NO. SIZE OR STATION	NO. SIZE OR CAPACITY				
C-46A-CU -1 TO -40 INCL.	PRATT-WHITNEY R-2800-51 2 SPEED CURTIS 13'6" DIA. - 1 BL. F.F. HYDROMATIC	T 2000/5 L M 2000/1500 C 1600/13500 1150/13000	S 108'0" L 76'4" H 22'0" T 26'0" W 1360 sq. ft.	B 32100 C 46000 R 46000 W 56000A	3	WING-PANELS FUSELAGE	6-1100 8x100 2200 TOT.				N	O	N	E	FORE-BELLY 3700 AFT-BELLY 1800 MAIN-CABIN 10000 or 15000 TROOPS 50	SCR-211, 269, 271, 287, 518, 578 & 695, SC-36, 43, 103 & 198, AN-ARR-1	TECHNICAL ORDER 01-251A-1. (20 NOV. 1943) * EARLY MODELS HAVE HAMILTON STD., 3 BLADE, HYDROMATIC, 15'1" DIA. PROPELLER. * MISC. RADIO CARRIED: MAX. COMBINATION SHOWN. NOTE: EARLY MODELS LIMITED TO 10000 LB. GROSS WEIGHT & HAVE SMALL CARGO DOOR.
C-47-DL C-47A TO -85-DL C-47A TO -10-DK C-53C, D-DL	PRATT-WHITNEY R-1530-92 INTEGRAL SUPER. HAMILTON STD. 11'7" DIA. - 3 BL. F.F. HYDROMATIC	T 1200/5 L M - C 1050/7000	S 95'0" L 64'6" H 17'0" T 18'6" W 987 sq. ft.	B 18000 C 26000 R 29000 W 36500A	3	MAIN-WINGS AUX.-WINGS FUSELAGE	2 x 202 2 x 100 5 x 100 1604 TOT.				N	O	N	E	CARGO or TROOPS or LITTERS 6000 27 18 11000 MAX	SCR-211, 269, 271, 287, 518, 578 & 695, AN-ARR-1	TECHNICAL ORDER 01-400C-1. (REV. 15 DEC. 1943) * MISC. RADIO CARRIED: MAX. COMBINATION SHOWN. (AN/APN-2 ON SOME MODELS). C-47, C-53 & C-53C INSTALLED WITH 12 VOLT RADIO SYSTEM; OTHERS WITH 24 VOLT RADIO SYSTEM. NOTE: C-47 & C-53 SERIES SIMILAR EXCEPT FOR LARGE CARGO DOOR ON C-47. THE C-53 CARRIES 28 PERSONNEL.
C-60A-LO A TO -5	WEIGHT R-1620-87 2 SPEED HAMILTON STD. 10'6" DIA. - 3 BL. F.F. HYDROMATIC	T 1200/5 L M 1200/5700 C 1000/15700 900/16500	S 65'8" L 49'10" H 12'0" T 15'4" W 551 sq. ft.	B 13000 C 21500 R 21500 W 25000	3	FRONT-WINGS REAR-WINGS AUX.-CABIN	2 x 150 2 x 172 3 x 134 1046 TOT.				N	O	N	E	BELLY CABIN or PARATROOPS 3400 6600 or 8500	SCR-211, 269, 271, 287, 518, 578 & 695, SC-36, 43, 103, 198	TECHNICAL ORDER 01-750B-1. (10 MARCH 1943) * MISC. RADIO CARRIED: MAX. COMBINATION SHOWN. EARLY MODELS CARRY SCR-535 IN PLACE OF SCR-695. * 1200 LB. BALLAST REQUIRED IN NOSE TO BALANCE PARATROOPS.

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND						HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT						RANGE & ENDURANCE STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE				
	GROSS WEIGHT LB.	TO CLEAR 50' DIST.		LANDING SPEED MPH	GROUND-RUN DIST.		WEIGHT LB.	STD. ALT. FT.	MIL. POWER		MAX. CONTIN. POWER		TAKE OFF WEIGHT LB.	CARGO PASS. LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE							
		T.O. FT.	LAND. FT.		T.O. FT.	LAND. FT.			HIGH SPEED MPH	RATE OF CLIMB FT./MIN.	HIGH SPEED MPH	RATE OF CLIMB FT./MIN.				TIME TO CLIMB MIN.	AT 10000 FT.	AT 25000 FT.	AT 10000 FT.	AT 25000 FT.	RANGE MILES	ENDUR. HOURS		RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS
		C-46A-CU -1 TO -40 INCL.	34000 39000 45000 50000		- 1800 2700 4850	1800 2000 2250 -			65 70 75 -	1150 1300 1500 -	16000 15000 10000 5000 S L	20000 15000 10000 5000				257 264 264 262 216	530 780 900 1100 1300	257 264 256 255 216	400 650 750 900 900	28.4 18.6 11.6 5.5 0.0	51000 47000 47000 51000	2000 4000 6000 10000		2200 1100 1050 1050	1100 850 630 620	5.5 3.5 2.5 2.5	- - - -
C-47-DL C-47A TO -85-DL C-47A TO -10-DK C-53C, D-DL	21000 23000 26000 29000	- 1850 2100 3200	2100 2300 2500 -	66 69 73 -	1300 1500 1500 -	26000 15000 10000 5000 S L	20000 15000 10000 5000	NO MILITARY 217* 217* 202* 187*	201 180 750 920 900	180 150 720 920 900	37.0 20.0 11.0 5.0 0.0	29000 26000 29000	NONE 2000 6000*	1600 1000 804	1500 950 750	7.6 4.7 3.7	ABOVE PRAC-TICAL CRUIS-ING CHILLING	2300 1150 1100	13.0 7.9 6.2	ABOVE PRAC-TICAL CRUIS-ING CHILLING	3100 2050 1950	19.5 12.7 10.0	* MAX. PERMISSIBLE LEVEL FLIGHT SPEED FOR 29000 LB. **6000 LB. CARGO OR 27 TROOPS.				
C-60A-LO A TO -5	11000 17500 18500 21500 23000	- 1800 2350 2850 3300	2150 2500 2700 -	61 68 70 -	1700 2100 1150 1600 1900	21500 15000 10000 5000 S L	20000 15000 10000 5000	259 269 260 255* 238*	650 1300 1100 1600 1600	255 262 255 217 235	500 1000 1200 3.0 0.0	19.0 11.0 7.0 3.0 0.0	21500 23000	1150 5000**	1046 644	1000 600	4.5 2.7	AS ABOVE	1150 850	7.0 4.3	AS ABOVE	2300 1200	11.4 7.7	* SPEED RESTRICTED IN LEVEL FLIGHT. **5000 LB. CARGO OR 18 PARATROOPS & 1200 LB. BALLAST IN NOSE.			

NOTES:  
(A) PERMISSIBLE ONLY WITH ALL WIND TANKS FULL.  
RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK.



C-46A  
"COMMANDO"



C-47A  
"SKYTRAIN"



C-60A  
"LODESTAR"

MANUFACTURED BY CURTISS (Buffalo) "CU"; DOUGLAS (Long Beach) "DL" & DOUGLAS (Oklahoma) "DK"; LOCKHEED (Burbank) "LO"

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PAGE 23  
DATE 20 MARCH 1944

### TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART

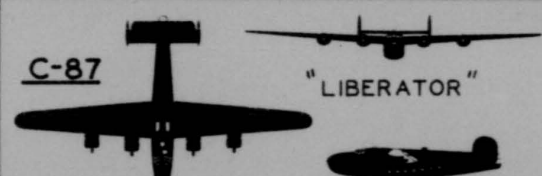
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MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE
	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT R-RECLIM W-WAR MAX	TANK TYPE OR LOCATION		NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS PER GUN	LOCATION & TYPE	INTERNAL NO. & STATION	EXTERNAL NO. & CAPACITY	MAX. LOAD LB.	TYPE	
C-54A-DO -1 C-54A-DC -1 & -5	PRATT-WHITENEY R-2000-3 or -7 2 SPEED HAMILTON STD. 13'1" DIA. - 3BL. P.F., HYDROMATIC	T 1290/3000 M 1290/3000 C 1015/9000	S 117' 6" L 93' 10" H 27' 6" T 24' 8" W 1160 SQ. 'W	B 37000 C 58000 R 58600 W 76000A	6	INRD. - WINGS OUTRD. - WINGS FUSelage	2x 508 2x 435 4x 164 3742 TOT.	N	0	N E	FORE-BELLY AFT - BELLY FORE-CARGO AFT - CARGO TROOPS	1800 2100 21000 11600 30 or 50	25000	SCR-211, 269, 271M, 287, 578, 595/695, RC-36, 43, 103, 198.	TECHNICAL ORDER 01-10M-1. (REV. 10 AUG. 1943) * MISC. RADIO CARRIED; MAX. COMBINATION SHOWN. NOTE: 30 TROOPS WITH FUSELAGE TANKS (3742 GAL.) 50 TROOPS WITHOUT FUSELAGE TANKS (1886 GAL.)
C-69-LO	WRIGHT R-3350-35 SINGLE or 2 SPEED HAMILTON STD. 15'6" DIA. - 3BL. P.F., HYDROMATIC	T 2200/7300 M 2200/7300 C 2000/16300	S 123' 0" L 95' 2" H 23' 8" T 28' 0" W 1650 SQ. 'W	B 50500 C - R 75600 W 92000	9	WINGS	4 - 4800	N	0	N E	60 PASS-ENGERS	NONE	32000	SCR-271M, (2) 269, 287, 211, & 695, RC-43/193, 36 & 103.	TECHNICAL ORDER 01-750J-1. (10 NOV. 1943) * FIRST FEW AIRPLANES EQUIPPED WITH SINGLE SPEED BLOWER.
C-87-CF	PRATT-WHITENEY R-1850-13 TURBO HAMILTON STD. 11'7" DIA. - 3BL. P.F., HYDROMATIC	T 1200/3000 M 1200/26500 C 1100/27000	S 110' 0" L 66' 4" H 18' 0" T 25' 8" W 1048 SQ. 'W	B 34250 C 56000 R 56000 W 62000	5	INRD. - WINGS OUTRD. - WINGS	12 - 2364 6 - 460 2814 TOT.	1-.50	500	TAIL - FLEX. (ON SOME MODELS ONLY)	CHAIRS OR LITTERS & BENCH	20 or 7 & 11	4400 WGR 10000 MAX.	SCR-271M, 269, 287, 578 & 695 RC-36, RC-43	TECHNICAL ORDER 01-50A-1. (15 DEC. 1943)

COLUMN — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND				HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT						RANGE & ENDURANCE STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE						
	GROSS WEIGHT LB.	TO CLEAR 50' T.O. DIST. FT.		LAND. DIST. FT.	LANDING SPEED MPH	T.O. DIST. FT.	LAND. DIST. FT.	WEIGHT LB.	STD. ALT. FT.	MIL. POWER			MAX. CONTIN. POWER			TAKE OFF WEIGHT LB.	BOMBS CARGO PASS. LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER			MAX. CRUISE POWER		LONG RANGE			
		FT.	FT.							FT.	FT.	FT.	FT.	FT.	FT.				FT.	FT.		FT.	FT.	FT.	FT.	FT.	FT.
C-54A-DO -1 C-54A-DC -1 & -5	15000 55000 59000 62500 65000	- 2800 3300 3850 4350	2900 3100 -	80 90	1800 2200	- 1850 -	- -	56000	20000 15000 10000 5000 S L	- -	- -	269 278 276 260 260	1150 1150	125 800 1000 1100 1050	24.4 16.0 9.4 4.4 0.0	62500 65000 59000 65000	NONE 8000 8000 41000	3742 2814 1886 1886	EXCEEDS SPEED LIMITS	ABOVE PRAC-TICAL CRUIS-ING CEILING	3100 2500 1600 1550	16.2 12.0 7.7 7.7	AS ABOVE	4100 2900 1900 1800	26.0 17.1 11.7 10.2	* 8000LB. CARGO or 30 TROOPS & 2000LB. EQUIPMENT. ** 41000LB. CARGO or 50 TROOPS & 4000LB. EQUIPMENT.	
C-69-LO	58500 62000 67000 75000 82000	- 2050 2500 3100 3750	2650 3150 3400 -	100 110	1400 1150 1550 -	- -	78000	20000 15000 10000 5000 S L	3100 325 330 314	1550 1800 2260 2180	330 330 325 307	1000 1180 1680 2160 2300	11.7 7.5 4.8 2.0 0.0	82000 75000 82000	NONE 12000 18400	1600 1630 1650	- -	- -	2800 875 850	11.3 3.4 3.4	- -	4550 1250 1200	23.8 6.9 6.4	* HIGH SPEED & CLIMB BASED ON TWO SPEED BLOWER.			
C-87-CF	40000 50000 56000 60000	- 3500 4750 6000	3300 3900 4250 -	90 105	2800 2300 3250 1200	- -	56000	30000 25000 20000 15000 10000 5000	302 317 331 287 273 252	800 1050 1100 1150 1200 1200	255 311 325 282 269 255	600 850 900 950 1000 4.2	21.0 26.8 20.9 15.3 9.0 4.2	52900 56000 56000 60000	NONE 3100 5800 9800	2814 2814 2364 2364	1215 1205 1000 975	4.6 4.6 3.8 3.7	1385 1375 1135 1100	4.6 4.6 3.8 3.8	2655 2550 2100 1975	11.7 11.4 9.4 8.9	2835 2750 2235 2165	11.0 10.8 8.9 8.4	3365 3235 2650 2500	17.0 16.2 13.1 12.3	

NOTES:  
(A) PERMISSIBLE ONLY WITH ALL WING TANKS FULL.  
RED FIGURES ARE PRELIMINARY; SUBJECT TO DIVISION AFTER FLIGHT CHECK.



MANUFACTURED BY DOUGLAS (SANTA MONICA) "DO" & (CHICAGO) "DC"; CONSOLIDATED (FT. WORTH) "CF" & LOCKHEED (BURBANK) "LO"

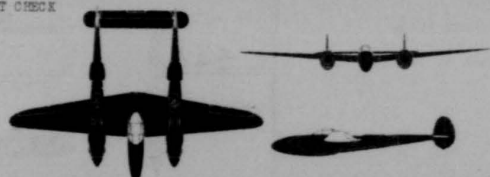
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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																	
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PAGE 24 AS OF: DATE 20 FEB 1944																	
MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.			RADIO	REMARKS & REFERENCE	
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP. MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA			B-BASIC C-COMBAT R-RECD.LIM W-WAR MAX	TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY			MAX. LOAD LB.
P-38F-LO	2	ALLISON V-1710-49 & -53 TURBO CURTISS 11'6" DIA. - 38L. F.F., ELECTRIC	T 1225/8 L M* 1150/27000 C 1000/27000	S 52' 0" L 37' 10" H 12' 10" T 16' 6" W 328 SQ. FT.	B 13000 C 15300 R 20000 W -	1	MAIN - WINGS RES. - WINGS	2 x 90 2 x 60 300 TOT.	1-20MM. 4-.50 (MAX.)	150 500	NOSE-TYPE M1 NOSE-FIXED	NONE	NONE	2-1000 2-500 2-325 2-250 2-100	2000	SCR-183 or SCR-27LN	TECHNICAL ORDER 01-75FB-1. (REV. 15 JAN. 1943) * LIMITED TO 1150 HP. BECAUSE OF INADEQUATE COOLING.
P-38F-LO - I TO -15 INCL.	2	AS ABOVE	AS ABOVE	AS ABOVE	B 13600 C 15900 R 20000 W -	1	MAIN-WINGS RES.-WINGS DRCP.-EXTER.	2 x 90 2 x 60 2 x 75 2 x 150 500 TOT.	A S A B O V E	150	NONE	NONE	2-1000 2-500 2-325 2-250 2-100	2000	SCR-27LN* SCR-515** SCR-522 SCR-535 SCR-595	REFERENCE AS ABOVE * PROVISIONS ONLY. ** SPACE ONLY.	
P-38G-LO - I TO -15 INCL.	2	ALLISON V-1710-51 & -55 TURBO CURTISS 11'6" DIA. - 38L. F.F., ELECTRIC	T 1225/8 L M* 1150/27000 C 1100/24000	AS ABOVE	B 13500 C 15800 R 20000 W -	1	AS ABOVE EXCEPT THAT LAST 200 P-38G-10'S ARE SAME AS BELOW	2 x 90 2 x 60 2 x 75 2 x 150 300 TOT.	A S A B O V E	150	AS ABOVE EXCEPT LAST 200 P-38G-10'S ONLY SAME AS BELOW	NONE	2-1000 2-500 2-325 2-250 2-100	2000	SCR-27LN* SCR-515** SCR-522 SCR-535 SCR-595***	REFERENCE AS ABOVE * LIMITED TO 1150 HP. BECAUSE OF INADEQUATE COOLING. ** PROVISIONS ONLY. *** SPACE ONLY. *** LAST 179 P-38G-10'S ONLY.	
P-38H-LO - I & -5	2	ALLISON V-1710-59 & -91 TURBO CURTISS 11'6" DIA. - 38L. F.F., ELECTRIC	T 1425/8 L M* 1425/25000 C 1100/25000	AS ABOVE	B 13700 C 16300 R 21000 W -	1	MAIN-WINGS RES.-WINGS DRCP.-EXTER.	2 x 90 2 x 60 2 x 75 2 x 150 300 TOT.	1-20MM. 4-.50 (MAX.)	150	NOSE-AN-ME" C NOSE - FIXED	NONE	2-1600 2-1000 2-500 2-325 2-250 2-100	3200	SCR-27LN* SCR-515** SCR-522 SCR-595	TECHNICAL ORDER 01-75FB-1. (25 SEPT. 1943) * LIMITED TO 1240 HP. BECAUSE OF INADEQUATE COOLING. ** PROVISIONS ONLY. *** SPACE ONLY.	

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND				HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT					RANGE & ENDURANCE STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE								
	GROSS WEIGHT LB.	TO CLEAR 50' GROUND-RUN		LANDING SPEED MPH	WEIGHT LB.	STD. ALT. FT.	MIL. POWER		MAX. CONTIN. POWER		TAKE OFF WEIGHT LB.	BOMBS CARGO-PASS. LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER AT 10000 FT.		MAX. CRUISE POWER AT 10000 FT.		LONG RANGE AT 10000 FT.										
		T.O. DIST. FT.	LAND. DIST. FT.				HIGH SPEED MPH	RATE OF CLIMB FT/MIN.	HIGH SPEED MPH	RATE OF CLIMB FT/MIN.				TIME TO CLIMB MIN.	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES		ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS			
P-38F-LO	13500 15000 15800	- 2150 2300	2750 2980 -	85 90 -	1150 1280 1360	15300 20000 15000 10000 5000	25000 20000 15000 10000 5000	390 380 365 355 340	2100 2300 2500 2700 2900	380 365 353 340 328	# # # # #	11.0 8.0 6.0 4.0 2.0	15800 15800 15800 17000 18000	NONE NONE NONE 1000 2000	300 600 300 300 300	400 800 400 385 375	1.3 2.9 1.3 1.3 1.3	425 500 400 395 375	1.3 2.9 1.3 1.3 1.3	700 1400 700 675 625	2.7 6.1 2.7 2.8 2.8	675 1425 600 550 500	2.4 5.4 2.4 2.1 2.3	900 1750 900 850 800	4.5 9.1 4.5 4.3 4.1			
P-38F-LO - I TO -15 INCL.	13500 15500 17500 19900	- 2150 2270 3040 4000	2750 2980 3050 3350 -	85 90 91 97 -	1150 1280 1360 1800 -	15900 20000 15000 10000 5000	25000 20000 15000 10000 5000	395 390 376 351 347	2100 2300 2450 2600 2800	380 367 354 340 327	# # # # #	12.0 8.8 6.0 4.0 1.8	19900 18000 15900 17000 18000	NONE NONE NONE 1000 2000	900 600 300 300 300	1375 800 400 385 375	5.0 2.9 1.3 1.3 1.3	1450 500 400 395 375	5.0 2.9 1.3 1.3 1.3	2050 1400 700 675 625	9.3 6.1 2.7 2.8 2.8	2050 1125 605 550 500	8.6 5.4 2.4 2.1 2.3	2300 1750 900 850 800	9.2 9.1 4.5 4.3 4.1			
P-38G-LO - I TO -15 INCL.		A S	A B O V E			15600	25000 20000 15000 10000 5000	400 390 375 360 345	1700 2300 2500 2600 2800	390 377 362 347 333	# # # # #	11.5 8.5 5.9 3.7 1.8				SUBSTANTIALLY			AS		ABOVE							
P-38H-LO - I & -5	13600 15500 17500 19500 20300	- 2000 2600 3500 4000	2750 3050 3500 -	86 93 100 -	1150 1200 1600 2000 -	16300 20000 15000 10000 5000	25000 20000 15000 10000 5000	402 387 372 360 345	1700 2300 2500 2600 2800	390 375 360 348 332	# # # # #	9.7 7.6 5.5 3.5 1.8	20300 18500 16300 18500 19500	NONE NONE NONE 1000 3200	900 600 300 300 300	1300 750 350 325 300	5.0 2.9 1.3 1.3 1.3	1350 800 375 325 300	5.0 2.9 1.3 1.3 1.3	1950 1350 650 575 550	9.3 6.1 2.7 2.8 2.7	1950 1350 650 550 525	8.6 5.4 2.4 2.3 2.2	2200 1700 850 750 700	10.0 9.5 4.7 4.0 3.8	NO WAR EMERGENCY POWER AVAILABLE BECAUSE OF INADEQUATE COOLING		

NOTES: ALL FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK  
# MILITARY POWER AVAILABLE FOR 15 MINUTES.



**P-38**  
"LIGHTNING"

MANUFACTURED BY LOCKHEED (Burbank) "LO"

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**TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART**

PAGE 26  
AS OF  
DATE 20 Mar 1944

MODEL & BLOCK NO.	ENGINE & PROP.		SIZE	WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS			RADIO	REMARKS & REFERENCE
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA		B-BASIC C-COMBAT R-RECD LIM W-WAR MAX	TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY	MAX. LOAD LB.	
P-39D-BE	1	ALLISON V-1710-35 SINGLE SPEED CURTISS 10"5" DIA. - 3BL. CONST. SPD. HYD.	T 1150/S L M 1150/12000 C 1000/10800	S 34' 0" L 30' 2" H 11' 10" T 11' 4" W 213 SQ. FT.	B 6300 C 7650 R 9200 W -	1	WING TOTALS PROP. - BELLY 12-120 1x 75 or 1x 56 or 1x 175 295 TOT.	4-.30 2-.50 1-37MM	*1000 200 30	WING - FIXED NOSE - FIXED PROP. - TYPE M	NONE	1-500 1-325 1-250 1-100	500	SCR-283	TECHNICAL ORDER 01-110PB-1. (30 JUNE 1943)
P-39D-BE -1	1	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	1	AS ABOVE	4-.30 2-.50 1-37MM	*1000 200 60	WING - FIXED NOSE - FIXED PROP. - TYPE M	AS	AS ABOVE		SCR-27LN or SCR-522A & SCR-535A	TECHNICAL ORDER 01-110PB-1. (30 JUNE 1943)
P-39D-BE -2	1	ALLISON V-1710-63 SINGLE SPEED CURTISS 10"5" DIA. - 3BL. CONST. SPD. HYD.	T 1325/S L M 1150/12000 C 1000/10800	AS ABOVE	AS ABOVE	1	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE
P-39F-BE	1	ALLISON V-1710-35 SINGLE SPEED AERO PRODUCTS 10"5" DIA. - 3BL. CONST. SPD. HYD.	T 1150/S L M 1150/12000 C 1000/10800	AS ABOVE	AS ABOVE	1	AS ABOVE	4-.30 2-.50 1-37MM	*1000 200 30	WING - FIXED NOSE - FIXED PROP. - TYPE M	AS	AS ABOVE		SCR-283	TECHNICAL ORDER 01-110PB-1. (30 JUNE 1943)
P-39K-BE -1	1	ALLISON V-1710-63 SINGLE SPEED AERO PRODUCTS 10"5" DIA. - 3BL. CONST. SPD. HYD.	T 1325/S L M 1150/12000 C 1000/10800	AS ABOVE	AS ABOVE	1	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS	AS ABOVE		SCR-27LN or SCR-522A & SCR-535A	TECHNICAL ORDER 01-110PB-1. (30 JUNE 1943)

COLUMN — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND					HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT					RANGE & ENDURANCE STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE			
	GROSS WEIGHT LB.	TO CLEAR 50'		LANDING SPEED MPH	GROUND-RUN		WEIGHT LB.	STD. ALT. FT.	MIL. POWER		MAX. CONTIN. POWER		TAKE OFF WEIGHT LB.	BOMBS CARGO LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE				
		T.O. DIST. FT.	LAND. DIST. FT.		T.O. DIST. FT.	LAND. DIST. FT.			HIGH SPEED M.P.H.	RATE OF CLIMB FT./MIN.	HIGH SPEED M.P.H.	RATE OF CLIMB FT./MIN.				TIME TO CLIMB MIN.	AT 10000 FT.	AT 25000 FT.	AT 10000 FT.	AT 25000 FT.		AT 10000 FT.	AT 25000 FT.	RANGE ENDUR.
P-39D-BE	6700 7600 7800 8150 8850	- 2800 3000 3400 4500	1850 2050 2100 2200 -	82 86 88 91 -	1100 1300 1350 1400 -	7650	25000 20000 15000 10000 5000	324 312 360 355 335	750 1350 2000 2450 3550	310 332 343 345 323	11.0 9.1 6.1 3.9 1.9	8850 8800 8150 7650 8150	NONE NONE NONE NONE 500	295 276 195 120 120	550 525 100 275 225	2.2 2.0 1.6 0.9 0.9	- - - 1.50 1.7	- - 2.4 1.5 1.5	- - - - -	- - - - -	1100 1050 800 600 450	6.2 5.9 4.7 2.9 2.6	ALL PERFORMANCE ESTIMATED	
P-39D-BE -1		AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE		AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE
P-39D-BE -2	6700 7600 7800 8150 8850	- 2500 2700 3000 4200	1850 2050 2100 2200 -	82 86 88 91 -	1100 1300 1350 1400 -		AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE
P-39F-BE		SIMILAR TO P-39D	SIMILAR TO P-39D	SIMILAR TO P-39D	SIMILAR TO P-39D		AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE
P-39K-BE -1		SIMILAR TO P-39D-2	SIMILAR TO P-39D-2	SIMILAR TO P-39D-2	SIMILAR TO P-39D-2		AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE

## NOTES:

RANDOM P-39 MODELS MODIFIED FOR AIR/GROUND SUPPORT BY INSTALLATION OF CAMERAS, BELLY ARMOR, ETC.

\* 1000 RDS./GUN MAX. FOR GROUND STRAPPING; 300 RDS./GUN NORMAL.

RED FIGURES ARE PRELIMINARY. SUBJECT TO REVISION AFTER FLIGHT CHECK  
\* MILITARY POWER AVAILABLE FOR 15 MINUTES

**P-39**  
"AIRACOBRA"

MANUFACTURED BY BELL (Buffalo) "SE"

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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																
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MODEL & BLOCK NO.	ENGINE & PROP.		SIZE	WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS		RADIO	REMARKS & REFERENCE		
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE				B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT R-RECD LIM W-WAR MAX	TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS PER GUN		LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY
P-39L-BE -1	1	ALLISON V-1710-65 SINGLE SPEED CURTISS 10'5" DIA. - 3BL. CONST. SPD. HYDR.	T 1325/8 L M 1150/12000 C 1000/10800	S 34' 0" L 30' 2" H 11' 10" T 11' 4" W 213 SQ. FT.	B 6500 C 7900 R 9200 W -	1	WING TOTALS 12-120 DROG.-BELLY 1 x 75 or 1 x 156 or 1 x 175 295 TOT.	4-.30 2-.50 1-37MM	*1000 200 30	WING - FIXED NOSE - FIXED PROP. - TYPE M <sub>1</sub>	NONE	1-500 1-325 1-250 1-100	500	SCR-274W or SCR-522A & SCR-535A	TECHNICAL ORDER 01-110PM-1. (30 JUNE 1943)	
P-39M-BE -1	1	ALLISON V-1710-65 SINGLE SPEED CURTISS 10'5" DIA. - 3BL. CONST. SPD. HYDR.	T 1200/8 L M 1125/15500 C 1000/11000	AS ABOVE	AS ABOVE	1	AS ABOVE	A S	A B O V E	A S	A B O V E	AS ABOVE	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-110PM-1. (30 JULY 1943)	
P-39N-BE -0 TO -5 INCL.	1	ALLISON V-1710-65 (A) SINGLE SPEED AERO PRODUCTS 11'7" DIA. - 3BL. CONST. SPD. HYDR.	AS ABOVE	AS ABOVE	AS ABOVE	1	WING TOTALS 8-87 DROG.-BELLY 1 x 75 or 1 x 156 or 1 x 175 262 TOT.	A S	A B O V E	A S	A B O V E	AS ABOVE	AS ABOVE	SCR-274W or SCR-522A & SCR-535A SCR-695	TECHNICAL ORDER 01-110PM-1. (10 AUG. 1943) * SCR-695 REPLACES SCR-535A ON P-39N-5 ONLY. ** 1st. 166 P-39N-0 BUILT-IN FUEL 120 GAL. KITS AVAILABLE IN SERVICE TO INCREASE FUEL OF ALL N'S TO 120 GAL.	
P-39Q-BE -1 TO -15 INCL.	1	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	1	AS ABOVE EXCEPT: BUILT-IN FUEL** P-39Q-1.....87 GAL P-39Q-5.....110 GAL P-39Q-10 & -15...120 GAL	2-.50 2-.50 1-37MM	300 200 30	WING - FIXED NOSE - FIXED PROP. - TYPE M <sub>1</sub>	A S	A B O V E	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-110PM-1. (20 AUG. 1943) ** KITS AVAILABLE IN SERVICE TO INCREASE BUILT-IN FUEL OF P-39Q-1 & -5 TO 120 GAL.	
P-39Q-BE -20 TO -25 INCL.	1	ALLISON V-1710-65 (A) SINGLE SPEED AERO PRODUCTS 11'7" DIA. - 4BL. CONST. SPD. HYDR.	AS ABOVE	AS ABOVE	AS ABOVE	1	WING TOTALS 12-120 DROG.-BELLY 1 x 75 or 1 x 156 or 1 x 175 295 TOT.	2-.50 2-.50 1-37MM	200 30	NOSE - FIXED PROP. - TYPE M <sub>1</sub>	A S	A B O V E	AS ABOVE	AS ABOVE	REFERENCE AS ABOVE * P-39Q-20 HAS 3 BLADED PROPELLER INSTEAD OF 4.	

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND						HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT						RANGE & ENDURANCE STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE					
	GROSS WEIGHT LB.	TO CLEAR 50 FT.		LANDING SPEED MPH	GROUND-RUN		WEIGHT LB.	STD. ALT. FT.	MIL. POWER		MAX. CONTIN. POWER		TAKE OFF WEIGHT LB.	BOMBS CARGO LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE								
		T.O. DIST. FT.	LAND. DIST. FT.		T.O. DIST. FT.	LAND. DIST. FT.			HIGH SPEED MPH	RATE OF CLIMB FT./MIN.	HIGH SPEED MPH	RATE OF CLIMB FT./MIN.				TIME TO CLIMB MIN.	AT 10000 FT.	AT 25000 FT.	AT 10000 FT.	AT 25000 FT.	AT 10000 FT.	AT 25000 FT.		RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES
P-39L-BE -1	7000 7100 7900 8100 9100	2600 3100 3750 4400 5000	2000 2100 2100 2100 2100	86 89 89 89 89	1150 1200 1300 1300 1300	7900	25000 20000 15000 10000 5000	323 317 360 354 335	550 1250 1900 2350 3900	300 310 340 341 322	11.9 9.7 8.4 7.2 6.1	8900 8400 7900 7500 8100	NONE NONE NONE NONE NONE	295 195 120 87 87	500 450 350 300 350	2.0 1.6 0.9 0.9 0.8	850 550 450 300 300	3.5 2.5 1.5 1.2 1.0	305 305 350 350 285	2.4 2.5 2.5 1.1 1.1	1075 750 550 350 275	4.0 4.2 2.3 2.3 2.3						
P-39M-BE -1	7000 7100 7900 8100 9100	2600 3100 3750 4400 5000	2000 2100 2100 2100 2100	86 89 89 89 89	1200 1300 1450 1450 1450	7900	25000 20000 15000 10000 5000	357 345 370 350 330	1200 1775 2100 2250 2050	320 352 357 337 320	12.8 9.5 7.1 4.9 2.5	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE			
P-39N-BE -0 TO -5 INCL. P-39Q-BE -1	6800 7600 8100 8700 8800	2550 3050 3600 3700 3700	2050 2150 2150 2150 2150	88 91 91 91 91	1850 1900 1900 1900 1900	7600	25000 20000 15000 10000 5000	368 375 375 357 350	1175 1825 2150 2600 2600	320 325 345 345 320	11.9 8.5 6.1 4.0 2.0	8750 8600 8050 7550 8050	NONE NONE NONE NONE NONE	262 213 162 87 87	500 450 350 300 350	2.0 1.8 1.1 0.6 0.6	850 775 585 300 300	3.5 3.2 2.2 1.0 1.0	305 300 300 300 285	2.4 2.1 1.1 1.1 1.1	975 900 585 350 275	5.4 5.0 3.3 1.7 1.5	RANGE AND ENDURANCE OF 1st. 166 P-39N-0 AIRCRAFT SAME AS P-39Q-10 thru -25 LISTED BELOW.					
P-39Q-BE -5	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	SEE NOTE (B) BELOW.
P-39Q-BE -10 TO -25 IN.	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	NOTE: PRELIMINARY TESTS OF P-39Q-21 & -25 SHOW THAT 4 BLADED PROPELLER DOES NOT MATERIALLY EFFECT PERFORM. SEE NOTE (B) BELOW.

## NOTES:

RANDOM P-39 MODELS MODIFIED FOR AIR/GROUND SUPPORT BY INSTALLATION OF CAMERAS, BELLY ARMOR, ETC.

\* 1000 RES./GUN MAX. FOR GROUND STRAPPING; 300 RES./GUN NORMAL.

ATTENTION: KITS AVAILABLE IN SERVICE TO INCREASE BUILT-IN FUEL CAPACITY OF ALL P-39Q & P-39N MODELS TO 120 GAL.; PERFORMANCE WILL BE SAME AS SHOWN FOR P-39Q-10 thru -25 MODELS.

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK

# MILITARY POWER AVAILABLE FOR 15 MINUTES  
(A) ARRANGEMENTS ARE BEING MADE TO INCORPORATE AUTOMATIC SPEED-BOOST CONTROL ON P-39N-0 to -5 & P-39Q-1 & -5 IN THE NEAR FUTURE; P-39Q-10 thru -25 HAVE AN AUTOMATIC SPEED-BOOST CONTROL.

(B) RANGES SHOWN WERE ESTIMATED FOR CONVENTIONAL TYPE AIRPLANES; AIRPLANES EQUIPPED WITH AUTOMATIC SPEED-BOOST CONTROL PROBABLY WILL NOT ATTAIN MAXIMUM RANGES AS SHOWN.



**P-39**  
"AIRACOBRA"

MANUFACTURED BY BELL (Buffalo) "BE"



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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																		
MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.			RADIO	REMARKS & REFERENCE		
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA			B-BASIC C-COMBAT R-RECDUM W-WAR MAX	TANK TYPE OR LOCATION	NO. TANKS & CAPACITY US. GAL.	NO. GUNS & CALIBER	RDS. PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY			MAX. LOAD LB.	TYPE
P-40E & E-1 - CU	1	ALLISON V-1710-39 SINGLE SPEED CURTISS 11'0" DIA. - 3BL. CONST. SPD. ELECT.	T 1150/ S L M 1150/11700 C 1000/10800	S 37'4" L 31'9" H 12'1/4" T 8'2" W 236 sq. ft.	B 6900 C 8400 R 10000 W -	1	REAR - WING FRONT - WING FUSELAGE PROP. - BELLY	1 x 52 1 x 35 1 x 62 1 x 52	201 (average)	6-.50	281	WING - FIXED	NONE	1-500 & 2-100 or 6-20. 1-325 1-250 1-100	700	SCR-283 or SCR-271A	TECHNICAL ORDER 01-25CP-1. (REV. 20 OCT. '43) * NO EXTERNAL WING BOMBS ON EARLY MODELS. * WITHOUT RAM.	
P-40F-CU -1 TO -20 INCL.	1	PACKARD V-1650-1 SINGLE STG. - 2 SPD. CURTISS 11'0" DIA. - 3BL. CONST. SPD. ELECT.	T 1300/ S L M 1240/11500 C 1080/ 9500 1010/16000	S 37'4" L 33'1/4" H 12'1/4" T 8'2" W 236 sq. ft.	B 7000 C 8500 R 10000 W -	1	REAR - WING FRONT - WING FUSELAGE PROP. - BELLY	1 x 54 1 x 37 1 x 66 1 x 52, 75 150 or 170 327 TOT.	201	4-.50	201 (average)	WING - FIXED	A S A B O V E	A S A B O V E	A S A B O V E	SCR-271A or SCR-522A * SCR-535A or SCR-695	TECHNICAL ORDER 01-25CH-1 (20 JUNE 1943) REVISED * P-40F-1 LENGTH SAME AS P-40E. ALL SUBSEQUENT MODELS HAVE EXTENDED FUSELAGE.	
P-40K-CU -1 TO -15 INCL.	1	ALLISON V-1710-73 SINGLE SPEED CURTISS 11'0" DIA. - 3BL. CONST. SPD. ELECT.	T 1325/ S L M 1150/11800 C 1000/11000	AS ABOVE	B 6950 C 8400 R 10000 W -	1	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-25CH-1 (25 MAY 1943) REV. * P-40K-1 & -5 LENGTH SAME AS P-40E. ALL SUBSEQUENT MODELS HAVE EXTENDED FUSELAGE. * WITHOUT RAM.	
P-40L-CU -1 TO -20 INCL.	1	PACKARD V-1650-1 SINGLE STG. - 2 SPD. CURTISS 11'0" DIA. - 3BL. CONST. SPD. ELECT.	T 1300/ S L M 1240/11500 C 1080/ 9500 1010/16000	AS ABOVE	B 7000 C 8500 R 10000 W -	1	REAR - WING FUSELAGE PROP. - BELLY	1 x 54 1 x 66 1 x 52, 75 150 or 170 327 TOT.	201 (average)	4-.50	201 (average)	WING - FIXED	A S A B O V E	A S A B O V E	A S A B O V E	AS ABOVE	TECHNICAL ORDER 01-25CH-1 (REV. 20 JUNE '43) * P-40L-1 FUEL AND ARMAMENT SAME AS P-40F SERIES.	
P-40M-CU -1 TO -10 INCL.	1	ALLISON V-1710-81 SINGLE SPEED CURTISS 11'0" DIA. - 3BL. CONST. SPD. ELECT.	T 1200/ S L M 1125/17300 C 1000/16400	AS ABOVE	B 6950 C 8400 R 10000 W -	1	REAR - WING FRONT - WING FUSELAGE PROP. - BELLY	1 x 54 1 x 37 1 x 66 1 x 52, 75 150 or 170 327 TOT.	201 (average)	6-.50	281 (average)	WING - FIXED	A S A B O V E	A S A B O V E	A S A B O V E	AS ABOVE	TECHNICAL ORDER 01-25CK-1. (REV. 25 MAY '43)	

MODEL & BLOCK NO.	TAKE OFF & LANDING				HIGH SPEED & CLIMB				RANGE & ENDURANCE										REMARKS ON PERFORMANCE					
	HARD SURFACE - NO WIND				AT NORMAL COMBAT WEIGHT				STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE															
	GROSS WEIGHT LB.	TO CLEAR 50 FT. DIST.		LANDING SPEED MPH	GROUND-RUN DIST.		STD. ALT. FT.	MIL. POWER HIGH SPEED	RATE OF CLIMB FT/MIN	MAX. CONTIN. POWER HIGH SPEED	RATE OF CLIMB FT/MIN	TIME TO CLIMB MIN.	TAKE OFF WEIGHT LB.	BOMBS CARGO LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE				
T.O. FT.		LAND. FT.	T.O. FT.		LAND. FT.	AT 10000 FT.										AT 25000 FT.	AT 10000 FT.	AT 25000 FT.	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS
P-40E & E-1 - CU	7500	-	1550	81	-	950	25000	-	265	520	18.2	9100	NONE	201	425	1.7	-	-	675	3.0	-	-	850	4.5
	8100	2800	1700	87	1600	1050	20000	330	980	300	11.5	8700	NONE	149	325	1.2	-	-	585	2.2	-	-	650	3.3
	8400	3125	1750	90	1800	1100	15000	362	1150	312	7.6	9200	NONE	149	300	1.2	-	-	585	2.2	-	-	650	3.3
	8700	3600	-	-	1950	-	10000	345	2170	313	4.8	9200	500	149	300	1.2	-	-	450	2.1	-	-	575	3.1
	9100	4300	-	-	2300	-	5000	335	2100	296	2.4													
P-40F-CU -1 TO -20 INCL.	7500	-	1700	81	-	1050	25000	350	1000	500	18.3	10000	NONE	327	-	-	-	-	-	-	-	-	1500	8.0
	8850	3700	1900	-	2200	1250	20000	364	1100	320	11.6	9550	NONE	232	550	2.0	550	2.3	800	3.4	-	-	1000	5.0
	9200	4150	2150	-	2450	1300	15000	352	1260	332	7.6	9200	NONE	209	475	1.7	575	2.0	700	3.0	-	-	875	4.4
	9350	4400	2550	-	2550	1350	10000	340	2210	320	4.5	8850	NONE	157	375	1.3	425	1.8	600	2.2	-	-	700	3.1
	9550	4700	2700	-	2700	1400	5000	320	2160	300	2.4	9550	700	157	325	1.3	350	1.8	500	2.2	-	-	600	3.2
	10000	5750	-	-	3100	-																		
P-40K-CU -1 TO -15 INCL.	7500	-	1700	81	-	1050	25000	-	265	350	18.5	10000	NONE	327	-	-	-	-	-	-	-	-	1400	7.0
	8800	2950	1950	-	1800	1300	20000	330	1100	300	11.2	9500	NONE	232	500	1.9	-	-	900	3.9	-	-	1000	5.5
	9150	3150	2000	-	1900	1350	15000	362	1650	312	7.5	9150	NONE	209	400	1.6	-	-	750	3.4	-	-	900	4.8
	9300	3200	2050	-	1950	1400	10000	342	2000	313	4.9	8800	NONE	157	350	1.2	-	-	600	2.4	-	-	700	3.4
	9500	3350	2100	-	2050	-	5000	320	2100	296	2.4	9500	700	157	300	1.2	-	-	550	2.4	-	-	600	3.3
	10000	-	-	-	-	-																		
P-40L-CU -1 TO -20 INCL.	7500	-	1700	81	-	1050	25000	-	265	350	18.5	10000	NONE	327	-	-	-	-	-	-	-	-	1500	8.0
	8400	2350	1850	85	1400	1200	20000	360	1500	335	10.2	9750	NONE	231	-	-	-	-	-	-	-	-	1200	6.2
	8800	2650	1950	-	1600	1300	15000	361	2025	338	7.2	9300	NONE	232	450	1.8	750	2.9	900	4.2	-	-	1000	5.6
	9300	3150	2000	-	1900	1350	10000	346	2180	320	4.5	8800	NONE	157	325	1.1	475	1.8	600	2.5	-	-	700	3.7
	10000	4000	-	-	2500	-	5000	328	2070	308	2.4	9300	700	157	300	1.1	375	1.8	475	2.3	-	-	575	3.3

NOTES:  
 RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK.  
 \* MILITARY POWER AVAILABLE FOR 5 MINUTES ONLY.  
 # MILITARY POWER AVAILABLE FOR 15 MINUTES.

# P-40

## "WARHAWK"

MANUFACTURED BY CURTISS (Buffalo) "CU"

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**TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART**

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AS OP: DATE 20 MAR 1943

MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS		RADIO	REMARKS & REFERENCE
	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT H-RECD LIM W-WAR MAX			TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS. PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY		
P-51-NA -1&-2	1	ALLISON V-1710-39 SINGLE SPEED CURTISS 10'9" DIA. - 3 BL. CONST. SPD. ELCTE	T 1150/ S L M 1150/13750 C 1000/13750	S 37' 0" L 32' 3" H 12' 2" T 11' 10" W 233 sq. ft.	B 7050 C 8800 R 10500 W -	1	MAIN-R. WING MAIN-L. WING RES.-L. WING	1 x 90 1 x 59 1 x 31	1/2-20MM	125	WING-TYPE M2	NONE	NONE	SCR-271N & SCR-535	TECHNICAL ORDER 01-607B-1. (10 JAN. 1943)
P-51A-NA -1 TO -10 INCL.	1	ALLISON V-1710-61 SINGLE SPEED CURTISS 10'9" DIA. - 3 BL. CONST. SPD. ELCTE	T 1200/ S L M 1125/18000 C 1000/17500	AS ABOVE	B 6850 C 8600 R 10500 W -	1	MAIN-R. WING MAIN-L. WING EXT. - WINGS	1 x 90 1 x 90 2 x 75 2 x 150	2) .50	250 350	OUTRD.-WINGS INBD.-WINGS	NONE	2-500 2-325 2-250 2-100	SCR-271N & SCR-535 SCR-515** SCR-522 SCR-695	TECHNICAL ORDER 01-607C-1. (25 OCT. 1943) * PROVISIONS ONLY ** SPACE PROVIDED
			T M C	S L H T W	B C R W										
			T M C	S L H T W	B C R W										
			T M C	S L H T W	B C R W										

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND					HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT					RANGE & ENDURANCE STATUTE AIR MILES-NO WIND-NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE				
	GROSS WEIGHT LB.	TO CLEAR 50'		GROUND-RUN		WEIGHT LB.	STD. ALT. FT.	MIL. POWER			MAX. CONTIN. POWER			TAKE OFF WEIGHT LB.	BOMBS CARGO LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER		MAX. CRUISE POWER			LONG RANGE			
		T.O. DIST. FT.	LAND. DIST. FT.	LANDING SPEED MPH	T.O. DIST. FT.			LAND. DIST. FT.	HIGH SPEED MPH	RATE OF CLIMB FT/MIN	HIGH SPEED MPH	RATE OF CLIMB FT/MIN	TIME TO CLIMB MIN				RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS		RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS
P-51-NA	7500 8000 8500 8800 9000	- 2600 - - -	2600 91 94 - -	88 1600 1700 2100 2200	1700 1900 2100 2250 -	8800	25000 20000 15000 10000 5000	337 367 387 379 357	800 1300 1800 2000 2000	313 333 34.2 352 352	300 10.9 7.6 26.0 2.5	8800	NONE	180	150	1.3	700	2.6	700	2.7	-	-	1000	4.5	
P-51A-NA -1 TO -10 INCL.	8000 8600 9100 9600 10300	- 2050 2250 2500 2900	2450 103 106 - -	100 1100 1600 1800 2100	1550 1850 2100 2350 -	8600	25000 20000 15000 10000 5000	375 390 380 360 340	1100 1650 2300 2300 2300	360 375 365 345 325	12.7 9.1 6.6 4.4 2.2	10600 9600 8600 9100 9600	NONE NONE NONE 500 1000	180 330 180 180 180	1135 725 425 415 410	4.1 2.7 1.4 1.4 1.4	- - - - -	2000 1250 750 725 710	6.3 5.3 2.8 2.8 2.8	- - - - -	- - - - -	2350 1000 950 910	11.4 7.9 4.8 4.7 4.6	PERFORMANCE SHOWN WITH WING RACES; REMOVAL OF WING RACES INCREASES HIGH SPEED APPROX. 12 MPH. & RATE OF CLIMB 50% TO 100%/MIN.	

NOTES: RED FIGURES ARE PRELIMINARY. SUBJECT TO REVISION AFTER FLIGHT CHECK  
\* MILITARY POWER AVAILABLE FOR 15 MINUTES



**P-51**  
"MUSTANG"

MANUFACTURED BY NORTH AMERICAN (Inglewood) "NA"

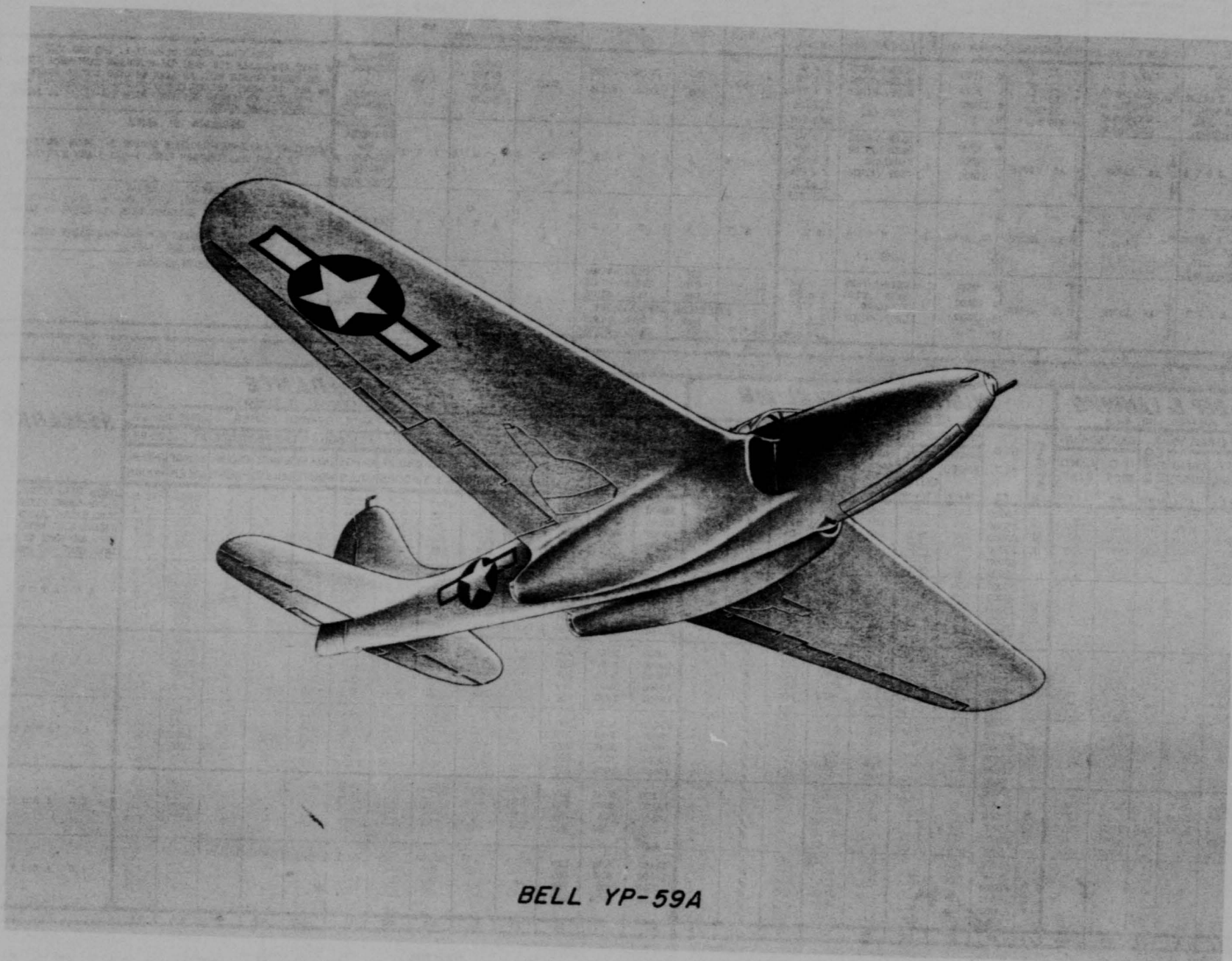
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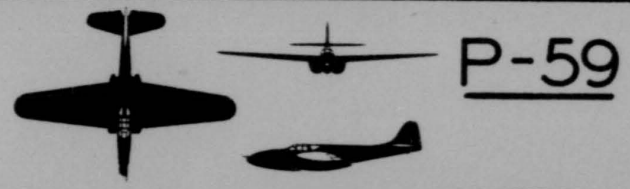
TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																
MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.		COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP. MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT R-RECD LIM W-WAR MAX	TANK TYPE OR LOCATION		NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS. PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY	MAX. LOAD LB.	TYPE	
YP-59A BE	2	GENERAL ELECTRIC I-16 JET TYPE TURBO SUPERCH. ENGINE	SEE NOTE (A)	S 49' L 38' 10" H 12' 4" T 18' 6" W 100 SQ. FT.	B 6000 C 10500 R 12700 W -	1	WINGS (INTR) 2 x 150 WINGS (EXTR) 590 TOT.	6-290	2-37MM or 1-37MM & 3-50	14 14 200	NOSE - FIXED	N O N E	SCR-27LN SCR-522A SCR-535A SCR-695A		(PRELIMINARY INFORMATION FROM ENGR. DIV.) ON LAST 4 MONTHS ONLY.	

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND					HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT					RANGE & ENDURANCE STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE					
	GROSS WEIGHT LB.	TO CLEAR 50' T.O. DIST. FT.		LAND. DIST. FT.	LANDING SPEED MPH.	T.O. DIST. FT.	LAND. DIST. FT.	WEIGHT LB.	STD. ALT. FT.	MIL. POWER		MAX. CONTIN. POWER			TAKE OFF WEIGHT LB.	BOMBS CARGO LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE				
		FT.	FT.							FT.	FT.	FT.	FT.	FT.				MPH.	FT./MIN.	MPH.		FT./MIN.	MIN.	MPH.	FT./MIN.	MIN.
YP-59A BE	8000	1350	1500	-	800	900	10500	30000	113	1200	388	15.8	12700	NONE	590	330	1.0	-	-	-	-	-	-	1.50	1.5	* SPEED & CLIMB BASED ON PRELIM. TEST. MAX. RANGE IS APPROX. 500 MILES IN 1.5 HRS. AT 20000' WITH 590 GAL. FUEL. b MAX. RANGE IS APPROX. 210 MILES IN 0.5 HRS. AT 20000' WITH 290 GAL. FUEL.
	8500	1500	1675	-	850	975	20000	126	1600	382	10.2															
	9000	1600	1725	-	905	1050	15000	120	2000	377	7.4															
	10500	2300	1950	-	1275	1200	10000	387	2800	365	5.1	10500	NONE	290	200	0.5	-	-	-	-	-	-	0.20	0.8		
	12700	4100	-	-	2200	1425	5000	374	3200	360	3.2															

NOTES: (A) TENTATIVE ENGINE LIMITATIONS (FUEL - KEROSENE)  
 TAKE-OFF & MILITARY POWER - (16500 R.P.M.)  
 CONTINUOUS POWER - (16000 R.P.M.)

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK.

GENERAL NOTE: ALL INFORMATION CONTAINED IN THIS CHART IS SUBJECT TO CONSIDERABLE REVISION AFTER FURTHER FLIGHT TESTS AND PRODUCTION CHANGES; PERFORMANCE DATA OTHER THAN HIGH SPEED AND CLIMB HAS BEEN ESTIMATED.



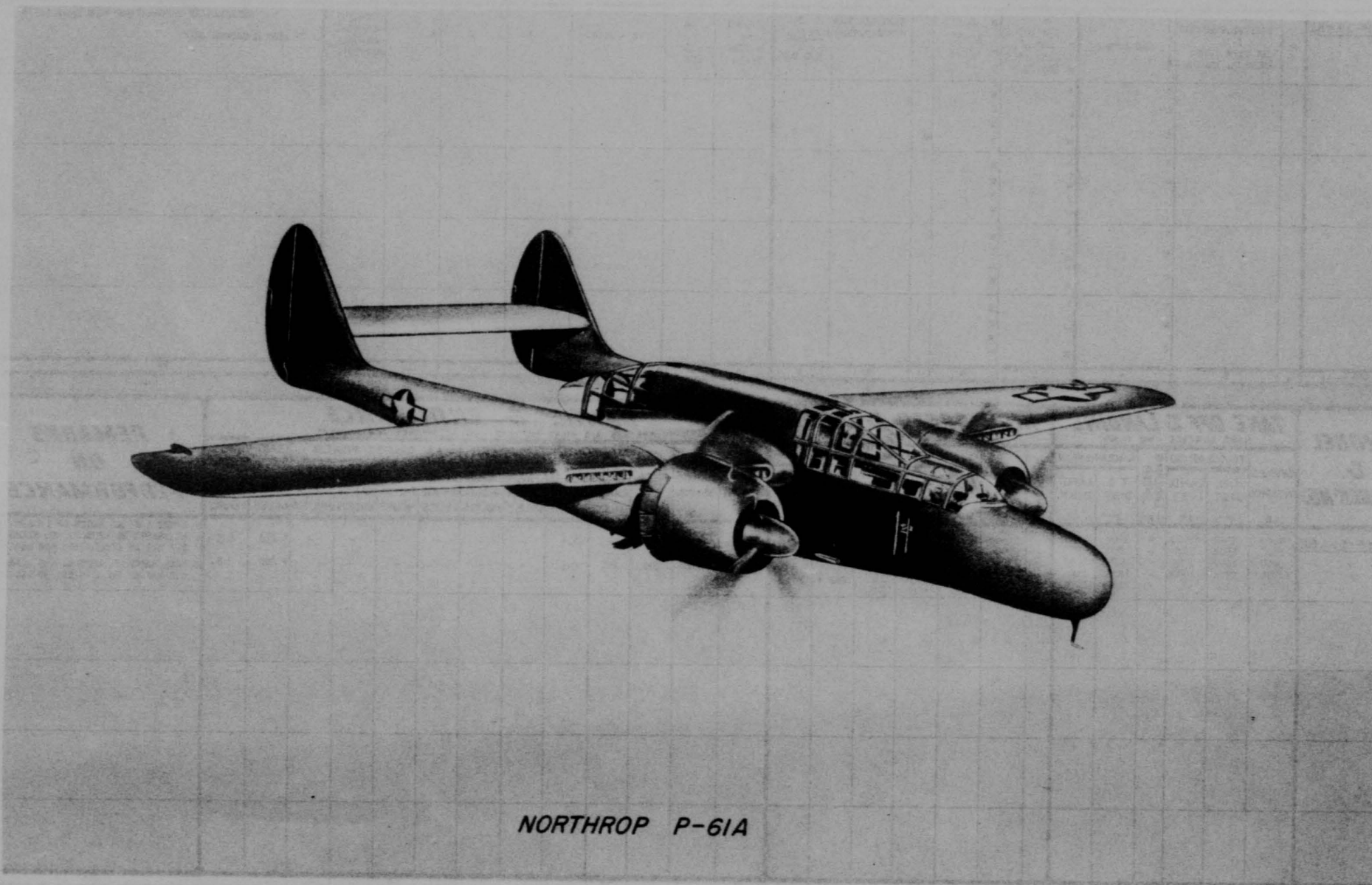
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NORTHROP P-61A

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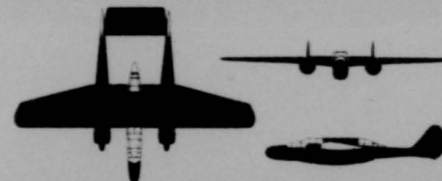
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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																
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MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.		FUEL		ARMAMENT			BOMBS-CARGO-PASS		RADIO	REMARKS & REFERENCE	
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS	S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT R-RECD LIM W-WAR MAX.	TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY	MAX. LOAD LB.	TYPE		
P-61A-NO	2	PRATT-WHITNEY R-2800-10 2 SPD. - 2 STG. CURTISS 12"2"DIA. 1/4 BL. F.P., ELECTRIC	2000/2000 2000/2000 1800/1800 1650/21000 1675/5000 1625/11000 1625/25000	S 66' L 48'11" H 14' 2" T 17' 2" W 66 1/2 sq. ft.	B 22200 C 27200 R - W -	INBD.-WING OUTBD.-WING	2 x - 2 x - 616 TOT.	1-20MM 4-.50	200 500	FORE- FUSELAGE UPPER TURRET	N	O	N	X	SCR-722 SCR-695 SCR-720 SCR-729 DETR-435 AFN - 1 R - 36 TECHNICAL ORDER 01-157B-1. ( 15 JAN. 1944.) * ON FIRST PRODUCTION MODELS ONLY. * CREW OF 3 FOR MODELS WITH TOP TURRET. * MILITARY POWER AVAILABLE FOR 15 MINUTES.	
			T M C	S L H T W	B C R W											
			T M C	S L H T W	B C R W											
			T M C	S L H T W	B C R W											
			T M C	S L H T W	B C R W											

MODEL & BLOCK NO.	TAKE OFF & LANDING HARD SURFACE - NO WIND				HIGH SPEED & CLIMB AT NORMAL COMBAT WEIGHT						RANGE & ENDURANCE STATUTE AIR MILES-NO WIND-NO ALLOWANCE FOR RESERVE										REMARKS ON PERFORMANCE			
	TO CLEAR 50'		GROUND-RUN		WEIGHT	STD. ALT.	MIL. POWER		MAX. CONTIN. POWER		TAKE OFF WEIGHT	BOMBS CARGO PASS	TOTAL FUEL	MAX. CONTINUOUS POWER				MAX. CRUISE POWER				LONG RANGE		
	T.O. DIST.	LAND. DIST.	T.O. DIST.	LAND. DIST.			HIGH SPEED	RATE OF CLIMB	HIGH SPEED	RATE OF CLIMB				TIME TO CLIMB	AT 10000 FT.		AT 25000 FT.		AT 10000 FT.			AT 25000 FT.		RANGE
P-61A-NO	25000	2250	1750	-	1350	1350	25000	354	900	340	13.0	27200	NONE	616	330	1.2	385	1.4	600	2.5	520	2.4	775	4.3
	27000	2100	2100	-	1500	1450	15000	350	1000	330	6.7													
	28000	2500	2150	-	1600	1500	10000	331	2170	320	4.3													
	29000	2700	-	-	1750	-	5000	316	2250	300	2.0													
							8 L	332	2650	295	0.9													

NOTES:

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK  
\* MILITARY POWER AVAILABLE FOR 15 MINUTES.



P-61  
"BLACK WIDOW"

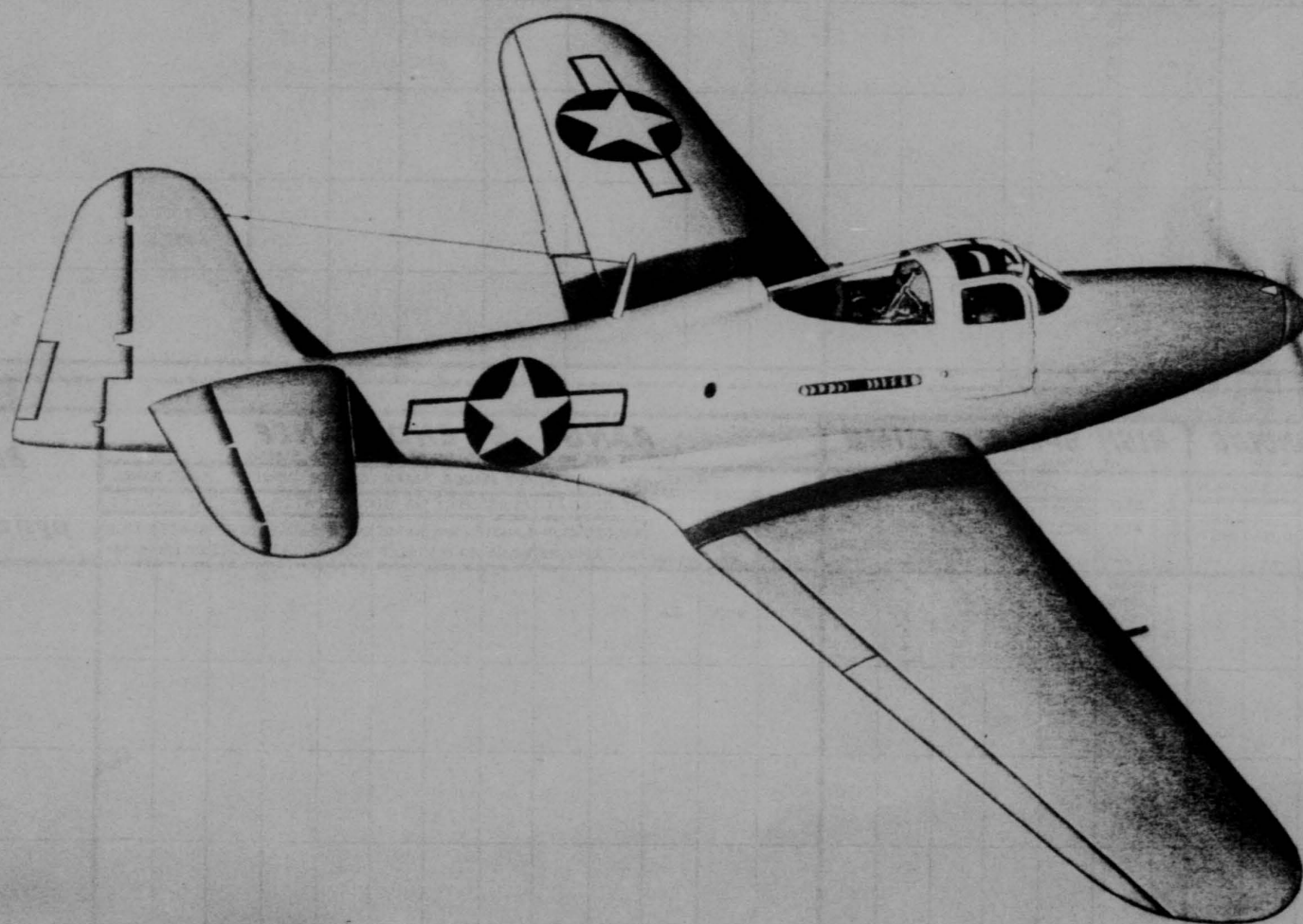
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**GLIDER AND  
TOWPLANE SECTION**  
1-APRIL-1944

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FOREWORDWARNING

THESE CHARTS CONTAIN CONSERVATIVE AVERAGES FOR TACTICAL PLANNING AND ARE NOT SUITABLE FOR AERODYNAMIC ANALYSIS.

Data contained herein are not to be considered guaranteed performance nor optimum performance as established by test flight but are to be considered official "Practical" characteristics and performance to be used for planning purposes for the average pilot.

All data includes service allowances based on theater experience. Individual airplanes may vary appreciably due to age and service changes. Data printed in red are preliminary and subject to revision after flight check. Data printed in black have been derived from information obtained in flight but are not actual flight test results. For detailed planning see Technical Orders listed as references.

Range and endurance are based on the following assumptions:

- a. Allowance for warm-up, taxi, run-up, take-off, and landing. (equal to ten minutes at rated power.)
- b. Allowances for fuel consumed in climb. Distance and time to climb are included in range and endurance.
- c. Allowance for carrying bombs and droppable tanks entire flight.
- d. Allowance of 10% net ideal range for miscellaneous differences in airplanes, equipment, pilot technique, atmospheric conditions other than wind, unusable fuel, weight and balance and similar variables. (For example, range varies day and night due to fuel expansion prior to take-off.)
- e. Other than the above, no allowances for wind, assured reserve, combat, nor formation flight.

DEFINITIONS

<u>LOADING:</u>	TYPICAL LOADINGS OF GLIDER AND TOWPLANE FOR TACTICAL MISSIONS.
Note:	Weight and fuel quantities shown apply to all performance values to the right on the same line.
MAX. TOW SPEED:	MAX. PERMISSIBLE CALIBRATED INDICATED AIR SPEED FOR TOWING GLIDER AT WEIGHT SHOWN.
<u>TAKE-OFF:</u> (To clear 50' object)	DISTANCES REPRESENTATIVE OF MINIMUM AIRPORT REQUIREMENTS.
TAKE-OFF SPEED:	NORMAL FOR AVERAGE PILOT.
GROUND RUN:	DISTANCES REPRESENTATIVE OF MINIMUM RUNWAY REQUIREMENTS.
<u>CLIMB:</u> (I.A.S. for CLIMB)	MINIMUM TOWPLANE INDICATED AIR SPEED FOR GOOD CONTROL & SATISFACTORY ENGINE COOLING.
INITIAL RATE OF CLIMB:	SEA LEVEL RATE OF CLIMB AT MINIMUM TOWPLANE INDICATED AIR SPEED.
Note:	For some combinations rate of climb tends to increase up to critical altitude of towplane engines.
SERVICE CEILING:	ALTITUDE AT WHICH RATE OF CLIMB IS 100'/MIN.
TIME TO SERVICE CEILING:	TIME TO CLIMB IN MINUTES FROM SEA LEVEL TO SERVICE CEILING BASED ON I.A.S. FOR CLIMB.
<u>RANGE &amp; ENDURANCE:</u>	(SEE DISCUSSION UNDER FOREWORD)
RADIUS OF ACTION:	DISTANCE GLIDER CAN BE TOWED AND RELEASED WITH TOWPLANE HAVING ENOUGH FUEL TO RETURN TO BASE ALONE.
TIME OUT:	TIME FROM TAKE-OFF TO RELEASE OF GLIDER: (At recommended cruising altitude)
TIME BACK:	TIME REQUIRED FOR TOWPLANE TO RETURN TO BASE ALONE AT RECOMMENDED CRUISING SPEED AND ALTITUDE.
MAX. RANGE & ENDURANCE:	PRACTICAL MAXIMUM RANGE WHICH GLIDER CAN BE TOWED UNDER CONDITIONS SET FORTH AND CORRESPONDING TIME REQUIRED.

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# TOWPLANE & GLIDER TACTICAL PLANNING PERFORMANCE CHART

PAGE 43  
AS OF:  
21 MAR. 1944

## BOMBER TOWPLANE AND CG-4A GLIDER

TOWPLANE & GLIDER COMBINATION	LOADING						TAKE OFF (WITH GLIDER ATTACHED) S.L.-HARD SURFACE-NO WIND			CLIMB (AT MINIMUM TOW SPEED)				RANGE & ENDURANCE (AT CRUISING POWER) STATUTE AIR MILES-NO WIND-NO RESERVE						REMARKS	
	GLIDERS		TOWPLANE				MAX. TOW SPEED (M.P.H.)	TO CLEAR 50' OBJ. DISTANCE (FT.)	TAKE OFF SPEED (M.P.H.)	GROUND RUN DISTANCE (FT.)	I.A.S. FOR CLIMB (M.P.H.)	INITIAL RATE OF CLIMB (FT./MIN.)	SERVICE CEILING (FT.)	TIME TO SERVISE CEIL. (MIN.)	RADIUS OF ACTION (GLIDER RELEASED AT RADIUS)			REGOMM. CRUISING ALTITUDE (FT.)	MAX. RANGE (WITH GLIDER)		
	TAKE-OFF WEIGHT (LB.)	CARGO OR PASS. (LB.)	TAKE-OFF WEIGHT (LB.)	BOMBS CARGO OR PASS. (LB.)	FUEL (U.S. GAL.)	RADIUS									TIME OUT (HRS.)	TIME BACK (HRS.)	RANGE		ENDUR.		
	(LB.)	(LB.)	(LB.)	(LB.)	(U.S. GAL.)	(M.P.H.)	(FT.)	(M.P.H.)	(FT.)	(M.P.H.)	(FT./MIN.)	(FT.)	(MIN.)	(MI.)	(HRS.)	(HRS.)	(FT.)	(MI.)	(HRS.)		
B-17F & (1) CG-4A	7500	3800	59100	NONE	2780	150	6190	110	4150	135	300	12000*	37	(990)	7.2	6.8	5000	1380	10.3	* LIMITED- NO OXYGEN IN GLIDER	
														(980)	6.8	6.3	10000	1370	9.6		
B-17F & (2) CG-4A	7500	3800	52500	NONE	1700	150	6000	110	4100	135	300	11000	57	510	3.8	3.5	5000	720	5.5		
	7500	3800	59100	NONE	2780	150	6950	110	4700	135	240	8000	44	860	6.6	6.2	5000	1140	8.8		
B-24D & (1) CG-4A	7500	3800	52500	NONE	2344	150	6205	115	3475	140	550	12000*	24	(870)	6.3	5.3	5000	1360	9.7	* LIMITED- NO OXYGEN IN GLIDER	
	7500	3800	59000	6000	2344	150	5075	115	4125	140	325	12000*	41	(830)	5.6	4.4	10000	1280	8.6		
B-25C & (1) CG-4A	7500	3800	30000	2000	972	150	5075	120	4175	140	390	12000*	38	540	3.8	3.4	5000	700	4.9	* LIMITED- NO OXYGEN IN GLIDER	

COLUMN— 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

**NOTES:**

- (1) REFERENCE MATERIAL FROM TECHNICAL ORDER 01-1-143 dated 1 DEC. 1943.
- (2) ALL PERFORMANCE SHOWN WITH GLIDER TRAINING GEAR ATTACHED.

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK.

TEMPORARY TOW RELEASE MECHANISM ON B-17F CAN BE INSTALLED QUICKLY WITH NO STRUCTURAL MODIFICATIONS REQUIRED.

TOW PLANE PERFORMANCE WITH CG-4A TO BE SAME AS WITH CG-1A.

**GLIDER CHARACTERISTICS**

**WEIGHT**

B—BASIC  
C—COMBAT  
W—WAR MAX.



**SIZE**

S—SPAN  
L—LENGTH  
H—HEIGHT  
T—TREAD  
W—WING AREA

**TYPICAL GLIDER CAPACITIES**

B- (3700 to 4500)  
C- 7500  
W- 9000

(a) TROOP CARRIER: CREW(2) & TROOPS(13).  
(b) CARGO CARRIER: CREW(2) & TROOPS(4) & JEEP CAR(1).  
(c) CARGO CARRIER: CREW(2) & TROOPS(3) & 75MM. HOWITZER(1) & 75MM. AMMUNITION(18 RDS.)

S- 83'8"  
L- 48'4"  
H- 12'7"  
T- 9'1/2"  
W- (Trot. gear) 852 SQ. FT.

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TOWPLANE & GLIDER TACTICAL PLANNING PERFORMANCE CHART																				
PAGE 45 AS OP: 20 MAR. 1944																				
CARGO TOWPLANE AND CG-4A GLIDER																				
TOWPLANE & GLIDER COMBINATION	LOADING						TAKE OFF (WITH GLIDER ATTACHED) S.L.-HARD SURFACE-NO WIND			CLIMB (AT MINIMUM TOW SPEED)				RANGE & ENDURANCE (AT CRUISING POWER) STATUTE AIR MILES-NO WIND-NO RESERVE						REMARKS
	GLIDERS		TOWPLANE				TO CLEAR 50' OBJ. DISTANCE (FT.)	TAKE OFF SPEED (MPH.)	GROUND RUN DISTANCE (FT.)	L.A.S. FOR CLIMB (M.P.H.)	INITIAL RATE OF CLIMB (FT/MIN)	SERVICE CEILING (FT.)	TIME TO SERVCE CEIL. (MIN)	RADIUS OF ACTION (GLIDER RELEASED AT RADIUS)			RECOMM. CRUISING ALTITUDE (FT.)	MAX. RANGE (WITH GLIDER)		
	TAKE-OFF WEIGHT (LB.)	CARGO OR PASS. (LB.)	TAKE-OFF WEIGHT (LB.)	BOMBS- CARGO OR PASS. (LB.)	FUEL (U.S. GAL)	MAX. TOW SPEED (M.P.H.)								RADIUS (MI.)	TIME OUT (HRS.)	TIME BACK (HRS.)		RANGE (MI.)	ENDUR. (HRS.)	
C-46A & (1)CG-4A	7500	3800	45000	3000	1400	150	5150	95	3500	125	275	10000	4.7	650	5.3	3.8	5000	950	7.8	BETTER PERFORMANCE EXPECTED UPON FURTHER FLIGHT TESTING.
C-46A & (2)CG-4A	7500	3800	45000	3000	1400	150	8300	95	5650	120	100	3000	3.0	410	3.6	2.7	1000	530	4.7	A S A B O V E
C-47, 47A & 53 (STD. BLADE PROPS) & (1)CG-4A	7500	3800	26000	3000	804	150	4425	90	3000	120	275	11350	4.4	560	4.6	4.4	5000	830	6.8	
C-47, 47A & 53 (PADDLE BLADE PROPS) & (1)CG-4A	7500	3800	26000	3000	804	150	4075	85	2825	105	425	12000*	3.0	610	5.7	4.7	5000	950	9.1	*LIMITED- NO OXYGEN IN GLIDER
	7500	3800	29000	6000	804	150	5625	85	3800	105	350	11800	4.2	570	5.0	4.4	5000	875	7.6	
	7500	3800	31000	8000	804	150	6175	90	4175	105	300	11300	5.3	510	4.1	3.8	5000	740	6.4	
C-47, 47A & 53 (PADDLE BLADE PROPS) & (2)CG-4A	7500	3800	29000	6000	804	150	7850	85	4450	105	125	8000	5.7	395	3.7	3.3	2000	518	4.5	* TO 3000 FT. ALTITUDE
	7500	3800	31000	8000	804	150	8850	90	5550	105	80	-	3.8*	370	3.4	3.1	1000	470	4.4	
C-60A & (1)CG-4A	7500	3800	18500	NONE	644	150	4000	85	2750	120	550	12000*	3.7	580	4.7	4.0	5000	940	7.9	* LIMITED- NO OXYGEN IN GLIDER
	7500	3800	21500	3000	644	150	5425	85	3675	120	320	11500	4.8	410	3.4	2.8	5000	560	4.7	
C-60A & (2)CG-4A	4700	1000	18500	NONE	644	150	6200	85	4100	120	250	8000	4.0	360	2.8	2.5	5000	510	4.6	
	7500	3800	18500	NONE	644	150	7000	85	4500	120	200	7500	4.1	330	2.9	2.4	5000	475	4.0	
COLUMN— 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

## NOTES:

- (1) REFERENCE MATERIAL FROM TECHNICAL ORDER 01-1-143 dated 1 DEC. 1943.  
 (2) ALL PERFORMANCE SHOWN WITH GLIDER TRAINING GEAR ATTACHED.

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK.

TOW PLANE PERFORMANCE WITH CG-4A TO BE SAME AS WITH CG-4A

## GLIDER CHARACTERISTICS

## WEIGHT

B—BASIC  
 C—COMBAT  
 W—WAR MAX.



## SIZE

S—SPAN  
 L—LENGTH  
 H—HEIGHT  
 T—TREAD  
 W—WING AREA

## TYPICAL GLIDER CAPACITIES

B— (3700 to 4500)  
 C— 7500  
 W— 9000

- (a) TROOP CARRIER: CREW(2) & TROOPS(13).  
 (b) CARGO CARRIER: CREW(2) & TROOPS(4) & JEEP CAR(1).  
 (c) CARGO CARRIER: CREW(2) & TROOPS(3) & 75MM. HOWITZER(1) & 75MM. AMMUNITION(18 RB.)

S— 83'8"  
 L— 48'4"  
 H— 12'7"  
 T— 9'4"  
 W— (Tact. gear) 852 SQ.'

CONFIDENTIAL



